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The

CITIZENS' ALTERNATIVE BRISTOL BAY AREA PLAN FOR STATE LANDS

Public Review Draft
May 2013

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PREFACE

Background

State law requires the Alaska Department of Natural Resources (DNR) to adopt management plans for specific areas of state owned lands. An area plan, once adopted, is reviewed by DNR about every 20 years. The first Bristol Bay Area Plan (BBAP) was adopted in 1984. In 2005 DNR revised and published a new BBAP. The 1984 BBAP classified most state land for the protection of habitat and accommodated the deep rooted public use of fish and game for commercial, subsistence and sport fishing and hunting. In contrast, the 2005 BBAP eliminated the habitat classification from most state lands in favor of unspecified general uses and mineral development, including the development of the Pebble mine. The 2005 changes did not reflect the continued and even more intense use twenty years later of state lands in Bristol Bay for subsistence and recreation, nor adequately account for the undiminished importance of most state lands for critical species like salmon, moose and caribou. There has been an increase in mineral exploration on state lands since 1984. However this exploratory activity has not yet met the standard required by Alaska law for development and does not warrant the wholesale reclassification of state lands that occurred in the 2005 BBAP.

In 2009, the tribal councils of Nondalton, Koliganek, New Stuyahok, Ekwok, Curyung (Dillingham), and Levelock (Six Tribes), and the Alaska Independent Fishermen's Marketing Association (AIFMA), and Trout Unlimited, Inc. (TU) sued DNR to overturn the 2005 BBAP. The litigation was settled in 2012 when DNR agreed to revise the 2005 BBAP.

In December 2012, DNR proposed amendments to the 2005 BBAP and asked for public comment. Although the proposed amendments touch upon some of the concerns raised in the litigation, they do not go far enough to protect fish and wildlife habitat or subsistence, commercial and recreational uses of fish and game.

Rather than be limited to reactive comments to DNR, the Six Tribes decided to assist DNR by preparing an alternative plan that more accurately reflects the vision of the majority people living in Bristol Bay. The result is this plan called **The Citizens' Alternative Bristol Bay Area Plan**. It is offered to DNR, to the people of the region and to the people of Alaska as a more reasonable, scientifically supportable and common sense approach to the management of state lands, waters and resources in Bristol Bay, particularly within the Nushagak and Kvichak watersheds

The Preparation and Review of the Citizens' Alternative Bristol Bay Area Plan.

The Six Tribes assembled a planning team and directed them to produce an alternative area plan using the best available information about the resources of Bristol Bay, including local traditional knowledge. Most important, however, the planning team was directed to develop a plan that helped implement the Bristol Bay Regional Vision Statement, in particular two key elements of that statement:

- We assert the importance of local voices in managing our natural resources to continue our way of life.

- We welcome sustainable economic development that advances the values of Bristol Bay people. Our future includes diverse economic opportunities in businesses and industries based largely on renewable resources. Large development based on renewable and nonrenewable resources must not threaten our land, our waters, or our way of life.

More information about the Bristol Bay visioning project and the multi-year public scoping process that lead to the Vision Statement can be found at **www.bristolbayvision.org**. The entire Vision Statement can be found in the appendices to this document. The Citizens' Alternative BBAP recommends many changes to the 2005 BBAP, but the following are particularly relevant to the Vision Statement:

- Most of the 1984 habitat land use designations and classifications are restored;
- Most of the 1984 public recreation land use designations and classifications are restored;
- A subsistence land use designation and classification category is created;
- Area-wide guidelines and management unit classifications provide more protection for habitat and public uses
- Salmon are protected regardless whether the stream, river or lake in which they live is navigable;
- Metallic sulfide mines are prohibited in the Nushagak and Kvichak watersheds;
- The 1984 Bristol Bay wide automatic instream flow protection for fish is restored;
- Additional salmon streams are recommended for closing to new mineral entry;
- The Bristol Bay Advisory Group established in 1984 is restored;
- Cooperation among federal, state and Native corporation land owners is both facilitated and encouraged

ACKNOWLEDGEMENTS

The following organizations variously contributed text, edited, reviewed, analyzed, gathered information, prepared maps and otherwise assisted in resolving issues with regard to the Citizens' Alternative BBAP: Chiefs and staff of the Nondalton Tribal Council, New Koliganek Village Council, New Stuyahok Traditional Council, Ekwok Village Council, Curyung Tribal Council, Levelock Village Council. Staff of the Alaska Independent Fishermen's Marketing Association, Trout Unlimited, Nunamta Aulukestai, Bristol Bay Native Association (BBNA), Bristol Bay Regional Seafood Development Association (BBRSDA), The World Wildlife Fund and The Nature Conservancy in Alaska. Not all of these organization agree with everything said in the Citizens' Alternative BBAP, and their endorsement should not be implied. However, all provided critical input and suggestions that were helpful in the final preparation of this document, and for this we thank them.

Initial drafts of this document were prepared by a three-person drafting team consisting of plaintiffs' attorney Geoffrey Y. Parker, Tim Troll, Executive Director of the Bristol Bay Heritage Land Trust, and Emily Anderson of the Wild Salmon Center. The plaintiffs' representatives and staff met in February 2013 to review the draft and approved the release of this document.

All photos in this report were taken by Clark James Mishler, unless otherwise noted.

COMMENTS AND COPIES

The Citizens' Alternative BBAP has been provided to DNR and it represents the combined comments of the Six Tribes, AIFMA and Trout Unlimited and any other person or organization who may chose to endorse it.

However, the Citizens' Alternative BBAP also represents a stand-alone plan even though its application to state land is a just matter of principle. Regardless, the Citizens' Alternative BBAP will only become a final statement of principle after a draft has been circulated for public review and comment. Significant public review and comment, in addition to the results from the extensive scoping process of the Bristol Bay Vision Project, have already been incorporated into the draft version of the Citizens' Alternative BBAP. Copies of the Citizens' Alternative BBAP can be downloaded from the website of the Bristol Bay Heritage Land Trust: **www.bristolbaylandtrust.org**. Comments on the plan can also be submitted on the website. Comments and requests for CD versions of the Citizens Alternative BBAP can be obtained from:

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The Citizens' Alternative BBAP will be finalized sometime after the comment period on DNR's proposed amendments to the 2005 Bristol Bay Area Plan is closed and the comments have been reviewed.

Chapter 1
INTRODUCTION





Contents of Chapter 1

I. PURPOSE OF THE BRISTOL BAY AREA PLAN AND THIS 2013 REVISION

The State of Alaska owns approximately twelve million acres of land in the Bristol Bay drainages and several million acres of tidelands and offshore submerged lands. How the State manages these lands greatly influences: (1) the conservation and development of resources in the region, (2) the quality of life, and experiences, of those who live and work in the region, or visit it for recreation, and (3) the economy of the region.

State law requires the Alaska Department of Natural Resources (DNR) to adopt land use plans for state lands through a public process that includes meaningful participation by local governments, state and federal agencies, adjacent landowners, and the public.[1] Area plans divide the state land into planning units and designate the primary use or uses of each. Upon adoption of an area plan, the Commissioner of Natural Resources issues a Land Classification Order. It converts each designated primary use into a corresponding land "classification." A classification identifies the primary use(s) for which the land will be managed, subject to valid existing rights and multiple use. Any planning unit may have up to three co-designated, primary uses, which convert to co-classifications. DNR's land use planning regulations establish and define seventeen land use classification categories.[2] All are initially multiple-use, but if uses are not compatible, then a designated use for which land is classified takes precedence over an undesignated use and the proposed undesignated use must be modified to ensure its compatibility with designated uses. Area plans also adopt area-wide guidelines and unit-specific statements of management intent. In this manner, the designated uses, corresponding classifications, area-wide guidelines, unit specific statements of management intent, together with inventories of resources and uses, guide state decisions on whether to permit certain uses or activities on state lands covered by the plan.

Area plans last for twenty years unless revised earlier. Thus, area plans play an important role in state land management and state decisions, such as whether to allow mining operations or other development and under what conditions they may be allowed.

The plans help ensure that state decisions achieve sustained yield of renewable resources, that development, subsistence, fish and game, and other environmental concerns are appropriately balanced, and that public access to state land and resources is assured and protected.

Pursuant to state statute (AS 38.04.005), area plans seek to establish "a balanced combination of land available for both public and private purposes." State statutes require "inventory, planning, and classification processes" to determine management intent, land-use designations and classifications, and management guidelines. A land use plan is intended to manage state lands and resources within a planning area, and is the expression of how the Alaska Department of Natural Resources (DNR) will pursue this management. Most activities governed by a plan are implemented by the Division of Mining, Land, and Water when it adjudicates authorizations or makes other decisions affected by the plan. Adjudicators use the plan when reviewing and making decisions on authorizations for use of state land, including permits, leases, sales, conveyances, and rights-of-way.

The Citizens' Alternative Bristol Bay Area Plan (Citizens' Alternative BBAP) is a result of settlement of litigation, discussed below, and strikes a balance between different uses and values by recognizing that:

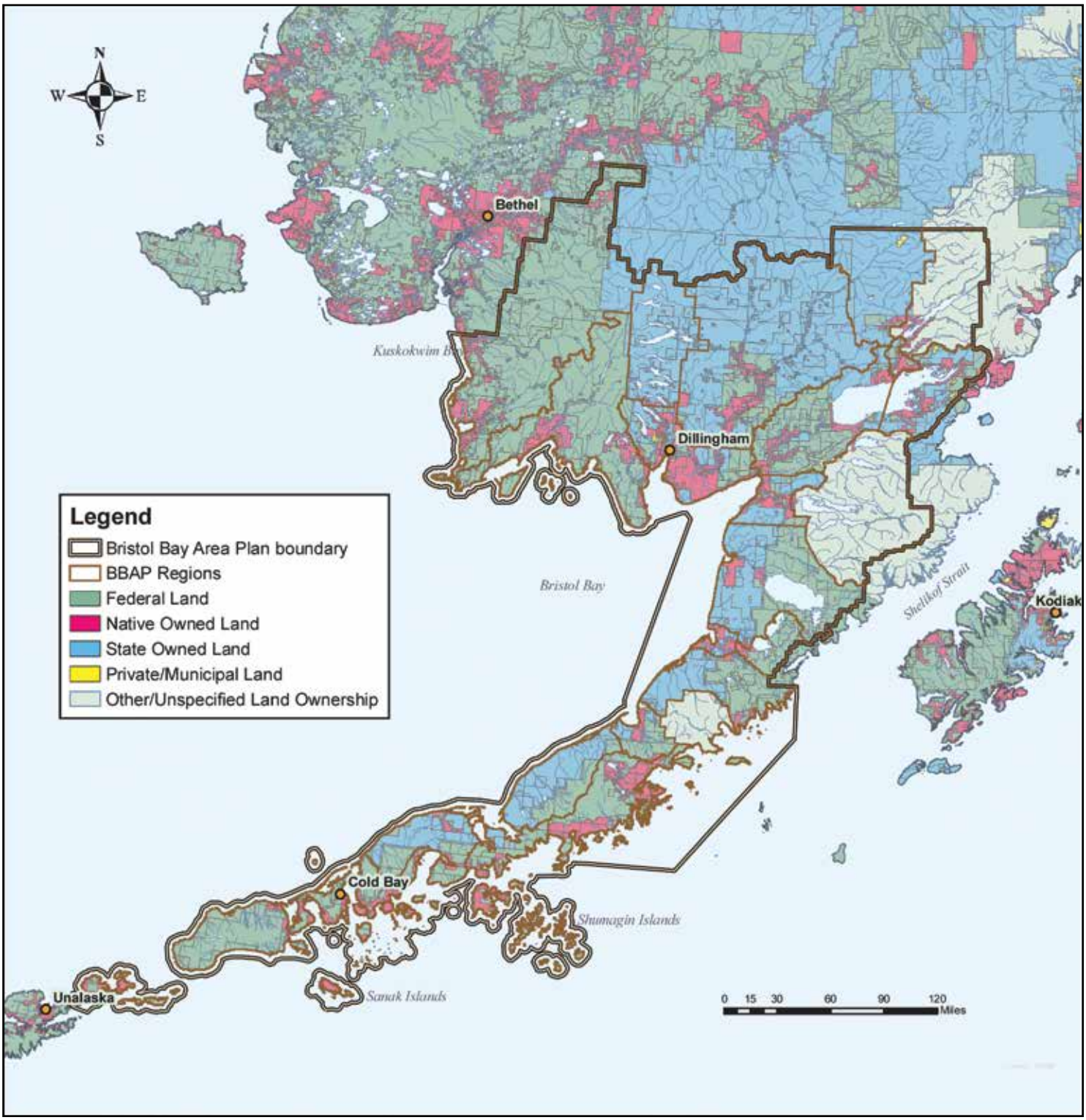
- Lands and resources in the Bristol Bay drainages are primarily owned and managed by State of Alaska, the United States, and village and regional corporations established pursuant to the Alaska Native Claims Settlement Act, and
- Major land owners must work cooperatively to (1) provide for the responsible development of economic resources within the region, (2) maintain healthy ecosystems and habitat for fish and game populations so as to assure sustained yield for commercial, subsistence, and sport hunting and fishing, (3) minimize conflict between various uses, and (4) conserve significant natural and cultural resources within the region.

II. DESCRIPTION OF THE PLANNING AREA

A. SCOPE OF THE PLANNING AREA AND STATE LANDS WITHIN IT

The Bristol Bay Area Plan directs how DNR will manage state-owned uplands, shorelands, tidelands, and submerged lands within the planning boundary, depicted below.

1 AS 38.04.065
2 See 11 AAC 55.050 – .230



Credit appears here if needed

FIGURE 1.1: *Bristol Bay Area Plan – General Land Status*

The following is a summary of the acreage to which the plan will apply:

Land Category	Acres
State-owned uplands	10,330,454
State-selected uplands	1,585,459
State-owned tidelands	7,002,724
Total Acreage	**18,918,637**

Tidelands span the area from mean high water to mean lower low water; submerged lands reach from mean lower low water to a line three miles seaward from mean lower low water. Shorelands include the lands below ordinary high water in non-tidal areas.

The planning boundary includes all state-owned and state-selected uplands, and all tidelands, submerged lands and shorelands within the area depicted in Figure 1.1. The United States Congress originally established this large planning area (48.8 million acres) by enacting Section 1203 of the Alaska National Interest Lands Conservation Act (ANILCA). Section 1203 sought a cooperative, state and federal, land use plan to balance conservation and development in the region.[3]

The planning area extends from the Yukon Delta National Wildlife Refuge (NWR) in the northwest, east to Lake Clark National Park, and south to Akutan Island on the Aleutian Island chain. All of the Alaska Peninsula is included in the planning area except for areas within Katmai National Park and Preserve and the Alaska Peninsula and Becharof NWRs that are part of the Kodiak Area Plan. Within this large area are three boroughs (Bristol Bay, Aleutians East, and Lake and Peninsula), eleven cities, as well as numerous communities. The largest concentrations of state-owned and state-selected land occupy large portions of the Nushagak and

3 Section 1203 of ANILCA is reproduced in the appendices.

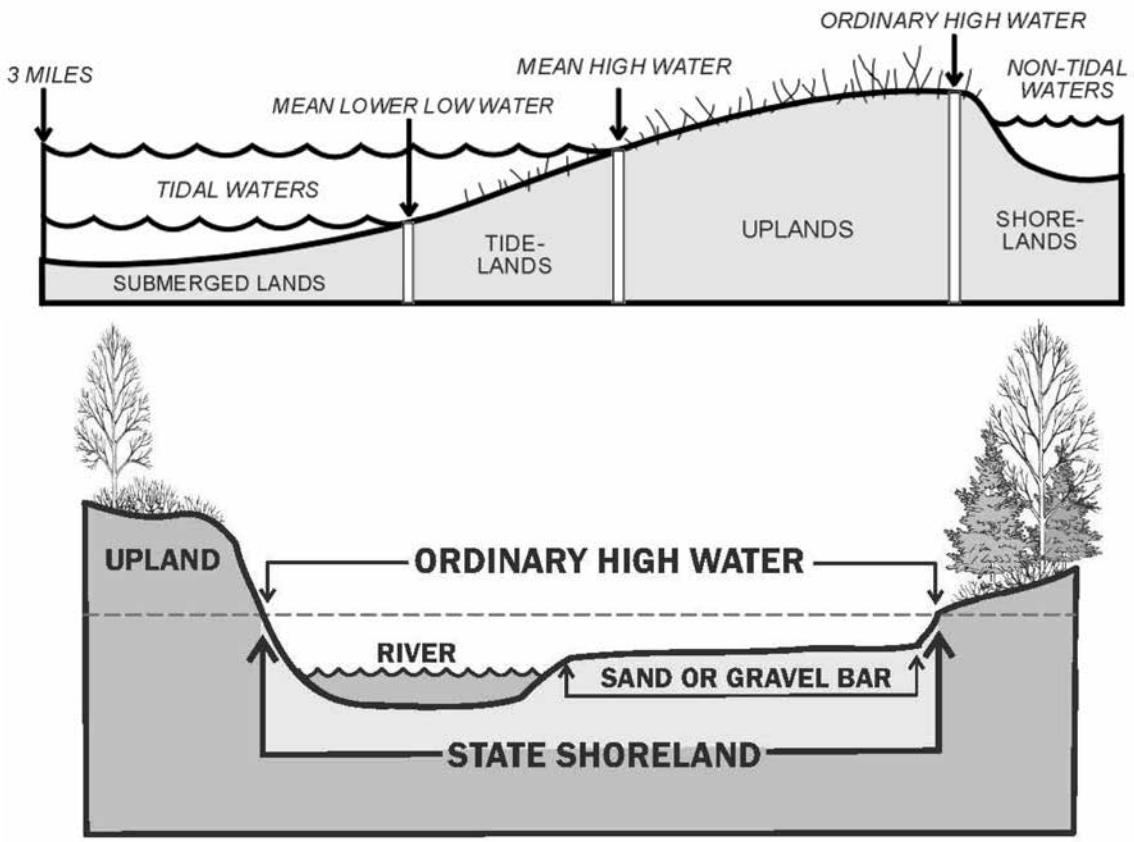


FIGURE 1.2: *Submerged lands, tidelands, uplands, and shorelands as described in this plan.*

Mulchatna River drainages, the area of Wood-Tikchik State Park, areas near Lake Iliamna, as well as most of the north side of the Alaska Peninsula. Numerous federal conservation system units occur within the planning area, including five National Wildlife Refuges, two National Parks, and one National Monument and Preserve. Two state wildlife refuges (Cape Newenham and Izembek) and five state critical habitat areas (Egegik, Pilot Point, Cinder River, Port Heiden, and Port Moller) also occur there. Tide and submerged-lands owned by the State adjoin these federal conservation system units. State shorelands occur within federal conservation units as well as private lands.

B. RESOURCES AND USES WITHIN THE PLANNING AREA

The planning area is rich in natural resources. There are many different ideas about how these resources should be managed. The Bristol Bay Visioning Project[4] in 2010 and 2011 solicited the concerns and opinions of 1400 participants across the Bristol Bay region. Participants in all communities hold family, connection to the land and water, and subsistence activities as the most important parts of their lives today, and expect the same to be true 25 years from now. The final vision statement reflects the weight of opinion of the people who live in the region. The people living in the region favor management that promotes an economy based primarily upon renewable resources, and overwhelmingly, people said that development must not threaten the land, waters and way of life.

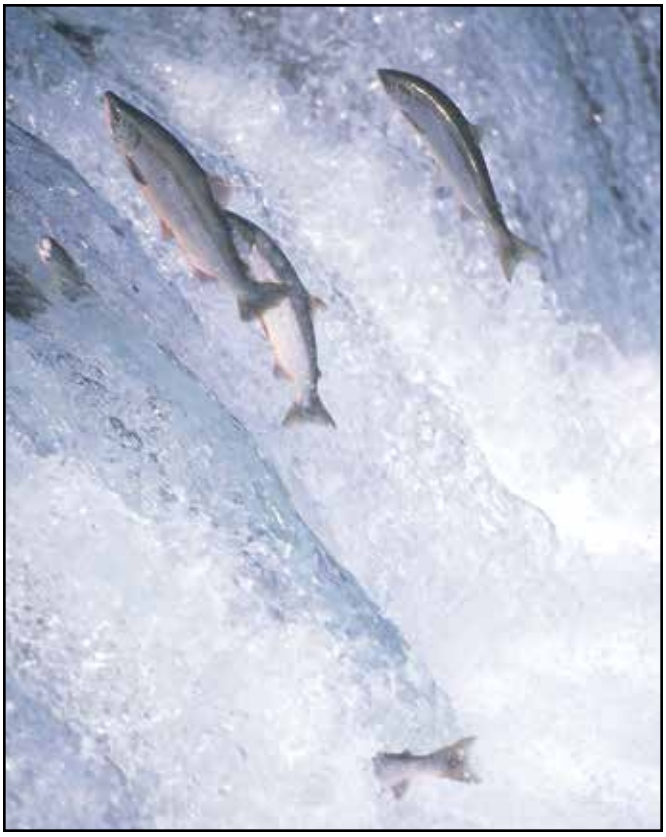
The Citizens' Alternative BBAP assures that state decisions comply with sustained yield of renewable resources. The Citizens' Alternative BBAP does so chiefly by:

(1) designating and classifying a large portion of state uplands and freshwaters as fish and game habitat and/or as public recreation land and subsistence land. These categories require the retention of state land in state ownership. Doing so helps to protect both the habitat and the public uses of fish and game, including commercial, subsistence and recreational uses.

(2) adopting area-wide guidelines and unit-specific statements of management intent that are drafted to assure that sustained yield is met. Some proposed uses will be compatible and can occur simultaneously on the same lands, without jeopardizing sustained yield. When conflicts occur and there is reasonable doubt that renewable resources can be protected so as to meet sustained yield requirements, then the conflict will be resolved in favor of protecting renewable resources.

The Citizens' Alternative BBAP recognizes the State is only one of many landowners in Bristol Bay and that the proper use and protection of the natural resources on state lands depends to a large extent upon similar treatment of these same resources by adjacent landowners, in particular the federal government, state chartered boroughs and Native corporations. The Citizens' Alternative BBAP encourages more cooperation and consultation with and among these landowners.

Once an area plan has been adopted, state permit review processes become more efficient for the government and the public. The Citizens' Alternative BBAP plan guides DNR decisions for leases, sales, and permits that authorize use of state lands. Preparation of land use plans for state lands (except state park system lands) is required under Title 38 of Alaska Statutes. DNR's actions will be based on the area plan.



Kevin Schafer

4 The Bristol Bay Visioning Project was a project of the Bristol Bay Native Association, Bristol Bay Native Corporation, Bristol Bay Are Health Corporation, Bristol Bay Housing Association, and the Bristol Bay Economic Development Corporation. The visioning statement is available at http://www.bristolbayvision.org/

1. Ecological Resources

The Bristol Bay watershed provides habitat for numerous animal species, including 35 fishes, more than 190 birds, and more than 40 terrestrial mammals. Many of these species are essential to the structure and function of the region's ecosystems and economies. Chief among these resources is a world-class commercial and sport fishery for Pacific salmon and other important resident fishes. The watershed supports production of all five species of Pacific salmon found in North America: sockeye (Oncorhynchus *nerka*), coho (O. *kisutch*), Chinook or king (O. *tshawytscha*), chum (O. *keta*), and pink (O. *gorbuscha*). Because no hatchery fish are raised or released in the watershed, Bristol Bay's salmon populations are entirely wild. These fish are anadromous—hatching and rearing in freshwater systems, migrating to the sea to grow to adult size, and returning to freshwater systems to spawn and die.

The most abundant salmon species in the watershed is sockeye salmon. The Bristol Bay watershed supports the largest sockeye salmon fishery in the world, with between 46% and 51% of the average global abundance of wild sockeye salmon. Between 1990 and 2010, the annual average inshore run of sockeye salmon in Bristol Bay was approximately 37.5 million fish. Annual commercial harvest of sockeye over this same period averaged 27.5 million fish. Approximately half of the Bristol Bay sockeye salmon production is from the Nushagak River and Kvichak River watersheds.

In addition to sockeye salmon, Chinook salmon are also abundant. For example, Chinook returns to the Nushagak River are consistently greater than 100,000 fish per year and have exceeded 200,000 fish in several years between 1966 and 2010, frequently placing Nushagak River Chinook runs at or near the world's largest. This is noteworthy given the Nushagak River's small watershed area compared to other Chinook-producing rivers such as the Yukon River, which spans Alaska, and the Kuskokwim River in southwest Alaska, just north of Bristol Bay.

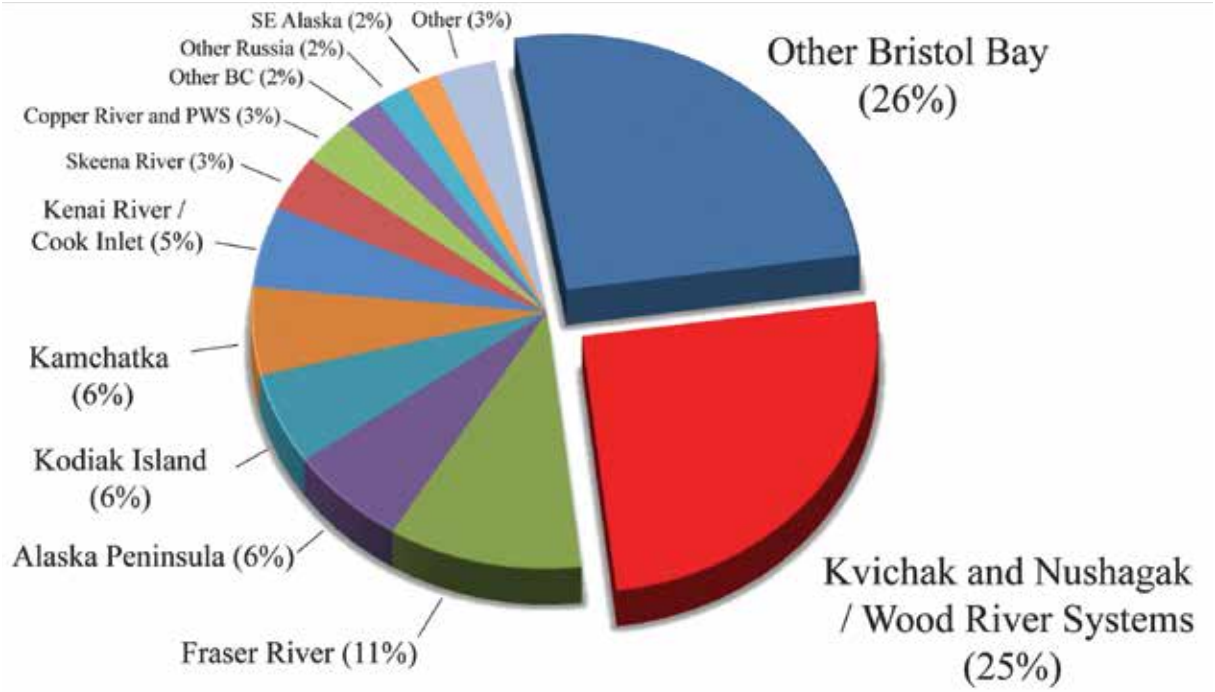


FIGURE 1.3: *Global Abundance of Sockeye Salmon.*[5]

5 Ruggerone et al. 2010. Abundance of adult hatchery and wild salmon by region of the North Pacific. Univ. of Washington, School of Aquatic and Fishery Sciences, Report SAFS-UW 1001, Seattle WA. *and* Pinsky et al. 2009. Range-wide selection of catchments for Pacific salmon conservation. Conservation Biology (23) 681-691.

The Bristol Bay watershed also supports populations of resident fishes that typically remain within the watershed's freshwater habitats throughout their life cycles. The region contains highly productive waters for such sport and subsistence fish species as rainbow trout (Oncorhynchus mykiss), Dolly Varden (Salvelinus malma), Arctic char (Salvelinus alpinus), Arctic grayling (Thymallus *arcticus*), and lake trout (Salvelinus *namaycush*). These fish species occupy a variety of habitats within the watershed, from headwater streams to wetlands to large rivers and lakes. The Bristol Bay region is especially renowned for the abundance and size of its rainbow trout: between 2003 and 2007 an estimated 196,825 rainbow trout were caught in the Bristol Bay Sport Fish Management Area.

The exceptional quality of the Bristol Bay watershed's fish populations can be attributed to several factors, the most important of which is the watershed's high-quality, diverse aquatic habitats, which are untouched by human-engineered structures and flow management controls. Surface and subsurface waters are highly connected, enabling hydrologic and biochemical connectivity between wetlands, ponds, streams, and rivers, thus increasing the diversity and stability of habitats able to support fish. The high diversity of habitats, high quality of surface and subsurface waters, and relatively low development pressures all contribute to making Bristol Bay a highly productive system. This high diversity of habitats also has enabled the development of high genetic diversity of fish populations. This genetic diversity acts to reduce year- to-year variability in total production and increases the stability of the fishery.

The return of salmon from the Pacific Ocean brings nutrients into the watershed and fuels terrestrial and aquatic food webs. The condition of terrestrial ecosystems in Bristol Bay, therefore, is intimately linked to the condition of salmon populations. Unlike most terrestrial ecosystems, the Bristol Bay watershed has undergone little development and remains largely intact. Consequently, the watershed continues to support its historic complement of species, including large carnivores such as brown bears (Ursus arctos), bald eagles (Haliaeetus leucocephalus), and gray wolves (Canis lupus); ungulates such as moose (Alces alces gigas) and caribou (Rangifer tarandus granti); and numerous waterfowl species.

Wildlife populations tend to be relatively large in the region, due to the increased biological productivity associated with Pacific salmon runs. Brown bears are abundant in Bristol Bay. Moose and caribou also are abundant, with populations especially high in the Nushagak River watershed where felt- leaf willow, a preferred plant species, is abundant. The Nushagak River and Kvichak River watersheds are used by caribou, primarily the Mulchatna caribou herd. This herd ranges widely through these watersheds, but also spends considerable time in other watersheds.

Most of the nitrogen, phosphorous and other elements in adult salmon are derived from the marine environment. Adult salmon returning to their natal freshwater habitats import nutrients that they obtained during their ocean feeding period—that is, marine-derived nutrients (MDN)—back into those habitats. MDN from salmon accounts for a significant portion of nutrient budgets in the Bristol Bay watershed. For example, sockeye salmon are estimated to import approximately 12,700 kg of phosphorus and 101,000 kg of nitrogen into the Wood River system annually, and 50,200 kg of phosphorus and 397,000 kg of nitrogen into the Kvichak River system annually. Across the Kvichak River and Nushagak River, returns of 30 million to 40 million salmon each year import up to 20 million kg of nutrients into these watersheds. Returning salmon also redistribute nutrients within these systems by disturbing bottom substrates during spawning and increasing nutrient export downstream.

Productivity of the Bristol Bay region's fish and wildlife species is highly dependent on this influx of MDN into the region's freshwater habitats. When available, salmon-derived resources—in the form of live adult salmon, eggs, carcasses, and invertebrates that feed upon carcasses—are key dietary components for numerous animal species, including fishes (e.g., rainbow trout, Dolly Varden, Pacific salmon, Arctic grayling), mammals (brown bears, wolves, foxes, minks), and birds (bald eagles, waterfowl). Availability and consumption of salmon-derived resources can have significant benefits for these species, including increased growth rates, energy storage, litter size, nesting success, and population density. The abundance of trophy-sized rainbow trout in the Bristol Bay system results from MDN from salmon. Terrestrial systems of the Bristol Bay watershed also benefit from these MDN. Bears, wolves, and other wildlife transport carcasses and excrete wastes throughout their ranges, which provide food and nutrients for other terrestrial species.

Finally, by dying in the streams where they spawn, adult salmon subsidize the next generation by adding their nutrients to the ecosystem that will feed their young. This positive feedback is missing from systems with depleted salmon runs, which probably inhibits attempts to renew those runs.

2. Indigenous Cultures

The Alaska Native cultures present in Bristol Bay—the Yup'ik Aleutiq and Dena'ina— are some of the last intact, sustainable salmon-based cultures in the world. In contrast, other Pacific Northwest salmon-based cultures are severely threatened due to degraded natural resources and declining salmon resources. Pacific salmon are no longer found in 40% of their historical breeding ranges in the western United States, and where populations remain, they tend to be significantly reduced or dominated by hatchery fish.

Salmon are integral to the entire way of life in these cultures as subsistence food and as the foundation for their language, spirituality, and social structure. The cultures have a strong connection to the landscape and its resources. In the Bristol Bay watershed, this connection has been maintained for at least the past 4,000 years and is in part due to and responsible for the continued pristine condition of the region's landscape and biological resources. The respect and importance given salmon and other wildlife, along with the traditional knowledge of the environment, have produced a sustainable subsistence-based economy. This subsistence-based way of life is a key element of indigenous identity and it serves a wide range of economic, social, and cultural functions in these societies.

LAND IS THE GIFT OF OUR ANCESTORS AND THE GUARANTEE OF OUR RIGHT TO CONTINUE OUR SUBSISTENCE LIFESTYLE. LAND IS THE HEART OF OUR CULTURE, WITHOUT THE LAND WE ARE NOTHING.

~ Harvey Samuelsen,
Bristol Bay Village Leadership Conference, 2001

Fourteen of Bristol Bay's 31 Alaska Native villages and communities are within the Nushagak River and Kvichak River watersheds, with a total population of 4,337 in 2010. Thirteen of the 14 communities are Federally Recognized Tribal Governments. In the Bristol Bay region, salmon constitute approximately 52% of the subsistence harvest. Subsistence from all sources (fish, moose, and other wildlife) accounts for an average of 80% of protein consumed by all area residents, Native and Non-native. The subsistence way of life in many Alaska Native villages is augmented with activities supporting cash economy transactions. Alaska Native villages, in partnership with Alaska Native corporations and other business interests, are considering a variety of economic development opportunities including investments in tourism, transportation, onshore oil and gas development, mining and fishing.

3. Economics of Ecological Resources

The Bristol Bay watershed supports several economic sectors that are wilderness-compatible and sustainable: commercial, sport and subsistence fishing, sport and subsistence hunting, and non-consumptive recreation. Considering all these sectors, the ecological resources of the Bristol Bay watershed generated nearly $480 million (M) in direct economic expenditures and sales in 2009, and provided employment for over 14,000 full- and part-time workers.

The Bristol Bay commercial salmon fishery generates the largest component of economic activity and was valued at approximately $300 M in 2009 (first wholesale value) and provided employment for over 11,500 full- and part-time workers at the peak of the season. These estimates do not include retail expenditures from national and international sales.

Based on 2009 data, the Bristol Bay sport-fishing industry supports approximately 29,000 sport-fishing trips, generates approximately $60 M per year, and directly employs over 850 full- and part- time workers. The vast majority of this revenue is spent in the Bristol Bay region. Sport hunting—mostly of caribou, moose, and brown bear—generates more than $8 M per year and employs over 130 full-and part-time workers.

The scenic value of the watershed, measured in terms of wildlife viewing and tourism, is estimated to generate an additional $100 M per year and supports nearly 1,700 full and part-time workers. The subsistence harvest of fish also contributes to the region's economy when Alaskan households spend money on subsistence-related supplies. These contributions are estimated to be slightly over $6 M per year.

4. Geological Resources

In addition to significant and valuable ecological resources, the Bristol Bay watersheds contain considerable mineral resources. The potential for large-scale mining development within the region is greatest for copper deposits and, to a lesser extent, for intrusion-related gold deposits. Because these deposits are low-grade—meaning that they contain relatively small amounts of metals relative to the amount of ore—mining will be economic only if conducted over a large area.

Mineral Resources

Mineral resources in the Bristol Bay planning area include metallic base, precious, platinum group, rare earth, and industrial rocks and minerals. The minerals occur in a wide range of deposit types including porphyry copper deposits, mesothermal gold deposits, epithermal gold mineralization, high-grade vein gold deposits and, to a lesser extent, others. The potential for large-scale mining development within the region is greatest for copper deposits and, to a lesser extent, for intrusion-related gold deposits.

The porphyry copper deposits consist of intrusive related copper±molybdenum±gold± silver systems and associated skarn (wall rock-hosted) deposits with base and precious metals. These are part of a complex magmatic terrane which extends down the Alaska Peninsula. The most significant and well documented of the deposits is the Pebble Copper deposit, 19 miles northwest of Iliamna, which is currently being explored for potential development. Recent resource estimates for the deposit include 55 billion pounds of copper, 67 million ounces of gold and 3.3 billion pounds of molybdenum. Nevertheless, these deposits are low-grade—meaning that they contain relatively small amounts of metals relative to the amount of ore.

Coal deposits have been documented on the Alaska Peninsula in the vicinity of Chignik and Port Moller. The planning area, in general, has large quantities of sand, gravel, and quarry materials.

Oil & Gas Resources

Oil seeps were reported on the Alaska Peninsula as early as 1904 and the region has both reservoir and petroleum source rocks dating from the Jurassic period through the Miocene epoch. As a consequence, the Peninsula has seen oil exploration activity at various times. Twenty-six exploration wells have been drilled in the region and, although none found commercial quantities of oil and gas, at least two areas of the Peninsula are deemed to have high potential for hydrocarbon resources.

The highest potential for discoveries of economically recoverable oil and gas on state land is probably that area of the western Alaska Peninsula on the margin of the North Aleutians (Bristol Bay) basin. The potential for substantial gas reserves is likely higher than the potential for oil. The planning and decision making processes for oil and gas lease sales occur under a separate section of Alaska Statutes (AS 38.05.180) and these processes are therefore not included as part of area plans. Nonetheless, it is appropriate to consider this potential in the planning process.

III. HISTORY OF EFFORTS TO CONSERVE THE BRISTOL BAY DRAINAGES AND THE EVOLUTION OF THE BRISTOL BAY AREA PLAN

A. OVERVIEW OF FEDERAL, STATE, LOCAL, NATIVE AND TRIBAL EFFORTS TO CONSERVE THE KVICHAK AND NUSHAGAK DRAINAGES

The Bristol Bay Area Plan originates from federal and state efforts, beginning in 1967, to conserve the Bristol Bay drainages, particularly the Kvichak and Nushagak drainages, as both governments foresaw that the Alaska Statehood Act and the Alaska Native Claims Settlement would result in dividing the land in these drainages between state, federal and Native ownership, and that cooperation between land owners would be necessary to balance conservation and development. A graphic timeline (reproduced in the appendices for this draft and to be inserted below in the final Citizens' Alternative) summarizes the 46-year history of federal, state, Native and local efforts related to efforts to conserve the Bristol Bay drainages, particularly the Kvichak and Nushagak drainages.

See *Appendix B, Timeline.*

B. THE 1984 BBAP

Congress established the Bristol Bay Cooperative Region in Section 1203 of the Alaska National Interest Lands Conservation Act of 1980. Under Section 1203, the Secretary of the Interior invited the State to participate in cooperative land use planning, and together they invited Native interests to participate. Then, in 1984, the State withdrew and adopted the *1984 Bristol Bay Area Plan for State Lands* based on components of the cooperative plan which related to state land.

The 1984 BBAP applied to about 13 million acres of state land. It designated and classified the entire 13 million acres as habitat and co-designated and co-classified about 10 million acres as habitat and public recreation land, often in conjunction with other designations such as mineral land.

Co-designating and co-classifying land as habitat/public recreation/mineral land required that any mineral development be compatible with habitat and public recreation, because all three designations and classifications were "peers" of each other, such that any one of the three designated uses did not take precedence over another. This meant that mineral development, under the 1984 BBAP, had to be *compatible* with habitat and public recreation.

In conjunction with the 1984 BBAP, DNR issued Mineral Closing Order No. 393 (MCO 393) in order to protect fish habitat. MCO 393 closes to new mineral entry approximately 214,000 acres of state land comprised of sixty-four anadromous streams and adjacent uplands for one hundred feet on each side of the ordinary high-water mark. DNR also issued Leasehold Location Order No. 1 (LLO 1) in order to protect several important areas of fish and wildlife habitat.

C. THE 2005 BBAP

The 2005 BBAP used primarily marine criteria to identify inland habitat. This eliminated 93 percent of the prior habitat designations of the 1984 BBAP and led to redesignating the vast majority of state land in the Bristol Bay planning area as "General Use." The 2005 BBAP defined "recreation" to exclude sport hunting and fishing. This eliminated 86 percent of the prior recreation land designations of the 1984 BBAP. These changes allowed the 2005 BBAP to eliminate nearly all co-classifications of the 1984 BBAP (such as for habitat, recreation and mineral) and to reclassify mineralized areas as solely "Mineral land." All of these changes in the 2005 BBAP made it possible for mineral development to occur on state land regardless of its actual impact on habitat or recreation.

The 2005 BBAP, however, did not alter MCO 393 and LLO 1 and both orders remain in effect today.

D. LITIGATION CHALLENGING THE 2005 BBAP

The Tribal Councils of Nondalton, Koliganek, New Stuyahok, Ekwok, Curyung (Dillingham), and Levelock,[6] the Alaska Independent Fishermen's Marketing Association (AIFMA)[7] and Trout Unlimited, Inc. (TU), challenged in court the 2005 Bristol Bay Area Plan. The plaintiffs and the State of Alaska ultimately settled the lawsuit. The Citizens' Alternative BBAP contains provisions that are in line with that settlement.[8]

IV. HOW THE CITIZENS' ALTERNATIVE BRISTOL BAY AREA PLAN IS ORGANIZED

Like the 2005 BBAP adopted by DNR, the Citizens' Alternative BBAP has four chapters and a set of appendices.

Chapter 1 includes a summary of the purpose of the plan, description of the planning area, how and why the plan was developed and revised, and a summary of plan actions.

Chapter 2 includes goals of the plan and guidelines that apply throughout the planning area. Guidelines are specific management statements that will be applied to land and water management decisions as resource use and development occur. When potentially conflicting uses are designated in a management unit, the plan provides guidelines to allow various uses to occur without unacceptable consequences. Guidelines that apply to the entire planning area are identified in Chapter 2. Management guidelines for specific management units are given in Chapter 3.

Chapter 3 of the 2005 BBAP contains twenty subchapters, each of which addresses a unique region within the planning area. The Citizens' Alternative BBAP addresses only those regions that encompass the Nushagak and Kvichak drainages. These are subchapters 5, 6, 7, 8, 9, and 10 of Chapter 3 of the 2005 BBAP.

6 These tribal councils are federally recognized tribal entities for their respective villages.

7 AIFMA represents a substantial portion of the commercial fishers in Bristol Bay,

8 See Stipulation For Remand And Dismissal Without Prejudice in Appendices.

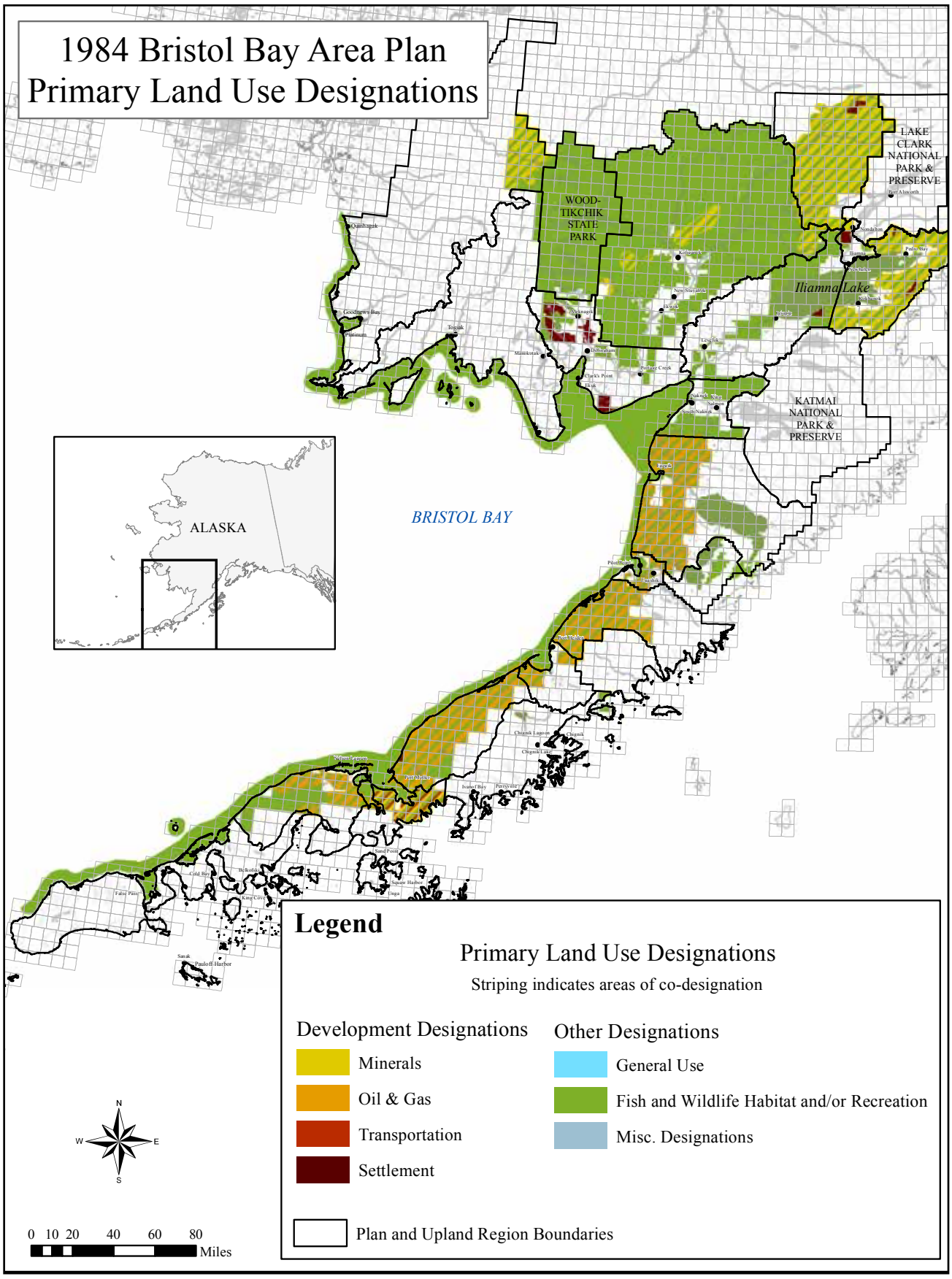


FIGURE 1.4: *1984 Bristol Bay Area Plan – summary*

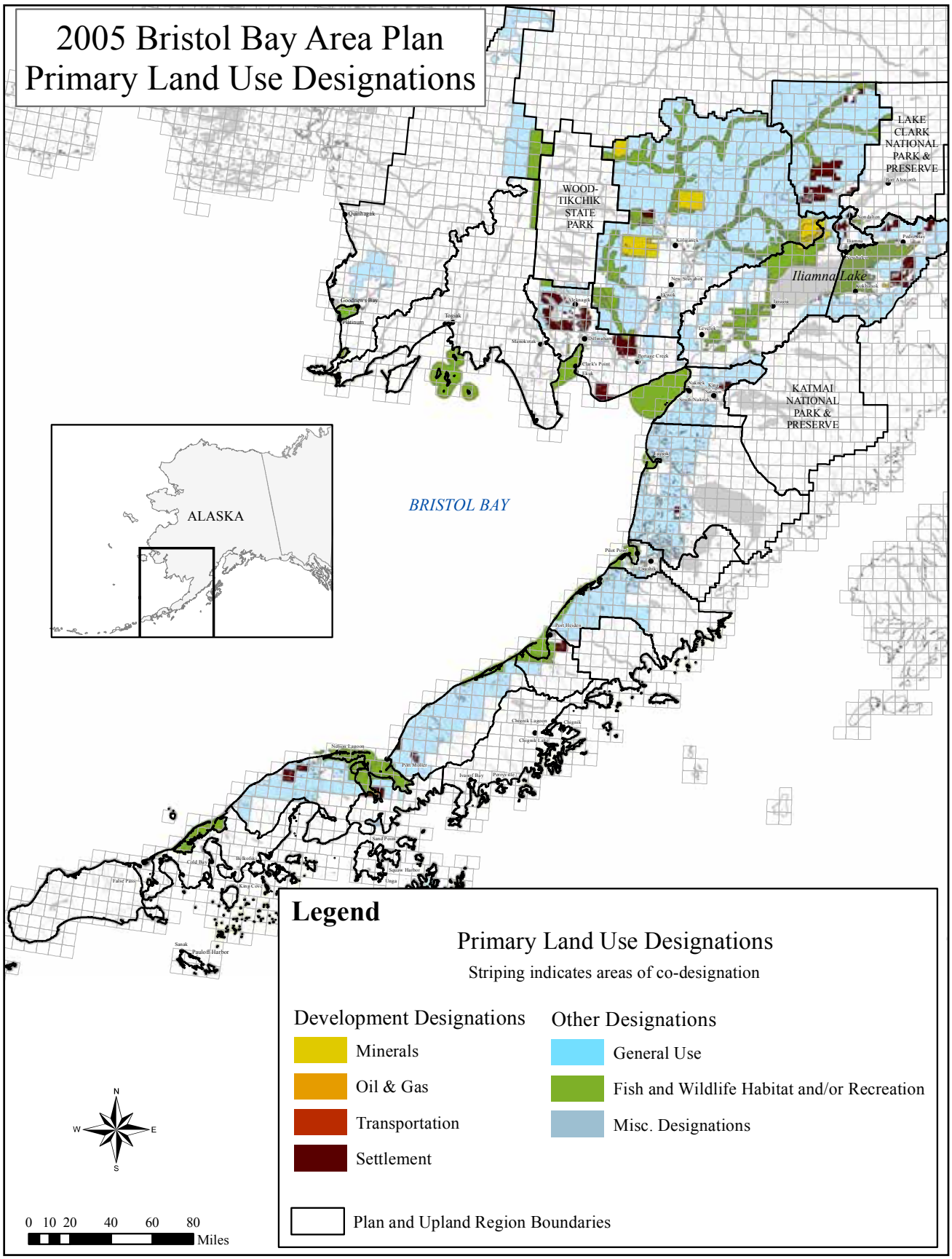


FIGURE 1.5: *2005 Bristol Bay Area Plan – summary*

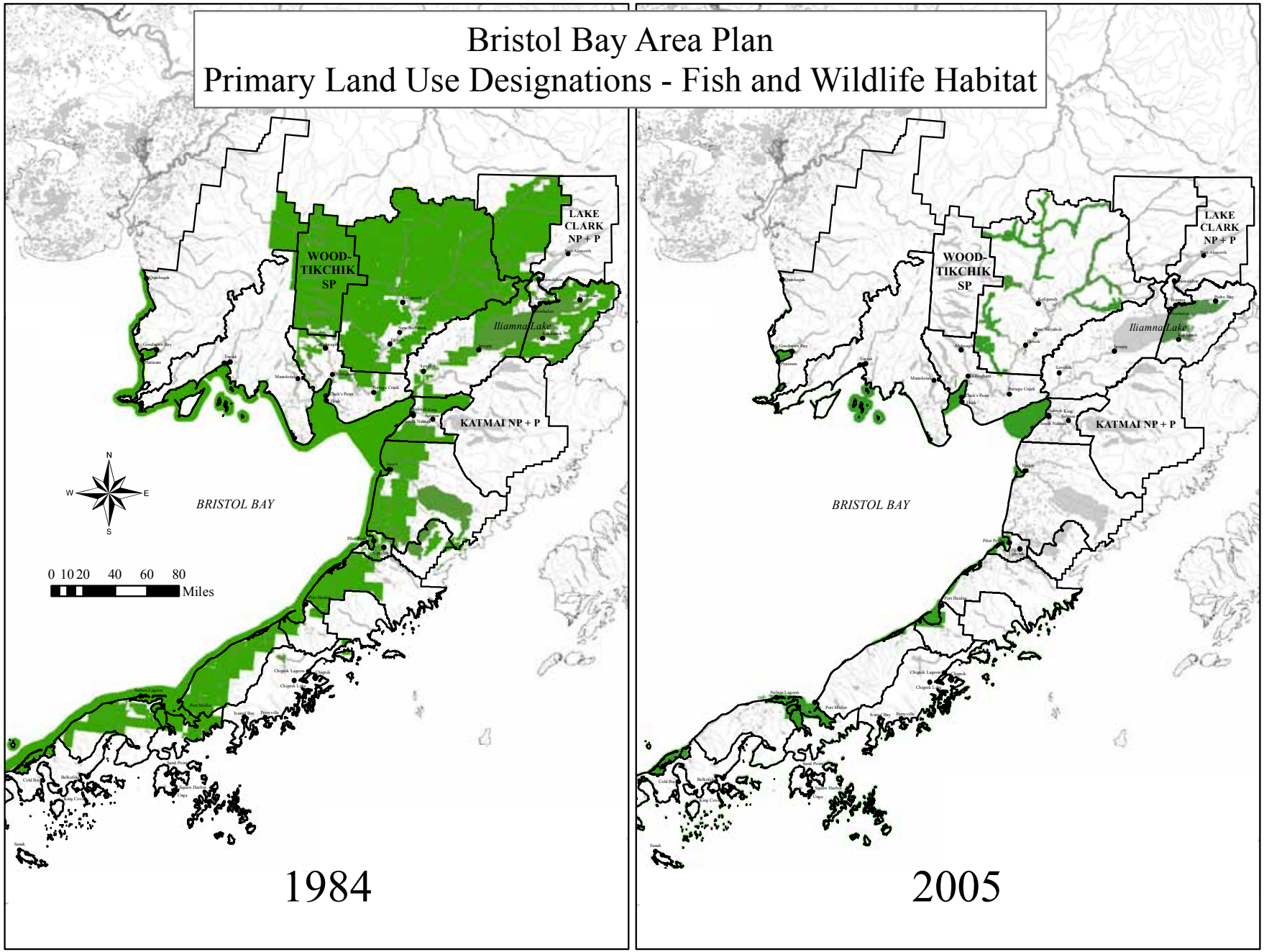


FIGURE 1.6: *Comparison between 1984 and 2005 Bristol Bay Area Plan – Fish and Wildlife Habitat*

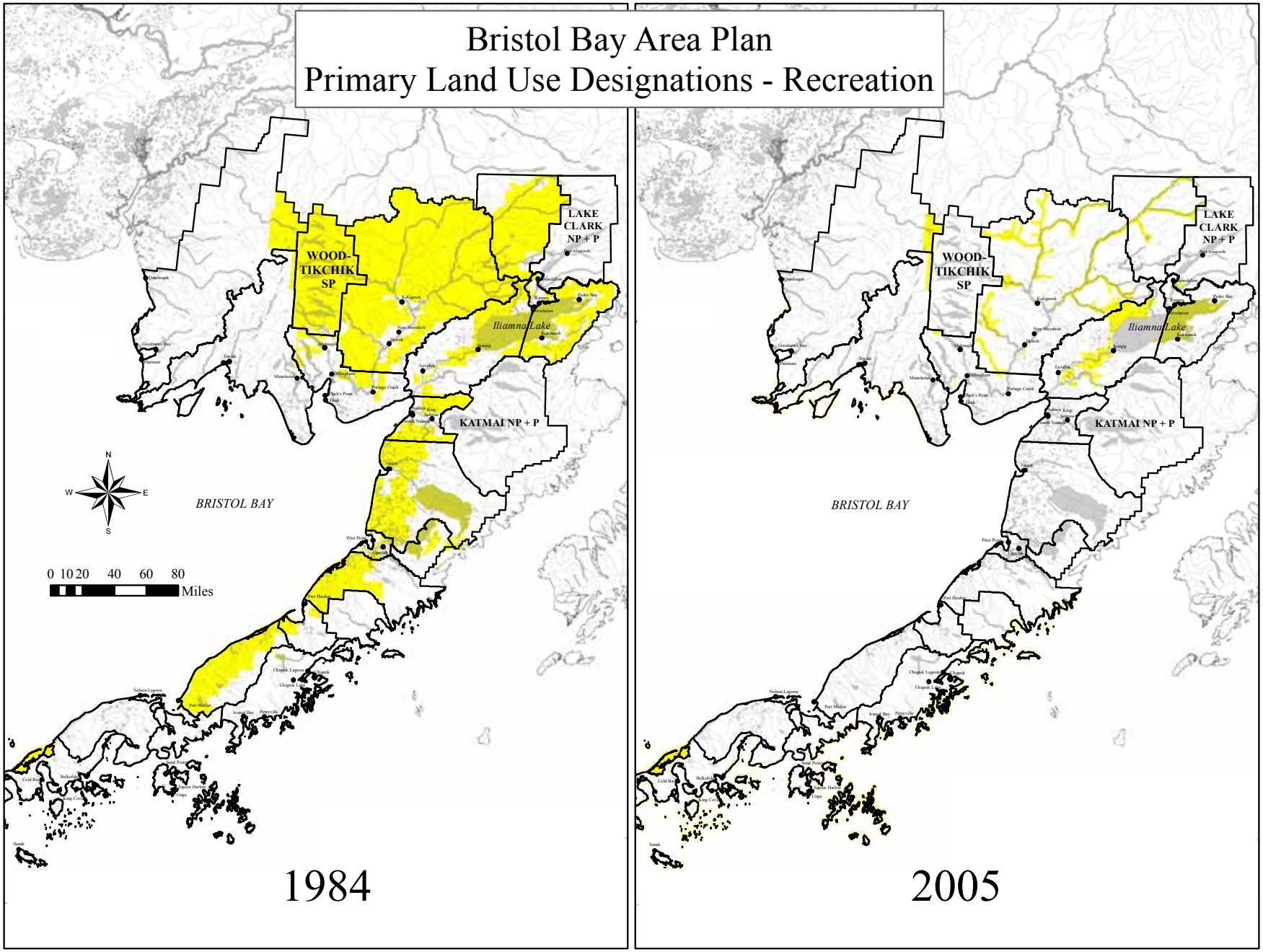


FIGURE 1.7: *Comparison between 1984 and 2005 Bristol Bay Area Plan – Recreation*

Each region within the Bristol Bay Planning Area is divided into upland, and in some cases tideland, management units. The plan presents management intent that explains the overall resource management objectives for each region and management unit, and provides resource and use information for land managers. Each regional subchapter also summarizes management constraints and considerations based on existing plans, legislative designations, and other management constraints that significantly affect resource management.

In each regional subchapter, a Resource Allocation Table lists all of the upland and tideland management units. For each unit, this Table identifies: (1) the land use designation(s) for which the state land in unit will be managed, (2) the management intent, and (3) inventory of resources and uses to be considered in making land management decisions affecting lands in the unit. The last section of this chapter addresses navigable waters.

Chapter 4 discusses specific actions necessary to implement the plan.

Appendices include a glossary, a copy of the court settlement ("Stipulation For Remand And Dismissal Without Prejudice"), a graphic timeline of the history of efforts to conserve the Bristol Bay drainages, a proposed mineral closing order, and the text of Sections 1201(j) and 1203 of ANILCA regarding cooperative land use planning.

V. SUMMARY OF ACTIONS IN THE CITIZENS' ALTERNATIVE BRISTOL BAY AREA PLAN

Figure 1.6 summarizes the recommended land use designations and classifications in the Citizens' Alternative Bristol Bay Area Plan.

A. The Citizens' Alternative BBAP increases the acreage classified as habitat.

The Citizens' Alternative BBAP specifies the amount of state land designated as habitat by –

(a) adding essential and important moose, caribou and other habitats to the criteria used to designate and classify land as habitat;
(b) classifying land as habitat if it is primarily valuable for fish and wildlife production to provide for commercial, subsistence and sport use on an optimum sustained yield basis;
(c) using the lands and anadromous waterbodies as listed in Mineral Closing Order 393 and other waterbodies cataloged by the Alaska Department of Fish and Game as anadromous (http:gis.sf.adfg.state.ak.us/AWC_IMS/viewer.htm) as a basis for identifying areas that should be classified and managed to protect anadromous fish habitat; and
(d) closing additional areas to new mineral entry that conform to the criteria of MCO 393.

B. The Citizens' Alternative BBAP increases the acreage classified as public recreation land.

Chapter 3 specifies the amount of state land designated and classified or co-classified for retention in public ownership and management as state public recreation land. It does so by classifying land as public recreation land if it is suitable for sport hunting and fishing.

C. The Citizens' Alternative implements a new subsistence land use classification category.

Chapter 3 implements a new subsistence land use classification category. It does so by designating and therefore classifying or co-classifying land for retention in state public ownership and management for subsistence use.

D. The Citizens' Alternative BBAP has guidelines and statements of management intent to protect habitat and public uses of fish and game.

To protect habitat and public uses of fish and game, the Citizens' Alternative BBAP addresses:

(a) area-wide management guidelines in Chapter 2;
(b) region-specific guidelines in the regional sections of Chapter 3;
(c) unit-specific statements of management intent in the allocation tables throughout chapter 3;
(d) the unit-specific inventory of resources and uses in the allocation table for units 5, 6, 7, 8, 9, and 10 in Chapter 3.

The Citizens' Alternative identifies and requires concrete measures to implement the State's Policy for the Management of Sustainable Salmon Fisheries (5 AAC 39.222). The Citizens' Alternative also identifies and requires standards that prohibit or restrict metallic sulfide mining in the Kvichak and Nushagak drainages.

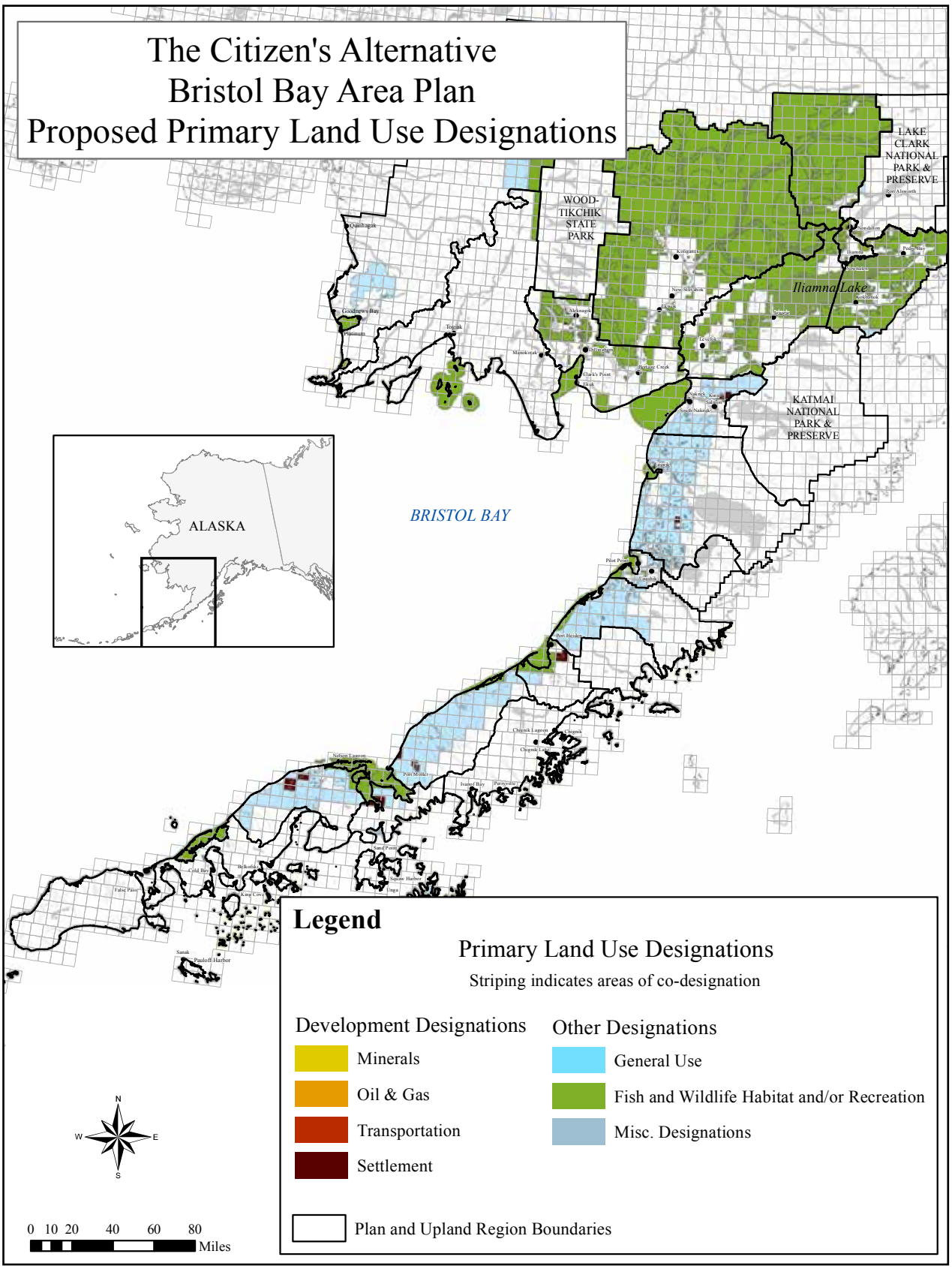


FIGURE 1.8: *2013 Citizens' Alternative Bristol Bay Area Plan – Proposed Primary Land Designations*

E. The Citizens' Alternative BBAP recommends cooperative land use planning, across property boundaries, in the Kvichak and Nushagak drainages.
Recognizing the importance of the Kvichak and Nushagak drainages to both the people of the region and to the economy of Alaska, the State urged throughout the latter 1970s that cooperative land use planning between major landowners be included in ANILCA. The concern was that fragmented management could have significant negative impacts on the fish and game resources. As stated above, this concern was recognized and cooperative land use planning was established in Section 1203 of ANILCA in 1980. Subsequently, the State withdrew from the Section 1203 process and adopted its own 1984 BBAP.

Under this revision of the plan and due to escalating national and international interest in the resources of the region, The Citizens' Alternative BBAP recognizes the need to restart cooperative land use planning under section 1203 for the Kvichak and Nushagak drainages.

Cooperative land use planning should occur among the major land owners (the State, municipalities, the US Department of the Interior, Native village corporations, and Bristol Bay Native Corporation) and the tribes, and should be a public process that seeks to coordinate measures to protect habitat across property boundaries, while respecting those boundaries.

In the context of cooperative land use planning, state, federal and tribal officials should seek to accomplish the following, interrelated objectives.

(a) State, federal and tribal officials should establish a state-federal process by which landowners, particularly Alaska Native Corporations, can petition the state and federal governments to establish Cooperative Management Units within the Nushagak and Kvichak drainages for the purpose of developing agreements to coordinate land management practices and prevent conflicting land uses that may lead to the diminishment or loss of common resources.
(b) State, federal and tribal officials should plan, schedule, and facilitate public meetings or hearings on alternative drafts of potential state and federal legislation that, if introduced and enacted, would protect habitat and public uses of fish and game on public lands in the Kvichak and Nushagak drainages. Based on the cooperative planning process and the public meetings and hearings, state, federal and tribal officials should recommend such legislation to Congress and the Alaska Legislature.
(c) State, federal, and tribal officials should discuss how federal resources might assist in addressing mining claims that are inconsistent with this plan and with recommended legislation.

The Citizens' Alternative BBAP requests that the Secretary of the Interior re-initiate cooperative land use planning to achieve these objectives.

WHAT GOOD DOES IT DO TO CREATE A FEDERAL PARK AND PROVIDE 100 PERCENT PROTECTION TO SOME FISH AND GAME HABITAT ONTO WHICH CARIBOU AND SALMON MIGRATE IF THE DESECRATION ALLOWED TO OCCUR OUTSIDE ITS BORDERS IN THE SAME ECOSYSTEM IS LEFT TO THE DISCRETION OF STATE OR PRIVATE OWNERS.

Governor Jay Hammond -
Tales of Alaska's Bush Rat Governor, 1994

Chapter 2
GOALS, MANAGEMENT INTENT, AND GUIDELINES

Contents of Chapter 2

I. INTRODUCTION

The Bristol Bay planning area possesses great natural wealth – a wealth that is built upon the quality of its fresh water and the network of lakes, rivers, streams, ponds, estuaries, and sloughs that supports a rich biodiversity and produces Bristol Bay's iconic sustainable resource – wild Pacific salmon. The plan recognizes the importance of protecting air and water quality and functioning habitat for salmon if the human and wildlife resources of the region are to be maintained. The plan emphasizes the need to maintain water quality classifications and standards at levels necessary to protect the human, fish, and wildlife resources of the region. The plan also recognizes the need for and emphasizes the importance of maintaining flow regimes and enforcing existing water quality regulations in the Bristol Bay region. At the same time, the plan acknowledges that a diverse economic base is important and that the development of non-renewable resources should be allowed where it can be done responsibly and in a manner consistent with the protection of salmon and other renewable resources in Bristol Bay.

This chapter presents land management policies applicable to the resources and uses affected by the plan. This chapter does not address oil and gas resources as planning for such resources is covered under a separate statute (AS 38.05.180). These policies apply to state land throughout the planning area regardless of the land use designation.

This chapter consists of goals and management guidelines. Goals are the general conditions the department is trying to achieve, and guidelines are specific directives that will be applied to land and water management decisions as resource use and development occur.

Definitions

For definitions of terms commonly used in this chapter and others, please see *Appendix A, Glossary*.

Goals

The following are goals for state lands in the planning area. Goals are general conditions that DNR attempts to achieve through management actions. The goals are listed alphabetically so as to avoid any implication of priority other than as may occur in law.

Conservation. Conserve the fish and wildlife populations, their genetic diversity, their habitats, and other significant natural and cultural resources within the planning area.

Cooperation. Foster cooperation between state, federal, local, and tribal governments, Native village and regional corporations, and public and private interests and interest groups, to coordinate planning, land use, resource development, and conservation efforts.

Economic Development. Provide opportunities for economic development, employment, and income by managing state land and resources in a manner that supports diverse economic opportunities. Development of both renewable and non-renewable resources must be conducted in a responsible and sustainable manner, and it must not unacceptably threaten the land, water, fish, wildlife, traditional uses, or the existing economy of the planning area.

Public Use. Provide, protect, and maintain diverse opportunities for public use of state lands, including uses such as hunting, fishing, boating, and other types of traditional use and recreation.

Quality of Life. Provide, protect, and maintain the quality of the natural environment, including air, land and water, and fish and wildlife habitat and harvest opportunities; protect heritage resources, subsistence resources, and the character and lifestyle of the communities in the planning area.

Settlement. Provide appropriate opportunities for private ownership and leasing of land currently owned by the state by making settlement in remote areas a secondary rather than a primary use.

Sustained Yield. Maintain the long-term productivity and quality of renewable resources, including fish, wildlife, water, and timber.

Subsistence and Traditional Culture. Protect heritage resources, subsistence resources, and the character, lifestyle, and traditional culture of the communities in the planning area.

Management Intent

Management intent for state land is expressed through statements of management intent identified on a management unit specific basis. These statements are based on resource and use inventory, existing and potential trends, existing authorizations, existing plans, and public participation.

General Framework of the Plan

A. State land within the planning area will be managed to allow for multiple uses unless legislatively designated or a management unit of state land is less than 640 acres and managed under a management agreement by another state agency. It is the intent of the plan to designate the primary use or uses of all state-owned and state-selected lands in the planning area and classify the lands accordingly.

B. State land will also be managed to protect public resources, uses of resources, and public access to resources. Types of resources and uses to be protected include but are not limited to fish and wildlife populations and habitats; commercial, subsistence, and sport fishing and hunting; other recreation; water quality; instream flow; anchorages; watersheds; scenery and trails.

C. State land will remain open to mineral entry unless specifically closed or unless mineral entry would be precluded by or otherwise incompatible with the applicable land use designation. The Citizens' Alternative recommends continuation of the existing mineral closing orders and leasehold location orders and recommends the addition of new areas to be closed to mineral entry.

D. In management units where a primary use has been designated, activities and authorizations pertaining to that primary designated use shall take precedence over other uses. Although there may be a priority for use in certain management units, other uses may also be allowed if they are compatible with its designation. If DNR determines that a use conflict exists and that the proposed use is incompatible with the primary use, the proposed use shall not be authorized or it shall be modified so that the incompatibility no longer exists [11 AAC 55.040 (c)].

E. This plan designates state lands in categories that are generally consistent with current use patterns and the most significant resource values in the planning area.

F. This plan honors the intent of existing settlement agreements with the Mental Health Trust Authority and the University of Alaska. These settlement agreements shall prevail over the area plan if inconsistencies exist.

Guidelines by Activity or Resource Value

The following guidelines are specific directives that will be applied to management decisions.

DNR will use these guidelines when considering issuing authorizations and conveyances or making management decisions on state lands. These guidelines will also apply to lands that may come into state ownership through the ANILCA federal land selection process.

Chapter 2 guidelines apply to all state land covered by the Bristol Bay Area Plan unless the plan explicitly exempts some management units or designations from a guideline or the resource or use for which a guideline is intended does not exist in the unit in question.

General

A. All authorizations for use of state land within the planning area shall be consistent with the designated primary uses, corresponding land classifications, guidelines, and statements of management intent in this plan.

B. In considering authorizations for use of state land, DNR will adjudicate applications to

1. **1.** prevent or, if prevention is not possible, but restoration and mitigation is possible, minimize damages to streambeds, fish and wildlife habitats, vegetation, trails, anchorages, and other resources
2. **2.** prevent or, if prevention is not possible, minimize conflicts between resource uses
3. **3.** protect the long-term value of state resources, public safety, and the environment

C. If authorizations from other agencies are required, DNR will only issue a permit or lease contingent upon issuance of these other authorizations.

II. MAJOR ISSUES, RESOURCES, AND USES COVERED BY THIS PLAN

A. FISH AND WILDLIFE HABITAT

Background

Protecting and maintaining public use of fish and wildlife for subsistence, commercial, and recreational purposes is critical to the people who live, work, and recreate in the Bristol Bay drainages. The accompanying chart of Resources and Values per unit will assist DNR decision-making.

Subsistence

The Bristol Bay economy in 2013, as it was when the first Bristol Bay Area Plan was adopted in 1984, is a mixed cash-subsistence economy. The subsistence harvest of fish and wildlife is essential to the way of life in Bristol Bay communities, regardless of the birthplace, ethnic origin, or economic status of the area residents. Salmon are the most important fish and wildlife resource harvested for subsistence by the region's residents. The subsistence harvest of salmon (all species) in the Bristol Bay study area averaged about 176,000 salmon per year or approximately 821 pounds of dressed-out salmon per family or subsistence permit holder when the 1984 plan was adopted.

Subsistence in 2013 continues to be important in the region as both a cultural value and economic supplement. The key features of Bristol Bay's subsistence economy include the use of a relatively large number of wild resources (on the order of 70 to 80 specific resources in this area, but primarily moose, caribou, salmon, and other fish), a community-wide seasonal-round of activities based on the availability of wild resources, a domestic mode of production (households and close kin), frequent and large-scale noncommercial distribution and exchange of wild resources, traditional systems of land use and occupancy based on customary use by kin groups and communities, and a mixed economy relying on cash and subsistence activities (Wolfe and Ellanna, 1983; Wolfe et al. 1984). The heart of this cash-subsistence economy is the resident population of 7,475 individuals located in 25 communities spread across a primarily un-roaded area.

The average annual per capita subsistence harvest for Bristol Bay's communities in 2009 was about 343 pounds per person. Bristol Bay residents in 2009 harvested about 2.6 million pounds of resources. Overall, salmon makes up the largest share of this harvest (on a basis of usable pounds) and accounts for over one-half of the harvest. Another nearly one-third of the harvest comes from land mammals (31 percent), and non-salmon fish constitute another 10 percent of harvest. The use of subsistence resources continues to provide significant offsets to commercially produced forms of nutrition and provides annual direct subsistence-related expenditures (gas, ammunition, nets, etc.) of approximately $6.3 million.

Subsistence use of fish and wildlife is based on customary and traditional practices and is motivated by economic, social, and cultural goals. The most important subsistence resources are salmon, moose, and caribou, all of which are taken in substantial quantities by residents of nearly every community in the Bristol Bay study area. The value of subsistence resources cannot be quantified in common economic terms. The cultural and social values of subsistence resources are, nonetheless, substantial to the residents of the Bristol Bay study area.

Commercial Fishing

The Bristol Bay commercial salmon fishery now spans three centuries dating back to 1884. The importance of the fishery has not diminished in the intervening years since the Bristol Bay Area Plan was adopted in 1984. Certainly run size and market conditions may make any particular year more or less rewarding, but overall the fishery continues to produce astonishing returns and is a reliable economic benefit for Alaska and Bristol Bay. The salmon fishery remains today the foundation on which the culture and economy of the area rest. The Bristol Bay area includes all of the Bristol Bay, Alaska Peninsula, and Chignik fishery management units of the Alaska Department of Fish and Game (ADF&G). Five species of Pacific salmon are indigenous to the Bristol Bay planning area with sockeye salmon being most important commercially. Sockeye salmon account for about 94 percent of the volume of Bristol Bay salmon harvests and an even greater share of the value. Salmon bound for the Nushagak and Kvichak watersheds generally account for most of the sockeye salmon caught in Bristol Bay.

Total catches vary widely from year to year. Between 1980 and 2010, Bristol Bay sockeye salmon harvests ranged from as low as 10 million fish to as high as 44 million fish. Annual preseason forecasts are subject to a wide margin of error. According to ADF&G the 2012 Bristol Bay sockeye run was 29.1 million with a harvest of 20.6 million. The 2012 season was 28 percent below the average run of 37.3 million for the period 1992–2011. The run was 7 percent below the preseason forecast.

When the first Bristol Bay Area Plan was adopted in 1984, it was noted the average ex-vessel value for salmon catches (all species) in the entire Bristol Bay study area (1977–1982) exceeded $150 million annually with the first wholesale value surpassing $250 million in 1982. In 1983, a record commercial catch of more than 39 million sockeye salmon from the Bristol Bay fisheries management unit and the north side of the Alaska Peninsula was recorded with an ex-vessel value in excess of $145 million for that species alone. Strong Japanese demand for frozen sockeye salmon drove a sharp rise in Bristol Bay salmon prices during the 1980s. The ex-vessel value rose to a high of $359 million paid to fishermen in 1988. Competition from rapidly increasing farmed salmon production drove a protracted and dramatic decline in prices between 1988 and 2001, which led to an economic crisis in the industry. The late 1990s experienced a decline in ex-vessel value falling to a low of $39 million in 2002. However, growing world salmon demand, a slowing of the growth of farmed salmon production, diversification of Bristol Bay salmon products and markets, improvements in quality, and marketing efforts emphasizing the health and environmental benefits of wild salmon have driven a strong recovery in prices over the past decade.

The ex-vessel value rebounded to $181 million in 2010. The real first wholesale value of Bristol Bay salmon production rose to $616 million in 1988, fell to $124 million in 2002, and then rose again to $390 million in 2010. In 2009, the ex-vessel value of Bristol Bay salmon harvest was approximately $300 million. In general, despite varying factors such as changes in wild salmon harvests, exchange rates, diseases and recovery in Chilean-farmed salmon, and global economic conditions, Bristol Bay fishermen have generally fared as good as or better in the years following the adoption of the 1984 BBAP than in the years before.

An estimated 3,000 limited-entry fishing permits were issued for the Bristol Bay and Alaska Peninsula purse seine, drift gill net, and set gill net salmon fisheries in 1982. Approximately 67 percent of these licensed gear holders were Alaska residents, and 70 percent of these were Bristol Bay residents. More than 7,700 commercial fishermen were employed in the fishery during the season. In addition, twelve shore-based canneries operated in Bristol Bay employing more than 21,000 cannery workers each season with floating processors employing an additional 700 workers. In addition, air-freighting of fresh salmon for processing elsewhere was also a substantial enterprise, particularly during high production years. On the average, more than 10,000 people were seasonally employed by the Bristol Bay salmon fishery at the time the 1984 BBAP was adopted.

The Bristol Bay salmon harvest is now processed by about 10 large processing companies and 20 smaller companies employing about 3,700 processing workers at the peak of the season in both land-based and floating processing operations. Most of the land-based processors operate only during the short summer salmon season. Cannery workers are generally flown in from outside the region and live in bunkhouse facilities at the processing plants. Most Bristol Bay salmon is processed into either frozen headed and gutted salmon or canned salmon. Formerly almost all Bristol Bay frozen salmon was exported to Japan. In recent years exports to Japan have declined sharply while shipments to the U.S. domestic market have increased and exports have increased to Europe and to China (for reprocessing into fillets sold in Europe, Japan, and the United States). Most canned salmon is exported, primarily to the United Kingdom, Canada, and other markets.

In 2013 the Bristol Bay salmon fishery remains the world's largest and most valuable wild sockeye salmon fishery, and sockeye remains the most commercially valuable of Alaska's salmon species. Between 2006 and 2010 the Bristol Bay salmon industry averaged

- Annual harvests of 31 million salmon, including 29 million sockeye salmon
- 51 percent of world sockeye salmon harvests
- Annual "ex-vessel" value (the value earned by fishermen) of $129 million
- Annual first wholesale value after processing of $268 million
- 26 percent of the "ex-vessel" value to fishermen of the entire Alaska salmon harvest
- Seasonal employment of more than 6,800 fishermen and 3,700 processing workers

Recreation/Sport Fishing

Next to commercial fishing and processing, recreation is the most important private economic sector in the Bristol Bay region.

The freshwater rivers, streams, and lakes of the region are a recreational resource equal or superior in quality to other world-renowned sport fisheries. The attractiveness of Bristol Bay as a destination for sport fishing and recreation has grown from the industry as described in the 1984 plan. In fact, the economic value has more than doubled.

Recreational fishing use of the Bristol Bay region is roughly divided between 58% trips to the area by Alaska residents and 42% trips by nonresidents. These nonresidents (approximately 12,500 trips in 2009 [ADF&G, 2011]) account for the large majority of total recreational fishing spending in the region. Most of this spending comes from the purchase of sport fishing packages at one of the region's remote fishing lodges. A one-week package that included lodging and fly-outs at a remote lodge in Bristol Bay averaged $6,950 in 2009. It is estimated that in 2009 approximately $50 million was spent in Alaska by nonresidents specifically for the purpose of fishing in the Bristol Bay region. In total, it is estimated that $60 million was spent in Alaska in 2009 on Bristol Bay fishing trips.

In survey responses Bristol Bay anglers consistently emphasize the importance of Bristol Bay's uncrowded, remote, wild setting in their decisions to fish the area. Additionally, a significant proportion of these anglers specifically traveled to the region to fish the world-class rainbow fisheries. These findings indicate that Bristol Bay sport fishing is a relatively unique market segment, paralleling the findings of Romberg (1999) and Duffield, Merritt and Neher (2002) that angler motivation, characteristics, and values vary significantly across Alaska sport fisheries.

Fish and Wildlife

The Citizens' Alternative BBAP places fish and wildlife habitat and harvest as primary uses throughout most of the Kvichak and Nushagak drainages. Commercial fishing, sport fishing and hunting, and subsistence activities are all based on renewable fish and wildlife resources. The harvest and non-consumptive use of these fish and wildlife resources are of major economic resource value to residents of the Bristol Bay area, the state of Alaska, and the nation. This was true in 1984 when the first Bristol Bay Area Plan was approved, and it remains true in 2013. Through implementation of the plan (including plan designations, land classifications, guidelines, and statements of management intent), fish and wildlife resources and the income and employment generated from the harvest of fish and wildlife resources can be expected to continue indefinitely, thereby providing significant social and economic benefits for Alaska and the Bristol Bay region.

Fish and wildlife species have differing threshold capacities to withstand environmental disturbances, whether the stimuli stem from development, settlement, recreation pressure, or other activities. As a result, the plan provides for varying degrees of protection of fish and wildlife species and their habitat. Spawning areas, calving areas, wintering areas, and migration corridors are specifically addressed. The following plan provisions will be implemented to assure maintenance of existing fish and wildlife population levels:

- The continuing closure of 64 anadromous streams and any state-owned uplands 100 feet from ordinary high water (on both sides of the stream) to new mineral entry in accordance with AS 38.05.185. Valid existing mining claims are not affected. (See *Appendix E* for a map of anadromous streams closed to new mineral entry.)
- The cumulative closure of additional anadromous streams and any state-owned uplands 100 feet from ordinary high water (on both sides of the stream) to new mineral entry in accordance with AS 38.05.185. Valid prior existing mining claims are not affected. (See *Appendix E* for a map of anadromous streams closed to new mineral entry.)
- State lands in the upper Mulchatna drainage and drainages in the east Iliamna Lake area will continue to be limited to mineral leasehold location. Valid prior existing mining claims are not affected.
- The use of most state lands for large scale grazing is prohibited as domestic stock grazing (reindeer) would compete with caribou populations for grazing habitat.
- Lands designated for settlement are limited, and most lands that are available will be conveyed subject to restrictions that protect fish and wildlife.

- Guidelines addressing water quality, fish and wildlife enhancement, and prevention of fish and wildlife habitat alteration are included in this plan.

Goals

Maintain Habitat Productivity. Maintain the historic levels of productivity of fish and wildlife populations important for commercial, subsistence, and recreational use and maintain the carrying capacity of their natural habitats.

Provide for Optimum Use. Provide for optimum commercial, subsistence, and recreational use of fish and wildlife resources through conservation and compatible management of land use consistent with the purposes of the plan.

Coordination with Other Landowners. Coordinate state decisions that impact habitat with local governments, Native corporations, tribes, and other major landowners to best achieve common objectives for habitat conservation.

Mitigate Habitat Loss. When resource development projects occur, avoid or minimize reduction in the quality and quantity of fish and wildlife habitat. Mitigation must be within the drainage in which the mitigated events occur, not outside the drainage.

Maintain and Protect Publicly Owned Habitat Base. Maintain in public ownership and protect habitat for fish and wildlife resources. The aims are (1) to supply sufficient numbers and a diversity of species to support commercial, recreational, or traditional uses on an optimum sustained yield basis, and (2) to protect unique or rare assemblages of species of regional, state, or national significance.

Ensure Access to Public Lands and Waters. Ensure access to public lands and waters to promote or enhance the responsible public use and enjoyment of fish and wildlife resources, including subsistence.

Management Guidelines

A. Enhancement and Mitigation. Enhancement or mitigation of adverse development impacts on state land is an acceptable fish and wildlife management practice where it has been determined to be scientifically sound, compatible with land manager's objectives, and where public review shows it to be in the public interest. Proposals for fisheries enhancement or mitigation activities will evaluate and consider the importance, values, and advantages of maintaining the genetic integrity of wild and indigenous fish populations. All fisheries enhancement and mitigation and related activities will only use local, wild, indigenous stocks from the same waterbody or drainage. Mitigation for adverse impacts caused in a waterbody or drainage must occur in the same waterbody or drainage. Fish and wildlife enhancement and mitigation activities on state lands, whether by ADF&G or other parties, will be consistent with the management intent for those lands. Enhancement activities likely to attract significant public use, including sport fishing use, will be designed and located to minimize the impact of additional public use on the existing recreation resources, including anchorages, campsites, and existing and intended natural values.

B. Guidelines for Individual Species. The following guidelines are specific to a particular species or species group and are arranged with fish first, followed by caribou, moose, waterfowl, brown bear, marine birds, marine mammals, and, finally, eagles. Where appropriate, guidelines are written for each species to address the following: habitat alteration and destruction, disturbance, and impacts on harvest.

Guidelines to Protect Fish and Prevent Fish Habitat Alteration and Destruction

1. Implementation of State Policy for the Management of Sustainable Fisheries

The Alaska Board of Fisheries has adopted the state's Policy for the Management of Sustainable Salmon Fisheries (5 AAC 39.222). It states the principles and criteria of sustained yield that the Department of Fish and Game and the Board of Fisheries shall apply for purposes of (1) their own management decisions and (2) interacting with other agencies, such as the Department of Natural Resources, on matters of habitat that are within DNR's jurisdiction. (See 5 AAC 39.222(c) and (d)).

a. Implementation of the Policy.
The Department of Natural Resources shall implement the principles and criteria of the Sustainable Salmon Management Policy, in general and specifically as follows, with respect to review of potential development projects within the Bristol Bay planning area.

Wild salmon stocks and salmon habitat shall be maintained at levels of resource productivity that assure sustained yields as follows:

(A) Salmon spawning, rearing, and migratory habitats shall be protected as follows:

(i) Salmon habitats shall not be perturbed beyond natural boundaries of variation;

(ii) Scientific assessments of possible adverse ecological effects of proposed habitat alterations and the impacts of the alterations on salmon populations shall be conducted before approval of a proposal;

(iii) Adverse environmental impacts on wild salmon stocks and salmon habitat shall be assessed;

(iv) All essential salmon habitat in marine, estuarine, and freshwater ecosystems and access of salmon to these habitats shall be protected; essential habitats include spawning and incubation areas, freshwater rearing areas, estuarine and nearshore rearing areas, offshore rearing areas, and migratory pathways;

(v) Salmon habitat in fresh water shall be protected on a watershed basis, including appropriate management of riparian zones, water quality, and water quantity;

(B) Salmon stocks shall be protected within spawning, incubating, rearing, and migratory habitats.

(C) In the face of uncertainty, salmon stocks, fisheries, artificial propagation, and essential habitats shall be managed conservatively using a precautionary approach involving the application of prudent foresight that takes into account the uncertainties in salmon fisheries and habitat management, the biological, social, cultural, and economic risks; the need to take action to conserve salmon stocks and habitats, sometimes with incomplete knowledge, should be applied to the regulation and control of human-induced sources of salmon mortality; a precautionary approach requires

(i) consideration of the needs of future generations and avoidance of potentially irreversible changes;

(ii) prior identification of undesirable outcomes and of measures that will avoid undesirable outcomes or correct them promptly;

(iii) initiation of any necessary corrective measure without delay and prompt achievement of the measure's purpose, on a time scale not exceeding five years, which is approximately the generation time of most salmon species;

(iv) that where the impact of resource use is uncertain, but likely presents a measurable risk to sustained yield, priority should be given to conserving the productive capacity of the resource;

(v) appropriate placement of the burden of proof, of adherence to the requirements of this subparagraph, on those plans or ongoing activities that pose a risk or hazard to salmon habitat or production;

(D) A precautionary approach should be applied to the regulation of activities that affect essential salmon habitat.

Scott Dickerson

b. Record of Implementation.
DNR shall document its implementation of the Sustainable Salmon Management Policy and create a record for purposes of any administrative appeal or judicial review.

2. Water Quality and Instream Flow
It is the intent of the plan that domestic and public water supplies, fresh and marine waters important for the production and management of waterfowl and fish, and water used for recreation will at a minimum be classified by DEC in consultation with other state, federal, local, and tribal agencies for these uses and that state water quality standards will be maintained by DEC at levels necessary to maintain or enhance these uses. All permits, leases, or plans of operations for land or water uses that may directly affect water quality will require that these activities be sited, designed, constructed, and operated so discharges meet water quality standards for the receiving waters use classification. Water quality standards will meet or exceed those criteria set out in 78 AAC 70 (State Water Quality Criteria) and by the U.S. Environmental Protection Agency rules and regulations for these uses. Amendment of state water quality standards or reclassification of waters may be made through ADEC amendment procedures and does not require amendment of the plan.

Except for public water supply and domestic use, the maintenance of fish stocks is generally the highest priority water use in the study area. Therefore, the DNR will not allow an appropriation of water to cause the instream flow of any waterbody in the planning area to fall below the amount determined necessary by ADF&G and/or USFWS to protect fish habitat and production and waterfowl habitat unless, under the procedures outlined in AS 46.15.080, the commissioner of DNR makes a finding based on public review that the competing use of water is in the best public interest and a finding supported by clear and convincing evidence that no feasible and prudent alternative exists.

3. Buffers Adjacent to Fish Habitat -See Chapter 2: Floodplains, Shorelines, Riparian Corridors, Coastal Areas, and Buffer Zones.

4. Wetlands Identification and Protection
Within an area slated for development, wetlands and hydrologic systems important to fish should be identified by ADF&G prior to any developmental activities, including exploratory drilling and similar activities, in order to avoid negative impacts to fish and fish habitat. Consistent with existing laws and regulations, permits for activities in wetlands and hydrologic systems important to fish will, to the extent feasible and prudent, provide for the maintenance and non-degradation of these areas. DNR will comply with provisions of any local, state or federal requirements to protect wetlands.

5. Structures in Fish Habitat
To maintain nearshore migration of juvenile fish, permitting agencies will require that structures in fish habitat be built to avoid impacts on fish migration, or if avoidance is not possible, but future restoration and mitigation is possible, to require structures be built to minimize impacts on fish migration.

6. Heavy Equipment in Fish Habitat
Permits issued for developmental activities that require the use of heavy equipment in wetlands and hydrologic systems important to fish will avoid adverse impacts. If avoidance is not possible, then heavy equipment use shall minimize damage to wetlands, wetland vegetation, and hydrologic systems.

7. Water Intake Structures in Fish Habitat
When issuing permits to extract water from fish habitat, DNR will require water intake structures to be installed that do not result in entrainment or impingement of fish and will maintain instream flows needed to sustain existing fish populations.

Pipes and screening will be designed, constructed, and maintained so that the maximum water velocity at the surface of the screen enclosure is not greater than 0.1 foot per second. Screen mesh size will not exceed 0.04 inch unless another size has been approved by ADF&G. Other technology and techniques that have been demonstrated to prevent the entrainment and impingement of fish may also be used.

8. Alteration of the Riverine Hydrologic System
Channelization, diversion, or damming that will alter the natural hydrological conditions of a stream and have a significant adverse impact on important riverine habitat will be avoided. Such alteration shall only be allowed upon a finding that the alteration is in the best public interest and that the evidence is clear and convincing that a feasible and prudent alternative does not exist.

9. Design and Mitigation of Hydroelectric Projects, Tailings Dams, and Other Facilities That Could Affect Fish Habitat (See Figure 2.9)
Hydroelectric projects, tailings dams, and other facilities shall not dam, divert, or draw down anadromous rivers, streams, or lakes.

10. Use of Explosives in Fresh and Marine Waters
Permits issued for geophysical surveys in fresh and marine waters will require the use of non-explosive energy sources such as air guns, gas exploders, or other sources that have been demonstrated to be harmless to fish, seabirds, and marine mammals.

Permits for blasting for purposes other than geophysical surveys may be approved on a case-by-case basis when avoidance is not reasonably possible and all steps have been taken to minimize impacts and when the evidence is clear and convincing that no feasible and prudent alternative exists.

11. Habitat Manipulation
Habitat restoration through water control, timber management practices, removal of pollution sources, or other measures may be used to improve habitat for certain fish and wildlife species where ADF&G determines it is beneficial to the species or habitat and DNR determines that it is compatible with other primary uses.

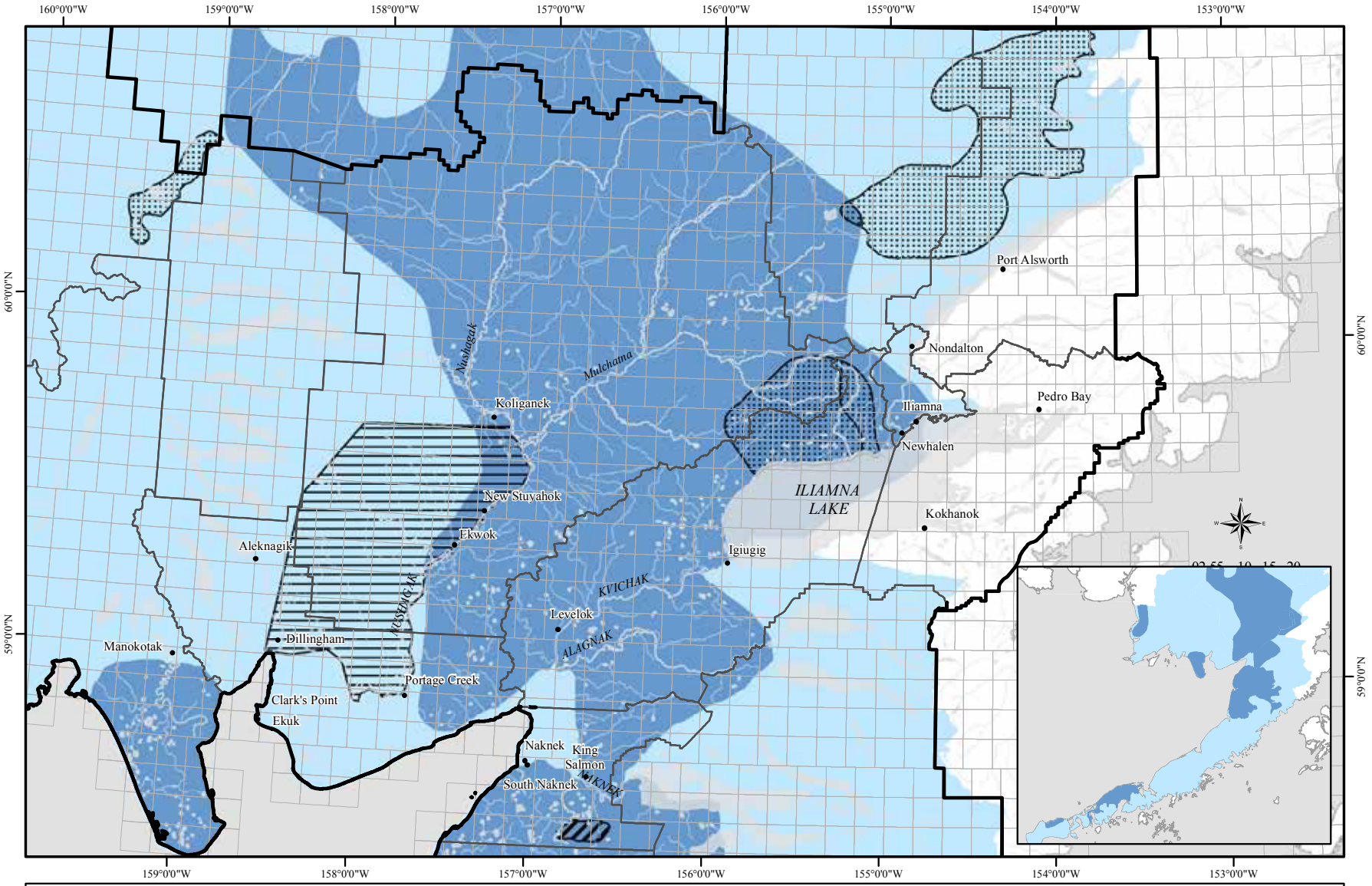
12. Dredge and Fill in Fish Habitat
Permits for dredging and filling fish habitat, including permits for gravel extraction and construction of roads and pads, shall not be granted unless it is determined by clear and convincing evidence that the proposed activity will not cause significant adverse impacts to fish habitat.

13. Disturbance of Anadromous Waters Listed in the Anadromous Waters Catalog and Waters Likely to Be Eligible for Inclusion in the Anadromous Waters Catalog
The fresh waters of the planning area provide spawning and rearing habitat for five species of wild Pacific salmon, all of which are anadromous. These species are the foundation upon which the entire ecology and economy of Bristol Bay is built. Of particular importance to Bristol Bay, the state of Alaska, the nation, and even the world is the sockeye salmon. In any given year more than 50 percent of the world's population of sockeye can return to Bristol Bay to spawn. In most areas of Bristol Bay sockeye spawning and rearing waters are on or near state lands in the planning area.

ADF&G maintains a catalog of waters important for anadromous fish. Waterbodies listed in the Anadromous Waters Catalog (AWC) cannot be disturbed for developmental purposes unless a permit has been obtained from ADF&G. Waterbodies not listed in the catalog may be disturbed without a permit from ADF&G. However, ADF&G estimates that less than half of the waters in Alaska likely to be anadromous are listed in the AWC. There are many streams in the planning area that are not listed in the AWC. A listing in the AWC requires expensive observational surveys that must follow methods adopted by ADF&G. Recent surveys of fish distribution in the planning area have shown there to be a 70 percent likelihood that any unsurveyed waterbody in Bristol Bay with a gradient of less than 10% is likely to qualify for inclusion in the AWC. As a consequence there is a high risk that development activities in unsurveyed waterbodies in the planning area will impact salmon or other anadromous fish species.

Given the importance of salmon to the ecology of the planning area and to the economy of the people who live in the planning area, DNR shall assume all waterbodies in the planning area are anadromous and shall not issue a permit for any developmental activities, including exploratory drilling and similar activities, that will disturb a waterbody in the planning area, unless:

1. the proponent of the developmental activity has obtained a permit from ADF&G, or
2. ADF&G records show that when the waterbody was last surveyed no anadromous fish were observed, or
3. the proponent has presented clear and convincing evidence that the waterbody proposed for disturbance has greater than a 10% gradient or does not otherwise qualify for inclusion in the AWC



Caribou Habitat

General Habitat
Winter Habitat
Historic Rutting Areas
Historic Calving Areas
Recent Calving Areas
Plan Boundary
Region Boundaries

All general, winter, and historic caribou habitat data is derived from the Alaska Habitat Management Guide, Southwest Region (ADFG 1985). It is not believed that general or winter areas have significantly changed recently. Calving areas have changed significantly since this time period. The recent calving areas depicted show one of the general area of caribou calving areas of the Muchatna herd from 2005-2008 (ADFG 2009).

FIGURE 2.1: *Caribou Habitat*

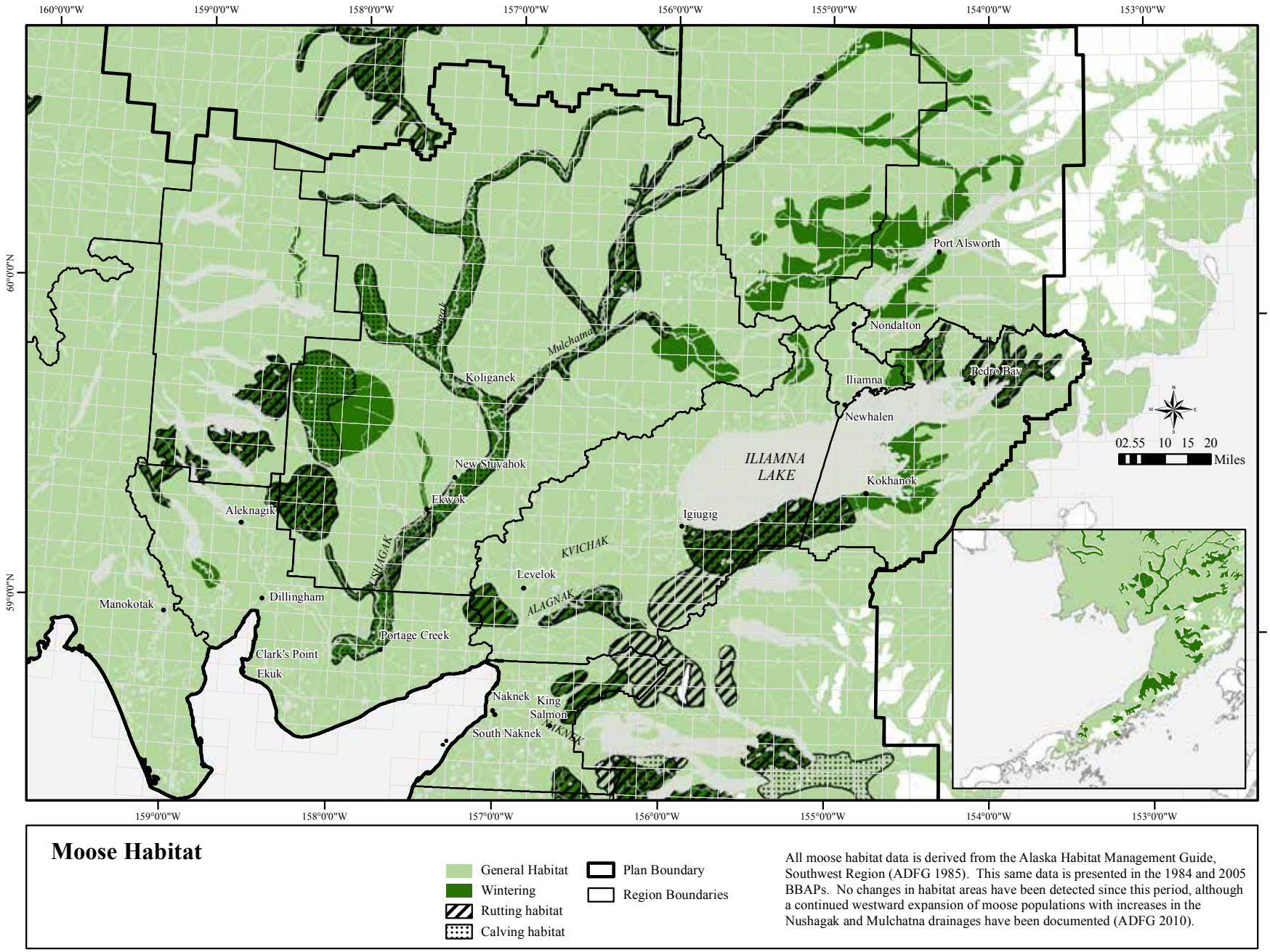


FIGURE 2.2: *Moose Habitat*

Guidelines to Prevent Caribou Disturbance

1. Caribou Rutting and Calving Areas

Large portions of the planning area contain areas important for caribou calving and rutting. Uses that are likely to produce levels of acoustical or visual disturbance sufficient to disturb calving, rutting, or post-calving aggregations that cannot be seasonally restricted shall not be authorized in these areas. Uses may be authorized in these areas at other times of the year. DNR authorizations shall include seasonal restrictions on activities that would produce significant acoustical or visual disturbance during sensitive periods.

Caribou calving and rutting areas change over time. ADF&G should be consulted prior to issuing an authorization in order to (1) better determine the location of calving and rutting areas, (2) determine when activities within these areas should be avoided, and (3) identify appropriate mitigation measures if no feasible or prudent alternative site exists. Refer to an upland management unit's Uses and Resources section in the Resource Allocation Tables, Uses and Values chart, and plan maps to determine whether the presence of a rutting or calving area is likely.

2. Blasting in Caribou Wintering and Calving Habitat

The surface detonation of explosives (not including firearms) should not be allowed in essential caribou wintering habitat nor in essential caribou calving habitat identified on plan maps during the period May 1 through June 15 north of the Kvichak River and Iliamna Lake, and May 7 through June 15 south of the Kvichak River and Iliamna Lake. Subsurface detonations of explosives at depths specifically tested may, if found acceptable, be permitted at the charge size and depths tested if tests show that noise, ground shock levels, and associated activities do not displace caribou or detrimentally affect caribou calving behavior. Before issuing permits for the detonation of explosives during sensitive periods, land managers will consult with ADF&G, and ADF&G will provide a determination of whether significant numbers of caribou are present.

Guidelines to Prevent Moose Disturbance

1. Moose Rutting and Calving Areas

Large portions of the planning area contain areas important for moose calving and rutting, identified on moose habitat maps provided in this plan. Calving typically occurs from May through June, depending upon location. Uses that are likely to produce levels of acoustical or visual disturbance sufficient to disrupt calving, rutting, or post-calving aggregations that cannot be seasonally restricted shall not be authorized in these areas. Uses may be authorized in these areas at other times of the year. DNR authorizations should include seasonal restrictions on activities that would produce significant acoustical or visual disturbance during sensitive periods.

ADF&G should be consulted prior to issuing an authorization in order to (1) better determine the location of calving and rutting areas, (2) determine when activities within these areas should be avoided, and (3) identify appropriate mitigation measures if no feasible or prudent alternative site exists. Refer to an upland management unit's Uses and Resources section in the Resource Allocation Tables, Uses and Values chart, and plan maps to determine whether the presence of a rutting or calving area is likely.

2. Roads, Seismic Lines, and Transmission Lines in Moose Habitat

Road rights-of-way, seismic lines, and transmission lines will, to the extent feasible and prudent, be designed and sited to parallel or skirt and not bisect essential or important moose habitat, identified on moose habitat maps provided in this plan.

3. Development and Willow Vegetation

Significant destruction of willow vegetation for the purposes of industrial or commercial development or transportation corridors will be avoided to the extent feasible and prudent. Uses that require a developmental plan or plan of operation will address prompt mitigation of impacts on essential moose winter habitat, identified on moose habitat maps provided in this plan, including prompt revegetation. Willow vegetation is the primary winter food source in essential moose wintering areas in Bristol Bay.

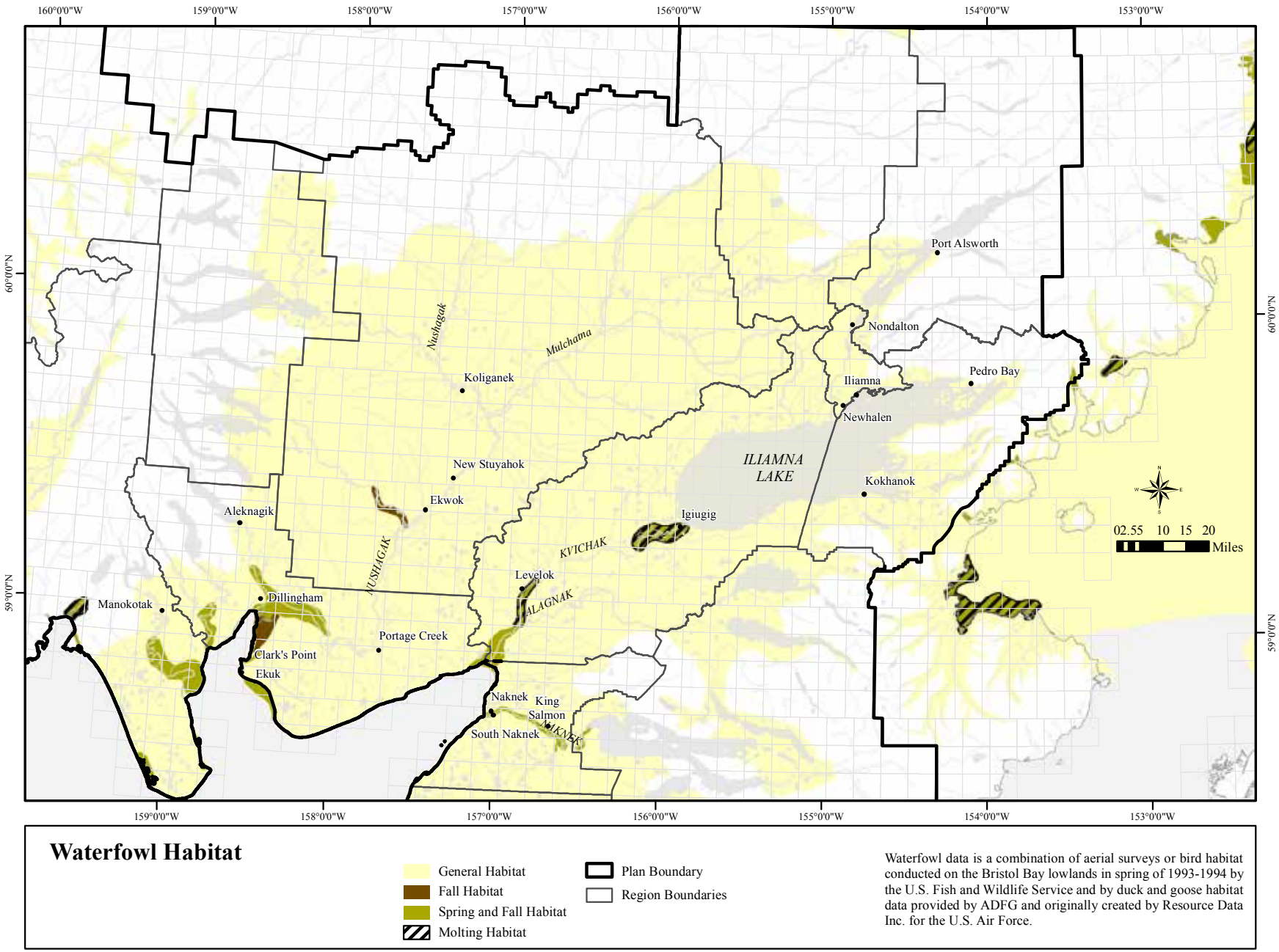


FIGURE 2.3: *Waterfowl Habitat*

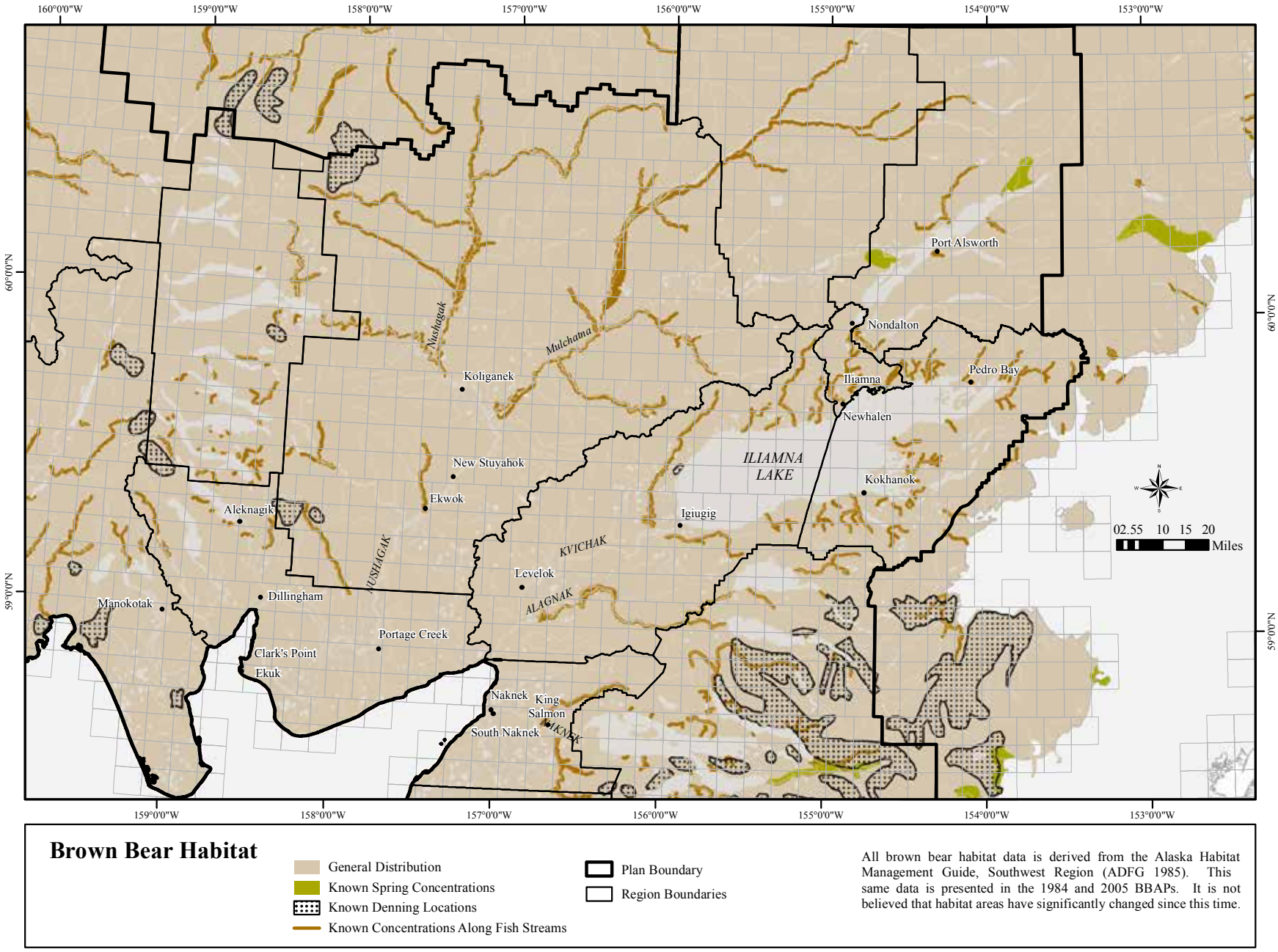


FIGURE 2.4: *Brown Bear Habitat*

Guidelines to Prevent Waterfowl Disturbances, Habitat Alteration and Destruction, and Impacts on Waterfowl Harvest

1. Activities in Essential Waterfowl Habitat
Activities requiring a permit, lease, or development plan with high levels of acoustical and visual disturbance such as boat traffic, blasting, dredging, and seismic operations in essential spring and fall waterfowl high-use areas will, to the extent feasible and prudent, be avoided during sensitive periods. (This guideline does not apply to traditional subsistence and recreational hunting and fishing activities allowed by law.)

2. Airports and Other Developments in or Adjacent to Essential Waterfowl Habitat
New airports, surface transportation corridors, and other developments in or adjacent to essential waterfowl habitat that are likely to result in significant physical, visual, or acoustical disturbance to waterfowl will, to the extent feasible and prudent, be sited and designed to prevent harmful disturbance to waterfowl. Developments should be buffered from essential waterfowl habitats through appropriate measures such as distance (preferably one mile), and/or topography, vegetation, or combinations thereof to reduce disturbance.

3. Dredge and Fill in Essential Waterfowl Habitat
Land manager permits for dredging and filling in essential waterfowl habitat identified on waterfowl maps provided in this plan, including gravel extraction and the construction of roads and pads, will not be granted unless it is determined by the ADF&G that the proposed activity will not cause significant adverse impacts to essential waterfowl habitat or the land manager determines that no feasible and prudent alternative exists. Where dredging or filling occurs, other mitigation measures are to be used to avoid significant adverse impacts.

4. Alteration of the Hydrologic System
Channelization, diversion, or damming that will alter the natural hydrological conditions or otherwise have a significant adverse impact on essential waterfowl habitat, identified on waterfowl maps provided in this plan, will be avoided. Such alteration shall only be allowed upon a finding that the alteration is in the best public interest and that the evidence is clear and convincing that a feasible and prudent alternative does not exist.

5. Public Access
On public lands in essential waterfowl habitat, identified on waterfowl maps provided in this plan, permits and leases specifically will not restrict access to these areas for traditional public uses such as subsistence and sport hunting and fishing during relevant seasons in accordance with existing regulations. Closures that prohibit public access may be allowed immediately adjacent to facilities to protect workers' safety.

6. Public Ownership of Essential Waterfowl Habitat
Public lands designated essential waterfowl habitat, identified on waterfowl maps provided in this plan, will be retained in public ownership. Essential waterfowl habitat will be leased only for activities that are determined by the land manager, in consultation with ADF&G, to be compatible or which can be made compatible with the maintenance of waterfowl populations and habitats and that do not restrict traditional waterfowl harvest activities except as allowed in number 5 above. Leases issued in essential waterfowl habitat for activities that may be made compatible will incorporate mitigation measures determined by the land manager in consultation with ADF&G, USFWS, and other appropriate resource agencies. Mitigation measures should make the activity compatible with the maintenance of waterfowl populations and harvest activities. This guideline does not apply to land exchanges authorized by ANILCA or identified in the plan.

Guidelines to Prevent Brown Bear Habitat Alteration and Destruction

1. Development in Essential Brown Bear Habitat
Commercial, recreational, or industrial developments or other uses on state lands that are likely to cause significant permanent alteration to essential brown bear habitat or that cannot be restricted seasonally will avoid essential brown bear habitat, identified on brown bear habitat maps provided in this plan. Activities that cause permanent alteration of essential brown bear habitat, that can be restricted seasonally, or that require an exploration plan, development plan, or plan of operation will require mitigation of impacts in essential brown bear habitat. Industrial or commercial development on state land should avoid areas identified as important brown bear habitat, as identified on Map 5 in Appendix A.

Guidelines to Prevent Marine Mammal and Marine Bird Habitat Alteration and Destruction

1. Seabird Colonies and Walrus, Sea Lion, and Seal Haulouts and Rookeries

Seabird colonies and walrus, sea lion, and seal haulouts and rookeries shall not be physically altered. Structures or activities that would preclude or significantly interfere with the continued use of these areas should not be authorized and should be situated at least one-half mile distant from haulouts or seabird colonies. Uses with high levels of acoustical or visual disturbance should not be allowed within the following distances: one mile of seabird colonies from April 15 through August 31, one-half mile of walrus haulouts from May 1 through December 1, and one-half mile of seal or sea lion haulouts from May 1 through July 31. Land managers should consult with the U.S. Fish and Wildlife Service and ADF&G prior to granting authorizations to identify marine mammal haulout, rookery, and seabird colony locations, more specifically, and to define minimum distance separation requirements and specific use restrictions. Land managers should also consult the Resources and Uses section of tideland management units in the Resource Allocation Tables to determine haulouts, rookeries, or seabird colonies likely to be present in an area.

Individual sea lion and walrus haulouts and rookeries and seabird colonies not contained within specific tideland management units or state-protected tideland areas are designated Habitat (Ha) and are to be managed.

Guidelines to Prevent Eagle Habitat Alteration and Destruction

1. Activities Likely to Disturb Eagles

Authorizations or disposals that potentially affect bald eagles will be consistent with the state and federal Endangered Species Acts and the Bald Eagle Protection Act of 1940 as amended. Applicable standards are drawn from a cooperative agreement signed by the U.S. Forest Service and the U.S. Fish and Wildlife Service (USFWS) or such subsequent standards that may be promulgated. However, the USFWS may not determine such standards to be adequate in all circumstances. In addition, meeting the guidelines does not absolve the party from the penalty provisions of the Bald Eagle Protection Act. Therefore, the USFWS should be consulted when activities may affect bald or golden eagles.

2. Siting Facilities to Avoid Eagle Nests

Facilities determined by the U.S. Fish and Wildlife Service to cause significant disturbance to nesting eagles will not be allowed within 330 feet of any bald eagle nest site, regardless whether the nest is currently active.

3. Activities Disturbing Nesting Eagles

Activities the U.S. Fish and Wildlife Service determine likely to cause significant disturbance to nesting eagles will be prohibited within 330 feet of active bald eagle nests between March 15 and August 31. Temporary activities and facilities that do not alter eagle nesting habitat or disturb nesting eagles, as determined by the USFWS, may be allowed at other times.

Guidelines to Prevent Disturbance to Tundra Swans

Tundra Swan Nesting Areas

In tundra swan nesting areas, uses that would disturb nesting swans or detrimentally alter the nesting habitat should be avoided. The siting of permanent facilities, including roads, material sites, storage areas, and other forms of permanent structures should be avoided within one-quarter mile of known nesting sites. Surface entry should also be avoided within one-quarter mile of nesting sites between April 1 and August 31. Leases or permits may require seasonal restrictions on activities to avoid disturbance to swans. Land managers should consult with ADF&G to identify current or potential nesting habitat and to determine guidelines to follow and activities to avoid. Land managers should refer to an upland management unit's Resources and Uses section in the Resource Allocation Tables to determine if the presence of a nesting area is likely.

Guidelines to Prevent Disturbance to Threatened and Endangered Species

Threatened and Endangered Species

All land use activities will be conducted consistent with state and federal Endangered Species Acts to avoid jeopardizing the continued existence of threatened or endangered species of animals or plants, to provide for their continued use of an area, and to avoid modification or destruction of their habitat. Specific mitigation recommendations should be identified through interagency consultation for any land use activity that potentially affects threatened or endangered species. Within the planning area, 10 species are under the jurisdiction of the U.S. National Marine Fisheries Service, U.S. Fish and Wildlife Service, or Alaska Department of Fish and Game as threatened (T) or endangered (E) in accordance with the state and federal Endangered Species Acts, as amended. Ten species are identified by the federal government as either threatened or endangered, while the state identifies two of these 10 as either threatened or endangered. The table below identifies the species identified by the federal government as threatened or endangered. The two species identified as threatened or endangered by the state are noted.

Species Status

Short-tailed albatross (*Diomedea albatros*)*	E
Eskimo curlew (*Numenius borealis*)	E
Humpback whale (*Megaptera novaeangliae)* *	E
Blue whale (*Balaenoptera musculus*)	E
Fin whale (*Balaenoptera physalus)*	E
North Pacific right whale (*Eubalaena japonica)*	E
Sperm whale (*Physeter macrocephalus)*	E
Stellar sea lion (*Eumetopias jubatus*)	E (western population)
Spectacled eider (*Somateria fischeri*)	T
Steller's eider (*Polysticta stelleri*)	T
Northern sea otter (Enhydra *lutris kenyoni),*	T SW Alaska, Distinct Population Segment

* Also included on the state's Threatened and Endangered list.

The U.S. Fish and Wildlife Service, National Marine Fisheries Service, or both, will be consulted on questions that involve endangered species.

O. Eel Grass Beds. Development activities, structures, and facilities should not significantly disturb eel grass beds or interfere with the exchange of nutrients or waters between estuarine lagoons and the marine environment.

P. Soil Erosion. Soil erosion will be avoided by restricting soil disturbance along waterbodies and by stabilizing disturbed soil as soon as possible.

Q. Fish and Wildlife Enhancement on State Lands. Fish and wildlife enhancement activities on state lands, whether by ADF&G or other parties, will be consistent with the management intent for those lands. Enhancement activities likely to attract significant public use, including sport fishing use, will be designed and located to minimize the impact of additional public use on the existing recreation resources, including anchorages, campsites, and existing and intended natural values.

R. Grounding of Floating Facilities. Floating tideland facilities will not ground at any tide stage unless the ADF&G determines there will be no significant impact to the habitat values, or the applicant demonstrates to the satisfaction of DNR that there is no feasible and prudent alternative and DNR determines it is in the state's best interest.

S. Protection of Fish and Wildlife Resources – Transportation Facilities. Important fish and wildlife habitats such as those described as riparian areas, wildlife movement corridors, important wintering areas, and threatened or endangered species habitat should be avoided in siting transportation routes unless no other feasible and prudent alternatives exist. Location of routes and timing of construction should be determined in consultation with the ADF&G and DNR Office of Habitat Management and Permitting, as appropriate.

T. Conflicts with Subsistence and Other Traditional Uses of Fish and Game. Decisions to authorize land use activities will consider the effect on and minimize significant conflicts with subsistence and other traditional uses of fish and wildlife resources.

Management Guidelines: Harvest Areas

A. Allowing Uses Within Designated Harvest Areas (Hv) Considerations similar to those identified in the Habitat portion above apply to areas designated Harvest (Hv). These Harvest areas are defined as areas of intense fish and wildlife harvest or catch (compared to the rest of the planning area) where the level of harvest has reached, or is projected to reach, the harvestable surplus for the resource, or fish and wildlife harvest areas historically important to a community for the harvest of a species where alteration of habitat could limit sustained yield. These include:

- important areas for human use of fish and wildlife
- areas with multiple uses of fish and wildlife
- areas of subsistence or community harvest
- very intense, harvest areas
- intensive sport/personal use fishing areas
- intensive commercial use fishing areas
- intensive commercial crab or shrimp harvest areas
- intensive hunting or trapping areas for a game or furbearer species

The areas designated "Hv" in Chapter 3 of the plan were defined using the best available information at the time of plan preparation. In the designation of these areas, data sources were of a generalized nature, oftentimes at the 1:250,000 scale. In order to be conservative in the delineation of harvest areas, large tideland areas were identified. In some cases, there is only a single harvest resource, but in other instances several resources exist, with these resources sometimes occupying different portions of the management unit. The spatial distribution of harvest resources is described in the management intent language, if known. The resource(s) used to make the determination that an area should be designated Harvest are identified in the management unit descriptions contained in the Resource Allocation Tables in Chapter 3 under the column Resources and Uses.

Management units designated Harvest will be managed to ensure minimal disturbance to the harvest resources identified for a given area. Because there is a distinct seasonality associated with the critical life periods of certain marine mammals and fish, seasonality shall be taken into consideration during project review and approval. Seasonality and critical life cycle stages are identified in various publications.[1] Thus, it may be possible that uses and facilities may be appropriate within areas designated Harvest if the seasonality criteria are satisfied by including mitigating measures in project design.

Tideland and upland uses that are not consistent with the approved designation, not authorized in the management intent statement for a specific management unit, and, if permitted, *would* result in the degradation of the resource(s) associated with areas designated Harvest or Ha/Hv, are to be considered incompatible with the plan's management intent and with the Harvest and Ha/Hv designations. If there is a question as to whether a use would be appropriate or whether it would degrade a listed resource, DNR shall consult with the ADF&G in making the determination of initial incompatibility.

Uses may be permitted if the proposed use avoids the resource or if, through stipulations, it can be made to have minimal adverse impact on the harvest activity for which the area was designated.

In instances when the proposed use cannot avoid the harvest area or cannot mitigate significant impacts through design, siting, or operation stipulations, the use may be permitted if one of the following conditions is satisfied:

- ADF&G determines through new information or more detailed analysis that the area is not Harvest or Ha/Hv as defined in the plan.
- The use is of sufficient public importance or lacks a feasible and prudent alternative consistent with the applicable management guidelines of this plan.
- Significant adverse impacts are mitigated under Management Guideline A.

B. Activities Adjacent to Designated Harvest Areas
To protect access, uses adjacent to intensively used commercial, recreation, community, or subsistence harvest areas will not preclude access for harvest activities during the harvest or use season.

Management Guidelines: Special Management Areas – Tidelands and Submerged Lands – Other

A. Activities in Intensive Purse Seine and Gill Net Areas
Tideland facilities should not be located where they would obstruct drift or set gill net or purse seine use of the shoreline in intensive fishery areas.

B. Activities in Traditional Use Commercial Herring Areas
Activities should avoid disruption of the harvest within traditional herring fishery areas, including the sac roe and wild kelp harvest fishery areas.

C. Anchorages
See Management Guidelines for Floating Facilities.

D. Special Management Areas – Tidelands and Submerged Lands.
Special management areas termed Tideland Resource Management Zones for tidelands and submerged lands apply where large areas of tide and submerged lands should be managed in a coordinated manner.

[1] These publications include, but are not limited to, the following: ADF&G Regional Habitat Guides and NOAA Oil Spill Response Atlas. Consult ADF&G for further information.

These areas are significantly larger than typical tideland management units and do not properly fit into the definition of a "management unit" as used in this plan. There is a single Tideland Resource Management Zone (TRMZ) within the planning boundary. This TRMZ affects tidelands and submerged lands adjacent to federal conservation units, including National Wildlife Refuges (Togiak, Alaska Maritime, Alaska Peninsula, Izembek, and Becharof) and Aniakchak National Monument and Preserve. Management intent language and guidelines are identified for TRMZs, similar to tidelands management units and are contained in Chapter 3. These management statements are contained in the section termed Management Summary, Tidelands in the introduction for Chapter 3. Those parts of the TRMZ specific to a region are described and included as specific management subunits within the Resource Allocation Table for each region.

E. Other Guidelines Affecting Fish and Wildlife Habitat Other guidelines may affect the protection and management of fish and wildlife habitat. See other sections of this chapter.

B. PUBLIC USES OF FISH AND GAME – SUBSISTENCE

Background

The Alaska Native cultures in the Bristol Bay drainages – the Yup'ik Aleutiq and Dena'ina – are among the last intact, sustainable salmon-based cultures in the world. In contrast, other Pacific Northwest salmon-based cultures are severely threatened due to degraded natural resources and declining salmon resources. Pacific salmon are no longer found in 40 percent of their historical breeding ranges in the western United States, and where populations remain, they tend to be significantly reduced or dominated by hatchery fish.

Salmon are integral to the entire way of life in these cultures as subsistence food and as the foundation for their language, spirituality, and social structure. The cultures have a strong connection to the landscape and its resources. In the Bristol Bay watershed, this connection has been maintained for at least the past 4,000 years and is in part due to and responsible for the continued pristine condition of the region's landscape and biological resources. The respect and importance given salmon and other wildlife, along with the traditional knowledge of the environment, have produced a sustainable subsistence-based economy. This subsistence-based way of life is a key element of indigenous identity, and it serves a wide range of economic, social, and cultural functions in these societies.

In the Bristol Bay region, salmon constitute approximately 52 percent of the subsistence harvest. Subsistence from all sources (fish, moose, and other wildlife) accounts for an average of 80 percent of protein consumed by all area residents, Native and non-native. The subsistence way of life in many Alaska Native villages is augmented with activities supporting cash economy transactions.

Fourteen of Bristol Bay's 31 Alaska Native villages and communities are within the Nushagak River and Kvichak River watersheds, with a total population of 4,337 in 2010. Thirteen of the 14 communities have federally recognized tribal governments.

Goals

1. Maintain and Protect Subsistence. To do so, the Citizens' Alternative BBAP (1) adopts guidelines and land use designations necessary to accomplish this goal, (2) recommends legislation to conserve most of the land in the Kvichak and Nushagak drainages, and (3) recommends cooperative land management for the Kvichak and Nushagak drainages.

Management Guidelines

A. Classification of High Value Subsistence. The Citizens' Alternative uses a subsistence and habitat co-classification to protect lands important for subsistence activities in the Nushagak and Kvichak watersheds. The plan revision uses the following maps of areas of subsistence use in the Kvichak and Nushagak drainages.

B. Coordination with Other Landowners and Users of an Area. Land management to maintain and protect subsistence will take into account the current, and likely, management of lands managed by local governments, Native corporations, and other private landowners, and compatibility with the existing uses of an area.

C. Roles of Different Public Landowners in Providing Subsistence Opportunities. Generally, the state's role is to retain and manage land supporting subsistence opportunities of regional or statewide significance. State and federal governments are most capable of providing recreational opportunities that require large land areas. Therefore, the state should avoid transferring to local governments or other entities lands suitable for subsistence.

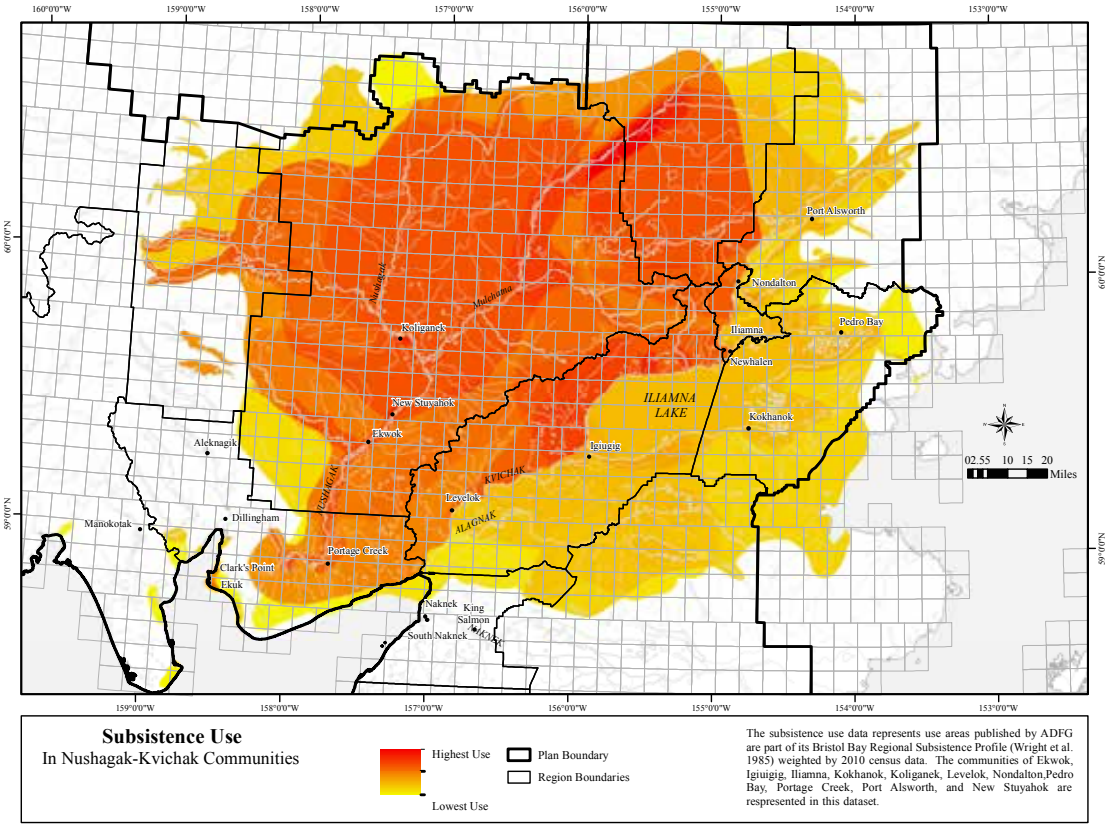


FIGURE 2.5: *Subsistence Use in Nushagak-Kvichak Communities*

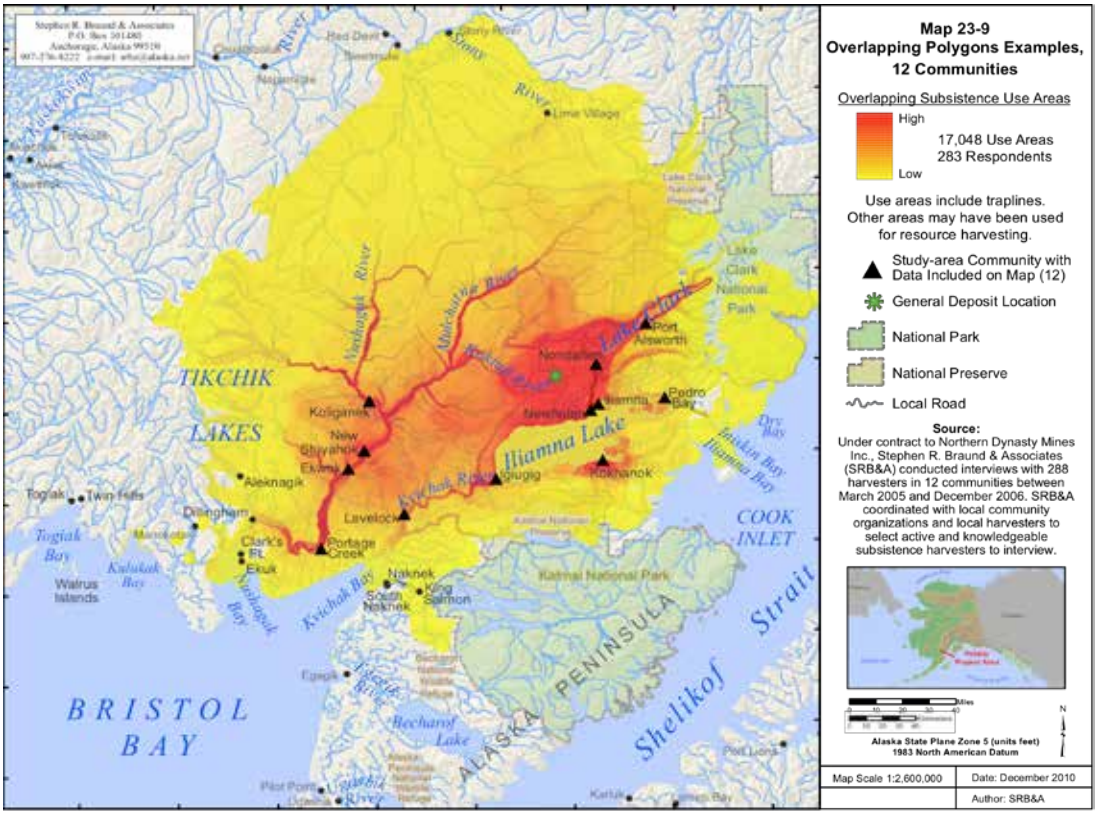


FIGURE 2.6: *Overlapping Subsistence Use Areas*

C. PUBLIC USES OF FISH AND GAME – RECREATION, TOURISM, AND SCENIC RESOURCES

Background

The Bristol Bay drainages are known for world-class sport fishing, hunting, and outdoor recreation. Sport fishing, hunting, and recreation are second only to commercial fishing in terms of economic production. Based on 2009 data, the Bristol Bay sport-fishing industry supports approximately 29,000 sport-fishing trips, generates approximately $60 million per year, and directly employs over 850 full- and part-time workers. The vast majority of this revenue is spent in the Bristol Bay region. Sport hunting – mostly of caribou, moose, and brown bear – generates more than $8 million per year and employs more than 130 full- and part-time workers. The scenic value of the watershed, measured in terms of wildlife viewing and tourism, is estimated to generate an additional $100 million per year and supports nearly 1,700 full- and part-time workers.

The following maps show that the Nushagak, Kvichak, and Naknek drainages are the focus of most of the sport fishing, and that the Nushagak and Kvichak drainages are the focus of most of the sport hunting.

The drainages also contain Wood-Tikchik State Park; Lake Clark National Park and Preserve; Aniakchak National Monument; Katmai National Park and Preserve; the Alaska Peninsula; and the Alaska Maritime, Izembek, Togiak, and Becharof National Wildlife Refuges.

Many private camps and lodges provide support for recreational users. While many of these private operations are in or adjacent to the public lands mentioned above, they also serve other areas. Notable concentrations of lodges outside these dedicated public lands are found in the Iliamna Lake region and along the Naknek, Nushagak, and Alagnak Rivers.

Goals

1. Maintain and Protect the Economic Value of Recreation. To do so, the Citizens' Alternative BBAP (1) adopts guidelines and land use designations necessary to accomplish this goal, (2) recommends consideration of legislation to conserve land in the Kvichak and Nushagak drainages, and (3) recommends cooperative land management for the Kvichak and Nushagak drainages.

2. Maintain and Protect Recreation Opportunities. Lands will be provided for accessible outdoor recreational opportunities with recreational facilities where the demand warrants such facilities. In addition, undeveloped lands should be provided for recreation pursuits that do not require developed facilities. These opportunities shall be realized by

- providing and protecting recreation opportunities on less-developed land and water areas that serve multiple purposes
- assisting communities through cooperative planning, conveyance of state lands, and grants-in-aid for parks and trails within population centers
- encouraging commercial development of recreational facilities and services through concession contracts, land sales, leases, and permits where public recreation needs can most effectively be provided by private enterprise, while minimizing environmental impacts and conflicts with the existing users of an area
- protecting recreation resources, including public access, viewsheds, quiet, fish and wildlife important for recreation, and the unique natural characteristics of the planning area

Management Guidelines

A. Coordination with Other Landowners and Users of an Area. Recreation management, including the location and management of recreation facilities, will take into account the current, and likely, management of lands managed by local governments, Native corporations, and other private landowners, and compatibility with the existing uses of an area.

B. Roles of Different Public Landowners in Providing Public Recreational Opportunities. Generally, the state's role is to retain and manage land supporting recreational opportunities of regional or statewide significance. State and federal governments are most capable of providing recreational opportunities that require large land areas, while local government is generally best suited for providing and managing community recreation opportunities. To recognize local government's role in providing community recreation needs, the state may transfer state land, including those designated General Use (Gu), Public Recreation and Tourism-Dispersed (Rd), or Public Recreation and Tourism-Public Use Site (Rp) within or near existing communities, if this action is in the overall best interest of the state (AS 38.05.810). The selection of these sites shall be agreed to by local government and the state and shall be contingent on the local government's commitment to develop and maintain the recreation uses, facilities, and values of these areas.

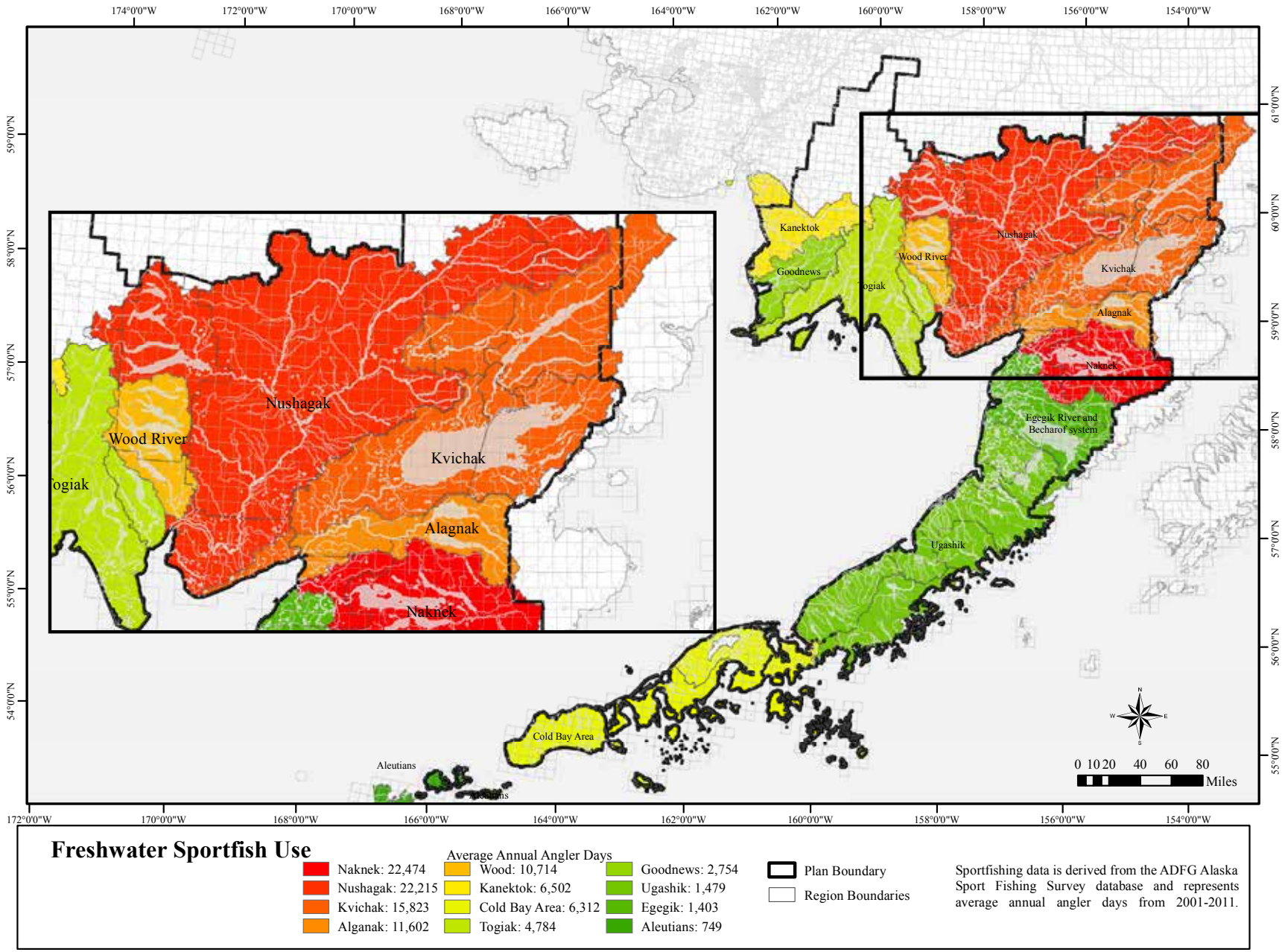
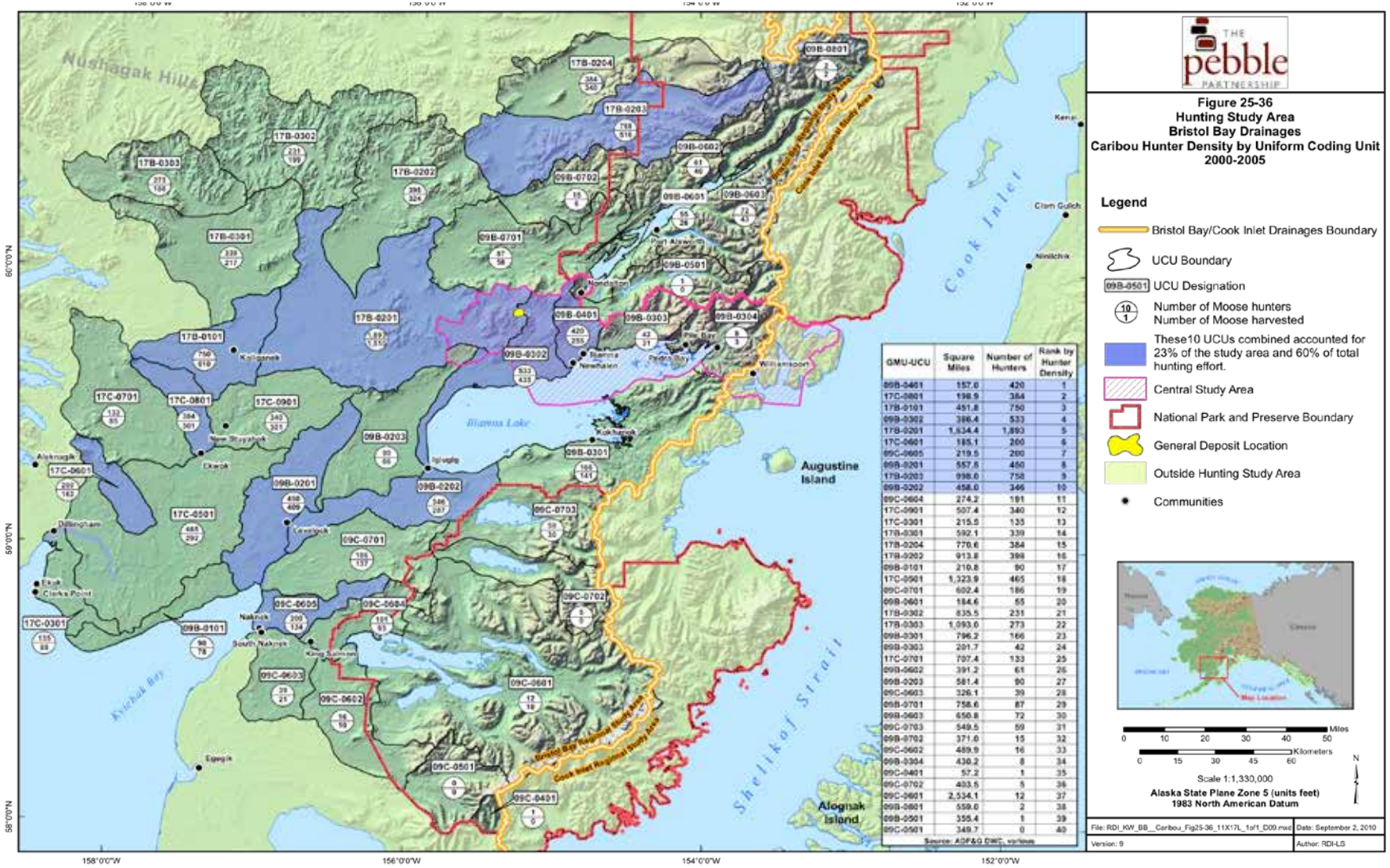


FIGURE 2.7: *Freshwater Sportfish Use*



GMU-UCU	Square Miles	Number of Hunters	Rank by Hunter Density
09B-0401	157.0	420	1
17C-0801	198.9	384	2
17B-0101	451.8	750	3
09B-0302	386.4	533	4
17B-0201	1,534.4	1,893	5
17C-0601	185.1	200	6
09C-0605	219.5	200	7
09B-0201	557.5	450	8
17B-0203	996.0	758	9
09B-0202	458.0	346	10
09C-0604	274.2	191	11
17C-0901	507.4	340	12
17C-0301	215.5	135	13
17B-0301	592.1	339	14
17B-0204	770.6	384	15
17B-0202	913.8	398	16
09B-0101	210.8	90	17
17C-0501	1,323.9	465	18
09C-0701	602.4	186	19
09B-0601	184.6	55	20
17B-0302	835.5	231	21
17B-0303	1,093.0	273	22
09B-0301	796.2	166	23
09B-0303	201.7	42	24
17C-0701	707.4	133	25
09B-0602	391.2	61	26
09B-0203	581.4	90	27
09C-0603	326.1	39	28
09B-0701	758.6	87	29
09B-0603	650.8	72	30
09C-0703	549.5	59	31
09B-0702	371.0	15	32
09C-0602	489.9	16	33
09B-0304	436.2	8	34
09C-0401	57.2	1	35
09C-0702	483.5	5	36
09C-0601	2,534.1	12	37
09B-0801	559.0	2	38
09B-0501	355.4	1	39
09C-0501	349.7	0	40

Source: ADF&G DWC, various

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Version: 9 | Author: RDI-LS

FIGURE 2.8: *This figure taken from the Pebble Project Environmental Baseline Document 2004 through 2008, Chapter 25 - Recreation. http://www.pebbleresearch.com/ebd/bristol-bay-human-env/chapter-25/ and is provided as an example of one series of recreational hunting and fishing data from that report that supports a recreation designation for most State lands in the Nushagak and Kvichak watersheds.*

In areas where the state is retaining public use sites (management units designated Public Recreation and Tourism-Public Use Site [Rp]) the state may consider cooperative management with the federal government, a local government, or another appropriate entity such as a federally recognized tribal government, an ANCSA corporation, or a nonprofit organization if this would improve management of the resource. Entering into a management agreement with an entity with more direct presence in the area should result in better protection of the resource and enjoyment by the public. This management agreement to operate the public use site should fulfill all of the obligations that the state would normally bear (protecting public safety, habitat, etc.) but will gain the efficiency of having more local control of the site.

C. Public Use Sites. Uses that adversely affect public use sites or areas shall not be authorized. Uses that are made available to the public, are recreational, or other sites (such as airstrip development or docks) may be authorized if consistent with the management intent for the public use site or area and if there is a demonstrated public need. Specific requirements relating to the siting and development of public use sites exist in the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP) (DNR, April 2005). Consult this plan when authorizing activities at public use sites within the planning area of the RRMP. See also Management Guideline J, which defines the area of application of the RRMP.

D. Public Recreation Facilities

1. Public Use Cabins. A system of public use cabins should be established in state parks. Generally, such facilities should not be provided on general state land, which is the focus of this plan.

2. Location of Recreation Facilities.

a. Preferred Locations. Recreation facilities, including public use cabins, minimum development campsites, mooring buoys, and other low intensity facilities for the general public (i.e., not private commercial facilities) are appropriate at sites that encourage public use at a particular location, direct public use away from inappropriate locations, accommodate competing or conflicting uses, and minimize damage to the environment. Whenever possible, all such facilities should be located at least 100 feet upland from the ordinary high water mark.

b. Inappropriate Locations. Recreation facilities are not appropriate where the management intent of this plan is to maintain the natural condition of the area free from additional concentrations of recreation users or significant evidence of human use. In addition, recreation facilities should not be placed adjacent to cultural resource and archaeological sites that might subject these sites to vandalism or disturbance because of increased public use.

E. Private Commercial Recreation Facilities and Operations on State Land. Lodges (including floating lodges), tent camps, floats, or other private commercial facilities and operations designed to be run as or to support private commercial recreation facilities may be authorized if the facility or operation fulfills the conditions outlined in this section, conforms to the requirements of AS 38.05.070–.075, AS 38.05.850, or conforms to a management plan prepared in accordance with AS 41.21.302 (c) authorizing the facility. The Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, also has restrictions on structures related to commercial recreation.

1. Siting, Construction, and Operation. The facility or operation should be sited, constructed, and operated in a manner that creates the least conflict with natural values and existing uses of the area. The commercial facility and the use it generates should avoid significant adverse impacts on fish and wildlife habitat and existing uses of an area. Whenever possible facilities should be located outside the 100-year floodplain, but in no case should be located closer than 100 feet back from ordinary high water and 100 feet away from tributary confluences. To the extent practical, floatlodges should be visually and acoustically hidden from main travel routes, frequently used anchorages, regionally important campsites, and frequently used recreation areas.[2] For facilities supporting recreational fish and wildlife harvest, ADF&G should be consulted on the possible effects of increased harvest on fish and wildlife resources and on established commercial, recreation, and subsistence users.

2 See the Floating Facilities section in this chapter for additional standards on this use.

To protect existing habitats, resources, and uses, floating private commercial recreation facilities should not be authorized in the following areas: designated habitat or harvest areas, anchorages, areas designated recreation (Rp or Rd), or areas adjacent to an upland residential subdivision. In addition, they should not be permitted near an authorized aquatic farming operation, known cultural or historic sites, public use cabins, or where the use is prohibited in the management intent statement for a specific management unit in this plan.

Private commercial recreation facilities may be authorized in these areas by DNR if it is determined that the permitting of a floating facility is in the best interest of the state and the use is found consistent with the Alaska Coastal Management Program.

2. Upland Access to Floatlodges. Where the need for upland access to a floatlodge is anticipated, the floatlodge should be anchored or tied where there is legal upland access to the site.

3. Authorizations for Floatlodges. Floatlodges shall also meet the requirements for these structures under *Floating Facilities*.

F. Commercial Recreation Leasing Processes. There are two processes for leasing state land for commercial recreational facilities. One process is described by AS 38.05.073, the other by AS 38.05.070 and .075. Unless Chapter 3 specifically requires the .073 commercial leasing process, applications may be adjudicated under either process. DNR will determine the appropriate process on a case-by-case basis. ADOT/PF has its own leasing process that applies to land it manages in rights-of-way, airports, materials sites, and other lands and facilities.

1. The .070/.075 Process. The .070/.075 process is simpler and faster, but it offers the state less flexibility in choosing the lessee and in structuring lease payments. It is generally suited to small projects with few anticipated impacts. The management intent for the management unit need not specifically state that this type of leasing is an allowed use for it to be authorized under this process.

2. The .073 Process. The .073 process is longer, but it allows submission of alternative proposals for a particular lease, requires more public involvement in reviewing a proposed lease, and offers the state more choices for structuring payments on the lease. The .073 process is generally suited to large projects that are likely to have significant impacts on surrounding areas. Under the .073 process, DNR will give public notice that it intends to solicit proposals for a lease. DNR will then prepare a "request for proposals" that must include specific information on the lease and must be advertised in state and local newspapers. Once a prospective lessee has been chosen, DNR must give public notice and hold public meetings on the preliminary decision to issue the lease.

For a .073 lease to be considered in a management unit, the plan must specifically allow for this type of leasing in a given unit before it can be authorized. Because no management units are identified in this area plan specifically for commercial recreation leasing under the .073 process, a plan amendment will be required to accommodate this use.

DNR may impose eligibility standards, including proof of the developer's financial backing and capability, experience in this type of development, ability to meet bonding or insurance requirements, and ability to comply with resource and environmental analysis requirements.

The .073 process requires that potential economic, social, and environmental impacts of the proposed project be evaluated. DNR may require the prospective developer to fund additional studies; the studies must involve the appropriate state agencies, and ADF&G must approve any studies involving fish and game.

G. Tideland Permits and Leases Adjacent to Recreation Facilities. Tideland activities may be allowed adjacent to public recreation facilities, including public use cabins, lodges, or fuel stops if the land manager determines that the two uses can be made compatible by design, siting, or operating guidelines or if the land manager determines there is no feasible and prudent alternative for the activity. This guideline also applies to sites reserved for future recreation facilities. The land manager's determination will be made after consultation with the facility manager.

H. Scenic Resources. Facilities on state-owned uplands and tidelands in areas designated Public Recreation and Tourism-Dispersed (Rd) or Public Recreation and Tourism-Public Use Site (Rp) should be located and designed to blend in with the natural surroundings. Stipulations to accomplish this guideline may be attached to a development plan to address location, size, color, materials, requirements for vegetative or topographic screening, or other measures as appropriate.

I. Municipal Selections. Some areas of state land that are designated Public Recreation and Tourism-Dispersed (Rd) or Public Recreation and Tourism-Public Use Site (Rp) may be suitable for selection under the Municipal Entitlement Act. The Resource Allocation Tables in Chapter 3 specify whether a management unit is considered suitable for municipal conveyance. In order to protect the public values in these recreational lands, the state may attach stipulations to the conveyance. This may include easements to preserve access (trails and campsites), habitat, wildlife, scenic, and other values associated with the recreation resources.

State land designated Rd or Rp affected by a municipal selection considered appropriate for conveyance will maintain a protected area adjacent to anadromous streams or lakes. This protected area, which will be established by an easement, will extend 500 feet upland from the ordinary high water mark. In areas where the floodplain of a river provides a significant corridor for wildlife movement, the size of this easement may be increased to encompass as much of the floodplain as necessary to protect the habitat. The intent of this type of easement is to maintain habitat and public use values, including public access. Within the easement there should be no permanent structures or significant alteration of vegetation (see Table 2.3).

J. Nushagak & Mulchatna Rivers Recreation Management Plan. The original Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP) was developed by DNR and other entities to provide the basis for the management of recreation uses and structures on state land within the Nushagak-Mulchatna drainage basin. It was originally adopted in 1990 as an element of the Bristol Bay Area Plan and as an Area Meriting Special Attention in the District Coastal Plan of the Bristol Bay Coastal Resource Service Area .

This plan revision continues the use of the RRMP as an element of the Bristol Bay Area Plan for the Nushagak-Mulchatna drainage basin.

K. Other Guidelines that Affect Recreation, Tourism, and Scenic Resources. Other guidelines will affect recreation, tourism, and scenic resources. See the other sections of this chapter.[3]

D. WATER QUALITY, INCLUDING INSTREAM FLOW

Goals

Water Quality: Maintain water quality sufficient to protect the human, fish, and wildlife resources of the region.

Instream Flow. Maintain water levels necessary to protect the natural condition of the area, in particular the human, fish, and wildlife resources and uses of the region.

Management Guidelines

A. Water Quality. It is the intent of the plan that domestic and public water supplies, fresh and marine waters important for the production and management of waterfowl and fish, and water used for recreation will at a minimum be classified by DEC in consultation with other state, federal, local, and tribal agencies for these uses and that state water quality standards will be maintained by DEC at levels necessary to maintain or enhance these uses. All permits, leases, or plans of operations for land or water uses that may directly affect water quality will require that these activities be sited, designed, constructed, and operated to provide a reasonable assurance that discharges will meet water quality standards for the receiving waters use classification. Water quality standards will meet or exceed those criteria set out in 78 AAC 70 (State Water Quality Criteria) and by the U.S. Environmental Protection Agency rules and regulations for these uses. Amendment of state water quality standards or reclassification of waters may be made through ADEC amendment procedures and does not require amendment of the plan.

B. General Protection for Instream Flow. Except for public water supply and domestic use, the maintenance of fish stocks is generally the highest priority water use in the study area. Therefore, the DNR will not allow an appropriation of water to cause the instream flow of any waterbody in the planning area to fall below the amount determined necessary by ADF&G to protect fish habitat and production and waterfowl habitat, unless, under the procedures outlined in AS 46.15.080, the commissioner of DNR makes a finding supported by clear and convincing evidence and based on public review that the competing use of water is in the best public interest and that no feasible and prudent alternative exists.

3 See the Floating Facilities section in this chapter for additional standards on this use

C. Stream Uses to Consider for Instream Flow Reservation (General). Streams and other waterbodies may also be considered for instream flow reservations under AS 46.15.145.

Such reservations are intended to maintain a specified instream flow or level of water at a specified point on a stream or body of water, or on a specified part of a stream, throughout the year or for specified times. The purposes of the reservation (defined in the statute) include (1) protection of fish and wildlife habitat, migration, and propagation; (2) recreation and park purposes; (3) sanitary and water quality purposes; and (4) navigation and transportation purposes.

D. Process for Determining Reservations. Requests for instream water reservations will be adjudicated by the Department following the procedures identified in 11 AAC 93.141–.147. In general, these procedures require establishing the management objectives of the waterbody, estimating the quantity of water seasonally available, determining the amount of water already appropriated, and projecting the instream flow requirements for the uses and resources to be protected.

E. Process for Considering Requests for Substantial Uses of Water. Proposals for major new developments requiring substantial water use or uses of water that may negatively impact instream flows needed to produce fish, sustain water quality, and provide for navigation and/or recreation shall include an evaluation of the need for an instream water reservation or other forms of instream flow protection. The evaluation can be provided by ADF&G, or the proponent of the development can provide an evaluation of the flows that must be reserved and the flows available for use that follows the procedures identified in 11 AAC 93.141–.147 or otherwise adopted by DNR to implement reservations under AS 46.14.145.

E. FLOODPLAINS, SHORELINES, RIPARIAN CORRIDORS, COASTAL AREAS, AND BUFFERS

Goals

Habitat. Protect fish and wildlife habitats within the floodplain and along tidelands, lakeshores, river and stream corridors, wetlands, and headwater areas.

Recreation. Protect opportunities for a variety of recreational activities within publicly owned floodplains, streams, and tideland corridors.

Subsistence. Protect opportunities for the variety of subsistence and traditional use activities within publicly owned floodplains, streams, and tideland corridors.

Water Quality. Protect water quality to support domestic uses, fish and wildlife production, recreation, and subsistence activities. Protect watersheds that supply community drinking water.

Water-Dependent and Water-Related Uses. Provide for needed water-dependent and water-related uses in a manner compatible with primary designated uses.

Public Use and Maintenance Areas Adjacent to Anadromous Fish Streams and Waterbodies and Coastal Areas. Protect the 100-year floodplain of anadromous rivers, streams and lakes, and the coast with a 500-foot use-and-maintenance area for the purposes of public access, recreation, subsistence, maintenance of scenic viewsheds, and the conservation of fisheries and wildlife habitat.

Management Guidelines

A. Implementation of the Goal of Protecting Habitat on Floodplains. Implement the habitat goal by designating and classifying floodplains as habitat when other values such as important anadromous waters, moose wintering habitat, or brown bear concentration streams also support doing so.

B. Priority of Public Uses in Floodplains and Stream Corridors. DNR will place a higher priority on protecting public use values in the 100-year floodplain and within 100 feet of the ordinary high water mark of anadromous waterbodies outside the 100-year floodplain than on providing opportunities for private ownership or development of land. However, the department recognizes the demand for property proximate to some streams.

1. Land Within the 100-Year Floodplain: Prior to the disposal of land within the 100-year floodplain, DNR, in consultation with other affected agencies and the public, will assess existing and projected public use needs within the floodplain. State land sales programs within the 100-year floodplain will be designed to protect access to and along the stream for fishing, hiking, camping, and other recreational activities. Similarly, the 100-year floodplain is important fish and wildlife habitat, and land disposals will be designed to ensure the protection of the habitat or wildlife.

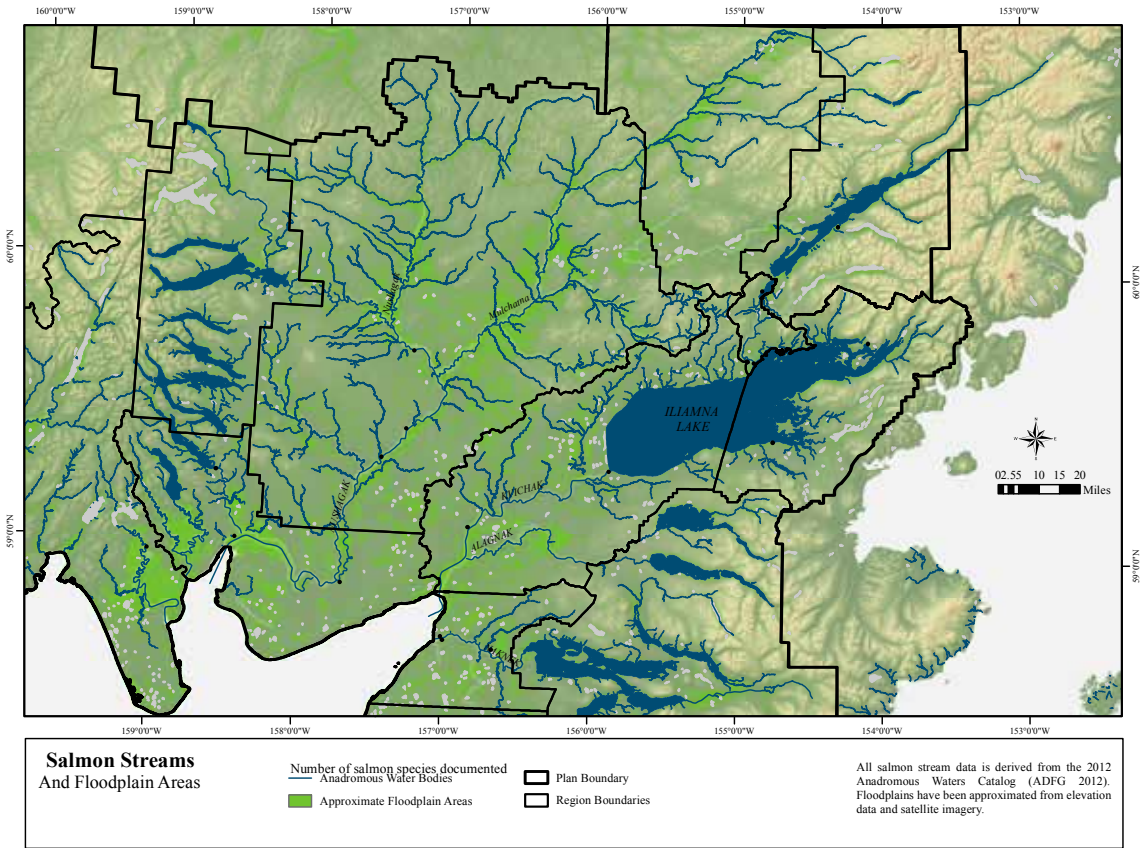

FIGURE 2.9: *Salmon Streams and Floodplain Areas*

In order to protect the public values of land offered in the 100-year floodplain, the state will establish by easement a protected area 500 feet upland of the ordinary high water mark and such other stipulations as may be necessary to preserve access (trails and campsites), habitat, wildlife, scenic, and other values associated with the recreation resources. The intent of this type of easement is to maintain habitat and public use values, including public access. Within the easement there should be no permanent structures or significant alteration of vegetation.

2. State Land Designated for Conveyance Outside the 100-Year Floodplain: State land designated for conveyance outside the 100-year floodplain will maintain a protected area adjacent to anadromous waterbodies. This protected area, which will be established by an easement, will extend 100 feet upland from the ordinary high water mark. In areas where a river or stream provides a significant corridor for wildlife movement, the size of this easement may be increased to 500 feet. The intent of this type of easement is to maintain habitat and public use values, including public access. Within the easement there should be no permanent structures or significant alteration of vegetation.

C. Public Access Adjacent to Waterbodies. Pursuant to AS 38.05.127, legal public access will be reserved in order to protect the public's right to travel to and along the shore of a waterbody without encouraging trespass. Permits, leases, and plans of operation for commercial and industrial uses, transportation facilities, pipelines, and other water-dependent uses may not be authorized on state uplands adjacent to waterbodies unless (1) the proposed activities are consistent with the management intent for the planning units that are directly or indirectly affected area; (2) tideland and stream bank access is maintained; and (3) important fish and wildlife habitat, public water supplies, subsistence, and public recreation are protected. Trails and other forms of non-motorized public access are generally considered to be appropriate within these areas if they meet the conditions listed in 11 AAC 96.025. Exploratory drilling for mineral resources is not an allowable activity in river and stream corridors closed to new mineral activity by mineral closing orders.

Where feasible and prudent, there should be setbacks between these activities and adjacent waterbodies. The width of this setback may vary depending on the type and size of the use but must be adequate to maintain public access to and along riparian areas.

D. Retention of State-Owned Buffers Adjacent to Waterbodies.

1. When the management intent for state land adjacent to waterbodies (including tidelands, streams, or lakes) is to permit recreation uses such as fishing, picnicking, hunting, camping, or other similar uses, the state should retain ownership of the adjacent uplands. This approach would also apply if the protection of important habitat or wildlife use area is intended. For anadromous and high value resident fish streams, a minimum of 100 feet landward from ordinary high water on each side of the stream must be retained. For land within the 100-year floodplain, a minimum of 500 feet landward from ordinary high water on each side of the stream must be retained.

2. In state subdivisions, buffers for streams with anadromous or high value resident fish should either be retained in state ownership or dedicated to a local government and managed to maintain important fish and wildlife habitat, public access, and recreation values.

3. State-owned buffers or parcels adjacent to waterbodies may be retained along the full length of the waterbody or on segments of the waterbody determined to have high current or future use, public use, or to require habitat protection. If the intent is to provide forested wildlife habitat, the width and configuration of this buffer shall be determined prior to or during preliminary subdivision design by DNR in consultation with ADF&G.

E. Retention of Access Easements Adjacent to Waterbodies. For non-fish-bearing streams, an easement should be used if the primary management intent is to protect the public's right to travel or provide access for utilities. The public rights retained in an easement shall be identified and noted in the DNR decision document and on the subdivision plat. In areas that may be sensitive to vehicular travel, the easement should be reserved for pedestrian access only. Access easements may be used in combination with state land that is to be retained for public use or for the protection of environmental resources. In these situations, easements may be used to provide access to areas of state-retained sensitive land or provide access corridors between lots or parcels within the subdivision.

F. Protection Easements and Setbacks to Non-Fish-Bearing Waterbodies. Easements or building setbacks may be used in those instances where public recreation use is moderate or where sensitive habitat or other environmental resources exist but are not of the same importance. The purpose of the easement should be noted in the Department decision document and on the subdivision plat. Where a protection easement is to be applied, vehicular use within the area of the easement is inappropriate and should not be authorized. Building setbacks may be used in lieu of a protection easement in those instances where it is not appropriate or necessary for the state to retain any easement rights. Building setbacks may also be used in combination with buffers, access easements, and protection easements. Building setbacks used in this fashion provide an added level of protection while allowing private ownership of the land within the area of the setback.

G. Buffer, Easement, and Building Setback Widths.

1. The width of state-retained land, access and protection easements, and building setbacks adjacent to waterbodies (tidelands, lakes, and streams) will vary depending on whether the area is a retained parcel or imposed easement and according to management intent and the specifics of the parcel under consideration. In addition, this width may vary along the area of the tideland, stream, or lake that is to be protected. Establishing widths, especially for publicly retained lands, will be based on the following considerations: recreational activities to be accommodated, habitat protection and management objectives, visual quality, use compatibility, prevention of erosion, or retention of a significant hydrologic resource (such as a wetland).

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2. Although these widths may vary, the following criteria are provided to establish the minimum width that can be expected on various types of buffers, easements, and setbacks. They are specified here in order to establish some consistency in application and ensure a minimum level of resource and habitat protection or public access. Distances are measured landward from the edge of the 100-year floodplain as mapped by the U.S. Geological Survey, from the ordinary high water along streams and other inland waterbodies, and from the line of mean high water adjacent to coastal waters. Because of the linear nature of streams and certain other habitat or hydraulic features, these minimum dimensions will apply to both sides of the feature that is to be protected. For example, the total protected area along a stream with a 100-foot setback would be 200 feet (100 feet each side).

In nearly all instances involving state-retained land, it will be preferable to retain a larger width when the land is within the 100-year floodplain, usually 500 feet on each side. For land adjacent to anadromous waterbodies outside the 100-year floodplain, the retained area is 100 feet on each side. Greater widths may also be warranted depending on the specific site characteristics and the importance of the habitat or resources to be protected.

a. Riparian buffers on publicly retained land along anadromous and high value resident fish streams and waters are as follows: 100 feet along each side of the anadromous stream or waterbody outside the 100-year floodplain and 500 feet for the anadromous stream or waterbody within the floodplain. (Widths greater than this amount, up to 300 feet, should be authorized if, after consultation with ADF&G, it is determined that larger widths are necessary to protect fisheries, wildlife, or habitat.)

b. Buffers on other freshwater waterbodies on publicly retained land: 50 feet along each side of the stream or 50 feet along the shoreline of lakes.

c. Protection easements used in areas of important environmental features: 50 feet on each side of important environmental features such as high value wetlands. In the instance where a protection easement is included as part of a disposal to a local unit of government under their municipal entitlement, this width is also 50 feet.

d. Public access easements, including "to and along" easements required under AS 38.05.127, or utility easements adjacent to tidelands, lakes, and streams: 50 feet.1

e. Building setbacks.

H. Standards Adjacent to Anadromous Fish Streams and Waterbodies and Coastal Areas.

1. Riparian Protection Standard. Activities that are or can be made compatible with the objectives of protecting, maintaining, or enhancing anadromous or high value resident fish habitat will be authorized in the zone occurring within 500 feet of ordinary high water measured from each stream bank. Riparian protection shall be provided on each side of the anadromous stream or waterbody whose purpose is the maintenance of fish and wildlife protection. Activities that are consistent with this policy are to be authorized by DNR in its issuance of permits, leases, or other types of development authorizations.

2. Standards for Public Use and Maintenance Areas Adjacent to Anadromous Fish Streams, Waterbodies, and Coastal Areas. A public use/maintenance area shall be provided within 500 feet from the mean or ordinary high water on state uplands along anadromous rivers, streams, lakes, and coastal areas that have significant public value for the purposes of public access, recreation, subsistence, maintenance of scenic viewsheds, and the conservation of fisheries and wildlife habitat. These areas shall be maintained in their existing natural conditions for the purposes of providing public access, recreation, the protection of scenic viewsheds, and the conservation of fisheries and wildlife habitat. This area applies to areas designated Public Recreation and Tourism-Dispersed (Rd) or General Use (Gu). Limited site-specific development may be authorized in these areas by DNR but only if the objectives of this area, identified above, are maintained and only after consulting ADF&G on fisheries and wildlife habitat issues.

I. Application Requirements for Easements and Buffers along Waterbodies and Related Environmental Features. On a case-by-case basis, widths may be wider in order to accommodate floodplain width, bank characteristics, size of the waterbody, extent of present or expected future public use, the need to protect important environmental features, or other relevant factors.

Widths can be narrower on a case-by-case basis if it is determined that the harm intended to be avoided by the requirement is not likely to occur because of site-specific circumstances. However, the strip of land must be of sufficient width to allow for public access as well as to screen the waterbody from development, where possible, with an undisturbed strip of vegetation.

J. Filling or Leasing of Tidelands for Residential Uses or Structures. No filling or leasing for residential uses or structures shall be allowed. Access improvements on state tidelands and submerged lands for residential uses and structures such as docks and boat haulouts shall also not involve the use of fill.

K. Filling or Leasing of Tidelands for Non-Residential Uses and Structures. Authorizations may be granted for the filling of state tidelands and submerged lands for those non-residential uses or structures that are water-related or water-dependent.

L. Other Guidelines for Shorelines and Stream Corridors. Other guidelines will affect management practices for shorelines, stream corridors, and coastal areas. (See other sections of this chapter.)

F. MINERAL RESOURCES

Background

The Bristol Bay area has not been a significant producer of minerals compared to other areas of the state. Historically, significant mineral production has come from only two districts in the Bristol Bay region: (1) the gold placers in the Nyac district, which is actually in the Kuskokwim drainages and on the edge of the Bristol Bay planning region, and (2) the platinum-gold placers in the Goodnews Bay district.

Aside from production within these two districts, the region has experienced exploration at the Pebble copper-gold-molybdenum deposit in the Kvichak and Nushagak drainage, the Shotgun gold deposit in the Nushagak drainage, and the Kamishak prospect. The Pebble deposit is presently undergoing advanced exploration, and studies are underway to ascertain the economic viability of developing the resource, which is estimated to contain one of the world's largest low-grade copper-gold concentrations. Other exploration sites include the Kemuk iron-titanium deposit in the Nushagak drainage west of Koliganek, which may have significant platinum potential, and the Sleitat tin-tungsten deposit in the Nushagak drainage northeast of Koliganek. Mineral sands occur on beaches along the northwest side of the Alaska Peninsula at a number of locations. Important occurrences, prospects, and deposits occur elsewhere on private lands, including the Fog Lake gold prospect.

The state selected land in the Kvichak and Nushagak drainages to protect and better manage the fisheries. Therefore, potential mineral development at the Pebble deposit and at other deposits in the Kvichak and Nushagak drainages has raised concerns that mining in these areas could adversely impact fish habitat and commercial, subsistence, and sport uses of fish and game. The state selected much of the remaining land in the planning area because of its potential oil and gas, agriculture, and recreation and wildlife values.

Because the Bristol Bay region provides freshwater habitat for one of the largest wild salmon populations remaining on earth, all Alaskan's share a responsibility to steward this globally significant renewable resource. For this reason mineral development should only occur in this region if it can be done in a manner that does not diminish the sustained abundance or genetic diversity of the salmon species that spawn and rear in the region. If there is reasonable doubt that fish habitat can be protected so as to meet sustained yield requirements, then any conflict with mining will be resolved in favor of protecting fish habitat. The following goals and guidelines provide assurance that mineral exploration and development in the region do not subject salmon populations to unreasonable risk and that any such development is compatible with fish and wildlife habitat and public uses of fish and game.

Goals

Maximum, Meaningful, Ongoing Public and Agency Involvement. The state's land use planning statutes require meaningful involvement by the public and by state and federal agencies in the planning process. In the context of mining in the Bristol Bay drainages, the state's goal is to assure maximum, meaningful, ongoing public and agency involvement during

1. all aspects of inventory, planning, and classification necessary to adopt, revise, and implement the Bristol Bay Area Plan with respect to mining

2. all aspects of implementation and permitting of any large mine in the Bristol Bay drainages

Protection of Environmental Quality and Cultural Values. Protect the integrity of the environment, water quality and quantity, subsistence resources, and affected cultures when developing subsurface resources.

Responsible Development. Allow for the development of mineral resources in a manner that does not directly or indirectly significantly degrade fish and wildlife habitat or public uses of fish and wildlife, undermine the livelihood and desires of regional residents, or impose undue burdens, risks, or obligations on future generations.

Management Guidelines

A. Standards and Practices for Public Participation. Engagement with the residents of the Bristol Bay region will be based on honest and open provision of information. Engagement will begin at the earliest possible stage of potential mining activities, prior to substantive on-the-ground exploration. Engagement, wherever possible, will be undertaken through traditional authorities within communities and with respect for traditional decision-making structures and processes.

Residents of the region also have interests that are represented by federally recognized tribal governments, by village and regional corporations established under the Alaska Native Claims Settlement Act of 1971, and by local governments organized under the laws of the state of Alaska. All of these organizations should be informed of mineral exploration and development activities within the region and engaged in the process of decision-making.. References in this plan to residents or communities of the region include these organizations.

Residents of the watershed should be afforded sufficient time to understand the information provided by a mining company. Sufficient time should be a measure of the time it took a mining company to generate the information for exploration or a proposed mine in relation to the time it can reasonably be expected for DNR and the residents to seek and engage their own experts to independently evaluate, verify, and express opinions on the adequacy and accuracy of information provided by a mining company, especially as that information relates to environmental baseline studies and the potential impact of exploration or proposed mining activity on the water quality and quantity and the habitat of the watershed.

Information should be provided in a format that takes advantage of modern technology. Paper reports or the equivalent need to be provided but alone are insufficient. Information should be released in a digital format (tabular databases, GIS files, metadata, etc.) that can be easily searched, analyzed, and independently evaluated particularly as that information relates to potentially impacted public and private resources such as land, air, water, fish, and wildlife.

B. Exploration.

1. Most land is open to mineral exploration and location. By statute, all state lands are open to mineral location unless specifically closed or limited to leasehold location. A miner has the right to stake a mining location regardless of the surface use designation or classification unless the area has been closed to new mineral entry or limited to leasehold location. Bulk sampling will not be allowed in anadromous streams without permits from ADF&G and the Department. A land use permit or temporary water use permit is required under most circumstances. Hand prospecting and exploration activities that involve no significant surface disturbance generally do not require a permit. The DNR may determine that some forms of access will not be allowed in specific areas to avoid resource damage.

2. Access. Land managers should ensure reasonable and necessary access to and across public lands for mineral exploration. Land disposals and other authorizations are to be cognizant of access and road corridors proposed by the DNR and ADOT/PF and should not be allowed where such disposals or authorization would conflict with access considerations.

3. Offshore Prospecting Permits (OPP). Under AS 38.05.250 an exclusive right to prospect for deposits of minerals offshore may be granted through authorizations issued by DNR. DNR determines what areas will be offered for offshore prospecting. No areas within the plan boundary are currently open for permits. If workable mineral deposits are found offshore, the permittee must apply for a lease in order to develop the mineral deposit. Units designated Habitat because of high fish or wildlife habitat values are areas of significant surface use by fish or wildlife. The ADF&G has stated that it has initially determined mining in estuarine areas designated Habitat to be a nonconforming use.

4. Standards and Practices for Exploration Activities.

a. Notice. No permit for exploration, including Temporary Water Use Permits issued by DNR, will be issued without the following: actual notice to the communities and residents of the watershed; a 90-day comment period; and at least one public hearing in Dillingham, one public hearing in Naknek/King Salmon, and one public hearing in the community closest to the proposed exploratory activity.

b. Finding of No Significant Harm. Exploration activities will only be permitted, including the issuance of Temporary Water Use Permits by DNR, upon a finding by the commissioner of ADF&G that no significant harm will result to anadromous streams within the area proposed for exploration. For the purpose of such a finding the commissioner of ADF&G should assume that any stream reach within the area of exploration with a 10 percent gradient or less is anadromous.

c. Fish Distribution Surveys. Prior to or during the exploration phase mining companies will be required to conduct fish distribution surveys of all waterbodies that could be affected by eventual mine development and associated activities. Until such time as more accurate tools are available for predicting the location of anadromous streams, mining companies will be required to survey all stream reaches within the footprint of the potential mine and all stream reaches within one mile of any planned development. Fish distribution surveys will comply with protocols developed by ADF&G, and reports of surveys will be provided to ADF&G and nominations made to the Anadromous Waters Catalog at the end of each survey season for any waterbody in which anadromous fish were documented.

d. Water Rights. During the exploration phase, DNR will not accept water withdrawal applications under the Water Use Act that would create a priority right for water to be used in the development, operation, and closure of a mine. Such applications will only be accepted upon completion of the mine plan that will be submitted for permitting.

e. Financial Assurance. Mining companies will be required to provide adequate financial assurances to pay for prompt cleanup, reclamation, and long-term monitoring and maintenance that could result from exploration activities. Escrowed Funds or surety bonds provided by independent highly rated surety agencies are acceptable forms of guarantees.

C. Mineral Development. Adverse effects of exploration shall be managed at the time of permits for exploration activities. Any adverse effects of mining on surface resources or uses will be managed through compliance with state laws and regulations and borough ordinances and management intent and guidelines in this plan. Reclamation activities are regulated under the Mining Reclamation Act (AS 27.19) and state regulations (11 AAC 97).

1. Land Classification: The glossary in the Appendices, defines the Mineral Land designation as follows:

Mineral Land. Land where known mineral resources exist and where development is occurring or is reasonably likely to occur, or where there is reason to believe that commercially and legally developable quantities of minerals exist, taking into account the federal, state, and local laws, regulations, executive branch actions, including conservation designations, mineral closing orders, section 404(c), and the like, that affect whether a given mineral deposit is commercially and legally developable. This definition of the Mineral Land designation follows the definition of the mineral land classification category at 11 AAC 55.130.

The Mineral Land designations of the 2005 BBAP that were based solely on exploration were not consistent with 11 AAC 55.130, and are eliminated in the Citizens' Alternative BBAP. Wherever land is not classified as "mineral", and exploration demonstrates that there are commercially and legally developable quantities of minerals exist, then a mining claimant must petition under 11 AAC 55.270 for reclassification. The purpose of this requirement is to afford to the public the opportunities for meaningful agency and public involvement in the proposed reclassification, as provided by land use planning and classification statutes at AS 38.04.065 and by the regulations at 11 AAC 55.

2. Compatibility Standards. Mineral development must be compatible with federal, state, and local resource management policies, including those applicable to adjacent waters, wetlands or uplands under federal jurisdiction.

Because AS 38.04.065 provides similarly that mineral land use classifications must be compatible with surface classifications of other units, this Citizens' Alternative adopts the principle that mining must be compatible with other surface land use classifications and existing uses of an area beyond a single unit boundary.

DNR shall comply with local ordinances regarding mining. This includes the Lake and Peninsula Borough ordinance, which bars permits for resource extraction projects that could disturb over 640 acres of land and could have a significant adverse effect on anadromous waterbodies. DNR will comply with this ordinance by not issuing permits for mines that could disturb over 640 acres of land and could have a significant adverse effect on salmon waters.

3. Standards and Practices for Mine Development and Operation

a. No Treatment in Perpetuity. No mine shall be permitted within the Bristol Bay planning area that will require active measures such as water treatment, groundwater pumping, or other means of mechanical, chemical, or human intervention in perpetuity to prevent toxic effluents from escaping beyond the boundary of the mine and associated facilities. Such measures are considered active management and are distinguished from more passive activities such as monitoring, occasional inspection, and the incidental maintenance that would still be necessary for a closed and sealed mine. Before any mine is permitted in the Bristol Bay planning area two independent and qualified professionals shall certify that such active management will not be required in perpetuity.

b. Protection of Sustained Yield and Genetic Diversity. No mine will be permitted in the Bristol Bay planning area that destroys or impairs habitat that supports a life phase of an anadromous or resident fish species or stock if the sustained yield and abundance of the species or stock may be jeopardized or if the genetic diversity of the species or stock may be compromised.

c. Destruction, Relocation, or Removal of Water from Anadromous Waterbodies.

(1) Anadromous Waters Generally. DNR will not issue a permit for the destruction, relocation, or removal of an anadromous waterbody within the Bristol Bay planning area without the following: sufficient notice to the communities and residents of the watershed; a 120-day comment period; and at least one public hearing in Dillingham, one public hearing in Naknek/King Salmon, and one public hearing in the community closest to the waterbody proposed for destruction, relocation, or removal. DNR shall not issue a permit for the destruction, relocation, or removal of water from an anadromous waterbody without clear and convincing evidence that the destruction or removal will not diminish loss to the sustained abundance or genetic diversity of any salmon species.

(2) Anadromous Waters Closed to Mineral Entry. DNR shall not issue a permit that would result in dewatering any portion of lands closed to mineral entry by MCO 393 or similar order adopted to protect anadromous waters.

d. Mining in Fish Habitat. When DNR issues a permit for mining in or adjacent to a fish stream, conditions of the permit will require any necessary measures such as levees, berms, seasonal restriction, and settling ponds that will allow the operation to meet water quality standards and statutes and regulations governing the protection of fish. Mining in fish streams requires permits from the ADEC and ADF&G. A Special Area Permit issued by ADF&G is required if the project is located within a legislatively designated area, including uplands, estuaries, or tidelands. Disposal of mine waste into fish habitat is impermissible. In addition, disposal of mine waste shall not be allowed where the waste fails to meet toxicity standards designed to protect aquatic life.

e. Instream Flow. No mine shall be permitted within the Bristol Bay planning area that will reduce instream flows necessary to protect fish. Mines will be permitted only upon a showing, by clear and convincing evidence, that any reduction of instream flow will not destroy or impair habitat that supports a life phase of a particular anadromous or resident fish species, stock or population, or compromise the sustained abundance or genetic diversity of

any anadromous or resident fish species, stock, or population. The Department shall not reduce an instream flow without the following: notice to the communities and residents of the watershed; a 120-day comment period; and at least one public hearing in Dillingham, one public hearing in Naknek/King Salmon, and one public hearing in the community closest to the waterbody affected. Permits shall not be issued for any mine that would result in dewatering of anadromous fish habitat in the Kvichak or Nushagak drainages.

f. Mixing Zones. No mine shall be permitted within the Bristol Bay planning area that will require mixing zones.

g. Fugitive Dust. No mine will be permitted within the Bristol Bay planning area without a plan to control and monitor dust emissions during construction and operation that has been tested and demonstrated to be effective for the conditions to be encountered on location.

h. Acid Mine Drainage. No mine will be permitted within the Bristol Bay planning area that could result in acid mine drainage during operation or after closure unless the risk of such drainage can be eliminated by methods proven to be effective at mines of comparable size, scale, and location. Bristol Bay is not a place to experiment with untested methods for controlling acid mine drainage. Mining companies should conduct adequate pre-mining sampling and analysis for acid-producing minerals, based on accepted practices and appropriately documented, site-specific professional judgment. Sampling and analysis should be conducted in accordance with the best available practices and techniques. No storage of waste rock or acid-generating materials in the watersheds shall be permitted in the Kvichak or Nushagak drainages.

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i. Shallow Submarine Disposal. No mine will be permitted within the Bristol Bay planning area that requires shallow-water submarine waste disposal.

j. Deep-water Submarine Disposal. No mine will be permitted within the Bristol Bay planning area that requires deep-water submarine waste disposal unless such waste disposal is environmentally benign. No permit for deep-water waste disposal within the Bristol Bay planning area will be issued without the following: actual notice to the communities and residents of the watershed; a 120-day comment period; and at least one public hearing in Dillingham, one public hearing in Naknek/King salmon, and one public hearing in the community closest to the waterbody proposed for deep-water waste disposal. A permit for deep-water submarine waste disposal will not be issued unless there is clear and convincing evidence that the disposal will not diminish the sustained abundance or genetic diversity of any anadromous or resident fish species within the waterbody proposed for deep-water waste disposal.

k. Tailings Impoundments. No permit will be issued for tailings impoundments and waste rock dumps unless such facilities will be constructed in a manner that, as a first priority, eliminates the release of contaminants. Liners should be installed if seepage could result in groundwater contamination. In addition, waste facilities should have adequate monitoring and seepage collection systems to detect and collect any contaminants released in the immediate vicinity. Permits shall not be issued for a mine at a metallic sulfide deposit that places tailings impoundments in the Kvichak and Nushagak drainages.

l. Mine Dewatering. Mine dewatering will be designed in a manner that, as a first priority, eliminates impacts on ground and surface waters, including seeps and springs.

m. Dredge, Fill, and Shoreline Alteration. To avoid adverse impact on fish or fish habitat, dredging (including marine mining), filling, or shoreline alteration in fish habitat, barrier islands, spits, beaches, or tideflats will be allowed only where it is determined that the proposed activity will not have a significant adverse impact on fish or fish habitat or that no feasible and prudent alternative site exists to meet the public need. Existing community sources of gravel are exempt from this guideline. Permits for the discharge of dredged or fill material into anadromous waters and contiguous wetlands and waters shall not be issued for activities associated with development of a mine at a metallic sulfide deposit in the Nushagak and Kvichak drainages.

n. Planning for Low-Risk-High-Impact Failures. No permit for a mine will be issued without a detailed plan for preventing and responding to low-risk but high-impact events such as tailings dam failures or pipeline breaks. The plan should regularly be revised and updated to incorporate improvements in prevention and response practices and technology, and to account for changes in operation that occur over the life of the mine. Response technology should be proven effective in similar locales and during all seasons. At a minimum such plans must be revised every five years or concurrently with regulatory approval of changes to the design or operation of the mine. Such plans or revisions to plans will not be approved without the following: sufficient notice to the communities and residents of the watershed; a 60-day comment period; and at least one public hearing in Dillingham, one public hearing in Naknek/King Salmon, and one public hearing in the community most likely to be the first to suffer impacts from an incident (e.g., a community immediately downstream of a tailings dam).

o. Environmental Audits. An independent audit of the environmental performance of any mine in the Bristol Bay planning area and the effectiveness of DNR and other regulatory agencies responsible for regulating mines will be required every three years or immediately after any permit violation or pollution event, and the results will be made immediately available to the public, residents, and communities of the Bristol Bay planning area. Recommendations made in the audit must be implemented within a reasonable time.

4. Additional Guideline Applicable to the Kvichak and Nushagak Drainages.

Permits shall not be issued to develop mines at metallic sulfide deposits in the Kvichak and Nushagak watersheds.

5. Mineral Closing and Opening Orders and Related Guidelines.

a. Mineral Closing Orders.

(1) Mineral Closing and Opening Orders. On September 13, 1984, contemporaneously with adopting the 1984 BBAP, the Department adopted Mineral Closing Order (MCO) 393. It closed to mineral entry those lands within the channel and within 100 feet of each side of the designated anadromous reaches of 64 streams in the Bristol Bay drainages. Those designated reaches were based on the Atlas to the *Catalog of Waters Important for Spawning, Rearing, or Migration of Anadromous Fishes*. The Atlas and Catalog are both adopted into regulation by 5 AAC 95.011. The closed streams are the anadromous sections of 30 streams in the Kvichak River drainage, 27 streams in the Nushagak-Mulchatna river drainage, and seven streams on the Alaska Peninsula as those sections are recorded and updated in the Atlas.

Other mineral closing and opening orders also affect settlement lands in the Dillingham, Aleknagik, and the Nunavaugaluk Lake areas. Adjudicators should determine the status of mineral closing and opening orders at the time of adjudication.

Further, this plan recommends additional mineral closing orders to avoid conflict between mining and fisheries.

(2) New Mineral Closing Orders. The Citizens' Alternative BBAP adopts an additional Mineral Closing Order as set forth in the Appendices.

Those lands closed to mineral entry by a mineral closing order to protect fish habitat are designated and classified as Habitat under the Citizens' Alternative.

Lands closed to mineral entry for reasons of habitat or settlement and disposal shall not be used for mining activities such as exploration, excavation, and tailings or waste rock disposal.

6. Leasehold Location Orders and Related Guidelines.

a. Leasehold Location Orders. Leasehold Location Orders 1 and 6 (1984) restrict large areas of Regions 2, 7, 8, and 9 to leasehold location. Rights to locatable minerals on the state lands are obtained by making a mineral discovery, staking the boundaries of the location, and recording the certificate of location in the designated time period. In most areas, such a location is a "mining claim," which gives the owner an immediate property right to mine the deposits. However, in areas of the state that have been restricted to leasing, the location is a "leasehold location," not a mining claim. The leasehold location must be converted to an upland mining lease before mining begins. No mining of minerals on leasehold locations may take place, except for limited amounts necessary for sampling or testing until a mining lease has been obtained. The leasing process includes the exclusive right to convert the leasehold location to a noncompetitive lease. There is no lease sale or open bidding.

b. Guidelines for Lands Subject to Leasehold Location Orders. These guidelines reflect an agreement between DNR and ADF&G as to the appropriate lease requirements in the area subject to Leasehold Location Order 1 in Regions 7, 8, and 9.

(1) Plan of Operation Required. An approved plan of operation will be required prior to the initiation of any operations on a mining lease that would otherwise require a Miscellaneous Land Use Permit (MLUP). The director of the DNR Division of Mining, Land and Water may make specific exceptions to this requirement for exploration operations of less than one year's duration and minor impact by permitting such activities through an MLUP. The plan of operations will address, but not be limited to, the following:

a) location of the area to be mined or explored. A map (1"-1,000') will be required.
b) time period of operation
c) size and purpose of the operation
d) number of pieces of equipment and people working on the project
e) methods to be utilized in overburden removal and storage, including blasting
f) amount of material to be handled, processed, or removed
g) how the material will be processed
h) how the tailings will be disposed of
i) wastewater treatment and disposal
j) reclamation plan that describes activities that will be necessary, including a time table for each step in the reclamation, a description of the measures to ensure that all debris and toxic materials are disposed of in a sound manner, and a description of the steps to be taken to comply with applicable water-quality laws and statutes
k) the actions to be taken to minimize detrimental effects to fish and wildlife
l) water requirements (i.e., intended use of appropriated waters, sources and methods of obtaining water, rate of acquisition, design of wastewater treatment systems, and instream requirements)
m) type and quantity of any elements or chemicals to be used in mining or mineral recovery
n) plans for fuel transportation and storage
o) location and size of camp facilities and overland transportation
p) anticipated restrictions on other surface uses of the lease area, including public access

DNR may approve plans of operation required for mineral leases if the plans adequately address the guidelines of the Bristol Bay Area Plan and DNR has consulted with and given careful consideration to the recommendations of ADF&G and DEC. Violation of the plan of operations is cause for enforced cessation of operations if after a reasonable period of time a negotiated solution cannot be reached with the operator or in the event of repeated violations.

(2) Coordination of Operating Plans and Water Rights Required. Approval of operating plans for mineral leases should be coordinated with issuance of a water right permit/appropriation.

(3) Bonding Required. After consultation with ADF&G and DEC, DNR will determine the level of bonding required to administer or ensure compliance with the reclamation plan in the approved plan of operations.

(4) Reclamation. Reclamation of mined areas will be required. At a minimum, topsoil must be removed separately and stored above the annual floodline, overburden must be disposed of above the annual floodline and may not be disposed of in fish-bearing waters, and tailings must be graded at the close of each season to approximate the surrounding ground contours with the exception of tailings used in the construction of settling ponds and other essential facilities. At the cessation of mining activities, the lessee shall regrade all disturbed areas to stable slopes that blend in with the natural topography, cover them with topsoil to allow revegetation, and seed where necessary.

D. Standards and Practices for Reclamation, Closure, and Post-Closure Monitoring.

1. Before a permit for a mine will be issued a reclamation and closure plan must be submitted and approved by DNR before operations begin. The plan must include detailed cost estimates, with consideration for inflation. Reclamation and closure plans will address post-closure monitoring and maintenance of all mine facilities, including surface and underground mine workings, tailings, and waste disposal facilities. The plan will be periodically revised and updated to incorporate improvements in reclamation practices and technology, to account for changes in operation that occur over the life of the mine, and will take into account potential increases in reclamation and closure costs (but not potential decreases). A decision to approve a reclamation and closure plan will not be made prior to actual notice to the communities and residents of the Bristol Bay planning area; a 120-day comment period; and at least one public hearing in Dillingham, one public hearing in Naknek/King Salmon, and one public hearing in the community closest to the mine.

2. Mining companies will restore to the greatest extent physically possible all disturbed areas to pre-mine conditions, including, but not limited to, topographic and hydrologic features.

3. Mining companies will re-contour and stabilize disturbed areas. This will include the salvage, storage, and replacement of topsoil or other acceptable growth medium. Material from the mine site should be tested for contaminants before it is used for reclamation. Quantitative standards must be established for revegetation in the reclamation plan – and clear mitigation measures must be defined and implemented if these standards are not met. Native vegetation must be used in reclamation.

4. Where subsidence is possible, mining companies must backfill underground mine workings to prevent such subsidence.

5. Underground mine workings and pits must be backfilled to minimize the size of waste and tailings disposal facilities.

6. Underground mine workings must be tested and regularly monitored for contamination. Mining companies will be required to endow an independent fund from which the cost of monitoring and maintenance of the closed mine can be paid. DNR will review the fund periodically and, no less than every three years during mine operation, determine whether the fund is keeping pace with inflation and changes in reclamation and closure that may result from changes in mine operation. To the extent the fund is determined by DNR to be insufficient to meet the future costs of monitoring and maintenance, the mine operator shall pay into the fund the amount required by DNR.

E. Standards and Practices for Financial Guarantees.

1. Financial sureties will be reviewed and upgraded every two years by the DNR, and the results of the review will be publicly disclosed.

2. Financial surety instruments must be independently guaranteed, reliable, and readily liquid. DNR will require that sureties be regularly evaluated by independent analysts using accepted accounting methods. Self-bonding or corporate guarantees will not be permitted for financial surety.

3. Financial sureties will not be released until reclamation and closure are complete, all impacts have been mitigated, and cleanup has been shown to be effective for a sufficient period of time, but no less than 10 years, after mine closure. Sureties will not be released without sufficient notice to the communities and residents of the watershed; a 90-day comment period; and at least one public hearing in Dillingham, one public hearing in Naknek/King Salmon, and one public hearing in the community closest to the mine.

G. SETTLEMENT

Background

Some state lands within the planning area are designated Settlement (Se) or Settlement- Commercial (Sc).[4] Settlement areas are primarily found in the northern part of the planning area within Regions 5, 6, 7, 8, and 9. Fewer settlement areas occur on the Alaska Peninsula, due to that area's more remote location, limited accessibility, and suitable areas for settlement. The Settlement designation of a particular management unit is based on whether it has reasonable access by road, water, or air; includes topography that would be suitable for development; and poses minimal conflict with recreation, scenic values, important fish and wildlife resources, or resource development. A summary of the plan's settlement evaluation follows.

Region 5 – Dillingham Area. Past state land sales in the Dillingham area have shown a demand for more private land in proximity to this, the largest community in the Bristol Bay region. State lands in the area of Lake Nunavaugaluk (Snake Lake), along the road corridor leading north from Dillingham, and at Etolin Point remain in their prior Settlement classification with minor expansion to add some equally suitable land and to allow more flexibility in land disposal design. A large block of land in the lower Nushagak drainage just below the Iowithla River confluence is designated Settlement due to its suitable terrain and ease of access from Dillingham.

4 There is only one area within this area plan that is designated Settlement-Commercial. This designation is used where state land is to be used for a variety of purposes, including commercial, industrial, or residential development, and few areas exactly fit this need. Once state land is conveyed, out-of-state ownership local zoning, if applicable, controls its use. Use restrictions in state patent are rare.

Region 6 – Nushagak Drainage. Much of the land in the lower drainage is privately owned. There are some lands on the upper Nuyakuk River with suitable terrain and access to be designated Settlement. There are extensive state lands in the remainder of this region, but they are further removed from any population centers and have higher value for habitat, harvest, and recreation.

Region 7 – Upper Mulchatna and Chulitna. A former Settlement area at Half Cabin Lakes was maintained in the Mulchatna River drainage. A new block of Settlement land was designated in the Tutna Lake area because of its suitable terrain and the access provided via the lake and other waterbodies. In the Chulitna drainage, a block of state land around the Nikabuna Lakes is designated Settlement because of its suitable terrain and the access provided via the lakes and other waterbodies.

Region 8 – Newhalen River. A former block of Settlement land on the west side of the Newhalen River has been expanded into equally suitable adjacent lands. This land is close to the communities of Nondalton, Iliamna, and Newhalen and is along a proposed overland transportation corridor. Most of the lands are state-selected and cannot be used for Settlement until conveyed from the federal government. Three sections of land near Nondalton are state-owned lands suitable for Settlement.

Region 9 – Eastern Iliamna Lake. A former block of Settlement land around Chekok Lake has been expanded into suitable adjacent lands. A block of land along the Pile River is designated Settlement due to its suitable terrain and access. Both of these blocks are close to the community of Pedro Bay and are located along a proposed overland transportation corridor. Another former block of Settlement land around Kakhonak Lake has been expanded into equally suitable adjacent land.

Region 11 – Naknek River. An area of state-owned and state-selected land along King Salmon Creek is designated Settlement due to its gentle terrain and suitable access. This land is close to the communities of King Salmon and Naknek.

Region 12 – Egegik. A small block of land north of the mouth of the Egegik River is designated Settlement due to its suitable terrain and access. This land is close to the community of Egegik and can be utilized for community expansion. There is also a small block of land around the Jensen Airstrip, west of Becharof Lake, that is designated Settlement.

Region 14 – Ugashik Bay. A small block of land north of Ugashik Bay is designated Settlement due to its suitable terrain and access. This land is close to the community of Pilot Point.

Region 16 – Port Heiden. A block of land around Barbara Creek is designated Settlement. This land has suitable terrain, nearby access, and is located close to the community of Port Heiden.

Region 18 – Cape Seniavin/Port Moller. A small block of land formerly classified Settlement along the coast north of Port Moller will remain so designated. Another block of land around the north shore of Bear Lake is designated Settlement. Though remote from any existing community, this land has suitable terrain and good air access.

Region 19 – Herendeen Bay. A block of land at the head of Herendeen Bay has suitable terrain, marine access, and is designated Settlement.

Region 21 – Pavlof Bay, Salt Water Lagoon, and David River. A small parcel of land at the head of Pavlof Bay is designated Settlement. Though remote from any community, the terrain and access are suitable, and this area may be appropriate for a marine-related transportation facility. Other areas designated Settlement include a small tract near Salt Water Lagoon on the Bristol Bay coast and a fairly large area near the David River containing many lakes and streams.

Other Regions. Because of other values, such as habitat, harvest, and low suitability for settlement due to terrain and access issues, there are no other major blocks of state land designated for Settlement.

Goals

Private Land Ownership. DNR will provide suitable public land for transfer to private ownership for settlement purposes. Significant portions of the state land suitable for settlement have been or will be selected by the present or future boroughs within the planning area; however, some of the land suitable for settlement will remain in state ownership. With these remaining lands, DNR will attempt to satisfy two settlement categories in the planning area:

1. Seasonal residences for recreation (remote recreation). DNR will offer land suitable for seasonal recreation use. This land will be provided as demand warrants, subject to the availability of funding. This category of land disposal is intended to provide land, often in remote locations, for recreational needs. No public facilities or services are intended to be provided. Most of the areas designated Settlement are intended to provide residential uses of this type.

2. Year-round residences for community expansion (subdivisions). DNR will offer accessible land suitable to meet the needs of existing communities. This category serves people whose principal place of residence and work is or will be in the area of the disposal. It also includes land disposals of commercial and industrial land to accommodate the expansion needs of communities. This land will be provided as demand warrants, subject to the availability of funding.

Community, Social, and Aesthetic Values. In designing future disposals, DNR will maintain compatibility with the subsistence and traditional uses and aesthetic values important to residents and visitors to the region and minimize undesirable impacts on those values while considering the needs and demands of all state residents.

Fiscal Impacts. Land disposals should be sited and planned to minimize the costs of infrastructure and other services resulting from settlement. Disposals should be focused on areas of existing settlement, areas along the road system or areas that can be easily accessed by water or air transport, and/or areas where service requirements may be provided by local government or community organizations.

Coordination with Local Governments and Landowners. DNR will coordinate state land offering programs with similar programs of local governments, Native corporations, and other major landowners to best achieve common objectives.

Management Guidelines

A. Planning and Coordination

1. Competition. The state may compete with the private sector or local governments if necessary to satisfy demand, provide market choice, or moderate unreasonably high prices.

2. Local Plans. DNR will comply with provisions of local comprehensive plans and zoning ordinances regarding the location and density of land development.

3. Coordination with Local Governments and Native Corporations. Where DNR and either a municipality or Native corporation both have land, state land-offering programs should be coordinated with similar programs of local government or Native corporations to best achieve common objectives. To this end, DNR would consider developing a joint disposal plan for state and municipal or Native lands with any entity that is interested. This plan would consider the fiscal planning for road extension priorities and plans for levels of services in different areas. If a municipality has a comprehensive land use plan, that plan will provide direction for settlement areas.

4. Phasing. Settlement offerings may be phased over the life of this plan. The timing and extent of disposals will depend on anticipated demand, availability of funding, the rate of community expansion, and the particular land requirements of such expansion. Another factor may be whether the disposal will generate a demand for services that cannot be reasonably expected to be met by local government or community organizations. The pacing of land disposals shall also consider and seek to avoid direct, indirect, and cumulative effects on competition for subsistence, recreational, and commercial use of fish and game, including the guide and lodge industry, and shall avoid such effects where they appear likely to be significant.

5. Areas Designated General Use. The areas of state land designated General Use allow for settlement if this use is indicated as appropriate in a management unit's management intent statement. Most general use areas are inaccessible and remote and generally unsuitable for development because of adverse topography, drainage, and the presence of extensive areas of wetlands. Settlement during the planning period in areas designated General Use is considered generally inappropriate except in those areas that adjoin management units designated Settlement and/or are necessary to the development of a residential land disposal.

6. Areas Affected by Municipal Selections. Areas designated Settlement or Settlement- Commercial and selected by the Bristol Bay, Lake and Peninsula Borough, or Aleutians East Borough are considered appropriate for conveyance, subject to a separate and subsequent state Best Interest Finding. Such areas are likely to be conveyed out of state ownership and will be subject to local zoning requirements, if applicable, once conveyed.

B. Types of Settlement Land and Land Offerings. The nature of state land available for private ownership is influenced by both the characteristics of land designated for settlement and the type of land-sales program that makes it available. The Bristol Bay Area Plan designates certain lands for settlement and provides guidelines for land sales but does not develop or require a specific land-sales program.

1. Settlement Land. Various types of state lands are identified for settlement in order to accommodate a broad range of options for Alaskans to acquire land. In determining the location and extent of lands to be designated for settlement, the state must balance settlement needs with other resource values and land uses. Once an area has been identified for settlement, the size and location of the area may make it more suitable for a certain type of sales program, but that does not necessarily preclude other types of sales.

Two types of settlement areas are identified and designated in this plan:

a. Community Settlement Areas. These areas are relatively small, usually closer to communities or existing settlements, and are accessible from the road system or by water. They are generally suitable in meeting potential needs for community expansion, public facilities, or other purposes that do not require a large amount of acreage. Areas of this type are designated Settlement and concentrate in the vicinity of Dillingham.

b. Remote Settlement Areas. These settlement areas are farther away from communities and the road system, are accessed by water or air, and can be small or large in size. Generally, they are more challenging to access and develop than other types of management units and are most suitable for residential or recreational use. Areas of this type are designated Settlement and include R07-01 near Half Cabin Lakes, R07-02 near Tutna Lake, R07-03 around the Nikabuna Lakes, R07-04 along the Chulitna River, R09-05 near Chekok Lake, R09-06 along the Pile River, R09-07 in the vicinity of Meadow and Moose Lakes, R10-08 near Big Mountain, R12-03 around the Jensen airstrip southwest of Becharof Lake, R16-03 around Barbara Creek near Port Heiden, R18-03 around Bear Lake near Port Moller, R19-01 in Herendeen Bay, and R21-05 in the area of the David River.

2. Land Offerings. Specific types of state land offerings are established by the legislature and are subject to change. Since statehood, there have been many different land-sales programs, and it is possible that new programs will be developed in the future. Generally, land offerings can be categorized by the way that the parcels are established. Both types of land offerings should be made available as follows:

a. Presurveyed Parcels. In this type of land offering, the state identifies an area of suitable land, surveys and plats parcels, and then offers them for sale. These are also referred to as "subdivision" sales. They can include a large number of parcels or just a few, and the size of the parcels, sometimes called "lots," can vary. This type of land offering is usually more suitable for smaller Community Settlement Areas but may also occur in large Remote Settlement Areas where appropriate. The decision on which type of parcel to create, large or small, is to be made at the time of subdivision design and development.

b. Staked Parcels. In this type of land offering, eligible applicants are allowed to identify a parcel of land within a specified area by staking it, and the parcel is surveyed prior to actual sale. Staking is usually subject to certain restrictions such as parcel size limits and setbacks from sensitive areas in order to protect other resources within the staking area. Staking areas generally coincide with the areas designated Remote Community Areas.

C. Isolated Parcels of State Land. The state has acquired and will continue to acquire isolated parcels of land through foreclosure, escheat, and other methods. The following guidelines apply to management and possible disposal of these parcels. (See also the section *Applicability of Plan Designations/Classifications to State Lands not Identified in the Plan Text or Plan Maps* in Chapter 4.)

1. In or near Existing Communities. If the parcel is in or immediately adjacent to an existing community or past state land offering, the parcel can be offered for settlement unless it is appropriate as a site(s) for schools, material sites, roads, parks, or other public facilities.

2. Parcels near Other State Land. If the parcel adjoins or is surrounded by other state land and is under 500 acres, it should be managed according to the management intent and guidelines applicable to the adjacent lands. Parcels larger than 500 acres should be designated through a plan amendment with an opportunity for public participation.

3. Parcels Not near Other State Land. Parcels such as mining claims acquired by foreclosure in the middle of a federal conservation system unit may be considered for exchange or sale to the adjacent property owner.

D. Protection, Management, and Enhancement of Other Resources

1. Protect Life and Property. DNR will retain public lands and coordinate with local governments to discourage development in areas of flooding, unstable ground, or other hazards. Public lands within a 100-year floodplain should remain in public ownership. The 100-year floodplain area is that area designated 100-Year Floodplain in FEMA floodway/floodplain management mapping or the area designated as a 100-year floodplain in detailed hydrologic studies prepared by other government agencies or prepared by a hydrologist or other competent professional.

2. Protect and Manage Valuable Environmental Areas. In land disposals, the state will provide a publicly owned open-space system to preserve important fish and wildlife habitats and natural areas such as shorelands, freshwater wetlands, and riparian lands. These areas should be designed to provide the necessary linkage and continuity to protect or increase values for human uses and wildlife movements. In some places, large areas may be protected to provide adequate terrestrial habitat.

3. Priority of Public Uses in Stream Corridors. The stream corridor is defined as the area within the 100-year floodplain. Within stream corridors, DNR will set a higher priority on protecting public use values than on providing opportunities for private ownership of land.

In certain limited cases, it may be appropriate to provide land for private use, but such an action must be in the overall best interests of the state. Before lands are disposed of in stream corridors, DNR will assess existing and projected public use needs associated with the stream corridor in consultation with other affected agencies and the public.

4. Protect and Enhance Scenic Features. The state generally will retain in public ownership unique natural features such as cliffs, bluffs and waterfalls, and foreground open space for panoramic vistas. Public access to such amenities will be preserved. Such lands include islands in bays, unless land disposals can be designed to prevent negative effects on the scenic and recreational values of the area.

5. Mineral Closing Orders. Generally, state upland management units designated Settlement do not coincide with patterns of historical or potential mining activity in the planning area; however, Mineral Closing Orders are recommended for use at the time that an area is being considered for disposal for purposes of settlement or other forms of development that would be inconsistent with mining activity. The timing of the closure is at the discretion of the Department but should be early enough in the process to avoid the inadvertent staking of mining claims. The current Mineral Closing Orders affecting existing areas of settlement or proposed settlement will be retained. (See discussion on Mineral Closing Orders in the *Mineral Resources* section of this chapter for more detail.)

6. Timber Harvest. Timber harvests are considered appropriate in areas designated Settlement if intended to support the costs of subdivision development, provide access to the subdivision, or support ancillary facilities subject to the other requirements of the forestry standards in this chapter. Selective harvesting of timber before construction of the subdivision is considered appropriate if authorized by the regional manager, DMLW. Land conveyed out of state ownership for the purpose of settlement, or another form of active land use, shall not be used for commercial timber harvest and sale.

Subdivisions or disposals of state land by DNR shall preclude the sale of merchantable timber harvested on lots or parcels conveyed out of state ownership. The format used to impose this restriction is at the discretion of the regional manager, DMLW. This guideline is not intended to preclude the cutting of trees or other vegetation as part of the process of site development.

7. Protect and Enhance Recreational, Educational, and Cultural Opportunities. DNR should determine the need for and retain appropriate areas for outdoor recreation, hunting, fishing, trails, campsites, boat launches, cultural sites, and scientific study. Areas for both intensive and dispersed use will be preserved.

E. Design.

1. Provide State Land for Important Environmental and Resource Development Purposes. DNR, as a general policy, will retain appropriate greenbelts, public-use corridors, water supply areas, riparian and coastal buffer areas, material sites, and roads and other public facilities as well as other open space to create a desirable land use pattern in developing areas.

2. Cost of Public Services. In accordance with AS 38.04.010, DNR will focus year-round settlement to areas where services exist or can be provided with reasonable efficiency. State land that is located beyond the range of existing schools and other necessary public services or that is located where development of sources of employment is improbable will be sited and designed to encourage seasonal use with sufficient separation between residences so that public services will not be necessary or expected. Wildfire management costs that result from settlement will be considered and minimized to the extent feasible.

3. Ensure Access. DNR shall ensure that legal, practical public access (roads, trails, or other options most appropriate to the particular situation) is identified and reserved within land offerings; however, the state is not legally obligated to construct roads. The location of access points onto the road system should be coordinated with ADOT/PF. DNR will ensure actual physical access is available or can be developed (road, air, or water) to each new state land offering. Section line or other easements should not be relied on for access without field inspection of the practicality of such routes where topography or other conditions might make the practicability of the section line location suspect. Identified access routes should be described in the land-offering brochure. Where needed to reduce the likelihood of conflicts with existing private owners, DNR may brush or flag public access routes to land-offering projects.

4. Subdivision Design. Subdivisions will be designed to preserve and enhance the quality of the natural setting and the recreational opportunities that make an area attractive to potential buyers. State subdivision design will take account of site limitations and opportunities such as slope, drainage, soils, erosion, riparian zone and coastal buffer, and other features to ensure that sites offered are buildable and can be developed without the need for extensive public infrastructure. DNR should review any applicable subdivision requirements of local government prior to the initiation of subdivision design.

5. Easements. Easements will be used as one means to retain public use rights needed on privately owned lands. Easements generally will not be used to retain a public interest in lands within a subdivision. Instead, DNR will generally retain such lands in public ownership. Exceptions to this policy may be made where the interest protected is very limited, such as for local pedestrian access that is not part of an integrated neighborhood or community trail system.

F. Other Guidelines Affecting Settlement. Other guidelines will affect management prctices for Settlement. (See other sections of this chapter.

H. TRANSPORTATION

Background

Infrastructure. The Bristol Bay area is not accessible to the rest of the state by road. The area is heavily dependent on marine and air transportation, and this is likely to continue during the planning period. The existing road network is discontinuous and limited to the areas surrounding various communities. For example, there are small road networks at Dillingham, King Salmon-Naknek, Iliamna-Newhalen, Williamsport-Pile Bay, and Cold Bay. The Alaska Department of Transportation and Public Facilities has completed a Southwest Alaska Transportation Plan (November 2002), which defined a number of potential regional and community ground transportation improvements. These include

- Regional Transportation Corridors
  - Cook Inlet to Bristol Bay Transportation Corridor
  - Dillingham/Bristol Bay Transportation Corridor
  - Alaska Peninsula Transportation Corridor
- Community Transportation Projects
  - Chignik Road Intertie
  - King Cove-Cold Bay Connection
  - Newhalen River Bridge
  - Iliamna-Nondalton Road Intertie
  - Naknek-South Naknek Bridge and Intertie

In addition to the above projects this plan also recognizes three trans-peninsula transportation corridors (Figure 2.6) along routes that have potential to serve as road corridors or routes for oil and gas pipelines or other utilities. Such corridors could prove important should oil and gas development on the Alaska Peninsula prove successful. A fourth corridor is possible that would extend from the David River area to Pavlof Bay; this is the only locale on the Alaska Peninsula where state-owned uplands extend from one side of the peninsula to the other.

The transportation corridors depicted in the plan are primarily those currently identified by the state Department of Transportation and Public Facilities' Southwest Alaska Transportation Plan. Other transportation corridors are possible and may become necessary as need arises. This plan in no way intends to limit such corridors; it seeks to ensure that land disposals do not take place on or adjacent to the transportation corridors without consultation with the ADOT/PF.

Goals

Support Plan Designations. The transportation routes should integrate area-wide transportation needs through coordination with other state agencies and local governments.

Minimize Costs. The transportation system, where appropriate, should have the lowest possible long-range costs, including construction, operations, and maintenance. Avoid unnecessary duplication of transportation facilities.

Minimize Adverse Effects. The transportation system should have minimal adverse impacts on local residents, the environment, fish and wildlife resources, and aesthetic and cultural features.

Promote Efficiency. The transportation system should use land and energy resources efficiently and encourage compact, efficient development patterns.

Ensure Public Safety. The transportation system should have a high standard of public safety.

Management Guidelines

A. Access Plans for Land Offerings or Resource Development Projects. Before a land offering or the start of a resource development project, DNR will work with ADOT/PF to identify appropriate locations, if any are needed, for access and will also identify responsibilities for design, construction, and maintenance of any proposed transportation facilities. Access plans will be developed pursuant to state and federal transportation planning law, NEPA compliance, and in consultation with affected local governments, federal agencies, ANCSA corporations, and federally recognized tribal governments.

B. Joint Use and Consolidation of Surface Access. Joint use and consolidation of surface access routes and facilities will be encouraged wherever feasible and prudent. Surface access should also be sited and designed to accommodate future development and avoid unnecessary duplication. The feasibility of using an existing route or facility should be evaluated before the use of a new route or facility is authorized.

C. Protection of Hydrologic Systems. Transportation facilities will, to the extent feasible and prudent, be located to avoid significant effects on the quality or quantity of adjacent surface water resources and to avoid detracting from recreational use of the waterway. The following guidelines apply:

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1. Minimize Stream Crossings. Stream crossings should be minimized. Crossings in specified anadromous fish streams or construction of a structure crossing a stream listed in the Anadromous Waters Catalog will require permits from the ADF&G Office of Habitat Management and Permitting. Where streams are not listed in the Anadromous Waters Catalog, they shall be surveyed for the presence of anadromous fish. If anadromous fish are present, the ADF&G Office of Habitat and Permitting shall be notified prior to construction. Where stream crossings are planned, they should be located within a stable reach of the stream. All crossings should be located so that they intersect the stream channel at a right angle and be sited to avoid adverse grades on either approach to prevent runoff from entering the stream. Bridges are the preferred alternative to culverts and should be designed and constructed so that abutments, fill, or other materials are not located below the ordinary high water line (OHW) of the stream and do not constrict the floodplain of the stream.

2. Minimize Construction in Wetlands. Construction in wetlands, floodplain, and other poorly drained areas should be minimized and existing drainage patterns maintained. Culverts or bridges should be installed where necessary to enable free movement of fluids, mineral salts, and nutrients.

3. Rehabilitate Disturbed Stream Banks. Disturbed stream banks should be recontoured, restored, and revegetated, employing bioengineering techniques or other protective measures to prevent soil erosion into adjacent waters. All revegetation shall be done with plants indigenous to the area.

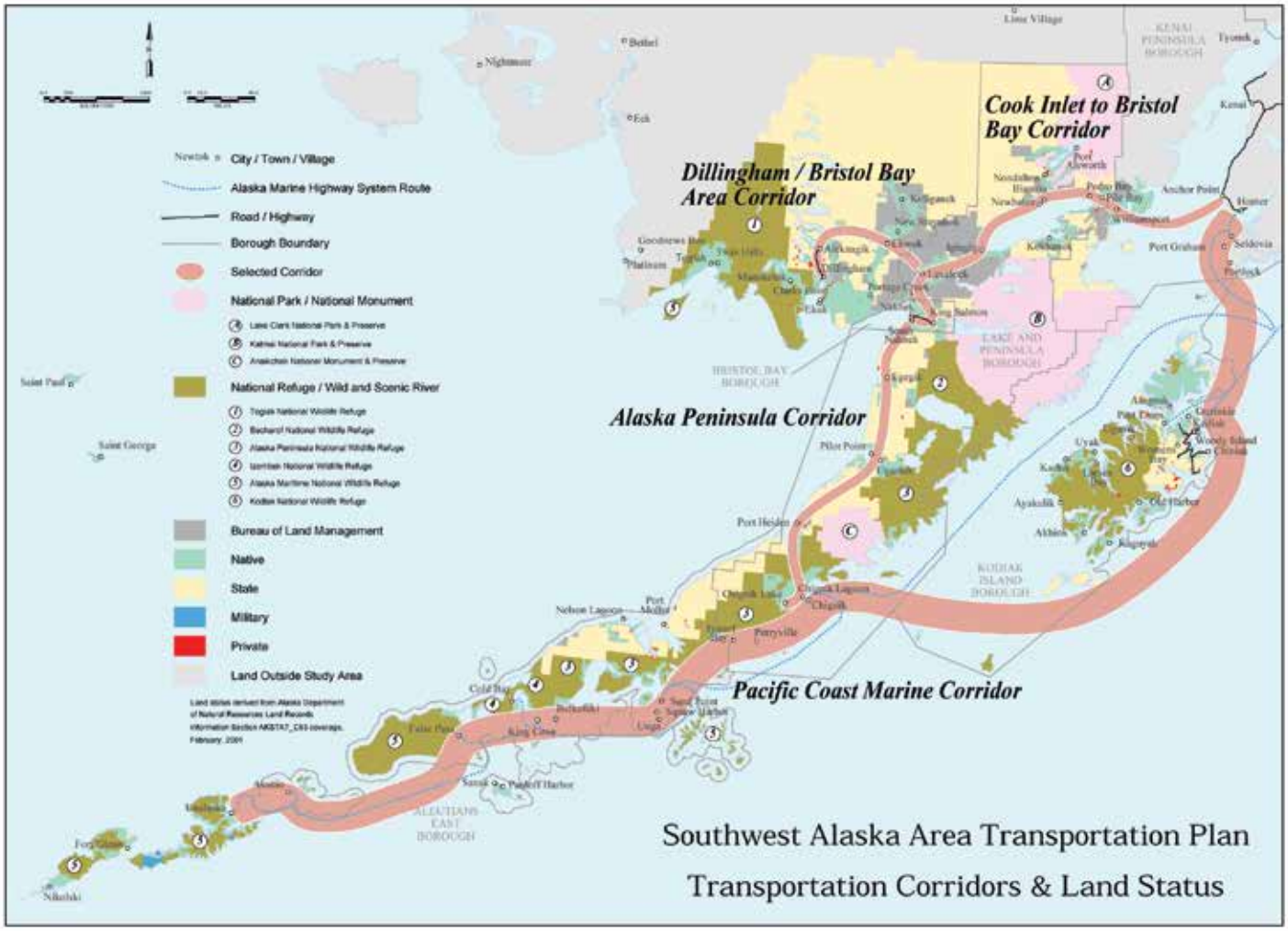

FIGURE 2.10: *Southwest Alaska Area Transportation Plan –Transportation Corridors & Land Status*

D. Rehabilitating Disturbed Stream Banks. Disturbed stream banks shall be restored and revegetated, employing bio-engineering techniques to adequately stabilize banks and prevent soil erosion into adjacent waters. All revegetation shall be done with plants indigenous to the area.

E. Winter Stream, Lake, and Wetland Crossings. During winter, snow ramps, snow bridges, or other methods should be used to provide access across frozen rivers, lakes, wetlands, and streams to avoid cutting, eroding, or degrading of banks. These facilities should be removed immediately after final use.

F. Protection of Fish and Wildlife Resources. Important fish and wildlife habitats such as riparian areas, anadromous waterbodies, wildlife movement corridors, important wintering or calving areas, and threatened or endangered species habitat or other important habitat areas shall be avoided in siting transportation routes. When important fish and wildlife habitat cannot be avoided the commissioner, after due notice and opportunity for public comment, may consider whether it is in the public interest to nevertheless allow the transportation route. The commissioner's decision shall be supported by an analysis of all reasonable alternatives. The cost of each alternative may be a factor for consideration, but cost shall not be the deciding factor where the least destructive alternative is not significantly more expensive than other alternatives. Location of routes and timing of construction shall be determined in consultation with ADF&G, and ADF&G shall be consulted for any projects that may affect anadromous or resident fish habitat.

G. Road Pullouts. Where road corridors intersect streams, habitat corridors, or other areas of expected recreational use and tourism, sufficient acreage should be retained in public ownership to accommodate public access, safety requirements, and expected recreational and tourism use. The size and location of pullouts should be determined in consultation with the Division of Parks and Outdoor Recreation, ADOT/PF, and ADF&G.

H. Timber Salvage from Rights-of-Way. All timber having high value for commercial or personal use should be salvaged on rights-of-way to be cleared for construction.

I. Roadless Areas. Some areas may be designated by the state or future local governments as roadless and managed to exclude construction of new roads to protect particular resources or forms of resource use. Settlement projects may be included in roadless areas. Roadless areas would be designated during transportation planning, the disposal project review process, or other interagency decision processes conducted with public participation.

J. Roads near Wetlands. To minimize impacts on riparian areas or wetlands, summer-use roads that do not use fill shall be located away from riparian zones and wetlands to discourage the formation of parallel trails and very wide river crossings. Riparian and wetland zones are defined in the Shorelines, Stream Corridors, and Coastal Areas section in this chapter. DNR may authorize trails or roads across wetlands if it is determined that the proposed activity will not cause significant adverse impacts to important fish and wildlife habitat, important ecological processes, or scenic vistas; a feasible and prudent alternative does not exist; and it is determined to be in the state's best interest.

K. Section Line Easements. See this guideline under the Public Access Easements, Neighborhood Trails, and Public Access section in this chapter.

L. Other Guidelines for Transportation. Other guidelines affect transportation. (See other sections of this chapter.)

I. COOPERATIVE LAND USE PLANNING, COORDINATION WITH ADJACENT OWNERS, AND PUBLIC NOTICE

Background

Throughout the latter 1970s, the state urged Congress to include in ANILCA provisions for cooperative land use planning between major landowners where land ownership was fractured between federal, state, and Native interests. For Governor Hammond and the state, this was particularly important for the Bristol Bay drainages, chiefly because of the importance of the Kvichak and Nushagak drainages to both the people of the region and to the economy of Alaska. The concern was that fragmented management could have significant negative impacts on the fish and game resources. This concern was specifically recognized by Congress, and cooperative land use planning was established in Section 1203 of ANILCA in 1980. Subsequently, the state withdrew from the Section 1203 process and adopted its own 1984 BBAP.

The Citizens' Alternative BBAP recognizes the need to encourage and facilitate cooperative land use planning, particularly in the Kvichak and Nushagak drainages.

Goals

Cooperative Land Use Planning and Coordination with Other Landowners. The Citizens' Alternative BBAP recognizes the need for cooperative land use planning under section 1203 especially in the Kvichak and Nushagak drainages. Cooperative land use planning should occur among the major land owners in the Kvichak and Nushagak drainages (State of Alaska, the U.S. Department of the Interior, municipal corporations, Native village corporations, Bristol Bay Native Corporation) and the federally recognized tribal governments, and should be a public process that seeks to coordinate measures to protect habitat across property boundaries, while respecting those boundaries.

Public Participation. Provide local governments, state and federal agencies, adjacent landowners, appropriate federally recognized tribes, and the general public with meaningful opportunities to participate in the process of making significant land use decisions.

The Citizens' Alternative BBAP recommends that state, federal and tribal officials:

(a) establish a process by which landowners, particularly Alaska Native Corporations, can petition the state and federal governments to establish Cooperative Management Units within the Nushagak and Kvichak drainages for the purpose of developing agreements to coordinate land management practices and prevent conflicting land uses that may lead to the diminishment or loss of common resources; and

(b) hold public meetings on potential state and federal legislation to protect habitat and public uses of fish and game in the Kvichak and Nushagak drainages, including how federal resources might assist in retiring mining claims that could no longer be pursued if recommendations made in the Citizens' Alternative Bristol Bay Area Plan are adopted.

Management Guidelines

A. Notice for Decisions Requiring Public Notice (Under AS 38.05.945). As required by statute, public notice will be given for decisions involving the sale, lease, or disposal of (or interests in) land, property, or resources. Actions not involving a disposal of interest will require public notice in accordance with Division of Mining, Land and Water (DMLW) procedures. Notice will be given to parties known or likely to be affected by an action proposed by the state or an applicant to the state, including adjacent, upland, and downstream property owners and including owners of adjoining state tidelands or submerged lands. Notice shall also be provided to all municipal governments, federally recognized tribal governments, ANCSA village, and regional corporations that have land or governing authority within the watershed in which the proposed action is situated.

B. Coordination with Other Agencies. If authorizations from other agencies are required, DNR will only issue a permit or lease contingent upon issuance of these other authorizations. The enforceable policies of the comprehensive plans and zoning map/ordinances of communities shall be reviewed by DNR prior to issuing permits, leases, or other forms of use authorizations.

C. Avoiding Conflicts with Adjacent Upland Owners. Before DNR issues a land use authorization on tidelands, submerged lands, or shorelands, DNR will require applicants to use areas that will reduce the likelihood of possible land use disagreements with upland owners. DNR will consider comments from private landowners and others before making a decision. DNR will retain the right to issue a land use authorization over the objection of adjacent landowners.

D. Other Guidelines Affecting Coordination or Public Notice. Several other guidelines may affect coordination or public notice. In particular special notice provisions apply to applications for temporary water use and other permits associated with mineral exploration and development activity. (See other sections of this chapter.)

III. OTHER ISSUES, RESOURCES, AND USES COVERED BY THIS PLAN

A. AQUATIC FARMING

Background

Currently, there are no aquatic farms within the planning area. However, experimentation is being conducted, and as market conditions, technology, and the economics of this industry change, aquatic farms can be expected in the planning area during the next 20 years. Management guidelines for their siting and operation follow.

Goal

Economic Opportunities and Community Development. Provide opportunities to increase income and diversify the state's economy through the use of state tidelands and submerged lands for aquatic farming.

General Conditions. Alaska statute provides that state tidelands and submerged lands may be used, under lease, for aquatic farming or related hatchery operations (AS 38.05.083). It also mandates regulations that (1) require the Department to establish application siting guidelines, (2) specify the criteria for the approval or denial of lease applications, (3) consider limiting the number of sites to be leased within an area in order to reduce cumulative impacts on the environment and natural resources, and (4) protect the public's right of access and use of navigable waters and the land beneath them for navigation, commerce, fishing, and other purposes.

DNR is required to provide siting guidelines for potential farmers during the application process. The siting guidelines include state regulatory agency requirements and federal laws that provide for the protection of fish and wildlife. Other guidelines are provided that assist in selecting sites that may enhance production or operations such as areas with good water circulation that provide for abundant food sources and adequate flushing to remove wastes generated from the species being cultured. The state regulatory agencies involved in authorizing farmsites include DNR, the Alaska Department of Fish and Game, and the Alaska Department of Environmental Conservation.

State and Federal Review Processes. Regulations at 11 AAC 63 require the Department to make a best-interest finding before issuing a lease. The proposed operation must be in the overall best interest of the state before an authorization may be issued. Factors that are to be considered in this decision are identified in 11 AAC 63.050 (b). These factors include the following: whether the proposed aquatic farm will conflict with other uses; whether it is compatible with land management policies in adopted federal, state, and local plans at the proposed location and nearby uplands; how public access, including the adjacent upland owner's right of reasonable access, and the public's rights under the Public Trust Doctrine will be protected; and whether the proposed aquatic farm will have any significant social, economic, and environmental effects. The preliminary best-interest finding is subject to a public and agency review under AS 38.05.945. This review includes localities/boroughs/communities, Native organizations, fish and game advisory committees, adjacent upland owners, and affected valid third-party interests.[5]

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5 If the Alaska Legislature re-enacts an Alaska Coastal Management Program (ACMP), then all aquatic farm proposals must be consistent with ACMP statewide standards and the enforceable policies of local coastal district plans, if applicable, in order to be authorized. Federal authorizations that have previously undergone a coastal consistency review may also be required in aquatic farming operations and include the U.S. Army Corps of Engineers' General Permit 91-7N for aquatic farm structures within navigable waters and Nationwide Permit (NWP 4), which pertains to fish and wildlife harvesting, enhancement, and attraction devices and activities. Aquatic farm proposals that do not meet the requirements of these permits must undergo a separate individual review and authorization process conducted by the U.S. Corps of Engineers. As stated previously, all aquatic farm requests must meet the requirements of 11 AAC 63.050 and the current joint-agency application guidelines provided by DNR.

State Authorizations for Aquatic Farms. Should the aquatic farm proposal be found to be in the state's best interest, an aquatic farm lease will be approved by the Department. The lease specifies operation, siting, environmental, and habitat criteria that must be satisfied during the lease term. An aquatic farm operation permit must also be acquired from the Alaska Department of Fish and Game (ADF&G) in order to ensure that the proposal is technically and operationally feasible, that the physical and biological suitability of the area can support the operation, and that habitat and public uses of fish and wildlife are protected (AS 16.40.105). ADF&G also requires a transport and acquisition permit in order to obtain and transport seed and/or broodstock between a hatchery and the farmsite and to be able to sell the product. In addition, the Alaska Department of Environmental Conservation (ADEC) requires that the water quality in the growing area meet both the state water quality standards and the requirements of the National Shellfish Sanitation Program, incorporated by reference in 18 AAC 34.200, to ensure the product is safe for human consumption. The product may only be sold from within areas classified by ADEC.

Management Guidelines

The combination of state and federal review and authorization requirements provides a comprehensive basis for the approval of proposed aquatic farm operations. Additional operational, siting, habitat, or environmental requirements in this plan are therefore generally unnecessary in order to effectively manage aquatic farming operations within the planning area. The subsequent management guidelines delineate standards for the approval of aquatic farm operations and the factors that are to be considered in the siting of these operations next to sensitive uses and resources and adjacent to federal or state land managed for its scenic, recreation, wildlife, or other natural values.

A. General Management Approach. Aquatic farming will be allowed on state tidelands or submerged lands unless there is significant conflict with other uses of the immediate area or it is inconsistent with the requirements of 11 AAC 63.050 or this management plan. The siting of aquatic farming facilities may be more difficult on tidelands designated for the following: log transfer or storage, mineral transfer or access, essential or important fish and wildlife habitat or harvest, anchorages, or developed recreation. In addition, siting of aquatic farm facilities may be more difficult on tidelands adjacent to proposed land sales or existing residential areas, legislatively designated areas such as state critical habitat areas or game refuges/sanctuaries, and federal conservation system units such as national parks, monuments, preserves, or wildlife refuges where the upland management objective is to retain a natural environment. Specific stipulations related to siting, operations, and maintenance may be imposed by the Department in addition to those otherwise required in order to achieve site and use compatibility.

B. Tidelands Adjacent to State Legislatively Designated Areas or Federal Conservation System Units. The Department will consider adjacent upland resource management goals and objectives when granting authorizations on tidelands and submerged lands adjacent to management units subject to state legislatively designated areas or federal conservation units. When an aquatic farm request is received, the Department will review applicable state or federal management plans for compatibility. Aquatic farming operations that are not compatible with the management intent for uplands set forth in these plans and that cannot be made compatible through mitigation measures will usually not be authorized. If, however, there is an overriding state interest, there is no feasible or prudent alternative site, and all the other conditions of the local, state, and federal permits or authorities are met, then an aquatic farming operation can be authorized.

Generally, aquatic farming operations involving the presence of caretaker facilities, structures used for storage or other operational needs, or the presence of personnel on a frequent basis are incompatible with management intent when such operations are adjacent to uplands where the management intent is to retain land in an undeveloped state. The Department will consult the appropriate upland agency when determining compatibility of aquatic farm activities in these areas.

C. Other Guidelines Affecting Aquatic Farming. Other guidelines will affect aquatic farming management practices. (See other sections of this chapter.)

B. FLOATING FACILITIES

Background

There are few permitted floating facilities within the planning area. This is unlike areas of Southeast Alaska or Prince William Sound in Southcentral Alaska, which have a wide variety of residential, industrial (largely forestry), administrative, or commercial floating facilities (primarily commercial lodges). Floating facilities tend to occur near communities or at sites that support the fishing industry of Bristol Bay and are intended to support the area's fishing industry. This type of use may grow during the planning period, and thus the inclusion of standards for this type of use is prudent.

Goals

Economic Development Opportunities. Provide opportunities to increase personal income; diversify the state's economy; accommodate residential uses in support of commercial and industrial developments, tourism, and upland resource extraction; and provide services for community needs.

Public Access. Public access shall be maintained along the coastline in any authorization for floating facilities issued by the Department.

Definitions

Floating Facilities[6]: This is a general phrase used to encompass the types of "occupied" floating residential facilities further described below. These facility types do not include commercial fishing vessels engaged in commercial fishing activities. Residential floating facilities require an authorization if moored or anchored within a bay or cove in one location for a period of 14 days or more. Moving the floating facility at least two miles starts a new 14-day period. Commercial floating facilities require authorization before occupying state tidelands and submerged lands.

Facility Types	Definition
Floathomes	Floathouses, houseboats, barges and boats, powered or not, that are intended for non-commercial residential use. A floathome is generally for single family use and not associated with economic development activities.
Floatlodge	A floating residential facility providing overnight accommodations for commercial recreation services to the public.
Floating Camp Floating Caretaker Facility	Single or multi-family floating residential facilities used as housing, or that are necessary to contain equipment or processing to support facilities for economic development activities such as commercial timber harvest, mineral exploration or aquatic farming operations, or associated with public activities.

Management Guidelines

A. Siting, Development, and Operational Standards: General. Floating facilities[7] will be sited, designed, and operated consistent with the following: (1) the requirements of the U.S. Corps of Engineers General Permit for floathomes (currently 89-4) and all successor general permits or with an individual Corps permit, (2) federal and state water quality standards, and (3) the management guidelines of this section. If necessary, DNR may impose additional stipulations to protect the environment or habitat, ensure use compatibility, or meet the objectives of this plan.

B. General Siting Criteria. Floathomes are not considered an appropriate use within the planning area unless authorized in an adopted local land use for specific locations. Other types of floating facilities may be authorized if it is determined that the permitting of a floating facility is in the best interest of the state and the use conforms to the management guidelines of this section. Floating facilities should not be authorized where the use is considered inappropriate in the management intent statement for a particular management unit or tideland resource management zone.

C. Siting: Floating Facilities Inside Municipalities. Within the corporate boundaries of municipalities, DNR will regulate floating facility siting consistent with local comprehensive plan or zoning.

6 Not included in this definition are numerous other types of unoccupied facilities and structures authorized by DNR on state tidelands, including but not limited to such things as floats, docks, floating docks, floating rafts used for gear storage, buoys, floating breakwaters, and barge ramps. Management guidelines for unoccupied floating structures are covered under Management Guideline L.

7 This management guideline also applies to unoccupied floating facilities.

D. Siting: Floathomes Adjacent to Residential Areas. Floating facilities should only be authorized adjacent to upland residential areas if these uses are allowed under a local land use plan. However, a short-term authorization, not to exceed two years, may be given on an individual basis to the upland owner if the floathome is to be occupied while the upland owner is constructing a residence on his/her uplands.

E. Siting: Floating Facilities within or near Sensitive Uses, Habitats, or Resources. To protect existing habitats, resources, and uses, floating facilities should not be authorized in areas (1) designated Habitat (Ha)[8] , Harvest (Hv), Settlement (S), or Public Recreation and Tourism- Dispersed (Rd); (2) that adjoin an upland subdivision (except for those floathomes that are currently permitted, or as authorized under Guideline D, above); (3) within important anchorages; (4) near an authorized aquatic farming operation (except for associated caretaker residences); or (5) near known cultural or historic sites or public use cabins. A floating facility may only be authorized in these areas if there is no other prudent and feasible alternative site, the facility will not impair the functions of the resources and uses identified above, and it is determined in the permitting process to be in the overall best interest of the state.

F. Siting: Floating Facilities Adjacent to State Game Refuges, Sanctuaries, Critical Habitat Areas, National Wildlife Refuges, or Aniakchak National Monument and Preserve. Floating facilities are not considered appropriate adjacent to state game refuges or sanctuaries, state critical habitat areas, National Wildlife Refuges, or the Aniakchak National Monument and Preserve. Certain commercial, governmental, or research facilities may be authorized if, at the discretion of DNR, the facility is determined to be of low impact, the facility is compatible with the backcountry or natural character of the adjoining uplands, other prudent and feasible alternative sites do not exist, and it is in the overall best interest of the state. Areas adjacent to a federal conservation unit are managed under a Tideland Resource Management Zone (TRMZ) for tidelands and submerged lands. See the discussion of TRMZs under the Management Summary, Tidelands section in Chapter 3 for a more complete description of management intent and allowed facilities and structures.

G. Area Occupied by Floating Facilities. All floating facilities, including attached floats and anchors, shall occupy the smallest area of tideland or submerged land practicable, consistent with the requirements of the proposed use.

H. Form of Authorization of Floating Structures. Floating facilities may be authorized through the use of a permit. Permits are currently issued for a five-year duration and may be renewed. Renewal may be authorized by DNR for another like duration if the floating structure meets the requirements of the initial permit and any other stipulations that DNR may impose to conform the use to the current standards or regulations. Commercial structures may also be allowed by, or be converted to, a lease when the use is of a permanent nature in the opinion of the Department.

I. Authorization of Temporary Floating Camps. Floating camps and related facilities should be temporary, with full occupancy restricted to the time when resource development is occurring. To the extent practicable, camps and associated facilities should be consolidated to minimize impacts and limit their proliferation. Temporary floating camps shall not be sited in sensitive habitat, resource, or use areas described more specifically in Management Guidelines E and F, and may not be sited in other areas unless they are for a designated use or support a designated use in the plan. Authorizations for floating camps should terminate when the upland use, which created the need for the floating camp, has ended or when the need for the floating facility ends. Authorization for this type of use should be by permit.

J. Public Notice. The adjacent upland owner(s) shall be notified by DNR during permit review of a proposed floating facility. This shall be in addition to the general public notice requirements of the Department.

K. Anchoring of Floating Facilities. In order to protect public access to and along public tidelands, shore ties that would conflict with public access should not be authorized if floating facilities can be safely moored through the use of anchors or rock bolts. In addition, shore ties above mean high water will not be used unless authorized by the upland owner.

L. Siting: Unoccupied Floating Structures. In order to protect certain uses and resources, unoccupied floating facilities, including but not limited to floats, docks, floating docks, rafts used for gear storage, floating breakwaters, buoys, and barge ramps, should not be authorized within anchorages, areas designated Public Recreation and Tourism-Public Use Site, or near public use cabins. Unoccupied floating facilities may be authorized in these areas by DNR if it is determined that the permitting of such facilities is in the best interest of the state and the use conforms to the applicable management guidelines of this section.

8 Where it would be inconsistent with the resources that are to be managed for a particular parcel as given in the Resource Allocation Tables in Chapter 3.

M. Other Guidelines Affecting Floating Facilities. Other guidelines will affect floating facilities. (See other sections of this chapter.)

C. FORESTRY

Background

Most of the area within the Bristol Bay plan boundary has little timber value. There are areas of timber on state lands along the Nushagak and Wood Rivers, within Wood-Tikchik State Park, and on the eastern side of Lake Iliamna. Since Wood-Tikchik State Park is a legislatively designated area, timber harvest is precluded. Other isolated areas of timber exist but, due to remoteness of these areas and distance to any market, there are no planned timber sales in the planning area. The Division of Forestry (DOF) is responsible for the implementation of the Forest Practices Act on any harvest on private lands, including Native corporations. Very little commercial harvest has occurred in the area, and little is expected in the future.

Goals

Personal Use Timber. Provide timber to meet the needs of Alaskans. This program will be limited in scope and provided on a demand basis when the operational costs of administering this program are satisfactory.

Wildland Fire Suppression. DOF shall continue to provide wildland fire suppression within the planning area consistent with the requirements of the Alaska Interagency Fire Management Plan.

Management Guidelines

A systematic program of scheduled timber harvests is not appropriate within the planning area at the present time; however, a few sales may be possible on an opportunistic basis. Should this occur, they are likely to be small, isolated sales associated with the development of a subdivision, the disposal of state land, or some other form of intensive land use. Harvest for personal use or salvage from disease or other destructive agents is likely at some time during the planning period. Timber management activities are subject to the following management guidelines in addition to the requirements of the state Forest Practices Act and any Forest Land Use Plan (FLUP) for a specific area.

The central focus of the state forestry program within the planning area is fire management. A management guideline is included that describes the broad aspects of this program. The implementation of the state fire management program is identified and controlled in detail by the Alaska Interagency Fire Management Plan.

A. Timber Harvest Guidelines

1. All timber harvest activities must be compatible with the management guidelines of this section and with the management intent statements and land use designations identified in specific management units of this plan found in Chapter 3. Most of the management units of state land that are not designated Habitat are designated General Use, Public Recreation and Tourism-Dispersed, or Settlement. The management guidelines for the management units with the latter designations do not preclude forest harvest. Forest harvest may be an appropriate use, consistent with the management intent and management guidelines of specific management units. Forest harvest operations conducted on a management unit of state land intended for subdivision development by DNR can precede actual construction. However, these operations must be consistent with the subdivision plan for the management unit. Consultation with DMLW is required before commencing operations.

2. All timber harvest operations will be conducted in accordance with the stipulations in the Forest Land Use Plan, the Alaska Forest Resources and Practices Act (AS 41.17 and 11 AAC 95), the Alaska Land Act (AS 38.05 and 11 AAC 71), and other pertinent state guidelines and laws. The Forest Practices Act provides statewide guidance and policy for managing forestry related activities. The specific layout and other site-specific requirements of a timber sale are addressed through a FLUP, which is prepared prior to any commercial timber harvest or sale (AS 38.05.112).

FLUPs developed for timber sale or harvest in the planning area are to be consistent with the Forestry Management Guidelines of this chapter and the Management Guidelines specified for particular management units in Chapter 3. FLUPs shall consider sensitive resources, wildlife, or any other significant factors identified in the Management Guidelines for a management unit.

3. Land conveyed out of state ownership for the purpose of settlement, or another form of active land use, shall not be used for commercial timber harvest and sale. Such disposals of state land by DNR shall preclude the sale of merchantable timber harvested on lots or management units conveyed out of state ownership. The format used to impose this restriction is at the discretion of the regional manager, Southcentral Office. This guideline is not intended to preclude the cutting of trees or other vegetation as part of the process of land clearing or site development.

B. Log Transfer Facilities and Sort Yards. Sort yards and log transfer facilities (LTF) will be constructed, sited, operated, and monitored in order to minimize the impact on state land and resources. The design, development, and use of these facilities shall be consistent with the *Log Transfer Facility Siting, Construction, Operation, and Monitoring/Reporting Guidelines* (October 1985) or successors to these standards that may be approved by DNR and ADF&G.

C. Beach Log Salvage. A license for beach log salvage is required from the Department before salvage commences. Beach log salvage administered under the provisions of AS 45.50 and 11 AAC 71 shall be consistent with standards developed by the DOF and GC-10 (General Permit) of the ACMP.

D. Timber Salvage from Rights-of-Way. Timber with commercial or personal use value should be salvaged from lands that are to be cleared for other uses such as roads, transmission lines, material sites, mining, and habitat enhancement projects (AS 41.17.083). The regional manager of the Southcentral Region of DMLW shall determine the amount and kind of material that is to be salvaged.

E. Personal Use Wood Harvest. When forested lands are available near communities and where personal use harvest is consistent with other purposes for which the land is being managed, DOF may consider providing wood products for personal use. This program will only be undertaken, however, if it can be effectively and efficiently administered by DOF. Only limited use of this program is expected given the relatively low demand for personal use wood, the absence of a good supply, the high administrative costs of a small personal use wood supply program, and the difficulty of managing such a program from a distance.

F. Sustained Yield of Forest Resources. Forestland will be managed to guarantee perpetual supplies of renewable resources to serve the needs of all Alaskans for the many products, benefits, and services obtained from them. The annual allowable harvest will be calculated using the area control method.

G. Salvage of Damaged Trees. Trees damaged due to wind throw, insect, or disease conditions may be salvaged on all land use designations unless management intent statements for specific management units in Chapter 3 specifically prohibit salvage harvest. A FLUP, if required, will provide the rationale for conducting the salvage harvest and describe how the action will not conflict with the management intent for each management unit.

H. Fire Disturbance. The intent of fire management is to identify where wildland fire can be allowed or management-ignited fires can be used to reduce costs of fire suppression, reduce the risk of damaging fires, and maintain the natural diversity and productivity of forest stands. Fire suppression will be a priority near residential areas or other forms of active land use, high value recreation use areas, and areas with infrastructure development. Consistent with AS 41.15.010 and AS 41.15.020, DOF will protect forest resources from destructive agents commensurate with the values needing protection. However, where feasible, wildland fires will be allowed to burn and suppression will be limited to decrease the long-term risk of damaging fires and to maintain the natural diversity of forest stands, stand ages, and habitat types. Where allowing wildland fire is not feasible, timber harvest, management-ignited fires, and habitat enhancement techniques will be used to disturb the forest and maintain a natural range of forest types and stand ages. Specific fire suppression levels are identified in the Alaska Interagency Fire Management Plan.

I. Other Guidelines Affecting Forestry. Other guidelines will affect management practices for timber development support facilities and forestry. (See other sections of this chapter.)

D. HERITAGE RESOURCES

Background

This diverse and culturally complex area is known, archaeologically, as an area of Pacific Eskimo co-traditions. In late prehistoric times, the population of this extensive region fell into two major linguistic divisions: Aleutian and Eskimoan, with the dividing line between them falling on the Alaska Peninsula, near 159 degrees west longitude. Both groups shared many traits as they were derived from a common Eskaleutian language. Cultural influences from the Bering Sea coast can be seen on the peninsula in paleoarctic sites at Ugashik Lake and at the mouth of the Kvichak River on Bristol Bay. The Northern Archaic tradition appeared in the area about 5000 BP (before present), with sites at Kvichak River and in Katmai National Park.

By 7,000 years ago, maritime hunters were living on the Alaska Peninsula and probably throughout the Pacific area. This culture is referred to as the Takli Alder phase (of Ocean Bay tradition) on the Pacific Coast of the peninsula. At the base of the Alaska Peninsula, the 4,500-year-old Pedro Bay site shows variations from the Ocean Bay II tradition as does the Brooks River Strand phase on the Bering Sea slope of the peninsula. At the Brooks River site, the arrival of Arctic Small Tool people from the Bristol Bay region is evident by 3800 BP and lasted until 3100 BP.

The next wave of influence from the north shows up around 2300 BP in the Norton culture, which was resident until 1000 BP and marked a shift to an economy based on coastal resources. Norton appears to have shared this marine orientation with the developing Kachemak or Kodiak tradition on the Pacific Coast. They shared many characteristics, but Norton doesn't seem to have ever firmly established itself on Kodiak or the Pacific Coast.

The last centuries of the first millennium AD were ones of fusion of ideas and cultures of the Bering Sea and Pacific traditions. This period is seen as the time of the development of the historically known Yup'ik Eskimo. The triggering event for this growth was the fluorescence of the Thule Eskimo culture to the north and its rapid spread to the east and the south from its origins around the northern Bering Strait. By around AD 1100, the ancestors of the historically known Pacific Eskimo may have been present on the Alaska Peninsula.

A long series of events and the ongoing operation of cultural processes tending to obliterate cultural differences were involved in the formation of the Yup'ik Eskimo culture. The Norton influences and possible migrations of the late first millennium of the Christian era, the subsequent Thule influences transformation on the Alaska Peninsula at the beginning of the second millennium, or the ongoing local development cannot explain fully the later prehistoric and ethnographic cultures of the region. Ethnographically and archeologically, there also is an impressive body of material and nonmaterial culture with a distinctive North Pacific cast variously shared by the Yup'ik Eskimo, Aleut, Eyak, and other Northwest Coast peoples.

By AD 1500, in Cook Inlet and on the upper Alaska Peninsula, Dena'ina Athabascans were expanding from the east, establishing themselves as far south as Lake Iliamna and Lake Clark. In Prince William Sound and on the western coast of the Gulf of Alaska, Kachemak influences were little impacted despite expanding contact with the Athabascans. By European contact times, their descendants, the Chugach Eskimo, inhabited the area and were expanding their territory.

On the Aleutian Islands, the Aleutian Tradition of maritime hunters developed and remained strong until the invading Russians disrupted that area. It is possible that the Aleuts ventured as far east and north as the lower Alaska Peninsula to Aniakchak.

Although the prehistory archeological database for the planning area remains limited and sketchy, evidence indicates a record of the first entries of humans into North America in the post-Pleistocene era, approximately 11,500 years ago. Sites vary in age from around 7000 BP to the age of first European contact – AD 1750. Archeological sites associated with the historic past also abound. The earliest are those associated with the Russian colonization of Alaska. The gold rush era also created a large number of sites. The state Office of History and Archeology lists approximately 1,207 sites within the boundaries of the Bristol Bay Area Plan, and more sites are being discovered every year. The National Register of Historic Places lists approximately two dozen sites in the planning area.

Goals

The Alaska Historic Preservation Act establishes the state's basic goal: to preserve, protect, and interpret the historic, prehistoric, and archaeological resources of Alaska so that the scientific, historic, and cultural heritage embodied in these resources may pass undiminished to future generations.

The state will provide appropriate protection of historic and cultural resources. Establishing adequate inventory programs and project planning processes that give consideration to heritage resources early in the development process is a high priority.

Management Guidelines

A. Heritage Resources Identification. Identify and determine the significance of all heritage resources on state land through the following actions:

1. cooperative efforts for planned surveys and inventories between state, federal, and local or Native groups

2. heritage resource surveys conducted by the Department of Natural Resources personnel

3. research about heritage resources on state land by qualified individuals and organizations. Federally recognized tribal governments and the appropriate regional Native corporation are qualified organizations, and the Department of Natural Resources will notify the appropriate organizations of pending research.

B. Heritage Resources Protection**.** Protect significant heritage resources through the following actions:

1. review of construction projects or land uses for potential conflict with heritage resources

2. cooperation with concerned government agencies, federally recognized tribal governments, Native corporations, statewide or local groups, and individuals to develop guidelines and recommendations on how to avoid or mitigate identified or potential conflict

C. Cultural Surveys Prior to Land Offerings. Cultural surveys or inventories shall be conducted prior to the design of land offerings in areas the state Office of History and Archaeology determines have high potential to contain important heritage sites and for which information is inadequate to identify and protect these sites. The Office will consult with the appropriate regional Native corporation and federally recognized tribal governments on cultural surveys and inventories.

D. Heritage Resources and Municipal Conveyances. The Office of History and Archaeology will review plans for land conveyance and notify the Division of Mining, Land and Water if there are known sites in the area being considered for conveyance. The Office will consult with the appropriate regional Native corporation and federally recognized tribal governments. DNR will consider retaining heritage sites in state ownership, especially if they are on the National Register of Historic Places.

E. Heritage Resources in Timber Management Areas. The Division of Parks and Outdoor Recreation Office of History and Archaeology (OHA) will review proposals for timber management activities through the interagency review processes for the Five-Year Schedule of Timber Sales and Forest Land Use Plans for individual sales. Areas of reported significant historic, archaeological, or paleontological sites should not be disturbed. Timber operations shall not occur within 300 feet from the boundaries of known sites unless the OHA determines, in consultation with the Division of Forestry and the appropriate regional Native corporation and federally recognized tribal governments, that certain activities can occur without significantly impacting the heritage resource. The OHA shall assess the extent and significance of the heritage resource and work with the Division of Forestry to develop site-specific mitigation measures to protect the heritage sites while allowing timber management.

F. Heritage Resources Adjacent to Recreation Facilities. Recreation facilities that might subject heritage sites to vandalism because of increased public use shall not be placed adjacent to the heritage sites.

G. Heritage sites shall be reported when found. The Alaska Heritage Resources Survey (AHRS) is an inventory of all reported historic and prehistoric sites within the state of Alaska and is maintained by the Office of History and Archaeology (OHA). The AHRS is used to protect heritage resource sites from unwanted destruction. Knowledge of possible heritage remains prior to construction can aid in avoidance of project delays and can prevent unnecessary destruction of heritage sites. While more than 22,000 sites have been reported within Alaska, this is probably only a very small percentage of the sites that may actually exist but are as yet unreported. The AHRS is not complete or static, so heritage sites, when found, shall be reported to the OHA.

E. MATERIALS RESOURCES

Background

The planning area has an abundance of sand, gravel, and quarry materials to meet the needs of construction. Of course, these resources are not always ideally suited or ideally located for a given project. Nonetheless, most needs can be met with local materials.

Goal

Land for State-Owned Material Sites. Maintain material sites in state ownership and make available to public and private users. Assure that material sites are sufficient and suitably located to meet long-term economic needs of the area for materials resources, without competing with private material sales.

Management Guidelines

A. Preferred Material Sites. When responding to a request for a material sale or identifying a source for materials, the highest priority should be given to using existing upland material sources. Using materials from wetlands, lakes, tidelands, and active or inactive floodplain rivers or streams should be avoided unless no feasible public upland alternative exists. As a general policy, sales or permits for gravel extraction will not be permitted in known fish spawning areas. Material sites shall be maintained in public ownership.

B. Maintaining Other Uses and Resources When Siting and Operating Material Sites. Before materials are extracted, the manager will ensure that the requirements of the permit or lease adequately protect other important resources and uses. The disposal of materials should be consistent with the applicable management intent statement and management guidelines of the plan.

C. Land Sales in Areas of High Material Potential. Generally, if a settlement area contains sand and gravel deposits; rock sources; or other similar, high-value material resources, a pit area should be identified during subdivision design and retained in state ownership for future use.

D. Screening and Rehabilitation. Material sites should be screened from roads, residential areas, recreational areas, and other areas of significant human use. Sufficient land should be allocated to the material site to allow for such screening. Rehabilitation of the site shall follow the requirements of AS 27.19.020 and 11 AAC 97.250.

E. Coordination with Local Governmental Bodies. Prior to granting authorization for materials sales, the DNR should coordinate with the appropriate borough, city and/or federally recognized tribal government to ensure consistency with applicable zoning requirements or community comprehensive plans.

F. Other Guidelines Affecting Materials. Other guidelines will affect the use of material resources. (See other sections of this chapter.)

F. PUBLIC ACCESS EASEMENTS, NEIGHBORHOOD TRAILS, AND PUBLIC ACCESS

Goals

Trails. Maintain, enhance, or provide adequate access within areas of development and between areas of current or future development.

Public Access. Maintain, enhance, or provide adequate access to public and private lands and resources. Provide for future trail and access needs. Protect or establish trail corridors to ensure continued public access.

Management Guidelines: Public Access – General

Before selling, leasing, or otherwise disposing of land, DNR will reserve public use easements pursuant to the requirements of 11 AAC 51.015. This section of administrative code establishes when public access easements are to be reserved and the widths of these easements. Specific standards for section-line easements are identified in 11 AAC 51.025 and for easements along navigable and public waters in 11 AAC 51.045. These sections of administrative code shall be used as the basis for the reservation of public access easements in authorizations granted by DNR.

Management Guidelines: Access Corridors

A. General. The following guidelines pertain to the access corridors[9] provided by trails within developed or developing areas, trails between these areas, and trails of regional or statewide significance. This is a more specific application of the general public use easement. Access corridors provide movement areas for people and wildlife. They include the area of movement and, as appropriate, a buffer area adjacent to the corridor sufficient to provide separation from other uses. The width and siting of trail corridors depend upon their function and location. Easements are used to create an access corridor similar to the more general public use easements described previously.

B. Requirement for Access Corridors. The Department shall assess the need for public access before selling, leasing, or otherwise disposing of the land estate. If local access needs are identified through the adjudication and agency or public review process, access corridors shall be reserved. This will occur through the retention of state land in public ownership or through the creation of a public use easement. Under either approach, the public is to have the right of access within the area of state land or the public use easement.

C. Ownership Considerations. The following factors shall be considered by DNR in making the decision to retain the access corridor under state ownership or to provide for public access through a public use easement:

1. If the access (usually a trail within a developed or developing area) is used as a neighborhood collector trail that connects to a public open space system or a trail of regional significance, access should be retained in public ownership.

2. If a trail is used as access by neighborhood residents, it should be dedicated to local government or established as an easement to an entity willing to accept maintenance and management responsibility. This would typically occur when the purpose is to establish access between lots or to improve pedestrian circulation within a subdivision.

3. If the access provides a connection to other areas and is considered of regional or statewide significance, it should be retained in public ownership.

D. Width of Trail Corridors. The width of the access corridor[10] shall be determined according to its function and location:

1. Within developed or developing areas, access corridors shall not be less than 20 feet in width for pedestrian movement and not less than 40 feet if motorized movement (other than car or truck) can be expected in addition to pedestrian travel. In areas where topographic or other conditions restrict development, reduced widths may be considered if public safety and the movement function provided by the trail are adequately maintained.[11]

2. In all other areas, the width shall vary with terrain, function, and the need for separation from other uses, but shall not be less than 50 feet.

3. Trails or other access facilities of statewide or regional significance shall not be less than 100 feet in width.

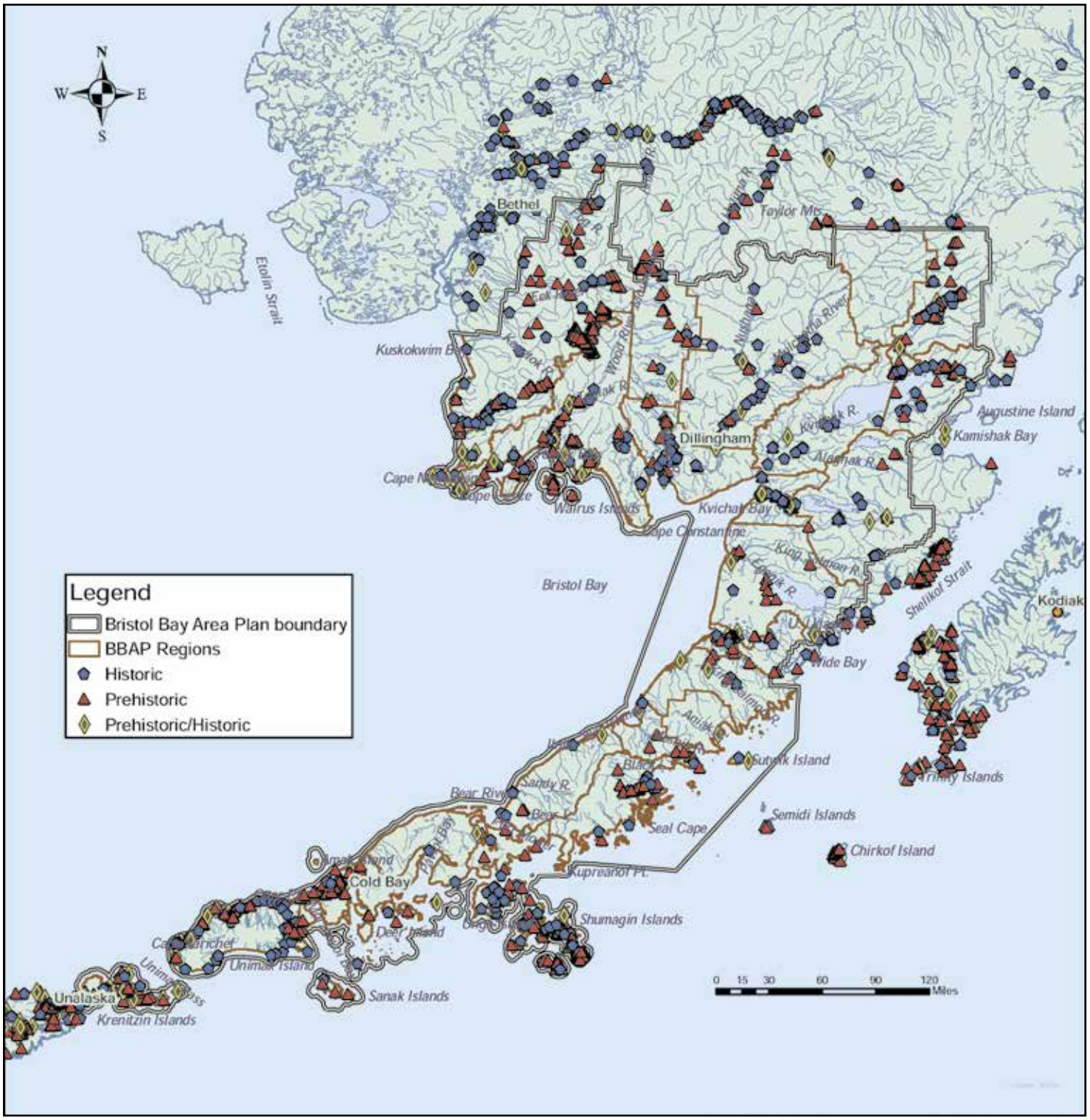
E. Buffers. The widths of an access easement may be increased to include an area for a buffer. This area is in addition to the minimum access widths described above in item D. Buffers may be necessary to minimize land use and ownership conflicts, to allow the future siting of public facilities, allow flexibility in routing, provide an adequate area for wildlife movement, or to adapt a trail to specific public uses or aesthetic or environmental concerns. Where buffers are authorized, they will be maintained in their natural condition unless enhancement is required because of existing site degradation. If the buffer is to function as a wildlife movement corridor, then DNR shall consult with ADF&G in the design of the buffer.

The width of the buffer will depend on the function of the access corridor and consideration of the above factors. However, there shall be a minimum of an additional 15 feet on either side of the access corridor when DNR requires buffers.

9 Access corridors differ from public use easements in that such corridors apply to the trail but may also include a buffer area. Access corridors can be created by the imposition of a public use easement for the trail or through the creation of a buffer, which is usually an area of transition space between different and often conflicting uses. Where it is an easement, a single public use easement is created; it would include both the trail and the buffer area adjacent to the trail. Where a buffer is used, a separate easement would be formed for the area of the buffer, reflecting the distinct use of a buffer in addition to the public use easement for the purpose of movement.

10 An access corridor includes the tread of the trail and an area immediately adjacent to the tread.

11 Note: These standards apply to motorized uses other than cars or trucks, or similar sizes and types of vehicles. If a public use easement is to be established for use by cars or trucks, then the standards of 11 AAC 51.015 apply and the width of this easement is not less than 60 feet.



Credit appears here if needed

FIGURE 2.11: *Known Heritage Sites*

F. Trail Rerouting. Standards for the vacation and modification of trails are identified in 11 AAC 51.065. Rerouting of trails may be permitted to minimize land use conflicts, reduce duplication in trail routings, or minimize habitat destruction. If trails are rerouted, provision should be made for construction of new trail segments if warranted by type and intensity of use. Rerouting trails shall be done in consultation with affected private users and public agencies. Rerouted trails should allow the same uses and activities as the original trail.

G. Alignment with Crossings. When it is necessary for power lines, pipelines, or roads to cross trail buffers, crossings should be at a 90-degree angle to the buffer. Vegetative screening should be preserved at trail crossings.

H. Access to Trailheads. Coastal access across state tidelands to designated trail corridors that begin at the shoreline will be protected.

Management Guidelines: Public Access

A. Retain access: General. Improve or maintain public access to areas with significant public resource values by retaining access sites and corridors in public ownership; reserving rights of access when state land is sold or leased; or identifying, managing, and legally validating RS 2477 (Revised Statute Section 2477) rights-of-way. Standards for the vacation of easements are contained in 11 AAC 51.065. Information regarding RS 2477 rights-of-way easements can be found at the DNR website http://www.dnr.state.ak.us/mlw/trails/index.htm and is available in DNR's Bristol Bay Easement Atlas.

B. Retain Access: Road Corridors. Retain state land situated within proposed road corridors, as identified in Region maps 0-1 through 0-4. The Alaska Department of Transportation has identified a variety of road routes necessary to support community expansion, access between communities, and industrial/ mineral development[12]16 . These routes are identified on Region maps 0-1 through 0-4. DNR should avoid disposing of state land situated within these corridors. Prior to undertaking disposals or authorizations that would create permanent and substantial uses, DNR shall consult with ADOT/PF on route placement. Disposals or authorizations within these road corridors are only appropriate if it is determined that a proposed use would not be situated within a road corridor, ADOT/PF determines that the proposed use would not be inconsistent with the intended road, or ADOT/PF determines it is unlikely that the final road route would encompass the proposed use. (See also the Resource Allocation Tables in Chapter 3 for specific management intent for management units containing portions of a proposed road corridor.)

C. Access to Non-State Lands. Reasonable access will be provided across state lands to other public and private lands. Existing legal access will not be precluded unless equivalent access is available.

D. Management of ANCSA 17(b)2 Easements. The state will identify and assert 17(b) easements in order to provide access to federal and state land. Generally, DNR will not accept management of 17(b) easements unless the state already actively manages a portion of the trail or easement or state management will best protect public access to state lands. Information regarding ANCSA 17(b) easements can be found at the DNR website http://www.dnr.state.ak.us/mlw/trails/index.htm and is available in DNR's Bristol Bay Easement Atlas.

E. Access for Development. When an access route is constructed for resource development over state land, public access to mineralized areas, recreation, fish, wildlife, or other public resources should be retained. If the new resource facility is likely to be of limited duration and provides superior access to the current means of access, the state should retain the new facility for public access. If the new facility will not or should not provide public access, the current means of public access should be retained.

F. Limiting Access. Access to state lands may be curtailed at certain times to protect public safety, provide for the remediation of public use areas, allow special uses, and prevent harm to the environment, fish, and wildlife. Public access may be limited because of the presence of fire management operations, timber harvest, high soil moisture content when vehicular traffic may cause damage to the base or sub-base, and sensitive populations of fish or wildlife.

G. Siting and Constructing Temporary and Permanent Roads or Causeways. Temporary and permanent roads or causeways will, to the extent feasible and prudent, be routed to avoid streams and vegetated tidal flats, minimize alteration of natural drainage patterns, and avoid long-term adverse effects on water quantity or water quality. If a temporary road is routed through vegetated tidelands, clean fill will be required, along with construction methods that facilitate removal of the fill.

12 Southwest Alaska Transportation, Alaska Dept. of Transportation and Public Facilities, 2002. These routes include the following: Williamsport to Pile Bay Road, Alaska Peninsula Road Corridor, King Cove to Cold Bay, Ekuk to Clarks Point Road, and Iliamna to Nondalton Road. These routes adjoin a combination of private, state, Native, and federal lands.

H. Joint Use and Consolidation of Surface Access. Joint use and consolidation of surface access routes and facilities should be encouraged wherever it is feasible and prudent to do so[13] . Furthermore, surface access should be sited and designed to accommodate future development and avoid unnecessary duplication.

I. Anchorages. Activities within anchorages[14] are allowed if they will not significantly diminish the public's continued ability to use the anchorage. This policy is to be interpreted conservatively, particularly if the anchorage has been historically used (or can be expected to be used) as a safe harbor for vessels from storms. Aquatic farms and floating facilities should not be sited in anchorages necessary to and used for the anchoring of vessels and are not to be authorized if the anchorage has been historically used as a safe harbor. The effect upon anchorage capacity should be considered when adjudicating authorizations for uses and facilities, to ascertain that continued public use of the anchorage can occur.

J. Other Guidelines Affecting Public or Trail Management. A number of other guidelines may affect public and trail access management. (See other sections of this chapter.)

13 Note: There are instances where access routes should not be consolidated; their purposes may be at odds with one another or one consolidated route cannot effectively provide access to resources required by the public.

14 The Bristol Bay Area Plan does not identify anchorages on its plan maps. There are many potential anchorages, but these are not identified in official sources. Therefore, in adjudication decisions affecting tidelands, whether the tideland area is used as an anchorage must be established.

Chapter 3
POLICIES FOR PLANNING REGIONS AND MANAGEMENT UNITS





Robert Ketchum

Contents of Chapter 3

INTRODUCTION

This chapter presents specific land management policies for all state uplands, tidelands, submerged lands, and shorelands within the planning area. Information on these state lands is organized by region. There are 20 Regions, and the numbering system from the 1984 Bristol Bay Area Plan has been retained for the convenience of the users. These 20 Regions include a total of 221 upland management units, 45 tideland management units, and seven tideland resource management zones. Within the planning area, there are approximately 12 million acres of uplands and 7 million acres of tidelands and submerged lands. The management requirements of this Area Plan do not apply to non-state lands, which include University of Alaska lands and Mental Health Trust Authority lands, or to state parks or to other state-owned lands directly administered by the ADOT/PF and governed by a separate set of regulations.

Organization of Chapter 3

The chapter is organized into the following sections:

- **Land Use Designations and Management Intent.** This section describes land use designations, management intent and management guidelines, and policies pertaining to the disposal and retention of state land.
- **Plan Structure.** This section describes the regions and management units used in the area plan, the types of plan maps used and their limitations, and the attributes that are identified for management units in the Resource Allocation Tables of Chapter 3.
- **Description of the Planning Area.** This section provides a generalized description of the Bristol Bay Planning Area. State lands are described, including their size (acreage), access, physical attributes, resources, and uses. Both tidelands and uplands are discussed.
- **Local and Federal Plans.** This section describes relevant community, state, and federal agency plans that were considered in developing this plan.
- **Management Summary.** This section describes how the state-owned and state-selected uplands and tidelands are to be generally managed in the future under the Area Plan.
- **Region Descriptions.** This section constitutes the bulk of Chapter 3 and provides a generalized description of each region within the planning area, general management intent for state uplands and tidelands, and specific land use designations and management intent requirements for each management unit within a region.
- **Navigable Rivers and Lakes.** This section explains the concept of the Public Trust Doctrine and describes the management intent and designations for navigable waters within federal conservation units and state-owned and state-selected land. A table listing the principal navigable waters within the planning area and their corresponding plan designations is also provided.

LAND USE DESIGNATIONS AND MANAGEMENT INTENT PLANNING TOOLS

A land use designation recognizes uses or resources that are of major importance in a particular management unit. Management unit designations are based on current and projected future use patterns and the most significant resources identified in each management unit. DNR will manage activities in the management unit to encourage, develop, or protect the uses or resources for which the unit is designated.

When the plan assigns a designation to a management unit, the designation is accompanied by regionwide management guidelines and management intent specific to that unit. These three pieces of information – designations, management guidelines, and management intent – promote the most beneficial use and set conditions for allowing for non-designated uses.

Primary designated use. Many management units have a primary designated use (versus units designated General Use). DNR generally allows multiple uses on state land. If DNR determines that a use conflict exists and that the proposed use is incompatible with the primary use, the proposed use cannot be authorized or it will be modified so that the incompatibility no longer exists [from 11 AAC 55.040 (c)].

Co-designated use. Where a management unit has two or more designated uses, DNR will avoid or minimize conflicts between designated uses by applying the management intent statement and guidelines for the unit, the regional intent, and the Chapter 2 guidelines from this plan together with existing statutes, regulations, and procedures. Only those co-designations that are generally complementary to or compatible with each other are included in this plan. Co-designated uses should, therefore, be viewed as compatible unless, at the time the Department is considering an authorization, specific conditions exist that indicate otherwise.

Designations Used in This Plan

The following land use designations are used in one or more management units in this Area Plan. Other types of land use designations exist but were not applied. The selected designations convey the intent of future state land management. Designations may be applied to uplands, shorelands, tidelands, and submerged lands unless indicated otherwise.

Gu – General Use. This designation is applied to land that contains a variety of resources, none of which is of sufficiently high value to merit designation as a primary use or is large enough to accommodate a variety of uses with appropriate siting and design considerations. General Use may also apply where there is a lack of resource, economic, or other information with which to assign a specific land use designation and/or where there is a lack of current demand implying that development is unlikely within the planning period. Uplands with this classification are available for conveyance to municipalities unless stated otherwise in the unit's management intent but cannot be sold to individuals. Tidelands with this designation cannot be conveyed except to municipalities under AS 38.05.820 and AS 38.05.825.

The General Use designation would apply to tidelands, shorelands, and submerged lands not designated in tideland management units or tideland resource management zones for specific habitat, harvest, economic, or recreational functions. These areas are generally considered appropriate for a wide variety of uses such as set net sites, mariculture facilities, or other typical uses of tidelands. Whether and how a tideland area designated General Use is to be managed will be decided through formal state and federal permitting procedures. Most tidelands and submerged lands within the planning area are recognized to contain important subsistence, recreational, or commercial fisheries

Ha – Habitat. This designation applies to land that is primarily valuable for (1) fish and wildlife resource production, whether existing or through habitat manipulation, to supply sufficient numbers or a diversity of species to support commercial, recreational, or traditional uses on an optimum sustained yield basis, including essential habitat and important habitat or (2) a unique or rare assemblage of a single or multiple species of regional, state, or national significance. Habitat also includes land suitable for subsistence use under the definition of "Subsistence Land" in the Glossary

Hv – Harvest. Fish and wildlife harvest areas are subsistence, recreational, and/or community harvest areas of varied size where alteration of habitat could permanently limit sustained yield to traditional users or are areas of intense harvest where the level of harvest has reached or is projected to reach the harvestable surplus for the resource. This land will remain in state ownership.

Hr – Heritage Resources. Land designated Heritage Resources is land where there is active preservation of or research for significant historical, prehistoric, paleontological, or other cultural values or where there is reason to believe that these values exist.

Ma – Materials. These are sites suitable for extraction of materials that include common varieties of sand, gravel, stone, peat, pumice, pumicite, cinders, clay, and sod. Management units designated Materials are closed to new mineral location at the time the plan is signed. This land will remain in state ownership until the material on the site is no longer required for state purposes (such as road construction and maintenance, materials storage, and public or state facilities), after which these lands may be conveyed to municipalities. These lands cannot be sold without redesignation and reclassification, although some sites may be suitable for settlement after material resources are exhausted. This designation applies to uplands only.

Mi – Minerals. This is land where known mineral resources exist and where development is occurring or is reasonably likely to occur or where there is reason to believe that commercially and legally developable quantities of minerals exist, taking into account the federal, state, and local laws, regulations, executive branch actions including conservation designations, mineral closing orders, Section 404(c) determinations, and the like that affect whether a given mineral deposit is commercially and legally developable.

Pr – Public Facilities-Retain. These sites are reserved for specific infrastructure to serve state interests. Land with this designation is to remain in state ownership except that it is selectable by municipalities under the special provisions of AS 38.05.810. This designation applies to uplands only.

Rd – Public Recreation and Tourism-Dispersed. This designation applies to those areas that offer or have a high potential for dispersed recreation or tourism and where desirable recreation conditions are scattered or widespread rather than localized. Developed facilities other than trails, trail signs, primitive campsites, and other minor improvements are generally not necessary. Land in this designation may be conveyed to municipalities depending on the management unit's management intent and the relative value of the recreation resources for which the unit was designated. These lands cannot be sold to individuals.

This designation can also apply to tidelands. If used as a tideland designation, it applies to areas that are widely used for recreation by either commercial recreation operators or the public and are usually associated with the use of fisheries or the viewing of a unique or scenic area. Use patterns are dispersed over a fairly large area, and few public facilities other than boat launches, docks, and mooring buoys are provided. Tidelands can be conveyed to municipalities under certain conditions but cannot be transferred to individuals.

Rp – Public Recreation and Tourism-Public Use Site. These are areas used by concentrations of recreationists or tourists as compared to the rest of the planning area or are areas with high potential to attract concentrations of recreationists and tourists. These areas offer localized attractions or ease of access or developed facilities. Examples include camping sites, marinas, cabins, lodges, anchorages, scenic overlooks, and road-accessible shore locations that are used for picnicking, sports, and fishing. The recreation and tourism uses for which these units are designated may be either public or commercial. The primary management intent is to protect the opportunity of the public to use these sites and their resource values for recreation. This land will remain in state ownership unless otherwise noted in the management intent for the management unit.

Se – Settlement. This designation applies to state uplands suitable for sale, leasing, or permitting to allow private recreational or residential use. This designation will generally be used for areas appropriate for land offerings and for residential uses. Unsettled or unsold land in the management unit will be managed for uses compatible with settlement. This may include uses such as selling additional lots, laying out new subdivisions, identifying greenbelts through subdivisions, reserving materials sites for subdivision roads and building lots, placing easements on access routes, or reserving lots for community facilities and open space. Areas designated Settlement or Settlement-Commercial should be closed to mineral entry prior to sale. This land may be conveyed to municipalities and individuals.

Sc – Settlement-Commercial. This designation applies to uplands suitable for sale, leasing, or permitting of state lands to allow private commercial, industrial, recreational, or community use. Residential use may also be appropriate in portions of an area designated Settlement- Commercial. This designation will generally be used for areas appropriate for land offerings for industrial or commercial uses. Unsettled or unsold land in the management unit will be managed for uses compatible with eventual commercial or industrial activities. Areas designated Settlement-Commercial should be closed to mineral entry prior to sale. This land may be conveyed to municipalities and to individuals.

Su – Subsistence. This designation applies to lands and waters that are suitable for subsistence activities, due to the ability of subsistence users to use the lands and waters productively over time for such activities. These activities include subsistence hunting, fishing and gathering.

Wd – Waterfront Development. This designation applies to areas of tidelands, submerged lands, or shorelands for water-dependent or water-related facilities, usually for industrial or commercial purposes. Waterfront development includes piers, wharves, harbors, mineral transfer facilities, seafood processing facilities, commercial recreation facilities, and other resource development support facilities except for activities related to forestry, which is covered by the Forestry designation. Approving authorizations in these areas will be conducted in compliance with the coastal development standards in the Alaska Coastal Management Act (6 AAC 80.040). This land may be available for conveyance to municipalities under AS 38.05.820 and AS 38.05.825 but cannot be sold to individuals.

Wr – Water Resources. This designation applies to land encompassing watersheds or portions of watershed that are suitable for uses such as water supply, watershed protection or hydropower sites. In this plan this designation also includes important wetland areas and headwater streams. Wetlands and headwater streams throughout the planning area will be maintained in an undisturbed, natural state to protect water quality, fish and wildlife habitat, ground water recharge, biological productivity and surface water instream flow. It is intended that this type of land will be retained in state ownership in an undisturbed, natural state in order to protect fish and wildlife, hydraulic resources, and to ensure that the public continues to have access to the recreational and subsistence resources associated with streams, rivers, lakes and the upland areas. Authorizations within areas designated Water Resources are not to be considered appropriate unless necessary for public health and safety. DNR will assess the impacts to wetland functions, watershed functions, and the hydrologic integrity of the region before making any decision that may affect the integrity of water resources land. Utilities and roads may be appropriate with appropriate design if wetland and water resource functions can be maintained. This designation converts to a land use classification of Water Resource Land. This management intent applies to every management unit designated Water Resources and classified Water Resources Land referenced in the Chapter 3 allocation tables.

Management Intent

The Citizens' Alternative BBAP can provide management guidance for a resource without designating it. For example,this plan may address the resource by providing management intent for a specific area or through area-wide guidelines. In addition, other state, federal, or local regulations will determine the conditions for using undesignated resources.

In some cases, the management intent for a management unit discourages specific uses because these uses may create conflicts with designated uses. **Discouraged uses** may be allowed if DNR determines that the use does not conflict with the management intent, designated uses, and the management guidelines. Discouraged uses include activities that should not be authorized or will not be allowed if there are feasible and prudent alternatives. If DNR determines that the discouraged use conflicts with the management intent or designated uses and cannot be made compatible by following the management guidelines, DNR will allow it only through a plan amendment.

This plan also identifies **prohibited uses**. These are uses that are in significant conflict with other uses or resources and will not be permitted without a plan amendment. Prohibitions are rare because the plan seeks to minimize land use conflicts through plan guidelines and intent rather than through prohibitions.

Management intent statements for each management unit refer only to state management of state land. While these statements accommodate certain proposed uses on tidelands and submerged lands, there is no guarantee that other regulatory agencies will issue permits necessary for the proposed use. All proposed development uses referenced in the management intent statements are assumed to employ best management practices in siting and operating the proposed use.

Water Resources Management Intent

Wr – Water Resources. This designation applies to areas of important water sources, watersheds, or hydropower sites. In this plan it also includes important wetland areas, the intent of which is to maintain these in an undisturbed, natural state. It is intended that this type of land will be retained in state ownership in an undisturbed, natural state. Authorizations within areas designated Water Resources are not to be considered appropriate unless necessary for public health and safety. Utilities and roads may be appropriate with appropriate design if wetland and water resource functions can be maintained. This designation converts to a land use classification of Water Resource Land.

Disposal or Retention in State Ownership. Certain land use classifications by statute allow land to be conveyed to municipalities under the Municipal Entitlement program. The same statute identifies those land classifications that may not be conveyed.[1] Another portion of the statute (AS 38.04.015) identifies the general public interests in retaining areas of state land in public ownership. These principles were applied in developing the recommendations for retaining of state land that are identified for specific management units. DNR will use wetlands mapping, groundwater and hydrologic data to designate water resources.

1 AS 29.65.130 identifies those land use classifications that permit conveyance under the Municipal Entitlement Act. In this Area Plan, the designations of General Use, Settlement, and Settlement-Commercial are considered appropriate for the conveyance of lands out of state ownership. These convert to the classifications of Resource Management Land and Settlement Land, respectively.

In the Citizens' Alternative, the land use designation and classification are the general indicators of whether land should be retained in state ownership or be made available for disposal. In some cases specific recommendations for the disposal of state land are identified in the management intent for a management unit. Also, some management units have management intent that precludes disposal although the designation and classification might otherwise allow disposal. This includes management units already under management by another state agency or that contain certain unique or sensitive uses or resources that merit retention by the state. In addition, management units already under management agreements with other state agencies are usually not available for conveyance. In no case can DNR convey the subsurface estate to municipalities or individuals. Submerged lands, tidelands, and shorelands must be retained in state ownership unless law requires conveyance or the conveyance is to a political subdivision of the state. These conveyances are subject to the Public Trust Doctrine, described in this chapter in the Navigability section.

Tidelands, Submerged Lands, and Shorelands. DNR will provide reasonable access across state tidelands to upland owners. Upland access across state tidelands, including developed access facilities, may be allowed within all land use designations where DNR determines the proposed facilities are consistent with the management intent and applicable guidelines of the plan. However, state tideland use designations do not give the public access rights to adjacent private uplands.

Management Guidelines

Most state lands will be managed for multiple uses. Exceptions are lands that will be offered for private lease or ownership and recreation sites that are smaller than 640 acres. For this reason, the plan establishes management guidelines that allow various uses to occur without serious conflicts. Management guidelines can direct the timing, amount, or specific location of different activities to make the permitted uses compatible. For example, the plan provides guidelines that require land disposal to be designed to protect public access and recreational opportunities.

Duration and Flexibility of Plan

The Citizens' Alternative guides land uses for the next 20 years, subject to periodic review of designations involving settlement, industrial or commercial uses, mining, or other forms of economic or community development.

Anchorage Museum (#WWS-0156-R17A)

The land use designations shown on the maps and identified in the Resource Allocation Tables in this chapter are intended to be flexible. DNR may, after public notice and a comment period as provided herein, permit uses not originally designated if upon finding facts to support consistency DNR determines such uses are consistent with the management intent for the management unit and consistent with applicable management guidelines.

This plan will not provide direct answers to many of the site-specific issues frequently encountered by state land managers. The plan can, however, clarify the general management objectives for the area and thereby provide the basis for a more informed decision.

Boundaries of land use designations shown on the following maps may be modified through implementation activities, such as site planning or disposal, as long as modifications adhere to the intent of the plan and follow the guidance in Chapter 4 under the section Types of Plan Changes.

Glossary

Definitions of terms used frequently in the plan are found in the Glossary, Appendix A.

PLAN STRUCTURE

Plan Regions

Within the boundary of the Bristol Bay Area Plan are 20 planning Regions. Regions are typically large geographic areas with generally similar characteristics that occupy a defined spatial unit. The Citizens' Alternative revision uses the same planning regions and numbering system as those employed in the original 1984 Area Plan; the boundaries of these Regions generally correspond with large drainage basins. These are numbered 2 through 19 and 21 and 22. However, this current plan revision includes both tidelands and submerged lands in addition to uplands within a Region. Some lands within the Bristol Bay Area Plan are not part of any of the 20 planning Regions. These include certain lands in the northeastern part of the planning area covered by Lake Clark National Park and Preserve, some lands in the eastern part of the planning area within Katmai National Park and Preserve, and all lands within the Aniakchak National Monument and Preserve. These areas were added to the planning area in order to classify state-owned shorelands and tidelands. Neither the original Bristol Bay Area Plan (1984), the Kodiak Area Plan, nor the Kenai Area Plan includes these areas within its planning boundaries.

Management Units[2]

In the Area Plan, portions of state uplands and tideland have been separated into smaller geographic units called management units. State resource management is specific to this level. Management units may be large or small but usually have generally similar attributes. They may be specific legal management units, such as a tract within a residential subdivision, or they might be a discrete area of state land affected by a management agreement that is to be administered for a public purpose, such as a port, vehicle storage facility, or airport.

All management units have a discrete identifying number (i.e., unit number). These are depicted on the plan maps and are included in the Resource Allocation Tables specific to each Region. Essentially this number provides a cross-reference between the plan maps and the tables containing information about the management unit. The tables contain information on management unit designation, management intent, management guidelines, and management unit resources and uses.

Management unit numbers consist of a two-part identifier, where the first part indicates the Region in which the unit is located and the second part is the unit number. Generally, management units are numbered from north to south and from west to east within the Regions. Upland management unit identifiers start with R and are followed by the Region number; the final part is the specific management unit number (such as R06-22). With tideland management units, RT is used in the first part of the identifier to indicate it is a tideland management unit (such as R03T-09). In some cases tideland management units may incorporate upland areas if a particular resource is found in both tidelands and adjoining upland areas.

Region Descriptions

Each Region of the Bristol Bay Area Plan is described separately. The format is similar for each, with a description of the characteristics of the Region followed by a section on its resources and their uses, a section on land use management, and Resource Allocation Tables. Components of each Region usually include:

Region Boundary. This part describes how the Region's boundaries are defined and provides a general description of the Region and its important features.

2 Sometimes also referred to as "parcel."

State Lands: Ownership and Acreage. The distribution of state lands within the Region, including tideland management units, is explained in this part. Estimated acreages are given for uplands and tidelands/submerged lands. Land status is also specified (Tentative Approval, Patent, or Selection status).

Physical Geography. The geography and physical characteristics of the Region are described along with important geographic features such as peaks, rivers, and lakes.

Climate. Characteristics of the Region's climate such as temperature averages and minimums and maximums, snowfall, etc., are described.

Other. This section contains useful information such as the topographic quadrangles that contain the Region and where the Region is situated with respect to the organized boroughs and Regional Native corporations.

Access. This component describes how access to the Region is gained and the nature of the transportation and its infrastructure.

Resources and Uses. The current uses of state land, both uplands and tidelands, as well as their resources are described. Descriptions of cultural and historic, economic, recreational, mineral, oil and gas, materials, forestry, and fish and wildlife resources and uses are provided to the extent that they are present in the Region and information exists to adequately describe a resource or use.

Management Considerations – Local and State Plans. This component describes the local, state, and federal land and resource plans affecting each Region.

Municipal Entitlements. A general description of the location of any municipal selections is provided should the Region be within an organized borough that has selections pending adjudication.

Management of State Land. This section describes the way in which state uplands, tidelands, and submerged lands are to be generally managed. It also provides information on plan designation and management for certain categories of management units as well as on specific management considerations.

Resource Allocation Tables. A table is included that provides detailed information on specific management units within the Region, including land use designation, resources and uses, and management guidelines. If the Region contains coastal areas, a second similar table is provided for tideland management units.

Region Plan Maps

Plan maps show land ownership and management unit numbers and identify land use designations. The land use designations provide the general management intent for each management unit. However, they must be considered with the statements of management intent and guidelines (management unit and area-wide) for a complete explanation of the management policy affecting particular units. This is essential in order to get a comprehensive understanding of the overall management intent of the area plan. The management guidelines contained in Chapter 2 are particularly critical and must be consulted in adjudication decisions affecting individual management units of state land.

Land Status Depicted in Plan Maps

The maps referred to in Chapter 3 are not intended to be detailed land ownership maps. Instead, they are a representation of state and federal land records current at the time of the plan's formulation. Land status for management units is derived from the Department's land status records and Geographic Information System coverage. This information is generalized, and for this reason the land status for a particular area can be misleading. In the category labeled private, there may be lands of uncertain ownership. The Department has tried to depict general land status on the plan maps as accurately as possible, but the ownership patterns of non-state entities may not be correct. The location of state-selected land information comes from federal Master Title Plat records and the Department's land records. The plan attempts to accurately portray the status and spatial boundaries of these areas, but because state land status changes with time, caution should be used for these areas as well. For complete information, consult the land records of the Department of Natural Resources, Fish and Wildlife Service, National Park Service, Bureau of Land Management, Native corporations, and the boroughs.

Scott Dickerson

The plan maps show general patterns of land ownership by color. This includes the various types of federal ownership (National Wildlife Refuges; National Parks, Preserves, and Monuments; BLM; and military lands), the various types of state land (general grant and other state land, Legislatively Designated Areas, limited state holdings, and lands under management agreement to another state agency), as well as municipal, Native corporation, Native-selected, and private lands. Because of the way that GIS maps are created, which entails a decision hierarchy on what land status to represent in priority sequence, the colors that represent an ownership pattern may not coincide with the actual pattern of such ownership.

Resource Allocation Table

At the end of each Region write-up, a Resource Allocation Table provides information on specific upland and tideland management units. It follows the plan text and includes the land use designation and the management intent for each specific upland or tideland unit and is directly related to the plan maps by the use of the management unit identifier. If present, a description of tideland management units follows that of the upland units. Essentially, the table details the generalized description of state management intent included under Region and Areas Summary.

For each management unit the table gives the unit identification number; general geographic name; general location by Meridian, Township, and Range (some sections); and size expressed in acreage. Also included are a description of the resources and uses of a management unit, the designation(s), management intent, and specific management guidelines.

More specifically, the tables include:

Unit Identifier. Each management unit of state land has a unique identifier with characters that indicate the Region and unit number and contain a T if it is a tideland unit.

Management Unit Name. Each management unit has a unique name that is geographic in nature and can be used to identify it.

MTRS. The Meridian, Township, Range, and Section are indicated if it is a small management unit; large management units refer to the map. In all cases the Seward Meridian applies. The data provides information only on the general location of the unit and is not intended to constitute a legal description.

Acreage. The approximate acreage in each management unit is indicated.

Land Use Designation. Land use designations indicate the primary and co-primary uses and resources for each management unit. There may be only one designation (primary) for a given management unit, although there may be two (termed co-designations). Where co- designations have been used, the uses reflected in the designations are believed to be generally compatible and complementary to each other. There are instances where various parts of a single management unit are given specific designations.

Management Intent. This column indicates the management direction for a specific management unit. It is consistent with the recommended designation but includes more information on how state land is to be managed. In some small management units, the management intent is likely to be brief, because the designation itself is often sufficient to indicate the management intent. This is not the case with large management units, and in these instances the management intent statement is critical to an understanding of how the various resources within the management unit are to be managed. This section also indicates whether the management unit is to be retained in state ownership, whether it is appropriate for transfer to a city or borough, and those unit resources that must be taken into consideration for land disposal or other forms of development or use. In some instances the development of a management unit is not appropriate during the planning period, and these are identified.

Resources, Uses, and Additional Information. This column summarizes the resources and uses for which the management unit is designated and that are considered important in the management unit. It also provides a generalized description of the unit and may indicate the presence (or absence) of certain other resources that are important to land management decisions. Typical among this type of information is whether the management unit contains a heritage site or significant concentration of wildlife, fisheries, or habitat(s); the current use of the management unit; adjacent land ownership; and applicable local zoning or comprehensive plan requirements, if known.

DESCRIPTION OF THE PLANNING AREA

Background

The Bristol Bay Area Plan encompasses the Lake and Peninsula Borough, the Aleutians East Borough, the Bristol Bay Borough, and much of the Dillingham census area. It includes those drainage basins in southwest Alaska that flow into Kuskokwim Bay and Bristol Bay and all of the Alaska Peninsula. The planning area has been divided into 20 Regions that are based mostly on drainage boundaries and commonalities of habitat and to a lesser extent on political boundaries. In the description that follows, state uplands and tidelands have been described in general along with those management requirements that apply to all Regions. This description is meant to be brief, focusing on general geographic themes, with general management strategy. More detailed information on state lands, including plan designations and management intent, is provided in the individual Region descriptions that follow in this chapter.

State Lands

Uplands. State-owned and state-selected uplands in the Bristol Bay Area total approximately 12 million acres.[3] Although terrain varies greatly, the majority of these lands are not mountainous and consist of rolling hills and lowlands. State land occurs in two mostly contiguous blocks – a large block in the Nushagak-Mulchatna-Iliamna Lake drainage and a large swath of acreage along the Bristol Bay side of the Alaska Peninsula. These two areas are mostly in separate physiographic regions. The northern block of state land is part of the Bristol Bay Lowlands and Lime Hills ecoregions; the southern block of state land is part of the Bristol Bay lowlands and the Alaska Peninsula ecoregions. The uplands contain a broad range of resources and uses, including fish and wildlife, minerals, recreation and tourism, oil and gas, cultural and historic, and settlement. These uplands support a local economy based primarily on the production of renewable resources, primarily fish and wildlife.

The majority of lands in the Bristol Bay planning area are owned by the federal government, and the vast majority of these are within federal conservation system units (19 million acres out of a total of 21 million acres). These include the Yukon Delta NWR, Togiak NWR, Alaska Maritime NWR, Becharof NWR, Alaska Peninsula NWR, Izembek NWR, Lake Clark National Park and Preserve, Katmai National Park and Preserve, and Aniakchak National Monument and Preserve. The state of Alaska also has created a number of Legislatively Designated Areas, a status of protection established in Alaska statute. These include Wood-Tikchik State Park (the largest public state park in the United States); several state game refuges (Cape Newenham and Izembek); the Walrus Islands State Game Sanctuary; the Bristol Bay Fisheries Reserve; and a number of critical habitat areas, including the Egegik, Pilot Point, Port Moller, Cinder River, Port Heiden, and Ugashik Bay. Although a large amount of land in the planning area is dedicated to the protection of fish and wildlife as well as of recreational resources, significant amounts of land critical for fish and wildlife and for the economy of the region, particularly in the Nushagak and Kvichak watersheds, are not protected within parks or refuges.

3 Not including Wood-Tikchik State Park (1.6 million acres) or major lakes such as Iliamna and Becharof

Tidelands. The state owns the tidelands and submerged lands to three miles out from the mean high water line on the coast. State tidelands and submerged lands occur in those Regions that have coastlines along Kuskokwim Bay, Bristol Bay, or the Pacific and Gulf sides of the Alaska Peninsula. Many tideland areas front National Wildlife Refuges, Parks, Preserves, and Monuments.[4] Another significant concentration of tidelands occurs within protected state areas, including state game refuges, critical habitat areas, and state game sanctuaries, which are scattered throughout the planning area. There are over 270,000 acres of tidelands within protected state areas. State tidelands also occur in areas that adjoin private, municipal, Native, and other federal and state land (about 6.7 million acres).

Most of the particularly sensitive and biologically productive tideland areas either occur adjacent to Federal Conservation Units or within protected state areas found in state game refuges (SGR), state game sanctuaries (SGS), or critical habitat areas (CHA). There are nine state-owned or -managed protected areas: the Egegik, Pilot Point, Cinder River, Port Heiden, and Port Moller CHAs; the Izembek and Cape Newenham SGRs; and the Walrus Island SGS. Both federal- and state-protected areas are depicted on Region plan maps. The purpose of the state-protected areas is generally to "protect and preserve habitat areas especially critical to the perpetuation of fish and wildlife and to restrict all other uses not compatible with that primary purpose." Use of these areas may be permitted, but the submittal of plans and specifications of the proposed use and construction work is required, and the ADF&G Commissioner must approve all such plans or specifications. The Izembek and Cape Newenham SGRs are designated under AS 16.20.030 as SGRs to coincide with similar federal National Wildlife Refuges; both lands and waters are included in the SGRs.

These tidelands provide habitat for walrus rookeries and haulouts; harbor seal and spotted seal haulout concentrations; sea otter pupping and rearing areas; seasonal concentrations of waterfowl; beluga whale calving areas; Pacific herring spawning and rearing areas; and a wide variety of pelagic, diving, and seabirds, many of which group in large colonies. Many of these tideland areas consist of shallow tidal flats, which contain significant concentrations of eel grass or salt marsh. Most kelp beds occur in offshore environments, typically adjacent to islands that are part of the Alaska Maritime NWR, the Izembek NWR, and the Port Moller CHA.

The distribution of these resources is uneven within these protected areas. Pacific herring spawning areas occur along northern Bristol Bay adjacent to the Togiak NWR and within the CHAs that occupy intertidal areas south of Pilot Point in Bristol Bay and also on the Pacific side of the Alaska Peninsula adjacent to the Alaska Peninsula and Alaska Maritime NWRs. Sea otters collocate with kelp beds, and both are extensive around the offshore islands of the Alaska Maritime NWR and within the Izembek SGR and the various CHAs of southern Bristol Bay unaffected by winter ice scour, generally south of Port Moller. Walrus rookeries and haulouts concentrate within the Walrus Islands State Game Refuge south of Togiak and on the north side of the Alaska Peninsula at Amak Island, which is within the Alaska Maritime NWR. A significant concentration also occurs on state land at Cape Seniavin. Most seabird colonies, including the largest of these colonies, are situated along the southern Alaska Peninsula coast and its offshore islands within the Alaska Peninsula and Alaska Maritime NWRs. Another concentration of seabird colonies occurs on the islands south of the Togiak NWR within the Walrus Islands SGS. Other marine resources are somewhat more evenly distributed throughout the planning area. Harbor seal haulouts, waterfowl, and the various types of shorebirds and diving birds characteristic of tideland areas occur in the northern part of Bristol Bay adjacent to the Togiak NWR and within CHAs that occupy sheltered intertidal areas along southern Bristol Bay.

Kevin Schafer

4 Included are the Togiak, Becharof, Alaska Peninsula, Alaska Maritime, and Izembek National Wildlife Refuges and Aniakchak National Monument and Preserve.

Other less sensitive areas exist that are not within these protected tideland areas, but they are more scattered and smaller in number. Beluga whale calving occurs in Kvichak and Nushagak Bays in northern Bristol Bay. Harbor seal haulout concentrations occur in eastern and central Kvichak Bay and in several protected embayments near CHAs in southern Bristol Bay (Port Heiden, Egegik, and Pilot Point). Harbor seal haulouts are also concentrated at the Seal Islands, situated south of the Port Heiden CHA in a protected lagoon. Spring brown bear concentrations occur south of the Port Heiden, Cinder River, and Egegik CHAs and in the area of the Seal Islands. Seasonal concentrations of waterfowl are common throughout the planning area.

There are other sensitive areas, but these occupy comparatively small sites and are associated with walrus haulouts, particularly at Cape Seniavin and at several sites east of Port Moller.

A special management area – Bristol Bay State Fisheries Reserve [AS 38.05.140(f)] – affects the waters of eastern Bristol Bay. No surface entry permit or tideland lease to develop an oil or gas lease or oil and gas exploration license may be issued on state-owned or -controlled land until the legislature specifically finds that the entry will not constitute a danger to the fishery. Tideland resources within the federal and state protected areas vary, reflecting the extensive size of the planning region, the configuration and bathymetry of the coast, the presence of sea ice, and unique local conditions.

Acreage

Acreage estimates for the state upland and tideland management units are given below:

Geographic Areas	Acreage
Upland Management Units – State-Owned	10,330,000
Upland Management Units – State-Selected	1,585,000
Tidelands and Submerged Lands	7,003,000

Access

The Bristol Bay planning area is huge, and distances between communities are great. For instance, the distance between Akutan and Port Alsworth is 600 miles; the distance between Quinhagak and Port Alsworth is 263 miles. This far-flung region hosts 47 populated settlements; four have first-class city status and 16 are second-class cities. The population fluctuates from summer to winter within the planning area but consists of approximately 10,600 residents. The majority of travel in or out of the area is by air from Anchorage. Important air transport facilities are located at King Salmon, Dillingham, and Cold Bay.

Air and marine transportation are the mainstays of access to the Bristol Bay Planning Area, and this is likely to remain so for the foreseeable future. For those in coastal areas or on navigable waterways, travel between communities is usually accomplished by boat. In winter, snow machines are utilized to range over wide areas and between settlements. Air transportation is the principal mode of year-round access to and between communities. The planning area has 68 air transportation facilities recognized by the Department of Transportation and Public Facilities. Of these 68, 56 are landing strips, 11 are seaplane facilities, and one is a recognized heliport. The Alaska Marine Highway system provides access to Chignik, Sand Point, King Cove, Cold Bay, False Pass, and Akutan.

In general, except for management units situated in the vicinities of Dillingham, Naknek, and King Salmon, some of which can be reached by road, most other management units must be accessed by floatplane, wheeled aircraft, boat, off-road vehicles, or snow machines.

There is a road that extends into the planning area from Cook Inlet – the Williamsport-Pile Bay road – that is used to transport Bristol Bay fishing boats and supplies to Iliamna Lake, where the boats are off-loaded and ply the waters of the lake and down the Kvichak River to Bristol Bay. This road is considered difficult to use. Construction began in 2004 on a combined road and hovercraft system to join King Cove and Cold Bay.

Physical Features: Uplands

The Bristol Bay area is quite varied, extending from the coastal lowlands of Kuskokwim Bay on the Bering Sea to the Kilbuck and Ahklun Mountains, whose summits rise to 2,000 to 5,000 feet. From these mountain ranges, which are separated by broad, flat valleys lying in a northeast-southwest alignment, the Togiak River and its tributaries flow south into Bristol Bay, and the Kanektok and Goodnews Rivers flow west into Kuskokwim Bay.

The Wood-Tikchik Lakes system is composed of long, narrow glacial lakes separated by steep- walled mountains ranging in elevation from 3,000 to 5,000 feet. The lakes and rivers of the area drain into Bristol Bay via the Wood, Nuyakuk, and Nushagak Rivers.

The Nushagak Hills, Taylor Mountains, and Big River Hills comprise a low, rolling terrain that forms the northern border of the area. These hills and the Alaska-Aleutian Range within Lake Clark National Park and Preserve surround the Nushagak and Kvichak River basins, which drain into Bristol Bay. The Nushagak River Basin is broad and relatively flat, containing many ponds and lakes that increase in number as they near the coast. The Kvichak River drains Iliamna Lake and all of its tributaries. Iliamna Lake is the largest lake in Alaska, 80 miles long by 20 miles wide, and the second-largest in the United States.

The Alaska Peninsula consists of coastal lowlands on the Bristol Bay side from which the terrain rises into the Aleutian Mountains on the Pacific Ocean side. These coastal lowlands are dotted by thousands of small lakes and ponds and laced with meandering rivers that flow into extensive estuaries as they meet Bristol Bay. Naknek, Becharof, and Upper and Lower Ugashik Lakes are four large bodies of water on the northern peninsula. The peaks of the Aleutian Mountains generally average from 1,000 to 4,000 feet but may rise to volcanic peaks such as Mount Chiginagak (6,900 feet), Mount Veniaminof (8,225 feet), and Mount Pavlof (8,261 feet). Several other active and inactive volcanoes are also found along the Alaska Peninsula. The rivers and streams flowing into the Pacific Ocean are short and steep, emptying into small bays. The Pacific shoreline is imbricate, very rugged, and steep with many cliffs, offshore spires, and islets, in contrast to much of the Bristol Bay coastline, which is smooth, of low relief, and characterized by wide beaches.

Unimak and the Krenitzin Islands are separated from the Alaska Peninsula – Unimak by the narrow and treacherous waters of False Pass. Unimak is dominated by five volcanoes, including Shishaldin Volcano (9,387 feet) and Isanotski Peaks (8,025). Between Unimak Island and the Krenitzin Islands is Unimak Pass, a deep 10- to 20-mile-wide strait between the Pacific Ocean and the Bering Sea that provides passage for fish, marine mammals, waterfowl, and seabirds as well as for commercial vessels.

Over 56 percent of the uplands in the Bristol Bay area are covered by various types of tundra – shrub/grass, open heath or grass, or lichen shrub tundra. Approximately 7 percent of the area is marsh-very wet bog or wet bog-meadow. Ten percent of the area is vegetated by miscellaneous deciduous vegetation such as birch; cottonwood; and tall, low, or dwarf willow. Forest comprises less than 5 percent of the uplands and occurs mostly along major lakes and rivers in the Nushagak-Wood River drainages and in the eastern Iliamna Lake and Lake Clark drainages. Common forest species include black spruce, white spruce, quaking aspen, balsam poplar, and white birch. There are essentially no trees south of the Naknek River. The remaining uplands are lichen-covered, snow-covered, or barren.

Hydrology

Latitude, position with respect to the ocean, and elevation play significant roles in determining climate. Most of the planning area is affected by maritime climatic influences, but transition zones in the northern parts of the planning area are impacted by continental influences. In winter, as sea ice forms in northern Bristol Bay, the coastal areas are less influenced by marine climatic conditions and continental influences are felt.

Non-Marine Hydrology. The largest rivers in the planning area include the Nushagak, Togiak, Kvichak, Naknek, Egegik, and Ugashik Rivers. The Nushagak is the largest, with a drainage area of 14,100 square miles and a length of nearly 300 miles. Generally, rivers in the region are short to moderate in length and often have a lake storage component within the basin. The lakes serve to store runoff and moderate runoff to streams. Although glaciers are present, outside of a few exceptions regionally they do not significantly affect storage or runoff due to limited size and distribution. Streams without lakes in the drainage experience peak flows at spring breakup, a summer drop in flow, and a secondary peak during late summer and early fall in response to rainfall events. Streams with lakes usually have a spring flow peak during the late summer-early fall rainy season. Local variations in this pattern are common due to differences in aspect, geology, and precipitation.

Mean annual runoff for the region varies but usually averages between 2 and 4 cfs.mi 2. Mean annual peak runoff averages 10 cfs.mi2 in the lowland areas and up to 25 to 50 cfs.mi2 in the more upland areas.

Most rivers and streams in the planning region freeze over by December and remain frozen until April or May. Stream flow usually begins a steady decline in October after the rainy late summer-early fall period and continues to decline until March or April, with discharges increasing dramatically with the onset of breakup in April or May. Peak annual flows generally occur in June when snowmelt is at its highest, with secondary peaks in response to high precipitation/runoff events in late summer and early fall. Winter flooding in upland streams is possible from extreme channel icing.

Storage provided by lakes is an important feature of many stream systems in the Bristol Bay region. Of the approximately 90 lakes in Alaska that exceed 10 square miles in size, 33 of them occur in the Bristol Bay area, including the state's two largest lakes – Iliamna and Becharof. Geomorphically, lakes in the Bristol Bay area are of three primary types. Most of the larger lakes are in glacially carved basins that may be dammed by glacial moraines; these are commonly elongated and deep, such as the Wood River Lakes. The second type is lowland tundra lakes, which are usually small, shallow, and often unnamed. The third type of lakes, which display no inlet or outlet, is present but uncommon.

Marine Hydrology. Southwest Alaska is bordered by the Bering Sea, the North Pacific Ocean, and the Gulf of Alaska. Ocean basin topography, current, the extent of sea ice, water temperature, and other factors greatly influence the marine ecosystem. Currents in the Gulf of Alaska are driven by the counterclockwise flow of the Alaska Current. Currents from the North Pacific move through passes in the Aleutian Chain into the Bering Sea, creating a complex but generally counterclockwise pattern.

Ocean basin topography consists of three principal features: (1) a shallow expanse of the continental shelf (<5,000 feet deep) extending from east of Kodiak across Bristol Bay and including the Bering Sea and down the Aleutian Chain; (2) south of the Aleutians the topography deepens until dropping into the Aleutian Trench, which has depths greater than 13,000 feet; and (3) north of the Aleutians the Bering Sea drops into the enormous Aleutian Basin, with depths ranging between 5,000 and 13,000 feet.

Sea ice in the Bering Sea advances into Bristol Bay, arcing from Goodnews Bay to just south of Egegik. The maximum winter advance of sea ice historically extended as far south as Unimak Island. Recent fluctuations in the advance of sea ice have been difficult to predict.

Tidal action and variation are not as great in Southwest Alaska as they are in other regions of Alaska. The highest mean tidal variations occur in the Naknek River area (18.5 feet); Port Moller has a mean of 7.6 feet, whereas the mean tidal variation is only 3.2 feet at Izembek Lagoon. Tidal variations tend to be greatest at river outlets and at a minimum on the Aleutian Islands.

Resources and Uses: Uplands

Forestry. There are no commercial forests in the planning area. The forests are largely a mix of spruce, birch, and aspen that occur along the major drainages north of the Naknek River. Uses are restricted largely to heating fuel, although some trees are large enough for house logs.

Cultural and Historic. The Native people of Alaska have occupied the coastal and river areas of Bristol Bay for millennia. The area has a complex and poorly understood history, and over time cultures intermixed and expanded and contracted. The area contains Eskimoan, Athabascan, and Aleut influences. European contact came in the mid- to late-1700s, and the area still shows the cultural influences of its early Russian occupation. Many of the Alaska Native residents of the region carry on the cultural practices of their ancestors and, like them, continue to derive their cultural identity and their sustenance from the land.

The planning area contains approximately 1,207 cataloged archeological and historic sites, a number that continues to grow as new sites are discovered and reported. The majority of the sites are in coastal areas and along the major rivers.

Economic. Economic resources are several, including commercial fishing, tourism and recreation, government, subsistence, transportation, minerals and materials. Historically, use of fish and wildlife resources has been the economic mainstay of the area through commercial fishing, trapping, and subsistence. The commercial fishing industry now spans three centuries. In that time it has experienced unpredictable returns and declining fish prices, but on average it has provided a reliable source of income. The Bristol Bay commercial fishery remains one of the world's great fisheries. Public recreation and tourism, particularly sport fishing, are growing sectors of the economy and have assumed a greater relative importance in local economies.

Recreation, Tourism, and Scenic. These resources are primarily used for outdoor activities, of which fishing and hunting are perhaps the most significant, but others such as river rafting, flightseeing, and wildlife viewing are growing in importance. Most of the recreation and tourism activities occur in the north central and central areas, including Wood-Tikchik State Park, Katmai National Park and Preserve, and Lake Clark National Park and Preserve. Commercial sport fishing is especially concentrated in the Dillingham, King Salmon, and Iliamna regions. Recreational river use is most prevalent in the major drainages to Kuskokwim Bay, the Wood River drainage, the Iliamna Lake drainage, the Kvichak, and the Nushagak-Mulchatna drainage basin.

Minerals. Historically, significant mineral production has come from gold placers in the Nyac district and platinum-gold placers in the Goodnews Bay district. However, the area has experienced exploration success at a number of sites. Relatively recent discoveries include the Pebble Copper copper-gold-molybdenum porphyry deposit, the Shotgun gold deposit, and the Kamishak prospect. Others include the Kemuk iron-titanium deposit, which may have significant platinum potential, and the Sleitat tin-tungsten deposit. The Pebble Copper deposit is presently undergoing advanced exploration, and studies are underway to ascertain the economic viability of developing the resource, which is estimated to contain one of the world's largest low-grade copper-gold concentrations. Mineral sands occur on beaches along the northwest side of the Alaska Peninsula at a number of locations. Important occurrences, prospects, and deposits, including the Fog Lake gold prospect, occur elsewhere on private lands. Interest in developing mineral resources in the planning area has increased in recent years, especially on the large areas of state-owned lands in the northwest portion of the area.

Coal. Coal-bearing stratigraphy is present beneath large areas on the northwest side of the Alaska Peninsula and in the lower Nushagak area. Two coal basins with estimated reserves and modest historical production – the Herendeen Bay and Chignik coal basins – occur in the central portion of the Alaska Peninsula.

Oil and Gas. The lower Nushagak and western Alaska Peninsula have significant hydrocarbon potential related to the north Aleutian-Bristol Bay-Nushagak Basins. A thick sequence of Tertiary and Mesozoic sedimentary rocks occurs in the subsurface, and scattered drilling on the Peninsula indicates gas and oil. DNR is currently initiating a program of oil and gas licensing and leasing for onshore lands with oil and gas potential.

Fish and Wildlife. The area is richly endowed with fish and wildlife resources. All anadromous fish species found in the state are present here. The Bristol Bay region supports the largest sockeye salmon run in the world. Salmon support subsistence, commercial, and sports fisheries. Caribou occur throughout most of the planning area, and five herds are recognized; the Mulchatna/Kilbuck Herd is the largest and was estimated at 150,200 animals in 2000. Moose have been expanding their range in the area for decades both southward and westward. Brown bear are numerous, especially in the eastern and northeastern portions of the Alaska Peninsula. The Bristol Bay Lowlands and northwest side of the Alaska Peninsula have extensive areas replete with lakes, ponds, and marshes, which provide important habitat for a wide variety of waterfowl.

Physical Features: Tidelands

Tidelands in the Bristol Bay planning area are rich in habitat and marine resources, making this a desirable area for commercial and subsistence harvest as well as for public recreational activities. The tidelands along the entire coastline within the planning area are utilized in some manner for marine harvest. However, commercial harvest occurs more frequently in the vicinity of bays and lagoons that support the densest population of marine life.

Bristol Bay. In the Bristol Bay area commercial harvest consists almost entirely of all varieties of salmon, with some harvest of herring roe, which occurs in and around major bays and estuaries and to the greatest extent throughout Nushagak and Kvichak Bays. Public and commercial docks, boat harbors, seaplane bases, and other tideland facilities in support of the fishing industry are prevalent near the communities where the most extensive commercial harvest occurs. Tideland facilities also provide for shipping and transportation. The communities of Dillingham and Naknek/King Salmon serve as the transportation and service center for the salmon industry and also serve recreational visitors to the area. Sport fishing occurs frequently around the mouths of the Nushagak and Kvichak Rivers. Subsistence harvest in Bristol Bay occurs most often in the areas around communities and villages. However, residents often migrate long distances to summer fish camps. Salmon is by far the most common subsistence staple, but residents also subsist on other fish such as herring, smelt, or cod. In addition, subsistence harvest includes sea mammals (seal, sea lion, walrus, and occasionally whale) and waterfowl or waterfowl eggs. Clams are also harvested in the Egegik Bay area.

Alaska Peninsula and Offshore Islands. The Alaska Peninsula and offshore islands are sparsely populated, so commercial harvesting ranges over longer distances than in Bristol Bay. Concentration of resources is also more scattered. Along the northern coast of the Alaska Peninsula, commercial fishing includes salmon, yellowfin sole, cod, herring, and herring roe. Subsistence harvesting concentrates around the few communities on the peninsula and includes salmon and other fish, seals, and waterfowl and eggs. Clams are harvested in the Port Heiden area, King Cove, and False Pass.

Along the Pacific coast of the Alaska Peninsula commercial harvest of fish includes salmon, halibut, herring, herring sac roe (food/bait), cod, pollock, and bottom fish. Fishing fleets are extensive and range long distances. Commercial crab harvest takes place all along this coastline as well and includes red king, tanner, and Dungeness crab. The highest concentrations of crab occur in bays and lagoons. The richest crab harvest of red king crab and Dungeness crab occurs around the Krenitzin Island group and the southern shores of Unimak Island. Shrimp is harvested in Chignik Bay and Mitrofania Bay. Fishing fleets are based in only a few major processing or service centers: Chignik, Sand Point, King Cove, Cold Bay, and Akutan. Public and commercial docks, boat harbors, seaplane bases, and other tideland facilities in support of the fishing industry are prevalent near these communities. Tideland facilities also support shipping and water transportation. These communities serve recreational visitors in addition to the fishing industry and serve as ferry stops on the Alaska Marine Highway. Sport fishing occurs in the Pacific Coast tidelands and around the various Pacific islands adjacent to the Alaska Peninsula.

The few communities on the Pacific side of the Alaska Peninsula depend almost exclusively on commercial fishing for their livelihood and engage in only a small amount of subsistence harvest in the off-season. Subsistence harvest, where it occurs, consists almost exclusively of salmon but in some areas includes small amounts of halibut, clams, seal, and waterfowl (birds and eggs).

Local and Federal Plans

A variety of state, local, and federal plans exist that affect all or parts of the planning area. The authority of each is specific to the jurisdiction to which it applies.

Local Comprehensive Plans

Local plans consist of the comprehensive plans of a number of communities and those of the boroughs. The following cities have local comprehensive plans, but all are quite old: Sand Point (published 1981), King Cove (1981), Akutan (1982), and Dillingham (1985). The Aleutians East Borough has a comprehensive plan, and the Bristol Bay Borough has an economic development plan that also serves as a comprehensive land use plan. Both plans were consulted during plan preparation. These plans, plus recommendations from the municipalities within the planning boundary, were used extensively in the formulation of tideland management and tideland designations for tideland management units in and near these municipalities.

District Coastal Zone Management Plans existed for extensive areas within the planning area, coinciding in area with the jurisdictions having such plans: Aleutians East Borough, Lake and Peninsula Borough, Bristol Bay Borough, and the two CRSAs – Bristol Bay and Cenaliulriit. The Enforceable Policies of these District Plans were extensive and typically included policies pertaining to anadromous streams, marine mammal haulout sites, sea bird colonies, bald eagle nests, oil and gas development, mining and material extraction, settlement, geotechnical hazards, wetlands, and water quality as well as other resource features. The Enforceable Policies of these plans were consulted during the preparation of the 2005 Area Plan and formed the basis for certain management standards in Chapter 2 that remain in effect.

State Management Plans

There are two primary state management plans that affect resource use and development: the Bristol Bay Area Plan (1984, 2005, 2013) and the Nushagak & Mulchatna Rivers Recreation Management Plan (1990, 2005, 2013). There are a wide variety of fisheries management plans for the management of the Bristol Bay fisheries, and DNR has also prepared a number of site-specific plans that affect small geographic areas.

The Bristol Bay Area Plan affects all state lands in the planning area, which includes uplands, shorelands, tidelands, and submerged lands and navigable waters (rivers and lakes). This plan is and has been the basis for the management of state land since its adoption in 1984. The large planning area is broken up into 22 regions. Land use designations and management standards are identified for each Region; in addition, the plan provides management standards for the variety of resources that the Department administers in this planning area. This plan can be viewed at www.dnr.state.ak.us/mlw/planning/. The Nushagak & Mulchatna Rivers Recreation Management Plan guides state land management in the Nushagak and Mulchatna. It provides management direction for the 25 management units and public use sites in these drainages and identifies specific management policies for long-term uses (more than 14 days). This plan was adopted as an element of the Bristol Bay Area Plan and serves as the management plan for the drainage areas encompassed by the Rivers Recreation Management Plan.

Federal Management Plans: National Wildlife Refuges, Katmai National Park and Preserve, and Aniakchak National Monument and Preserve

The management of National Wildlife Refuges occurs through a Comprehensive Conservation Plan (CCP), which provides broad policy guidance and establishes management direction. Each of the NWRs is to be managed consistent with the purposes of ANILCA, which include as primary purposes conservation of fish and wildlife populations and habitats in their natural diversity, provision of the opportunity for continued subsistence of local residents, maintenance of water quality and quantity, and satisfaction of international treaty obligations. All these plans were reviewed for applicability. The Alaska Peninsula and Becharof National Wildlife Refuge Comprehensive Conservation Plan applies to lands along the Alaska Peninsula within the Becharof NWR and the Alaska Peninsula NWR. This CCP, which is in the process of revision, recommends Wilderness and Minimal Management as the principal management themes; these emphasize the protection of existing fish and wildlife populations and habitats. The Alaska Maritime NWR is administered under a CCP, which manages the islands and islets of the NWR to protect habitat values and fish and wildlife resources. The Togiak CCP is in the process of being revised; the current management plan recommends a type of resource management similar to that used in the other CCPs. The Izembek NWR is administered according to a CCP that emphasizes the maintenance of the refuge in an undeveloped state. This CCP is to be revised beginning in year 2004. A tideland management zone, which identifies those uses of state tidelands that are consistent with ANILCA requirements, affects the tidelands adjacent to these National Wildlife Refuges.

The Katmai National Park Resource Management Plan (1994) and its General Management Plan (1986) are used to provide guidance for federal management of this National Park. Federal policy on the management of state tidelands and submerged lands is described in the General Management Plan. It states that the National Park Service will work cooperatively with the state to ensure that existing and future activities occurring in the areas adjacent to the park boundary "are compatible with the purposes for which the park was established."

Southwest Alaska Salmon Habitat Partnership

The state of Alaska endorses the National Fish Habitat Initiative of the U.S. Fish and Wildlife Service and in particular participates in the governance and operation of several nationally recognized fish habitat partnerships in Alaska, including the Southwest Alaska Salmon Habitat Partnership. The Bristol Bay Area Plan seeks to implement the strategies for protecting salmon and fish habitat set forth in the strategic conservation plan of the Southwest Alaska Salmon Habitat Partnership. http://swakcc.org/documents/SWASHP%20Strategic%20Plan%20-%20Final%202011.pdf

Chapter 3 – Region 5
DILLINGHAM, SNAKE LAKE, NUSHAGAK BAY

Contents of Chapter 3 – Region 5

REGION 5 – DILLINGHAM, SNAKE LAKE, NUSHAGAK BAY

SUMMARY OF RESOURCES AND USES IN THE REGION

Region Boundary

Region 5 encompasses a portion of the southeastern Wood River Mountains, including the lake system of the Weary and Snake Rivers and much of the Wood River. The boundaries of the Region are defined by the drainage divide of the Wood River on the west, Wood-Tikchik State Park on the north, the divide of the Nushagak and the Kvichak Rivers on the east, and the shores of Kvichak and Nushagak Bays on the south. Elevations range from sea level to slightly in excess of 2,800 feet. The Region includes the southern two lakes of the Wood River lake system and the lower portion of the Nushagak River. It is the most populous Region in the Bristol Bay Area Plan. This includes the major settlement of Dillingham (pop. 2,252) as well as Aleknagik (pop. 226); approximately 60 percent of the inhabitants are Natives. The total population of the Region is approximately 2,600, but this increases greatly during the summer fishing season. The boundary of Region 5 is virtually the same as that of the original (1984) Bristol Bay Area Plan.

State Lands: Ownership and Acreage

Most of the state-owned land in Region 5 is located in the northwest part, south of Wood-Tikchik State Park, and in the central-northern part. The majority of land in Region 5 is Native-owned. The plan applies to 409,552 acres of state-owned and state-selected uplands and 165,568 acres of state-owned tidelands in this Region. The plan also applies to state-owned shorelands (acreages of shorelands have not been calculated).

Physical Geography

The northwestern portion of the Region lies within the Ahklun Mountains physiographic province, and the remainder is in the Bristol Bay lowlands. The northwest portion of the Region, especially the western part that encompasses the Wood River Mountains, is mostly mountainous and rugged. The drainage system in the northwest is dominated by the Snake and Wood Rivers, and the high country displays the results of alpine glaciation, which produced a series of east-west trending valleys and ridges having considerable relief (2,800 feet). Two large lakes, Lake Aleknagik and Nunavaugaluk Lake, occupy major valleys. The Bristol Bay lowlands portion of the Region is dominated by the meandering Nushagak River, which is subject to tidal influences for forty miles upstream from its mouth at Kanakanak. Relief in the Bristol Bay lowlands is very modest – only a couple hundred feet. In the Wood River Mountains portion of the Region the peaks are between two and three thousand feet high. The greatest relief is found south of Ice Creek where an unnamed peak has an elevation of 2,802 feet. Twelve miles southwest is Mable Mountain at 2,426 feet. Major drainages include the Weary River, a tributary to the Snake River, the Muklung and Little Muklung Rivers, the Wood River, and the Lower Nushagak River, which includes Portage Creek and Clark Slough.

The Region displays a variety of landscapes, including mountain crags, fast-flowing rivers, deep lakes, tundra, marshy lowlands, and ponds. The broad glacial valleys of the Ahklun Mountain Range cut the tundra uplands, opening into coastal plains. Forested areas occur only sparingly such as along the south shore of Aleknagik Lake and the upper reaches of the Snake River. Most of the uplands are vegetated with low to tall shrubs and low-lying areas with low shrub and lichen tundra. The Nushagak valley is covered by low shrubs and lichen tundra.

Climate

The climate of Region 5 is transitional, from the maritime influence of Bristol Bay to more continental weather to the northwest. As distance from the coast increases, temperature variations increase, whereas cloudiness, humidity, and precipitation tend to decrease. The weather is generally cool and moist with relatively persistent cloud cover and occasional periods of fog. At Dillingham, summer temperatures range from 37° to 66°, and average winter temperatures range from 4° to 30°. Annual precipitation is 26 inches with 65 inches of snow. Heavy fog is common in July and August. Winds of up to 60-70 miles per hour may occur between December and March. The Nushagak River is ice-free from June through November. Aleknagik Lake and River are also ice-free from June through mid-November. The Region is predominantly underlain by ground ice with isolated masses of permafrost. The northwest portion of the Region is underlain by discontinuous permafrost, and the valley of the Nushagak River is generally free of ground ice. The areas with discontinuous permafrost are generally those with elevations greater than 1,000 feet. North-facing slopes are more likely to be underlain by permafrost than south-facing mountain slopes. Winds throughout the area are usually moderate, prevailing from the southwest in summer and from the north and east in winter.

Other

Region 5 is within the Goodnews, Dillingham, Naknek, and Nushagak Bay quadrangles. It is entirely within the boundaries of the Bristol Bay Regional Native Corporation.

Access

Settlements in the Region include Dillingham, Aleknagik, Clark's Point, Ekuk, and Portage Creek. Access to Region 5 is predominantly through air transportation via Dillingham. There are 11 facilities that support air transport – two seaplane bases, a heliport, and eight airports. Dillingham has a state-owned airport that provides a 6,404-foot paved runway and has regular jet flights from Anchorage. A privately owned seaplane base is available three miles west of Dillingham at Shannon's Pond. A heliport is available at Kanakanak Hospital. Dillingham is also reached by sea. There is a city-operated small boat harbor with 320 slips, a dock, barge landing, two boat launches, and boat haulout facilities. The harbor is a tidal harbor and only used seasonally. Two barge lines make scheduled trips from Seattle. The state Department of Transportation maintains a paved road that covers the 23 miles to Aleknagik. Winter trails extend west to Manokotak as well as east to Portage Creek and thence Naknek.

Resources and Uses

The Nushagak and Wood Rivers support a large salmon run that provides for commercial fishing and fish processing and subsistence use. The lakes and streams are intensively used for recreation. Good access throughout the Region adds to its high recreational resource potential. The Region has moderate potential for oil and gas development. Agricultural uses are primarily for small gardens around inhabited areas. An important forest resource occurs north and northeast of Dillingham. Community expansion potential is high due to the presence of services, infrastructure, and industry in the area surrounding Dillingham.

Cultural and Historic. Archaeological evidence indicates that areas within Region 5 have been continuously occupied for at least 2,000 years. Traditionally a Yup'ik Eskimo area, the area is now a highly mixed population of non-Natives and Natives. The outstanding commercial fishing opportunities in the Bristol Bay area are the focus of the local culture. The area was inhabited by both Eskimos and Athabascans and became a trade center when Russians erected the Alexandrovski Redoubt (Post) in 1818. Local Native groups and Natives from the Kuskokwim Region, the Alaska Peninsula, and Cook Inlet mixed together as they came to visit or live at the post.

The community was known as Nushagak by 1837, when a Russian Orthodox mission was established. In 1881 the U.S. Signal Corps established a meteorological station at Nushagak. In 1884 the first salmon cannery in the Bristol Bay region was constructed by Arctic Packing Co., east of the site of modern-day Dillingham. Ten more were established within the next 17 years. The post office at Snag Point and town were named after U.S. Senator Paul Dillingham in 1904, who had toured Alaska extensively with his Senate subcommittee during 1903. The 1918-19 influenza epidemic struck the region and left no more than 500 survivors. The hospital that was established at Kanakanak in 1913 also became an orphanage after the epidemic. The Dillingham townsite was first surveyed in 1947, and the city was incorporated in 1963.

The state Office of History and Archaeology lists 108 sites in Region 5 – 10 prehistoric, 89 historic, and nine of mixed origin. The majority of these sites are situated along the east shore of Nushagak Bay and along the Wood River. New sites are discovered periodically and are added to the Alaska Heritage Resource Database when reported.

Economic. The Dillingham district is the economic, transportation, and public service center for western Bristol Bay. Commercial fishing, fish processing, cold storage, and support of the fishing industry are the primary activities. Many residents hold commercial fishing permits. During spring and summer, the population of Dillingham doubles; the city's role as the regional center for government and services helps to stabilize seasonal employment. Many residents depend on subsistence activities, and some trap beaver, otter, mink, lynx, and fox to provide additional cash income. Salmon, grayling, pike, moose, bear, caribou, and berries are harvested. In the more remote Portage Creek area, everyone depends to some extent on subsistence activities for various food sources. The Nushagak commercial fishery is one of the important fisheries in Bristol Bay. In 2002 the Nushagak fishery had an actual run of 4,538,000 sockeye salmon. The commercial harvest was 2,816,000 fish or approximately 26 percent of the Bristol Bay harvest; the 1982-2001 annual average harvest for the Nushagak fishery is 3,836,000 sockeye.

Recreation. Region 5 contains significant recreation resources, primarily for outdoor activities related to fishing, hunting, boating, camping, hiking, and wildlife viewing. The state manages the Lake Aleknagik State Recreation Site, located at the lower end of Lake Aleknagik, which boasts a boat launch, parking area, and ranger station. The management plan for the recreation site is found within the Wood-Tikchik State Park Management Plan (October 2002). In many respects, Dillingham is the gateway to Wood-Tikchik State Park, and many users travel to Dillingham to take charters to the interior of the Park.

At least half a dozen recreation lodges are located in the lake district northwest of Dillingham. By comparison, more than four times that many seasonal commercial sport fishing camps are located along the lower Nushagak River on Native lands. Many of these camps support fly-in day use. The Nushagak & Mulchatna Rivers Recreation Management Plan (2005) identifies five public use sites (No. 1-5) along the lower Nushagak River in Region 5. Caribou hunting is also an important component of the recreation scene. Current (1999-2000) estimates show that just over one half (56 percent) of the reporting hunters in the greater Bristol Bay area are nonresidents of Alaska. Alaskan residents from outside the region constitute a little over one third (35 percent) of the hunters, and residents are 8 percent of those reporting.

Minerals. Bedrock in the area is mostly interbedded, very fine- to very coarse-grained graywacke, calcareous graywacke, and siltstone. These rocks are probably correlative with Jurassic clastic sedimentary rocks like those in the southeast part of Hagemeister Island.

Region 5 contains at least five mineral prospects. Most of these are clustered in the Marsh Mountain area and are dominated by mercury occurrences and mines. These mercury deposits developed after Mesozoic clastic rocks of the area had been deformed and intruded by Cretaceous or Tertiary granitic plutons. The most significant of the mercury deposits is the Red Top Mine. The Red Top Mercury Mine is located on the top of the southern peak of Marsh Mountain, 3.1 miles east of the village of Aleknagik. The mine had a small amount of production from veins that host cinnabar; production probably totaled about 100 flasks of mercury. Mercury also occurs six miles west of the Red Top Mine; this location represents an area of occurrences on the southwest shore of Lake Aleknagik, including occurrences at the mouth of Yako Creek.

Minor placers are associated with the mercury deposits. The Iris placer gold prospect is located near the Red Top Mine on the flanks of Marsh Mountain. Mercury has also accumulated in placer deposits on the Wood River at the Wood River occurrence located approximately four miles below the confluence of the Wood and Muklung Rivers. Placer gold also occurs on the Nushagak River, notably near Portage Creek at a location known as Keffer's Bar.

Oil and Gas. Much of Region 5 is underlain by the Bristol Bay (Nushagak) Basin, which is one of two basins in the Bristol Bay area (along with the North Aleutians-Alaska Peninsula basin). The Alaska Peninsula-Bristol Bay oil and gas basin forms a region 500 miles long and up to 100 miles wide. In Region 5 (the northwestern part of the peninsula) the basin is underlain by up to 18,000 feet of Tertiary sediments that thicken to the south and thin to the north. The offshore Bristol Bay basin is a sediment-filled structural depression that underlies the northern continental shelf of the Alaska Peninsula. No oil and gas drilling has been conducted in Region 5. Oil seeps north of Dillingham are reported by local inhabitants.

On a regional basis, northern coastal plain hydrocarbon potential is moderate to locally high for gas and low to moderate for oil, in structural and stratigraphic traps. Oil and gas seeps occur along the Alaska Peninsula's southeastern flank, some along large anticlinal crests. Source rock data indicate that the Tertiary organic shales are prone to carry gas. Oil may be derived from deeper Mesozoic strata. Tertiary and Mesozoic sandstone reservoir characteristics are locally conducive to hydrocarbon production.

State and Native landowners are currently pursuing a new hydrocarbon exploration licensing and leasing program. The Alaska Department of Natural Resources, Lake and Peninsula, Bristol Bay, and Aleutians East Borough have signed a memorandum of understanding (MOU) in support of oil and gas lease sales and licensing of state land in the Bristol Bay and Alaska Peninsula region (March 17, 2004). Similar MOUs are in effect between the DNR and The Aleut Regional Native Corporation (December 18, 2003) and the DNR and Bristol Bay Native Corporation (July 10, 2003).

Materials. There are at least 30 active and inactive materials sites located in the Region, principally along the Dillingham-Aleknagik road.

Forestry. Only a minor percentage of the Region is forested. However, local forestry resources north and northeast of Dillingham are an important source of house logs, saw logs, and fuel. Region 5 contains three types of forest resources: 1) bottomland spruce-poplar (along the Nushagak River), 2) upland spruce-hardwood (mostly north of Dillingham), and 3) lowland spruce-hardwood (northeast of Dillingham at elevations above the Nushagak River floodplain).

Upland mixed forests occur to the north of Aleknagik. These mixed forests are primarily open spruce and birch forests with numerous interspersed bogs. The most valuable of these forest resources for local use are located between Dillingham and Aleknagik.

Fish and Wildlife. All five species of Pacific salmon – chinook (king), sockeye (red), coho (silver), pink (humpy), and chum (dog) – spawn in the Wood River and Tikchik systems. Sockeye are the most important commercially. Freshwater sport fish are generally prolific throughout the area. Rainbow trout, Arctic grayling, lake trout, Arctic char, Dolly Varden, and northern pike abound. Whitefish are an important subsistence species in the area.

Caribou are an important resource in the area. Between 1981 and 1996, the Mulchatna Caribou Herd increased from 19,000 to 200,000. Since then, it has declined to about 30,000.

Moose are relatively new to the Bristol Bay area, possibly moving into the area from the middle Kuskokwim drainages during the past 100 years. During the previous 20 years, moose numbers have increased, and moose are now common along the Nushagak/Mulchatna Rivers and all of their major tributaries. They also occur throughout the Wood/Tikchik Lake area and have extended their range westward.

Brown bears are common throughout the north Bristol Bay area and are seasonally abundant along salmon spawning areas in the Nushagak, Mulchatna River drainages as well as along the Wood River Lakes. These bears are also observed near aggregations of the Mulchatna Caribou Herd.

Birds nesting in the area include a wide variety of waterfowl, gulls, bald eagle, golden eagle, Arctic tern, various loons, spotted and least sandpipers, semipalmated plover, willow ptarmigan, and spruce grouse. Numerous transients pass through as well.

Trapping has historically been an important part of the culture and economy of the northern Bristol Bay area and provided a ready means of acquiring cash prior to development of the commercial fishing industry. Until recently, large numbers of trappers from around the area would come to Dillingham to tag and sell pelts at the annual "Beaver Roundup" in March. Fur buyers purchased thousands of pelts during the weeklong rendezvous and celebration. Historically beaver have been the most important furbearer in the Region. Population trends of furbearers in the Region are favorable – either stable or increasing. Reported harvests in recent years are only a fraction of the past, largely due to less harvest activity than in earlier years.

MANAGEMENT CONSIDERATIONS: LOCAL AND STATE PLANS AND SPECIAL USE AREA

Chapter 1 contains a summary of the 45-year history of state and federal efforts to conserve the Kvichak and Nushagak drainages and balance conservation and development in the overall Bristol Bay drainages. In Chapter 2, the section titled "Coordination, Cooperative Land Use Planning and Public Notice" re-emphasizes the state's historic position under Governor Hammond that the Bristol Bay drainages, and the Kvichak and Nushagak in particular, need cooperative land use planning to conserve habitat across property boundaries because fish and wildlife do not observe such boundaries. In Chapter 3, each regional section identifies a number of local, state, and federal management plans that were considered in development of this plan and that provide context for efforts at the cooperative land use planning recommended by this Citizens' Alternative Bristol Bay Area Plan.

Other plans consulted include the Nushagak River Watershed Traditional Use Area Conservation Plan, developed by the Nushagak-Mulchatna Watershed Council, and the Southwest Alaska Salmon Habitat Partnership Strategic Conservation Plan. The partnership was recognized in 2008 by the National Fish Habitat Board. The state of Alaska, through the Department of Fish and Game, participates as a member of the partnership. A number of local, state, and federal management plans were considered in development of this plan. Local plans include the Nushagak & Mulchatna Rivers Recreation Management Plan, the Southwest Alaska Comprehensive Economic Development Strategy (2003-2008), the Nushagak River Watershed Traditional Use Area Conservation Plan (2008 and updated in 2011), and the City of Dillingham Comprehensive Plan. State plans include the Bristol Bay Area Plan, the Wood-Tikchik State Park Management Plan, the Lake Aleknagik State Recreation Site Plan, the Nushagak & Mulchatna Rivers Recreation Management Plan, the Southwest Alaska Transportation Plan, and a state Special Use Area for the Togiak NWR. Federal plans include the Togiak National Wildlife Refuge Comprehensive Conservation Plan. The Strategic Conservation Plan of the Southwest Alaska Salmon Habitat Partnership, in which the state participates, also applies in this region.

The Bristol Bay Area Plan (1984) affected all state lands in the Region; that plan was amended in 1990 by adoption of the Nushagak & Mulchatna Rivers Recreation Management Plan. The 1984 Area Plan stated that Region 5 was to be managed to accommodate increased development while maintaining fish and wildlife habitats. The other DNR plan affecting this Region is the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP) (2005), which manages recreational uses and identifies a number of public use sites. In the Citizens' Alternative,the requirements of the RRMP continue to apply in Region 5. This Citizens' Alternative BBAP supersedes the 2005 revised BBAP and the original (1984) Bristol Bay Area Plan.

The state of Alaska has designated a Special Use Area for the Togiak National Wildlife Refuge and the Lower Goodnews River (May 10, 1991; ADL 226851). It applies to those lands generally described as shorelands within Togiak National Wildlife Refuge and lower Goodnews River as described in the Togiak National Wildlife Refuge Public Use Management Plan and Environmental Assessment. Setting up and using a camp is allowed, as provided in 11 AAC 96.020 (a)(4)(A), except that the period of use is limited to three consecutive days at any one site. The period of use may be extended by permit. The Southwest Alaska Transportation Plan (ADOT/PF, November 2002) identified a Dillingham/Bristol Bay Area Transportation Corridor, which in general extends from Levelock to Dillingham, connecting with the communities of Ekwok and Aleknagik. It includes a crossing of the Wood River at Aleknagik and a major crossing of the Nushagak River. There are several possible tie-in locations to the Bristol Bay to Cook Inlet corridor. The plan also considers a corridor from Aleknagik to Igiugig via Levelock.

The western portion of Region 5 encompasses part of the Togiak National Wildlife Refuge. The refuge has a Comprehensive Conservation Plan, which is in the process of revision.

MANAGEMENT SUMMARY: UPLANDS

State land in Region 5 is to be managed for a variety of multiple uses, including subsistence, settlement, materials extraction, public facilities development, dispersed public recreation, mineral exploration, and maintenance of sensitive wildlife habitats. Oil and gas exploration and development, although only of moderate potential, may also be appropriate within the Region. The majority of lands are Habitat (Ha) with a co-designation for Recreation and Settlement (Se). Because of the generally good topographic conditions and relatively good accessibility of certain of these lands, large tracts of state land have been designated Settlement (Se). Much of this Settlement land is intended to facilitate the expansion of the Dillingham community. Other more remote and generally less desirable areas are Habitat (Ha). Areas near the Wood-Tikchik State Park and Lake Aleknagik State Recreation Site are designated Public Recreation and Tourism-Dispersed (Rd). Public Use Sites, used for recreation, have been designated Public Recreation and Tourism-Public Use Sites (Rp). A large number of small management units associated with facilities are designated Public Facilities-Retain (Pr). A management unit adjacent to the Togiak NWR is designated Habitat (Ha). Active materials sites are designated Materials (Ma).

Plan Designations and Management

The plan designations that are used within this Region have the following management intent.

The policies and management intent guidelines described in Chapter 2 affect all DNR authorizations. Refer especially to those guidelines relating to Fish and Wildlife Habitat and Harvest Areas and Settlement. See also the descriptions of the plan designations in the first part of this chapter; this section indicates which lands can be conveyed out of state ownership and which must be retained.

- **Habitat (Ha).** Generally, this designation applies to most of the state lands within Region 5. Habitat is land that is primarily valuable for (1) fish and wildlife resource production, whether existing or through habitat manipulation, to supply sufficient numbers or a diversity of species to support commercial, recreational, or traditional uses on an optimum sustained yield basis, including "essential habitat" and "important habitat;" or (2) a unique or rare assemblage of a single or multiple species of regional, state, or national significance. (See 11 AAC 55.230; see also "essential habitat" and "important habitat" herein.) Habitat also includes all anadromous waters specified under the Anadromous Fish Act, AS 16.05.871 *et seq*., and all land subject to mineral closing orders issued to protect anadromous waters. Subsistence (Su) is a co-designated use with Habitat by the Citizens Alternative BBAP. This designation is also applied as a co-designation with Public Recreation and Tourism-Dispersed in certain areas affected by the Nushagak & Mulchatna Rivers Recreation Management Plan.
- **Materials (Ma).** Lands designated Materials are those where active or inactive materials sites are present. These can include common varieties of sand, gravel, and stone or are sites associated with materials extraction that contain conveyors, crushing, sizing, and other processing equipment. Until the materials have been exhausted, material sites are to be retained in state ownership; thereafter, other forms of authorizations or disposals may be appropriate. Authorizations or disposals should be done in consultation with the Department of Transportation and Public Facilities.
- **Public Recreation and Tourism-Dispersed (Rd).** Lands with the designation of Public Recreation and Tourism-Dispersed are to be managed so that their public recreation values are protected and maintained. Within these areas the primary surface uses are intended to be those related to hiking, hunting, fishing, wildlife viewing, and the like. A small tract of state land adjoining the Wood-Tikchik State Park is recommended for inclusion in this Park and is designated Rd (Wood-Tikchik State Park Management Plan, October 2002, p. 11-3 and Map 11-1).
- **Public Recreation and Tourism-Dispersed and Habitat (Co-designation).** Certain navigable waterbodies (lakes and streams) are co-designated Habitat (Ha) and Public Recreation and Tourism-Dispersed (Rd).

- **Public Facilities-Retain (Pr).** This designation applies to sites that are reserved for a specific public infrastructure requirement. They are to be retained in state or public ownership. In this Region, this designation applies to lands containing public facilities, commonly airports or schools. Only a small amount of acreage is affected by this designation.
- **Public Recreation and Tourism-Public Use Site (Rp).** This designation applies to areas with a concentration of recreational users or tourists or that are likely to have such concentrations. Within this Region this designation applies to specific recreation sites – the Aleknagik State Recreation Site and the public use sites identified in the Nushagak & Mulchatna Rivers Recreation Management Plan. Unless otherwise indicated in the Resource Allocation Table, these sites are to be retained by the state. In some instances they may be conveyed to a municipality, subject to the municipality retaining them in public ownership and ensuring that they remain available for public use.
- **Settlement (Se).** This designation applies to state uplands suitable for sale, leasing, or permitting to allow private recreational or residential use. Within this Region four large areas of state land are considered appropriate for settlement and have been designated as such. These occur between the Nushagak River and Iowithla Creek, in the vicinity of Etolin Point, in an area along and east of the Wood River, and in the vicinity of Snake Lake and the Snake River. These areas are intended for Community Settlement; see Chapter 2 for specific requirements for this form of settlement. Settlement lands are appropriate for conveyance to a borough should one be formed in the Region.
- **Subsistence (Su).** This designation applies to lands and waters that are suitable for subsistence activities, due to the ability of subsistence users to use the lands and waters productively over time for such activities. These activities include subsistence hunting, fishing and gathering.
- **Water Resources (Wr).** See Definition and Management Intent under page 85.

Specific Management Considerations

- Generally Allowed Uses. The Generally Allowed Uses in 11 AAC 96.020 can occur throughout the Region, unless the circumstances indicate a particular use would be incompatible with the applicable land designation and classification.
- Proposed Transportation Corridor. The area identified on the Region Map as a "Potential Transportation Corridor" should be retained by the state during the planning period. Authorizations granted by DNR within or adjacent to this corridor should not preclude the future development of transportation access. Authorizations or disposals within and adjacent to this corridor should only be allowed after consultation with ADOT/PF.
- Addition to State Park. State land adjacent to Wood-Tikchik State Park (R05-01) is recommended for inclusion in Wood-Tikchik State Park. Until included within the Park, this land is to be managed for dispersed public recreation and is designated Public Recreation and Tourism-Dispersed (Rd).
- Except for areas closed to mineral entry under existing Mineral Closing Orders, all state lands within Region 5 are open to mineral entry. No additional MCOs are recommended; the only exception applies to the areas to be disposed of by DNR for purposes of Community Settlement. Closure to mineral entry is recommended at or before plan adoption. No leasehold location orders are recommended. See the Subsurface section in Chapter 2 for more detail on subsurface management requirements.
- Mineral Closing and Opening Orders. The Citizens' Alternative Bristol Bay Area Plan retains the mineral closing and opening orders largely implemented by DNR at the time of original plan adoption. These MCOs either close a proposed settlement area or close a number of major streams to mineral location. These include the following:
  - MCO 304 – Snake Lake Settlement Area
  - MCO 305 – Weary River Settlement Area
  - MCO 196 – Warehouse Mountain Settlement Area
  - MCO 443 – Wood River-Aleknagik Road
  - MOO 702 – Warehouse Mountain Settlement Area (Mineral Opening Order)

  An additional MCO is recommended for additional areas where mineral development is likely to occur in the vicinity of salmon habitat or other important habitat areas.
- Mineral Order. Mineral Order No. 791 is retained by this revision as an interim order (as of July 11, 2003) that precludes shallow natural gas leasing and oil and gas exploration licensing. This order has no effect on locatable minerals or leasable minerals other than shallow natural gas leasing and oil and gas exploration licensing. The order affects portions of the Nushagak Peninsula and the vicinity of Etolin Point.

- Retained Lands. Lands within this Region that are designated to be retained are those that are recommended for inclusion in the Wood-Tikchik State Park and those designated as Habitat (Ha), Public Recreation and Tourism Dispersed (Rd), Public Facilities-Retain (Pr) and Subsistence (Su).
- Waters. All catalogued anadromous waters in this region are classified Habitat (Ha). Authorizations in navigable waters must ensure the continued use of a waterway by the public for purposes of trade, travel, and commerce. Authorizations issued by DNR are to maintain the habitat, public recreation and subsistence values of these waterbodies.

See the Resource Allocation Table for more details on the upland management units.

MANAGEMENT SUMMARY: TIDELANDS AND SUBMERGED LANDS

Tidelands in this Region are extensive, extending from the Snake River on the east side of Nushagak Bay to the Kvichak River, situated at the head of Kvichak Bay. The community of Dillingham is situated at the head of Nushagak Bay, a little more than six miles from the mouth of the Nushagak River. Although not part of a tideland area proper, the Nushagak River is tidally influenced at the location of Dillingham, and normally this area would be treated, in terms of designation and management intent, in this section. However, the Dillingham community is fronted by privately owned tidelands, and additional tideland designations are not required. Natives own, for the most part, the uplands that adjoin the coast. Small portions of the uplands are owned by the state.

Marshes are common on the east side of Nushagak Bay, while mixed sand and gravel beaches are typical between Nushagak Bay and Kvichak Bay. Eroding peat scarps, sheltered tidal flats (high biomass content) and marshes are common along the west side of Kvichak Bay. Waterfowl and shorebirds are common as are whales (beluga) and other marine mammals. These other marine mammals are almost entirely harbor seals, although there are some spotted seals as well. There are no major sea bird colonies, sea otter concentrations, or either walrus or sea lion haulouts in this Region. A small harbor seal haulout occurs in a portion of Kvichak Bay, and the central portion of Nushagak Bay is a harbor seal/spotted seal haulout concentration area. Both Kvichak and Nushagak Bays are known beluga whale calving areas. The Bristol Bay Fisheries Reserve affects Nushagak and Kvichak Bays.

The commercial harvest of pink, sockeye, chinook, chum, and coho salmon occurs throughout Nushagak Bay (set net and drift net). Offshore leases for set net harvesting form an almost continuous line along both the east and west coastlines of Nushagak Bay, concentrating south of Dillingham and around Clark's Point and Ekuk, and continuing south of Ekuk on the eastern side of the bay. Drift (gill) net harvest occurs throughout the bay for pink, chum, sockeye, coho, and chinook salmon. Chinook salmon are harvested (drift net) at Etolin Point. Subsistence harvest of fish around Dillingham consists primarily of salmon, but grayling, smelt, trout, whitefish, and pike are harvested to a lesser extent. Clark's Point residents range long distances, if necessary, for subsistence harvest, which includes salmon, smelt, and some waterfowl. A number of Bristol Bay residents migrate to Ekuk during the summer for subsistence harvest of salmon.

The commercial harvest of pink, sockeye, chinook, chum, and coho salmon occurs throughout Kvichak Bay (purse seine and drift net). Set net permits occur all along the upper Kvichak Bay, on both the east and west coastlines. The densest concentrations of set net permits occur along the eastern coastline near the mouth of the Naknek River and south of Naknek. The subsistence harvest of red salmon as a food staple in Kvichak Bay is intensive.

Plan Designations and Management Intent

Coastal Tidelands. These tidelands[1] are designated General Use. Development authorizations are considered appropriate subject to the protection of sensitive resources and areas.

Nushagak Bay (R05T-01). This tideland management unit is designated Habitat. Beluga whale feeding and calving occur throughout most of Nushagak Bay (R05T-01). The Habitat designation also includes the areas of harbor seal haulout concentration at the mouth of Nushagak Bay around Nichols Spit and Protection Point. Development authorizations may be appropriate in this tideland management unit but must avoid or minimize impacts to the beluga whale population during the calving life-cycle stage and to the harbor seal/spotted seal haulout concentration areas.

1 Tidelands along the coast not included in R05T-01 or R05T-02.

Kvichak Bay, (R05T-02)[2]**.** Kvichak Bay borders on both Region 5 and Region 11 but is being addressed as one management unit (R05T-02) so it can be managed as one unit. Both the Kvichak and the Naknek Rivers flow into this bay at its head. The area around the river mouths consists of extensive shallow and exposed tidal flats having high biomass content. Large areas of exposed tidal flats are also common south of the Naknek River. This bay provides feeding concentration areas for beluga whales and is also an important beluga whale calving habitat. Harbor seals are common at Graveyard Point near the mouth of the Kvichak River. Shorebirds occur near the mouths of the Kvichak and Naknek Rivers, and both shorebirds and waterfowl are present along the coast south of the Naknek River. The headwaters of the Naknek River support particularly high densities of staging swans and geese during the spring. Development authorizations may be considered appropriate but must avoid or minimize impacts to the beluga whale population during that part of their life cycle involving calving and to the area of the harbor seal haulout at "Deadman Sands." See also, *Region 11*.

See the Resource Allocation Table for more details on the tideland management units.

2 The tideland unit for Kvichak Bay consists of only one management unit (R05T-02), but the description of the eastern portion of this tideland unit is provided again in Region 11 to ensure that the tideland resources of Kvichak Bay are properly understood.

RESOURCE ALLOCATION TABLE FOR UPLAND UNITS — REGION 5

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R05-01 Upper Aleknagik Lake	10523 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su - Subsistence Wr – Water Resources	S9S58W Sec. 2-13	This unit is designated Ha, Rd and Su and is to be managed generally, for the purposes of dispersed recreation and the protection of fish and wildlife. It is to be retained by the state and is recommended for eventual inclusion in the Wood-Tikchik State Park. DNR authorizations should be limited to those that are consistent with the eventual use of this area as part of the State Park. The management of this unit should be similar to that of the adjoining area in the State Park. Consult the management requirements of Management Unit 7 (Lake Nerka) in the State Park Plan for specific guidance. Refer also to the specific management requirements for calving areas in the Fish and Wildlife Habitat and Harvest Areas section of Chapter 2.	This unit of approximately 12 sections of state land is situated south of Wood-Tikchik State Park, along the southwest shores of Lake Aleknagik, and is bisected by Youth Creek. It is an area vegetated in tall shrub. This unit has been recommended for inclusion into Wood-Tikchik State Park by the Wood- Tikchik State Park Management Plan. The unit includes moose calving areas, bear denning sites, and anadromous fish streams and areas utilized for recreation. The unit is affected in part by MCO 718. The unit is 47 percent moose wintering and 47 percent moose rutting habitat.
R05-02 Nunavaugaluk Lake	61466 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su - Subsistence Wr – Water Resources		This unit is Ha, Rd and Su and is to be managed for a variety of resources, including dispersed recreation, fish and wildlife protection, and habitat protection. Development authorizations may be appropriate subject to the protection of these resources and the requirements of Chapter 2. Because of its somewhat remote location and lack of accessibility, it is not intended that intensive development occur within this unit in the foreseeable future except occasionally and at specific locations. The unit is not considered suitable for settlement. Instead, settlement should be directed to nearby areas designated Settlement or in areas already conveyed to private individuals or Native corporations.	This unit is a large noncontiguous area of land that includes Ice Creek and Nunvak Mountain in its northern extent, the Weary River along the western and southern extents, and Lake Aleknagik and Nunavaugaluk Lake on the eastern side. The area is vegetated mostly in tall shrubs. The unit contains 47 km of anadromous fish streams, which are utilized by bear during the spawning season and are used by moose for calving. Parts of the unit are affected by MCO 305.
R05-03 Table Mountain	20421 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su - Subsistence Wr – Water Resources		This unit is designated Ha, Rd and Su. These lands should be managed for a variety of uses, including the protection of fish and wildlife and their associated habitat, anadromous fish streams, and dispersed recreation and tourism. Development authorizations may be appropriate subject to the protection of these resources and the requirements of Chapter 2. Intensive development is not expected within this unit in the foreseeable future except occasionally and at specific locations. The unit is not considered suitable for settlement.	This is a unit composed of state land and state-selected land. It is a fairly mountainous area with tall and low shrub vegetation. Jackknife Mountain makes up the very western extent of the unit with Table Mountain to the south, Lake Nerka and Wood-Tikchik State Park to the north, and the Muklung River on the eastern boundary. The unit contains anadromous fish streams and supports moose calving areas. The eastern part of the unit is affected by MCO 393.
R05-04 Snake Lake	28339 Ha – Habitat Se – Settlement		The unit is designated Ha and Se and is considered appropriate for disposal. Development is to conform to the Management Guideline pertaining to Remote Settlement in the Settlement section and to those of the Caribou and Moose Rutting and Calving Area Management Guideline in the Fish and Wildlife Habitat and Harvest Areas section, both of which are found within Chapter 2.	This unit mostly surrounds Nunavaugaluk Lake and is in turn encompassed by unit R05-02. The area includes hills and lowlands vegetated in tall shrub types. The state has offered and patented various land units in this area through the land sales program. The area is used for recreation, hunting, and fishing and contains anadromous fish streams, bear denning sites, and moose. Portions of this unit, along Nunavaugaluk Lake, are affected by MCO 304.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R05-05 Lake Aleknagik	1284 Ha – Habitat Se – Settlement	S1S56W Sec. 18,28,29	If conveyed by the federal government, these lands are considered suitable for Settlement and are appropriate for disposal. Disposals should conform to the requirements of a Community Settlement Area in the Settlement section of Chapter 2. Buffers along anadromous fish streams should conform to the management guidelines in Chapter 2. This is considered a high priority selection.	This unit is composed of two noncontiguous portions of state-selected land on the southwest shore of Lake Aleknagik. One unit is situated east of Mable Mountain, and the other is northeast of Mable Mountain. Both occupy areas of level terrain with tall shrubs and are considered suitable for settlement. The northern unit has lakefront access and is close to Aleknagik. Anadromous fish streams, Bear Creek and Yako Creek, exist between and south of the units. Bears use these streams when salmon are spawning.
R05-06 Lake Aleknagik 2	554 Rp – Public Recreation and Tourism-Public Use Site	S1S56W Sec. 25,36	If these lands are conveyed by the federal government they are to be managed for public recreation and tourism. Authorizations related to commercial recreation uses may be appropriate subject to the protection of these resources and the requirements of Chapter 2. Intensive development is not intended during the planning period except occasionally and at specific locations. If conveyed, the unit is to be retained in state ownership. This is considered a high priority selection.	This unit is composed of two noncontiguous portions of state-selected land along the eastern shore of the lower end of Lake Aleknagik. It is an area of level terrain and tall shrub vegetation. The area is utilized for public recreation, hunting, and fishing and is adjacent to the Aleknagik State Recreation Site. The Alaska Heritage Resources Survey (AHRS) reports several heritage sites in or near this unit.
R05-07 Aleknagik Airport	67.9 Pr – Public Facilities-Retain	S1S55W Sec. 19,30	This unit is to be managed by ADOT/PF consistent with FAA standards and the conditions of the Management Agreements (ADLs 220386 and 220387) and limited state holdings (LSHs 178 and 179).	This unit contains airport facilities situated near the community of Aleknagik. It is managed by ADOT/PF under Management Agreement (ADLs 220386 and 220387) and limited state holdings (LSHs 178 and 179).
R05-08 Lake Aleknagik	1.02 Rp – Public Recreation and Tourism-Public Use Site	S1S55W Sec. 31	This small unit is adjacent to the Aleknagik Lake State Recreation Area and is to be managed consistent with the management plan for the recreation area as provided for in the Wood-Tikchik State Park Management Plan (2002). The unit is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	This land (OSL 1170) is located on the south shore of the east end of Lake Aleknagik adjacent to Aleknagik Lake State Recreation Area. It is an area of tall shrub vegetation and level terrain. The area has important recreational values.
R05-08a Aleknagik State Recreation Site	5.75 Rp – Public Recreation and Tourism-Public Use Site	S1S56W Sec. 36	This unit is to be managed as Lake Aleknagik State Recreation Area by DPOR under the stipulations of the ILMA (ADL 227395) and in accordance with provisions in the Wood-Tikchik State Park Management Plan (2002). The unit is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	This land (OSL 1112) is located on the south shore of the east end of Lake Aleknagik. Along with the shorelands of the lake, it forms Aleknagik Lake State Recreation Area under an ILMA issued to DPOR (ADL 227395). It is an area of level terrain and tall shrub vegetation.
R05-09 Aleknagik Research Station	5.61 Pr – Public Facilities- Retain	S1S55W Sec. 32	This unit is to be retained in state ownership and managed to accommodate a field research station. Public access to the river is to be maintained by way of a 50-foot stream access buffer, and a building set back of 150 feet is to be maintained.	This state-selected unit is located at the east end of Lake Aleknagik situated on the south bank of the Wood River, an anadromous fish stream. There is an ANILCA 906(k) concurrence (ADL 17883) issued to ADF&G for the site to be utilized as a Bristol Bay Fisheries field research station. The Alaska Heritage Resources Survey (AHRS) reports several heritage sites in or near this unit.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R05-10 Weary River	16054 Ha – Habitat Se – Settlement		The unit is designated Ha and Se and is considered appropriate for disposal. Development is to conform to the requirements of Remote Settlement and those for the Caribou and Moose Rutting and Calving Area, both of which are described in the Settlement and Fish and Wildlife sections, respectively, of Chapter 2. Buffers along anadromous fish streams must also conform to the management guidelines in Chapter 2.	This unit occupies an area of rolling hills and lowlands between the Weary River on the west and Nunavaugaluk Lake to the east. This area is considered suitable for settlement, and the state has offered and patented portions of the unit through the land sales program. The area is utilized for recreation, including hunting and fishing. The unit includes anadromous portions of Eagle Creek and is close to the anadromous Weary and Snake Rivers. The area contains wintering areas for moose. Bear utilize the anadromous fish streams during the salmon runs. Much of this unit is affected by MCO 305; also see MCO 304.
R05-11 Nuyakuk	1270 Ha – Habitat Se – Settlement	S11S56W Sec. 19,20	The unit is designated Ha and Se and is considered appropriate for disposal during the planning period. Development shall conform to the requirements of Chapter 2, particularly those found in the Settlement section.	This unit consists of two sections of land immediately east of the Otter Creek drainage and two to four miles east of Nunavaugaluk Lake. The terrain is vegetated primarily in tall shrub-type plants. The land contains both level and steep components. Otter Creek is cataloged as anadromous downstream from the unit.
R05-11a Silver Salmon Creek	3840 Ha – Habitat Se – Settlement	S11S56W Sec. 1,2,15, 23,34,35	If conveyed by the federal government, the unit is appropriate for settlement and may be considered for disposal. Development is to conform to the requirements of Remote Settlement in Chapter 2. Buffers along anadromous fish streams must also conform to the management guidelines in Chapter 2. This is considered a high priority selection.	This unit is made up of several portions of state-selected land located south of Silver Salmon Creek and north of Otter Creek. The Aleknagik-Dillingham road passes through the east part of the unit. It is an area of fairly level terrain, low and tall shrub, and moist tundra vegetation that is considered suitable for settlement.
R05-12 Wood River-Aleknagik Road	34481 Ha – Habitat Se – Settlement		The unit is designated Ha and Se and is considered appropriate for disposal. Disposals should conform to the Management Guideline Community Settlement Area in Chapter 2. The Bristol Bay transportation corridor transects the unit; the actual position of the road alignment has yet to be determined. No authorizations or disposals should be considered that are within or near the corridor until the road alignment is known or without consultation with the ADOT/PF.	This is a large unit of state-owned and state-selected land situated east of the Dillingham-Aleknagik Road. It is a level lowland area vegetated in low shrub and moist tundra types along the Wood and Muklung Rivers that is suitable for settlement. The City of Dillingham has been conveyed land by the state and established a landfill (ADL 227310) adjacent to the lower southwest corner of this unit. The Wood and Muklung Rivers are cataloged as anadromous fish streams. They are utilized by bear when the salmon are spawning. The unit has good access along the rivers, is near the road system, and has high recreation values. The Alaska Heritage Resources Survey (AHRS) reports several heritage sites in or near this unit. The unit is affected in part by MCO 443 and in part by MCO 393.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R05-13 Muklung Hills	6385 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources	S11S54W Sec. 11,15, 24,25,36; S12S54W Sec. 1,12, 13,14,23	This unit is designated Ha, Rd, and Su. These lands should be managed for a variety of uses including protection of fish and wildlife, protection of fish and wildlife habitat, minerals exploration, and dispersed recreation and tourism. The unit is not suitable for Settlement. Development authorizations may be appropriate subject to the protection of these resources and the requirements of Chapter 2. Intensive development is not intended within this unit during the foreseeable future except occasionally and at specific locations. The Bristol Bay transportation corridor transects the unit; the actual position of the road alignment has yet to be determined. No authorizations or disposals should be considered that are within or near the corridor until the road alignment is known or without consultation with the ADOT/PF.	This unit is made up of state-owned and state-selected land along the border with Region 6, one to four miles west of the Little Muklung River. It is a lowland area of wet tundra along the edge of the Muklung Hills. The Little Muklung River is not cataloged as anadromous, and few fish and wildlife resources are identified on the unit. The unit has low scenic and recreational values. The area is utilized for caribou and moose hunting.
R05-14 Dillingham Road	840 Se – Settlement	S12S56W portions of Sec. 1,12, 13,24,25	The unit is designated Se and is considered appropriate for disposal during the planning period. Because of its proximity to the Dillingham-Aleknagik Road, the unit may have potential for a variety of uses. The potential for uses other than residential should be evaluated prior to creating a land disposal. Disposals should conform to the requirements for Community Settlement Area in the Settlement section of Chapter 2.	This unit is composed of three noncontiguous areas located along the west side of the Dillingham-Aleknagik road. This area of rolling lowlands is vegetated primarily in shrub tundra types. It is considered suitable for settlement. This unit has relatively good access, and portions may be of high value and are potentially suitable for commercial property or subdivision. It contains a materials potential and could be developed for a variety of uses, including commercial, industrial, and/or residential. The Alaska Heritage Resources Survey (AHRS) reports a heritage site in or near this unit.
R05-15 Snake River	15963 Ha – Habitat Se – Settlement		The unit is designated Ha and Se and is considered appropriate for disposal. Development is to conform to the requirements of Remote Settlement and those for Caribou and Moose Rutting and Calving Area, both of which are described in the Settlement and Fish and Wildlife Habitat and Harvest Areas sections, respectively, of Chapter 2. Buffers along anadromous fish streams must also conform to the management guidelines in Chapter 2.	This land is located generally south of Nunavaugaluk Lake with the Snake River flowing through the northeastern portion of the unit and the Weary River flowing through the very southwestern corner of the unit. The area is vegetated in tall and low shrubs and considered suitable for settlement. Both the Weary and Snake Rivers are cataloged as anadromous, and bears utilize these streams during the salmon runs. Moose winter in the Snake River drainage and near the outlet to Nunavaugaluk (Snake) Lake.
R05-16 Warehouse Mountain	16061 Ha – Habitat Se – Settlement		The unit is designated Ha and Se and is considered appropriate for disposal. Development is to conform to the requirements of Remote Settlement and those for Caribou and Moose Rutting and Calving Area, both of which are described in the Settlement and Fish and Wildlife Habitat and Harvest Areas sections, respectively, of Chapter 2. Buffers along anadromous fish streams must also conform to the management guidelines in Chapter 2.	This land is located generally between the Snake River and the Dillingham-Aleknagik road in terrain drained by Otter Creek. The unit, vegetated in tall and low shrub types, is composed of state land and state-selected lands. Because of its topography and proximity to the road system and river, it is considered suitable for settlement. The state has offered and patented many areas within the unit through the land sales program. The Snake River is cataloged as an anadromous fish stream, and the area is utilized by both bear and moose. This unit is affected by MCO 196 and by MOO 702.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R05-17 Lower Wood River/ Dillingham	2517 Ha – Habitat Rd – Public Recreation and Tourism Dispersed Su - Subsistence Wr – Water Resources	S13S55W Sec. 7, 15, 16; S13S56W Sec. 13	This unit is designated Ha, Rd and Su. If these lands are conveyed by the federal government, they are to be managed for a variety of uses, including mineral exploration, the protection of anadromous fish and other fish and wildlife resources, and dispersed recreation and tourism. Intensive development is not intended during the planning period except occasionally and at specific locations related to minerals or commercial recreation. This is considered to be a high-value selection.	This unit consists of several areas of state-selected land near the City of Dillingham. They are approximately one mile northwest and east of the Dillingham airport. The areas are flat to rolling terrain dotted with small lakes and creeks with low shrub and moist tundra vegetation. The Alaska Heritage Resources Survey (AHRS) reports several heritage sites in or near this unit. The unit is affected in part by MCO 393.
R05-18 Dillingham Airport	84 Pr – Public Facilities-Retain	S13S55W Sec. 17,18, 19	This unit is to be managed by ADOT/PF consistent with FAA standards and the conditions given in the Management Agreement (ADL 17963), conveyance documents (OSL 36), and limited state holdings (LSH 46). Unit is to be retained in state ownership.	This unit of land contains airport facilities situated adjacent to the City of Dillingham. It is composed of a limited state holding (LSH 46) and state land (OSL 36) managed by ADOT/PF under ILMT (ADL 17963) and the stipulations of the LSH and OSL.
R05-19 Downtown Dillingham	9.92 Pr – Public Facilities- Retain	S13S55W Sec. 16,21	This land is designated Pr. A portion of this unit is to be managed by ADF&G under a Management Agreement (ADL 224662). Another portion is to be managed by ADOT/PF under an ILMT (ADL 61051) for a maintenance campsite. The remainder of the unit is to be managed by DNR as commercial property for lease or rent. A portion of this unit may be transferred to the City of Dillingham under title 38.05.810 without reclassification. A portion of lands covered by ADL 61051 and ADL 224662 are considered appropriate for conveyance to another governmental entity for public purposes.	This unit is composed of state land (OSLs 72, 165, 115, and 312) located in Dillingham. A portion of the unit has an ILMT (ADL 61051) issued to ADOT/PF for the purposes of a maintenance campsite. A portion of this unit is to be managed by ADF&G under management agreement (ADL 224662).
R05-20 Nushagak River	23326 Ha – Habitat Rd – Public Recreation and Tourism Dispersed Su - Subsistence Wr – Water Resources	S13S54W; and S13S53W Sec. 18,19,20,25	The unit is designated Ha, Rd and Su and is to be managed for a variety of uses, including the protection of fish and wildlife resources and their associated habitats, mineral exploration and development, and dispersed recreation. Some forms of recreation use, including commercial recreation, may be appropriate if these recreational uses are found to be compatible with the management intent for adjacent river corridors designated Ha-Rd or Rd in the Area Plan. Development authorizations may be appropriate subject to the protection of these resources, consistency with the recreation uses specified in the RRMP, and the specific requirements of Chapter 2; see particularly the requirements for Management Guideline J, "Nushagak & Mulchatna Rivers Recreation Management Plan," in the Recreation, Tourism, and Scenic Resources section of Chapter 2. For convenience, Table 2.2 contains a listing of allowed, prohibited, and conditional (recreational) uses by RRMP Management Unit. Management Guideline J in the Recreation, Tourism, and Scenic Resources section of Chapter 2 specifically defines the relationship between the RRMP and the BBAP and must be consulted in adjudication decisions. Intensive development is not expected within this unit in the foreseeable future, except occasionally and at specific locations associated with recreation uses and mineral exploration and development. Settlement is not considered an appropriate use.	This unit is made up of areas of state-owned and state-selected land straddling the Nushagak River east of Dillingham. The area north of the Nushagak River is drained by the Little Muklung River and by Black Slough. It is a flat wetland area vegetated in low shrub and lichen tundra types. The unit is affected by MCO 393, which closes the Nushagak River to mineral location. The unit can be accessed by the Dillingham- Lewis Point trail, which extends across the unit from west to east. The Togiak-Nushagak trail also extends into the unit.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R05-21 Scandinavian Slough	59979 Ha – Habitat Rd – Public Recreation and Tourism Dispersed Su - Subsistence Wr – Water Resources		The unit is designated Ha, Rd and Su and is not considered appropriate for disposal due to its high-value moose habitat. Any authorized development is to conform to the requirements for the Caribou and Moose Rutting and Calving Area, both of which are described in the Fish and Wildlife Habitat and Harvest Areas sections of Chapter 2. Buffers along anadromous fish streams must also conform to the management guidelines in Chapter 2.	This unit of state-owned and state-selected land located north of the Nushagak River and Scandinavian Slough and south of the Iowithla River occupies an area of fairly flat to rolling terrain vegetated in low shrub and moist tundra that is suitable for settlement. Trails extend to the unit from Dillingham, and a number of lakes are navigable. Lands not part of the unit along the Nushagak and Iowithla Rivers are used by moose for calving; both rivers are anadromous.
R05-22 Corridor of the Iowithla River	4949 Rd and Ha – Public Recreation and Tourism-Dispersed and Habitat Su - Subsistence Wr – Water Resources		This unit, which consists of the navigable portions of the Iowithla River and its adjoining uplands, is co-designated Public Recreation and Tourism- Dispersed (Rd), Subsistence (Su), and Habitat (Ha). Unit is to be retained by the state and managed to maintain the recreational uses of the Iowithla River and the adjoining upland corridor, its fish and wildlife resources, and public recreation values. The management requirements of the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP) are to be followed by DNR in the granting of authorizations related to certain types of recreational uses and structures. See the Management Intent and Management Guidelines in the RRMP for Management Unit 2. For convenience, Table 2.2 contains a listing of allowed, prohibited, and conditional uses by RRMP management unit. Management Guideline J in the Recreation, Tourism, and Scenic Resources section of Chapter 2, which more specifically defines the relationship between the RRMP and the BBAP, also applies and should be consulted in adjudication decisions. In general, authorizations should not be issued for nonrecreational uses that are incompatible with the management intent of this unit and the management objectives of the RRMP. Oil, gas, and mineral exploration and development are considered appropriate uses if compatible with the management intent for this unit or if in the best interest of the state.	The unit is the corridor of the Iowithla River as depicted in the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP). The unit consists of that portion of RRMP Management Unit 2 within state-owned lands in Region 5. The width of the corridor varies and may be up to four miles wide, measured from each side of the river system. Vegetation consists of lichen tundra and low shrub. The Iowithla River is cataloged as an anadromous fish stream and is utilized by brown bear, especially during the salmon spawning season. The river corridor is used as a calving area by moose. Note: This corridor is continued in Region 6.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R05-23 Portage Creek	42561 Ha – Habitat Rd – Public Recreation and Tourism Dispersed Su - Subsistence Wr – Water Resources		The unit is designated Ha, Rd and Su and is to be managed for a variety of uses, including the protection of fish and wildlife resources and their associated habitats, mineral exploration, and dispersed recreation. Some forms of recreation use, including commercial recreation, may be appropriate if these recreational uses are found to be compatible with the management intent for adjacent river corridors designated Ha-Rd or Rd in the Area Plan. Development authorizations may be appropriate subject to the protection of these resources, consistency with the recreation uses specified in the RRMP, and the specific requirements of Chapter 2; see particularly the requirements for Management Guideline J, "Nushagak & Mulchatna Rivers Recreation Management Plan," in the Recreation, Tourism, and Scenic Resources section of Chapter 2. For convenience, Table 2.2 contains a listing of allowed, prohibited, and conditional (recreational) uses by RRMP Management Unit. Management Guideline J in the Recreation, Tourism, and Scenic Resources section of Chapter 2 specifically defines the relationship between the RRMP and the BBAP and must be consulted in adjudication decisions. Intensive development is not expected within this unit in the foreseeable future except occasionally and at specific locations associated with recreation uses and mineral exploration and development. Settlement is not considered an appropriate use.	This unit, composed of several noncontiguous pieces of state-owned and state-selected land, occupies an area from Keefer Cutoff and the Nushagak River to the west, north to the southern boundary of Region 6, and south beyond Portage Creek. It is flat to rolling terrain vegetated in low shrub and moist tundra types with a winter trail that passes through the unit just north of Portage Creek.
R05-24 Kvichak River	16765 Ha – Habitat Rd – Public Recreation and Tourism Dispersed Su - Subsistence Wr – Water Resources		This unit is designated Ha, Rd and Su. If conveyed by the Federal government, this unit is to be managed for a variety of uses including mineral exploration, the protection of fish and wildlife resources and their associated habitat, and dispersed recreation and tourism. Intensive development is not expected within this unit in the foreseeable future except occasionally and at specific locations related to minerals or recreation. This is considered a high priority selection.	This unit of state-selected land is located west of the Kvichak River on the eastern margin of planning Region 5 on level terrain vegetated primarily in low shrub and lichen tundra. There is a winter trail that bisects the unit at its southern end near Squaw Creek and King Salmon Creek. The unit has been utilized as a rutting area by moose. The Lewis Point-Naknek trail extends across the southern part of the unit.
R05-25 Togiak NWR	3076 Ha – Habitat Rd – Public Recreation and Tourism Dispersed Su - Subsistence Wr – Water Resources	S14S56W Sec. 6,7,18, 19,30	If conveyed by the federal government, this unit is to be managed for the protection of fish and wildlife habitat and the maintenance of dispersed recreation. It is designated Ha and is to be retained in state ownership. Development authorizations may be appropriate but only if the resources and values of the unit are maintained. Consult with the Togiak NWR prior to issuing any authorization. This is considered to be a low-priority selection.	This state-selected land is situated between the Nushagak Bay and the Snake River and borders the Togiak National Wildlife Refuge. It is an area of low-lying, flat, poorly drained terrain with low shrub vegetation. Because of its remote and isolated location, development of the unit is considered difficult. Because it adjoins the Togiak NWR, the management of this unit should focus on habitat protection and the maintenance of dispersed recreation.
R05-26 PU1/ Blood Beach	230 Rp – Public Recreation and Tourism-Public Use Site	S14S52W Sec. 27,34	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and tourism. The unit is to be retained in state ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	This unit is located along the southern shore of the Nushagak River just west of the Scandinavian Slough and is primarily used for angling. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU1).

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R05-27 PU5/Keefer Cutoff	80 Rp – Public Recreation and Tourism-Public Use Site	S14S51W Sec. 25	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and tourism. The unit is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	This is a shoreland area on Keefer Cutoff and the Nushagak River north of Portage Creek used for camping and angling. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU5).
R05-28 PU3/Keefer Cutoff	41 Rp – Public Recreation and Tourism-Public Use Site	S14S51W Sec. 25	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and tourism. The unit is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	This is a shoreland area on Keefer Cutoff and the Nushagak River north of Portage Creek. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU3).
R05-29 PU4/N. Portage Creek	41 Rp – Public Recreation and Tourism-Public Use Site	S14S51W Sec. 25	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and tourism. The unit is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	This is a shoreland area adjacent to an upland site designated by Choggiung Ltd as a public camping site. It lies north of Portage Creek on Keefer Cutoff and the Nushagak River. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU4).
R05-30 PU2/Keefer Cutoff	117 Rp – Public Recreation and Tourism-Public Use Site	S15S51W Sec. 2	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and tourism. The unit is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	This unit is located along the Nushagak River in a braided section west of the Portage Creek airport, primarily used for angling. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU2).
R05-31 Portage Creek Airport	85 Pr – Public Facilities- Retain	S15S51W Sec. 1	This unit is to be managed by ADOT/PF consistent with FAA standards and the conditions given in Management Agreements (ADLs 221494, 221495, and 224242) and limited state holdings (LSHs 231, 234, and 309). The land is to be retained in state ownership.	This unit of land hosts the airport facilities located near the community of Portage Creek. The unit is located on land managed by ADOT/PF under the stipulations of limited state holdings (LSHs 231, 234, and 309) and management agreements (ADLs 221494, 221495, and 224242).

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R05-32 Scandinavian Slough	1920 Ha – Habitat Rd – Public Recreation and Tourism Dispersed Su - Subsistence Wr – Water Resources	S15S52W Sec. 23,24, 25	The unit is designated Ha, Rd and Su and is to be managed for a variety of uses, including the protection of fish and wildlife resources and their associated habitats, mineral exploration and development, and dispersed recreation. Some forms of recreation use, including commercial recreation, may be appropriate if these recreational uses are found to be compatible with the management intent for adjacent river corridors designated Ha-Rd or Rd in the Area Plan. Development authorizations may be appropriate subject to the protection of these resources, consistency with the recreation uses specified in the RRMP, and the specific requirements of Chapter 2; see particularly the requirements for Management Guideline K, "Caribou and Moose Calving and Rutting Areas," in the Fish and Wildlife Habitat and Harvest Areas section and with Management Guideline J, "Nushagak & Mulchatna Rivers Recreation Management Plan," in the Recreation, Tourism, and Scenic Resources section of Chapter 2. For convenience, Table 2.2 contains a listing of allowed, prohibited, and conditional (recreational) uses by RRMP Management Unit. Management Guideline J in the Recreation, Tourism, and Scenic Resources section of Chapter 2 specifically defines the relationship between the RRMP and the BBAP and must be consulted in adjudication decisions. Intensive development is not expected within this unit during the foreseeable future except occasionally and at specific locations associated with recreation uses and mineral exploration and development. Settlement is not considered an appropriate use.	This land consists of three sections of state-selected lands south of the Nushagak River and southeast of Portage Creek. The unit occupies an area of level terrain and low shrub and lichen tundra vegetation. The unit is in an area used by moose for calving.
R05-33 Clarks Point Airport	70 Pr – Public Facilities- Retain	S15S55W Sec. 25,26, 36	This unit is to be managed consistent with the stipulations of the limited state holding (LSH 265) and is to be retained in state ownership.	This unit of land contains the public airport facilities adjacent to the community of Clark's Point. It is to be managed by ADOT/PF under the stipulations of a limited state holding (LSH 265) for the purposes of administering an airport facility. The Alaska Heritage Resources Survey (AHRS) reports several heritage sites in or near this unit.
R05-34 Etolin Point	36139 Ha – Habitat Se – Settlement	S17S54W; S18S54W; S18W53W	The unit is designated Ha and Se and is considered appropriate for disposal during the planning period. Development is to conform to the requirements of Remote Settlement and those for the Caribou and Moose Rutting and Calving Area, both of which are described in the Settlement, and Fish and Wildlife Habitat and Harvest Areas sections, respectively, of Chapter 2. Buffers along anadromous fish streams must also conform to the management guidelines in Chapter 2.	This unit extends north from the shores of Nushagak and Kvichak Bays and includes Etolin Point to the west. It is an area of fairly flat terrain and low shrubs that is suitable for settlement. The unit contains several large navigable lakes and opens onto Nushagak and Kvichak Bay. The area is largely surrounded by Native-owned lands; some of these are 12b village pool lands that have been designated for development purposes by the Bristol Bay Native Corporation.

RESOURCE ALLOCATION TABLE FOR TIDELAND UNITS — REGION 5

Unit # / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R05T-01 Nushagak Bay	82480 Ha and Hv – Habitat and Harvest	S14S56W, S16S56W, S17S55W- 58W, S18S55W- 58W	Nushagak Bay, with its numerous and varied marine and fishery resources, is designated Habitat. Management intent: Tideland development authorizations are considered appropriate but must avoid or minimize impacts to the beluga whale population during the calving life-cycle stage. Consult with NMFS before issuing authorizations. Ensure that any authorizations are consistent with the requirements of the Bristol Bay Fisheries Reserve.	This large bay includes calving areas for beluga whales and is used by waterfowl as a concentration area. Commercial harvest of pink, sockeye, chinook, chum, and coho salmon occurs throughout Nushagak Bay (purse seine and drift net). Offshore leases for set net harvesting are continuous along both the east and west coastlines of Nushagak Bay, concentrating south of Dillingham, around Clark's Point to Ekuk and extending south of Ekuk on the eastern side of the bay. Drift net harvest occurs throughout the bay for pink, chum, sockeye, coho, and chinook salmon. Chinook salmon are harvested (drift net) at Etolin Point. Subsistence harvest of fish around Dillingham consists of primarily salmon, but grayling and pike are harvested to a lesser extent. Clark's Point residents range long distances, if necessary, for subsistence harvest, which includes salmon, smelt, and some waterfowl. A number of Bristol Bay residents migrate to Ekuk for subsistence harvest of salmon. The western coastal tidelands of Nushagak Bay are adjacent to the Togiak NWR and are affected by a TRMZ (See R02T-01). All of Nushagak Bay is affected by the Bristol Bay Fisheries Reserve.

Unit # / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R05T-02 Kvichak Bay	26920 Ha and Hv – Habitat and Harvest	S16S47W, S17S47W- 50W, S18S48W- 53W	Kvichak Bay is designated Habitat. Although the eastern part of Kvichak Bay contains extensive areas of sheltered tidal flats and is only considered moderately productive biologically, the remainder of the bay is a sensitive habitat area. Tideland development authorizations may be appropriate but must avoid or minimize impacts to the beluga whale population during the calving life-cycle stage and to harbor seal haulout concentration areas. Consult with the NMFS and USFWS before issuing authorizations. Management intent: Protect beluga whale population, harbor seal haulout concentrations, anadromous streams, areas of estuarine wetlands, and areas of waterfowl concentration. Ensure that any authorizations are consistent with the requirements of the Bristol Bay Fisheries Reserve.	Habitat: Kvichak Bay fronts on both Regions 5 and 11. Eroding peat scarps, sheltered tidal flats, and marshes are common along the west side of the Bay. The eastern part, extending from its mouth to the mouth of the Naknek River, consists of extensive shallow areas of exposed tidal flats having high biomass content. Large areas of exposed tidal flats are also common south of the Naknek River but are considered to be of only moderate biomass. Both the Kvichak and Naknek Rivers empty into the bay; the communities of King Salmon and Naknek are situated on the Naknek River. See Region 11 for descriptions of these communities. The Kvichak River is an important anadromous stream, provides habitat for waterfowl during the spring and fall, is used by belugas for both feeding and calving, and contains numerous harbor seal haulout concentrations. Kvichak Bay merges imperceptibly into this river. The bay provides somewhat similar habitat to Kvichak River and is important as a beluga whale feeding and calving concentration area, the belugas arriving in the bay in May. While in this area, some feed in shallow tidal flats while others ascend the rivers, traveling as far as 10-20 miles inland. They depart Kvichak Bay in August. This bay also contains areas important for harbor seal haulouts and spring waterfowl concentrations. The area of Deadman Sands, situated in the central part of Kvichak Bay generally within or near sections 1, 2, 11, 12, 13, 14, 23, and 24 of T17SR50W, is especially important as a harbor seal haulout concentration. Another harbor seal haulout concentration area occurs west of Graveyard Point on the east side of the bay. The highest density of shorebirds and diving and dabbling ducks on the north coast of the Alaska Peninsula occurs in this bay. Kvichak Bay is affected by the Bristol Bay Fisheries Reserve. Harvest: Commercial harvest of pink, sockeye, chinook, Chum, and coho salmon occurs throughout Kvichak Bay (purse seine and drift net). Set net permits occur all along the upper Kvichak Bay, on both the east and west coastlines. The densest concentration of set net permits exists along the eastern coastline near the mouth of the Naknek River and south of Naknek. There is intense subsistence harvest of red salmon as a food staple in Kvichak Bay.

Unit # / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R05T-03 Tidelands and Offshore Submerged Lands	165,569 Gu – General Use		Manage for a variety of uses and resources. Protect areas with concentrations of seabirds and waterfowl. Consult with NMFS to determine if whales or other marine mammals are present prior to issuing an authorization. Maintain opportunities for personal and commercial harvest. This unit is included within the Bristol Bay Fisheries Reserve.	This tideland unit occupies the area between Nushagak and Kvichak Bays. The more sensitive resources within this Region are associated with these bays and are to be managed according to the requirements listed for tideland units R05T- 01 (Nushagak Bay) and R05T-02 (Kvichak Bay). The tidelands in this unit as well as in R05T-01 and -02 are governed by the restrictions of the Bristol Bay Fisheries Reserve. The area encompassed by this tideland unit is characterized by mixed sand and gravel beaches. Eroding peat scarps, some sheltered tidal flats, and marshes occur near Kvichak Bay, and marshes occur near Nushagak Bay. Waterfowl and shorebirds are common throughout the unit, and both whales and marine mammals are known to be present, but not at the concentration levels experienced in either R05T-01 and R05T- 02. The commercial harvest of pink, sockeye, chinook, chum, and coho salmon occurs within parts of this unit by purse seine and drift net. Set nets are present as well. There is also some subsistence harvest of salmon and herring in this unit.

Chapter 3 – Region 6
NUSHAGAK, MULCHATNA

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REGION 6 – NUSHAGAK, MULCHATNA

SUMMARY OF RESOURCES AND USES IN THE REGION

Region Boundary

Region 6 is the second largest of the planning regions in the Bristol Bay Plan and encompasses the most state-owned land. The Region includes much of the Nushagak and Mulchatna River drainages. The boundaries of the Region are defined by Wood-Tikchik State Park on the west, the drainage divide to the Kuskokwim (Holitna and Aniak Rivers) on the north, and the divide between the Nushagak River system and the Kvichak on the southeast. The eastern boundary is somewhat arbitrary and attempts to separate the upper Mulchatna River drainage from the Region. Elevations range from less than 200 feet in the south to over 3,000 feet in the Shotgun Hills. However, the Region is not very mountainous; it encompasses the southern portion of the Shotgun Hills and Nushagak Hills in the north and the Muklung Hills in the southwest. There are few settlements in the Region; the largest is New Stuyahok (pop. 452). The boundary of Region 6 is virtually the same as that of the original (1984) Bristol Bay Area Plan.

State Lands: Ownership and Acreage

The majority of land within Region 6 is owned by the state of Alaska. Much of the land along the middle and lower Nushagak River is Native-owned, flanked by federal lands. The plan applies to 4,340,384 acres of state-owned and state-selected uplands.

Physical Geography

The Region is within four physiographic provinces: the central and southern portion is dominated by the Bristol Bay lowlands; the northwest portion is within the Ahklun Mountain province; the north part is within the Kuskowkim Mountain physiographic province; and the northeast portion is part of the Lime Hills province. The Nushagak-Mulchatna drainage basin is large and incorporates the east-flowing rivers from Wood-Tikchik State Park such as the Iowithla, Kokwok, Nuyakuk, Klutuspak, and King Salmon Rivers. Northern tributaries include the Klutapak Creek and the Chichitnok and Mosquito Rivers. Eastern and southeastern tributaries include the Swan, Koktuli, and Stuyahok Rivers. Topographic relief is modest with most of it developed in the west and north. The highest elevations occur in the glaciated Shotgun Hills where over 2,000 feet of relief is present. Most other mountainous areas of the Region show relief of less than 1,500 feet.

The Region displays a variety of landscapes, including mountains, fast-flowing rivers, tundra, marshy lowlands, and ponds. The glacial valleys of the Wood River Mountains and the Shotgun Hills open into the broad rolling Bristol Bay lowlands. Forested areas occur only sparingly; they are found at restricted locales in the western margins of the Region, near the border with Wood-Tikchik State Park, and in the eastern-southeastern portion of the Region at higher elevations near the drainage divide which separates Region 6 and Region 10. Most terrain above 1,000 feet in elevation is vegetated with tall shrubs. Terrain below 1,000 feet is largely covered by low shrub and or lichen tundra with low-lying areas marked by wet sedge tundra.

Climate

The climate of Region 6 is transitional from the maritime influence of Bristol Bay to the continental influences to the north. As distance from the coast increases, temperature variations increase whereas cloudiness, humidity, and precipitation tend to decrease. The settlement of New Stuyahok is located in a climatic transition zone. The primary influence is maritime, although a continental climate affects the weather. Average summer temperatures range from 37° to 66°; winter temperatures average 4° to 30°. Annual precipitation ranges from 20 to 35 inches. Fog and low clouds are common during the summer, and strong winds often preclude access during the winter. The Nushagak River at New Stuyahok is generally ice-free from June through mid-November. Most of the Region is underlain by isolated masses of permafrost. Generally the areas immediately under or adjacent to the main course of the Nushagak and Mulchatna Rivers are free of permafrost.

Other

Region 6 is within the Dillingham, Taylor Mountains, Lake Clark, and Iliamna quadrangles. It is entirely within the boundaries of the Bristol Bay Regional Native Corporation. The eastern portion of the Region is within the Lake and Peninsula Borough.

Access

Settlements in Region 6 include Ekwok, New Stuyahok, and Koliganek. Access to the Region is predominantly through air or river transportation. Region 6 contains airstrips at each of the three settlements: a state-owned 1,800-foot lighted gravel airstrip at New Stuyahok, a new 3,000-foot state-owned runway at Koliganek, and a state-owned 2,720-foot-long gravel strip at Ekwok. A new runway at New Stuyahok was under construction in 2004. During summer months, goods can be lightered to all three communities from Dillingham, but no good docking facilities are present. Skiffs, ATVs, and snow machines are prevalent forms of local transportation. There are no improved trails linking the settlements.

Resources and Uses

The Nushagak and Mulchatna River drainages support a major salmon resource for subsistence and recreational harvest. Caribou, moose, and some brown bear are also used heavily by subsistence and recreational hunters. Over one quarter of the caribou harvested annually in Alaska are taken from the Mulchatna Caribou Herd. Exploration by mining companies has brought about the development of significant metal resources at Pebble Copper and Shotgun; the Region contains significant mineral potential for base, precious, rare, and strategic minerals.

Part of the Nushagak oil and gas basin extends into the southern part of the area; it is currently the locus of renewed interest in oil and gas exploration. Recreation use is heaviest along the Nushagak, Mulchatna, Koktuli, Nuyakuk, King Salmon, Stuyahok, and Mosquito Rivers. There is little in the way of agricultural resources within the Region except for village gardens. There are no commercial forestry activities, but the resource does support uses for house logs and fuel. In the past, sawmills were located at Ekwok, New Stuyahok, and Nondalton.

Cultural and Historic. Hunting and fishing camps along the Naknek River date from 3,000 to 4,000 B.C. In 1818, the first Russian traders arrived. The Russians explored and maintained dominance of the area until the U.S. purchase of Alaska in 1867. U.S. interests were directed primarily at the fur and fishery potential of the region. In 1884, the first salmon cannery in Bristol Bay was opened, which brought an influx of non-Native fishermen and cannery workers. A flu epidemic in 1919 was tragic to the Native population. Reindeer were introduced to assist the survivors, but the experiment eventually failed. The state Office of History and Archeology lists 71 sites in Region 6 – 33 historic, 24 prehistoric, and 14 of mixed origin. The majority of these sites are located along the Nushagak and Mulchatna Rivers.

New Stuyahok is located on the Nushagak River, about 12 miles upriver from Ekwok and 52 miles northeast of Dillingham. The present location is the third site that villagers can remember. The village moved downriver to the Mulchatna area from the "Old Village" in 1918. During the 1920s and '30s, the village was engaged in herding reindeer for the U.S. government. However, by 1942 the herd had dwindled to nothing; the village had been subjected to flooding; and the site was too far inland even to receive barge service. So in 1942, the village moved downriver again to its present location. Stuyahok appropriately means "going downriver place." The first school was built in 1961.

Koliganek is located on the left bank of the Nushagak River and lies 65 miles northeast of Dillingham. It is an Eskimo village first listed in the 1880 Census as "Kalignak" and was located on the Nuyakuk River near its confluence with the Nushagak River. The name is local, recorded by the U.S. Geological Survey in 1930. Since that time, the village has moved four miles downstream from the original site.

Ekwok is the oldest continuously occupied Yup'ik Eskimo village on the river. During the 1800s, the settlement was used in the spring and summer as a fish camp and in the fall as a base for berry-picking. By 1923, it was the largest settlement along the river. In 1930, a BIA school was constructed. Mail was delivered by dogsled from Dillingham until a post office opened in 1941. Many of the earliest homes in Ekwok were located in a low, flat area near the riverbank. After a severe flood in the early 1960s, villagers relocated on higher ground, to the current location.

Economic. The primary economic base is the salmon fishery; many residents hold commercial fishing permits. Many people trap as well. All of the communities in Region 6 rely upon subsistence foods produced in the region, and subsistence items are often traded between communities. Salmon, moose, caribou, rabbit, ptarmigan, duck, and geese are the primary sources of meat and fowl.

Recreation. Recreation and tourism are experiencing modest growth in the Region. In general, southwest Alaska shows the lowest level of tourism compared to all other areas of the state. Approximately 17 percent of Alaska visitors report traveling to the southwest and only 3 percent report that southwest Alaska is their sole destination; the majority of these visits are to Katmai National Park and Preserve and Wood-Tikchik State Park. Tourism in Region 6 is primarily related to sport hunting and fishing. Most recreational or backcountry lodges and camps are located on the lower Nushagak River below Ekwok. This lower stretch of the Nushagak River experiences the most commercial recreational activity of the Region. The Nushagak River is internationally recognized as a premier Chinook salmon sport fishery with an annual sport fish allocation that is generally set at 5,000 fish. One commercial lodge site is located on the upper Mulchatna River. In general, most recreational activity in Region 6 is concentrated along the major drainage corridors and is primarily related to river rafting and floating or sport fishing activities.

Minerals. Region 6 geology consists of several tectonic-stratigraphic terranes. The northern portion of the Region is underlain by Cretaceous flysch of the Kuskokwim Group. The southeast portion of the Region is underlain by a mixture of late Cretaceous to Tertiary granitic rocks and middle Tertiary volcanics. Much of the central and southern portions of the Region are underlain by Tertiary clastic sedimentary rocks, which thicken southward as part of the Bristol Bay oil and gas basin. Region 6 contains some mineral deposits. It has a number of important base and precious metal deposits and prospects; these include deposits such as the Shotgun gold deposit, which has in excess of one million ounces of contained gold, and the Pebble Copper deposit, which contains over a billion tons of low-grade copper-gold mineralization. Other significant mineral potential occurs at Kemuk Mountain for iron, titanium, and platinum group metals and Sleitat Mountain for tin and tungsten with associated arsenic and zinc.

The Shotgun prospect is located in the south part of the Shotgun Hills, a rugged, glaciated upland at the divide between the King Salmon and Kogrukluk/Holitna River drainages. A large granitic pluton makes up the core of the Shotgun Hills, and Shotgun is located in hornfels adjacent to the granitic rocks. Novagold Resources Inc. (2000) made the following resource estimates: using a cutoff of 0.018 ounce of Au per ton, the resource is 32,765,000 tons grading 0.033 ounce of Au per ton; using a cutoff of 0.026 ounce of Au per ton, the resource is 16,550,000 tons grading 0.045 ounce of Au per ton; using a cutoff of 0.035 ounce of Au per ton, the resource is 11,650,000 tons grading 0.05 ounce of gold per ton.

Scott Dickerson

Pebble Copper is located in the extreme eastern part of Region 6 in hills drained by the upper reaches of the Koktuli River. The Pebble porphyry copper-gold-molybdenum deposit was discovered and generally outlined by Cominco American through drilling on the property in 1997. Recent geochemical and geophysical surveys have substantiated that the Pebble deposit is only part of a much larger series of metal-rich, coalescing hydrothermal sulfide systems.[1] The mineralized zone is approximately 1.7 kilometers by 1.3 kilometers in size. A recently-completed (2003) independent mineral resource estimate has established the Pebble deposit as one of the world's largest gold and copper resources, containing 13.1 million ounces of gold and 6.8 billion pounds of copper.[2] Anadromous streams are found throughout the deposit area and are protected by Mineral Closing Order 393.

The Kemuk deposit is located 12 miles east-northeast of the summit of Kemuk Mountain. The site is at the south end of the boundary between sections 19 and 20, T5SR49W, (Seward Meridian). This is an area of extensive surficial deposits with few conspicuous topographic features. Buried below 90 to 140 feet of unconsolidated Quaternary deposits, the deposit consists of a large, composite ultramafic and mafic pluton. This prospect is believed to contain 2.6 billion tons averaging 15 to 17 percent total iron. The average grade is 10.5 to 12 percent magnetic iron and 15 to 17 percent total iron. The platinum-group metal (PGM) potential of this prospect is unknown but may be significant. Anadromous streams are found throughout the deposit area. To the extent these streams are not affected by existing claims, they are protected by a new mineral closing order adopted with this plan revision.

The Sleitat prospect is centered on a saddle at an elevation of 1,725 feet, between the two high peaks of Sleitat Mountain (1,979 and 1,903 feet elevation). Sleitat Mountain is the highest part of northeast-southwest trending uplands between the valleys of Harris Creek and the Nushagak River. The occurrence of granite and peripheral gold-bearing quartz gash veins was reported as early as 1938, but subsequent exploration has shown that the principal mineral deposit is a tin-, tungsten-, and silver-bearing sheeted greisen system. A bulk sample contained 0.37 percent tin, 0.04 percent tungsten, and 17 ppm silver; the Sleitat deposit is estimated to contain a total of 28.6 million tons with the average grade of this bulk sample. This size and grade is consistent with that found in other large cassiterite-bearing greisen deposits around the world.

Oil and Gas. The southwestern portion of Region 6 is underlain by the Nushagak Basin, which is one of two basins in the Bristol Bay Area (along with the Bristol Bay basin). The Alaska Peninsula-Bristol Bay basin is 500 miles long and up to 100 miles wide. In Region 5 (the northwestern part of the peninsula) the basin is underlain by up to 18,000 feet of Tertiary sediments that thicken to the south and thin to the north. The offshore Bristol Bay basin is a sediment-filled structural depression that underlies the northern continental shelf of the Alaska Peninsula. Northern coastal plain hydrocarbon potential is moderate to locally high for gas and low to moderate for oil; both are believed to occur in structural and stratigraphic traps. Oil and gas seeps occur along the peninsula's southeastern flank, some along large anticlinal crests. Source rock data indicate gas-prone Tertiary organic shales. Oil may be derived from deeper Mesozoic strata. Tertiary and Mesozoic sandstone reservoir characteristics are locally conducive to hydrocarbon production.

The Alaska Department of Natural Resources, Lake and Peninsula, Bristol Bay, and Aleutians East Boroughs have signed a memorandum of understanding (MOU) in support of oil and gas lease sales and licensing of state land in the Bristol Bay and Alaska Peninsula region (March 17, 2004). Similar MOUs are in effect between the DNR and The Aleut Regional Native Corporation (December 18, 2003) and the DNR and Bristol Bay Native Corporation (July 10, 2003).

Materials. There are few active materials sites in the Region except for those found near villages such as New Stuyahok.

1 The deposit consists of disseminated chalcopyrite and molybdenite, accompanied by minor to trace galena, sphalerite, and arsenopyrite in a stockwork vein system. This mineralization is hosted in early Tertiary granodiorite porphyry that intrudes Tertiary dacite tuffs, lahars, and breccia.

2 The mineral inferred resources include 1.0 billion tonnes grading 0.61% copper-equivalent (0.40 grams gold per tonne, 0.30% copper, and 0.015% molybdenum above a cutoff grade of 0.30% copper-equivalent). Importantly, Snowden estimates that the Pebble deposit contains significant amounts of high-grade resources: 141 million tonnes of 0.67 grams gold per tonne, 0.48% copper and 0.019% molybdenum, or 0.97% copper-equivalent above a cutoff grade of 0.80% copper-equivalent. The resource estimate is based on approximately 18,353 meters of drilling in 110 core holes. During 2003 North Dynasty Minerals conducted an additional 30,000 feet of drilling in 18 holes at Pebble and other nearby prospects.

Forestry. Regions 6 and 7 contain most of the forest resources of the Bristol Bay Area. These noncommercial forests are found primarily in the Nushagak-Mulchatna drainages. The trees are largely concentrated in the river valleys and consist of spruce, birch, and aspen. Some are large enough for house and saw logs. Most resources are for personal use to meet some modest building needs and for fuel. Upland mixed forests occur in the Muklung Hills and east of the Wood River Mountains. The most valuable of the forest resources for local use are located in the lower Nushagak area near New Stuyahok, Ekwok, and Portage Creek; in the Nushagak and Nuyakuk River above Koliganek; and the Mulchatna River.

Fish and Wildlife. All five species of Pacific salmon – chinook (king), sockeye (red), coho (silver), pink (humpy), and chum (dog) – spawn in the Nushagak-Mulchatna River systems. Sockeye are the most important commercially. Freshwater sport fish, including rainbow trout, Arctic grayling, lake trout, Arctic char, Dolly Varden, and northern pike are generally prolific throughout the area. Region 6 is particularly important because it contains most of the riverine habitat important for spawning and rearing Chinook salmon. For example, Chinook returns to the Nushagak River are consistently greater than 100,000 fish per year and have exceeded 200,000 fish in 11 years between 1966 and 2010, frequently placing Nushagak River Chinook runs at or near the world's largest. This is noteworthy given the Nushagak River's small watershed area compared to other Chinook-producing rivers such as the Yukon and Kuskokwim Rivers. Chinook salmon are a particularly important subsistence species for the residents of Region 6 as it is the first salmon to return in the spring and is used to make the oily strips that are a mainstay in local diet.

Caribou are an important resource in the area. The Mulchatna Caribou Herd has been increasing in size and expanding its range since the 1930s. Serious efforts to conduct a census of the herd have taken place since 1973; between 1981 and 1996, the Mulchatna Caribou Herd increased from 19,000 to 200,000. The herd is presently estimated at approximately 150,000 individuals (http://www.wildlife.alaska.gov/pubs/techpubs/mgt.cfm). Important areas for caribou include the calving area that extends from the upper Koktuli drainage south to Iliamna Lake and from Kemuk Mountain east to the Nushagak River.

Moose are relatively new to the Bristol Bay area, possibly moving into the area from the middle Kuskokwim drainages during the past 100 years. During the past 20 years, moose numbers have increased, and moose are now common along the Nushagak/Mulchatna Rivers and all of their major tributaries. They also occur throughout the Wood/Tikchik Lake area and have extended their range westward.

Brown bears are common throughout the north Bristol Bay area and are seasonally abundant along salmon spawning areas in the Nushagak, Mulchatna River drainages as well as long the Wood River Lakes. These bears are also observed near aggregations of the Mulchatna Caribou Herd. Important denning areas occur in the Muklung Hills and the Shotgun Hills. Birds nesting in the area include a variety of waterfowl, gulls, bald eagle, golden eagle, Arctic tern, various loons, willow ptarmigan, and spruce grouse. Numerous transients pass through as well. Eagle nests occur only sporadically along the Nushagak River; nesting sites for eagles and other raptors are slightly more abundant on the Mulchatna and lower Koktuli Rivers.

Trapping has been an important part of the culture and economy of the Northern Bristol Bay area and provided a ready means to acquire cash prior to development of the commercial fishing industry. Historically beaver have been the most important furbearer in the Region. Population trends of furbearers in the Region are favorable – either stable or increasing. This is true for important species found in Region 6 such as land otter, wolverine, and red fox, although populations of the latter can fluctuate greatly due to outbreaks of rabies.

MANAGEMENT CONSIDERATIONS: LOCAL AND STATE PLANS AND SPECIAL USE AREA

Chapter 1 contains a summary of the 45-year history of state and federal efforts to conserve the Kvichak and Nushagak drainages and balance conservation and development in the overall Bristol Bay drainages. In Chapter 2, the section titled "Coordination, Cooperative Land Use Planning, and Public Notice" re-emphasizes the state's historic position under Governor Hammond that the Bristol Bay drainages, and the Kvichak and Nushagak in particular, need cooperative land use planning to conserve habitat across property boundaries because fish and wildlife do not observe such boundaries. In Chapter 3, each regional section identifies a number of local, state, and federal management plans that were considered in development of this plan, and which provide context for efforts at the cooperative land use planning recommended by the Citizens' Alternative Bristol Bay Area Plan.

Other plans consulted include the Nushagak River Watershed Traditional Use Area Conservation Plan, developed by the Nushagak-Mulchatna Watershed Council, and the Southwest Alaska Salmon Habitat Partnership Strategic Conservation Plan. The partnership was recognized in 2008 by the National Fish Habitat Board. The state of Alaska, through the Department of Fish and Game, participates as a member of the partnership.

The eastern portion of Region 6 is located within the boundaries of the Lake and Peninsula Borough. The Lake and Peninsula Borough comprehensive plan was consulted for this portion of Region 6. The Comprehensive Plan focuses on economic and infrastructure development issues and does not contain specific land use standards or a land use map.

Prior to July 2011, enforceable policies of the District Coastal Management Plan were extensive and affected land use decisions with respect to anadromous streams, bald eagle nests, oil and gas development, material extraction, and mining. Before issuing a permit, the state was required to conduct a consistency review to determine whether the action conformed to the local enforceable policies. It provided an opportunity for local and tribal governments to meaningfully participate in the permitting process and to protect regionally significant habitat, fisheries, subsistence uses, and recreation values. These policies were eliminated when the state legislature failed to reauthorize the Alaska Coastal Management Program (ACMP). Hence, the current lack of an ACMP program is another reason to recommend cooperative land use planning in Region 6.

Region 6 is also subject to the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP; April 2005). This plan treats recreation uses on the two river systems and was adopted as an amendment to the Bristol Bay Area Plan (1984) and as part of the Coastal Zone Management Plan. The RRMP provides the basis for the management of recreation use in areas co-designated Habitat and Public Recreation and Tourism-Dispersed within the Nushagak-Mulchatna drainage.

Region 6 is also within the area covered by the Southwest Alaska Comprehensive Economic Development Strategy 2003-2008, which was developed for the U.S. Department of Commerce Economic Development Administration by the Southwest Alaska Municipal Conference (July 2003). This document developed a number of goals, objectives, and strategies to facilitate and support efforts that retain and grow the region's wealth, including diversifying the economic base.

The Bristol Bay Area Plan (1984) affected all state lands in the Region. This version of the area plan stated that Region 6 was to be managed in conjunction with Region 7 for fish and wildlife habitat and harvest and for recreation. Land use designations in Region 7 included fish and wildlife habitat and recreation. This Citizens' Alternative supersedes the 2005 revision and the 1984 area plan. This Citizens' Alternative provides the basis for the management of all state land within the Region except for recreational uses, which are managed under the auspices of the RRMP.

The Southwest Alaska Transportation Plan (ADOT/PF, November 2002) identified a Dillingham/Bristol Bay Area Transportation Corridor, which in general extends from Levelock to Dillingham, connecting with the communities of Ekwok and Aleknagik. It includes a crossing of the Wood River at Aleknagik and a major crossing of the Nushagak River. There are several possible tie-in locations to the Bristol Bay to Cook Inlet transportation corridor. The plan models a corridor from Aleknagik to Igiugig via Levelock.

The state of Alaska has issued a Special Use Area (ADL 226852) defining three public use sites on the Nushagak River at the mouth of the Iowithla River (PU6), near Ekwok (PU9), and at New Stuyahok (PU21). These public use sites limit uses not requiring a permit to seven consecutive days.

Municipal Selections

Municipal selections by the Lake and Peninsula Borough occur along the Mulchatna River, in the upper Koktuli drainage, and at an unnamed lake in the upper Stuyahok River drainage. These selections total approximately 11,705 acres in Region 6 and are distributed along streams and lakes with attractive recreation and development features.

MANAGEMENT SUMMARY: UPLANDS

State land in Region 6 is to be managed for a variety of multiple uses, including subsistence, settlement, materials extraction, public facilities development, dispersed public recreation, mineral exploration, and maintenance of sensitive wildlife habitats. Oil and gas potential, although only moderate to low, may lead to exploration and development in the future and is considered appropriate within the Region. The majority of lands in Region 6 are co-designated Habitat (Ha), Subsistence (Su) and Public Recreation and Tourism Dispersed (Rd).Public use sites (identified in the Nushagak & Mulchatna Rivers Recreation Management Plan and used for recreation) have been designated Public Recreation and Tourism-Public Use Sites (Rp). A large number of small management units associated with airport or other such facilities are designated Public Facilities-Retain (Pr). Active materials sites are designated Materials (Ma).

Plan Designations and Management

The plan designations that are used within this Region have the following management intent. The policies and management intent guidelines described in Chapter 2 affect all DNR authorizations. Refer especially to those guidelines relating to Fish and Wildlife Habitat and Harvest Areas, and to Settlement. See also the descriptions of the plan designations in the first part of this chapter; this section indicates which lands can be conveyed out of state ownership and those that must be retained.

- **Habitat (Ha).** Generally, this designation applies to most of the state lands within Region 6. Habitat is land that is primarily valuable for (1) fish and wildlife resource production, whether existing or through habitat manipulation, to supply sufficient numbers or a diversity of species to support commercial, subsistence, recreational, or traditional uses on an optimum sustained yield basis, including "essential habitat" and "important habitat," or (2) a unique or rare assemblage of a single or multiple species of regional, state, or national significance. (See 11 AAC 55.230; see also "essential habitat" and "important habitat" herein.) Habitat also includes all anadromous waters specified under the Anadromous Fish Act, AS 16.05.871 *et seq*., and all land subject to mineral closing orders issued to protect anadromous waters. The land use designation Ha is to be retained in state ownership. This designation is also applied as a co-designation with Public Recreation and Tourism-Dispersed in certain areas affected by the Nushagak & Mulchatna Rivers Recreation Management Plan.
- **General Use (Gu).** There are no Gu lands within Region 6.
- **Materials (Ma).** Lands designated Materials are those where active or inactive materials sites are present. These can include common varieties of sand, gravel, and stone or are sites associated with materials extraction that contain conveyors, crushing, sizing, and other processing equipment. Until the materials have been exhausted, material sites are to be retained by the state; thereafter, other authorizations or disposals may be appropriate. Authorizations should be done in consultation with the Department of Transportation and Public Facilities.

- **Public Recreation and Tourism-Dispersed (Rd).** Lands with the designation of Public Recreation and Tourism-Dispersed are to be managed so that their public recreation values are protected and maintained. Within these areas the primary surface uses are intended to be those related to hiking, hunting, fishing, wildlife viewing, and the like. Selections on these lands may be appropriate for conveyance to a borough under the Municipal Entitlement program (subject to a Best Interest Finding by the state). This designation is applied to a specific section of the Mulchatna River that is affected by a municipal selection of the Lake and Peninsula Borough.
- **Public Recreation and Tourism-Dispersed and Habitat (co-designation).** Certain navigable waterbodies (lakes and streams) are co-designated Habitat (Ha) and Public Recreation and Tourism-Dispersed (Rd). Authorizations within these waterbodies should not interfere with important habitat or public recreation values. See the Table 3.1 in the Navigability section of this chapter for a listing of these streams. Note: Certain waterbodies may (only) be designated Public Recreation and Tourism-Dispersed, (Rd), Habitat (Ha), or General Use (Gu). This co-designation is applied to the river corridors within the Nushagak & Mulchatna Rivers Recreation Management Plan. In Region 6 this includes the corridors of the Iowithla, Kokwok, Nuyakuk, upper Nushagak, and Mulchatna drainages.
- **Public Facilities-Retain (Pr).** This designation applies to sites that are reserved for a specific public infrastructure requirement. They are to be retained in state or public ownership. In this Region, this designation applies to lands containing public facilities, commonly airports or schools. Only a small amount of acreage is affected by this designation.
- **Public Recreation and Tourism-Public Use Site (Rp).** This designation applies to areas with a concentration of recreational users or tourists or that are likely to have such concentrations. Within this Region this designation applies to specific recreation sites such as the public use sites identified in the Nushagak & Mulchatna Rivers Recreation Management Plan. Unless otherwise indicated in the Resource Allocation Table, these sites are to be retained by the state. In some instances they may be conveyed to a borough, subject to the borough retaining them in public ownership and ensuring that they remain available for public use.
- **Subsistence (Su).** This designation applies to lands and waters that are suitable for subsistence activities, due to the ability of subsistence users to use the lands and waters productively over time for such activities. These activities include subsistence hunting, fishing and gathering.
- **Water Resources (Wr).** See Definition and Management intent under page 85.

Region 6 contains areas associated with significant mineral resources, either measured or inferred that are being explored or may be explored in the foreseeable future. In accordance with Alaska statutes, all state lands are subject to mineral claim except were specifically closed or otherwise limited. As such, a Mineral Land designation and classification is not necessary to authorize mineral exploration on most state land in the region. This Bristol Bay Area Plan uses a definition of the Mineral (Mi) designation that closely tracks the definition of the Mineral classification category at 11 AAC 55.130 because a land classification order converts designations to corresponding classifications. The Mineral *classification category*, at 11 AAC 55.130 is defined as follows:

> **Mineral Land.** Land classified Mineral is land where known mineral resources exist and where development is occurring or is reasonably likely to occur, or where there is reason to believe that commercial quantities of minerals exist.

The definition of the Mineral (Mi) *designation* in the glossary of the Citizens Alternative Bristol Bay Area Plan is as follows:

> **Mineral Land.** Land where known mineral resources exist and where development is occurring or is reasonably likely to occur, or where there is reason to believe that commercially developable quantities of minerals exist, taking into account the federal, state, and local laws, regulations, executive branch actions including conservation designations, mineral closing orders, Section 404(c) determinations, and the like, which affect whether a given mineral deposit is commercially and legally developable.

Nearly all mineral activity on state land in Region 6 is occurring on prospects and is still in the exploration stage. Under the 2005 Plan, the Mineral designation was applied at the Shotgun, Sleitat, Kemuk, and Pebble Copper deposits. These designations have been removed because it will not be known whether these claims are commercially and legally developable until the owners of these claims file for permits to develop the mineral deposits. Exploration can continue, and if the exploration and future designs in light of governmental actions indicate that commercial development is "reasonably likely," as stated in 11 AAC 55.130, then the owners of the claims may petition under 11 AAC 55.270 to reclassify the land as Mineral Land under the public process required by the planning statutes at AS 38.04.065. Exploration and development should not interfere with important habitat values, and any development must comply with the provisions for Minerals in this plan.

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Specific Management Considerations

- Generally Allowed Uses. The Generally Allowed Uses in 11 AAC 96.020 can occur throughout the Region, unless the circumstances indicate a particular use would be incompatible with the applicable land designation and classification.
- Proposed Transportation Corridor. The area identified on the Region Map as a "Potential Transportation Corridor" should be retained by the state during the planning period. Authorizations granted by DNR within or adjacent to this corridor should not preclude the future development of transportation access. Authorizations or disposals within and adjacent to this corridor should only be allowed after consultation with ADOT/PF.
- Except for areas closed to mineral entry under existing Mineral Closing Orders, all state lands within Region 6 are open to mineral entry. An additional MCO is recommended for additional areas where mineral development and fisheries are likely to occur. Closure to mineral entry is recommended for lands to be disposed by DNR at or before plat adoption. No leasehold location orders are recommended. See the Minerals section in Chapter 2 for more details on subsurface management requirements.
- Mineral Closing and Opening Orders. This Citizens' Alternative Bristol Bay Area Plan retains the mineral closing and opening orders largely implemented by DNR at the time of original plan adoption. These MCOs either close a proposed settlement area or close a number of major streams to mineral location. These include the following:
  - MCO 393 – Major streams in the Nushagak and Mulchatna drainage basin
  - MCO 294 – Jack Rabbit Hills (T1R, R40W, Seward Meridian)

  An additional MCO is recommended for additional areas where mineral development is likely to occur in the vicinity of salmon habitat or other important habitat areas.

- Leasehold Location Orders. Leasehold Location Order No. 1 covers small portions of Region 6, much of Region 7, and portions of Regions 8 and 9. Under this order, rights to locatable minerals may be acquired only under the Leasehold Location System, AS 38.05.205, and may not be acquired by locating a mining claim under AS 38.05.195. In the affected area, an approved Plan of Operations for a mineral lease takes the place of a Land Use Permit required for unleased land. If the proposed lease activities are minor, a plan of operations is not required (11 AAC 86.800). The Plan of Operations must show how the operator proposes to comply with the lease stipulations and other pertinent guideline in this plan.
- Retained Lands. State lands in Region 6 designated as Habitat (Ha), Public Recreation and Tourism Dispersed (Rd), Public Facilities-Retain (Pr) and Subsistence (Su) shall be retained in state ownership.
- Waters. All catalogued anadromous waters in this region are classified Habitat (Ha). Authorizations in navigable waters must ensure the continued use of a waterway by the public for purposes of trade, travel, and commerce. Authorizations issued by DNR are to maintain the habitat, public recreation and subsistence values of these waterbodies.

See the Resource Allocation Table for more details on the upland management units.

RESOURCE ALLOCATION TABLE FOR UPLAND UNITS — REGION 6

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R06-01 RRMP 14	754,027 Ha – Fish and Wildlife Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		The unit is designated Habitat (Ha), co-designated Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su) and managed primarily for the protection of fish and wildlife resources and their associated habitats and for dispersed recreation. Some forms of recreation use, including commercial recreation, may be appropriate if these recreational uses are found to be compatible with the management intent for adjacent river corridors designated Ha-Rd or Rd in the Area Plan. Development authorizations may be appropriate subject to the protection of these resources, consistency with the recreation uses specified in the RRMP, and the specific requirements of Chapter 2; see particularly the requirements for Management Guideline K, "Caribou and Moose Calving and Rutting Areas," in the Fish and Wildlife Habitat and Harvest Areas section and the Management Guideline J, "Nushagak & Mulchatna Rivers Recreation Management Plan," in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Management Guideline J in the Recreation, Tourism, and Scenic Resources section of Chapter 2 specifically defines the relationship between the RRMP and the BBAP and must be consulted in adjudication decisions. Intensive development is not expected within this unit during the planning period except occasionally and at specific locations associated with recreation uses and mineral exploration and development. Settlement is not considered an appropriate use.	The unit encompasses uplands in the upper Nushagak River, King Salmon River, and Chichitnok River drainages and coincides with that of Management Unit 14 of the Nushagak & Mulchatna Rivers Recreation Management Plan. Vegetation consists primarily of tall shrublands. These major drainages are cataloged as anadromous and contain moose rutting areas (although not part of the unit) and brown bear denning areas (in the Shotgun Hills). Nearly the entire unit also provides essential caribou wintering habitat. The management of this unit is governed by the requirements of the Bristol Bay Area Plan. (Previous to this revision, DNR authorizations relating to recreation uses and structures were guided by the Nushagak & Mulchatna Rivers Recreation Management Plan [RRMP]). The requirements of the RRMP have been carried over except for prohibitions on structures, trapping cabins, boat storage, and docks.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R06-02 Corridor of the Nushagak River system	318,982 Ha – Habitat Rd – Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		This unit, which consists of the anadromous portions of the Nushagak River and its adjoining uplands is co-designated Public Recreation and Tourism- Dispersed (Rd), Habitat (Ha), and Subsistence (Su). Unit is to be retained by the state and managed to maintain the recreational and subsistence uses of the Nushagak River and the adjoining upland corridor, its fish wildlife resources, and public recreation values. The management requirements of the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP) are to be followed by DNR in the granting of authorizations related to certain types of recreational uses and structures. See the Management Intent and Management Guidelines in the RRMP for Management Units 10, 12, and 13. Management Guideline J in the Recreation, Tourism, and Scenic Resources section of Chapter 2, which more specifically defines the relationship between the RRMP and the BBAP, also applies and should be consulted in adjudication decisions. In general, authorizations should not be issued for nonrecreational uses that are incompatible with the management intent of this unit and the management objectives of the RRMP. Oil, gas, and mineral exploration and development are considered appropriate uses if compatible with the management intent for this unit or if in the best interest of the state.	This unit is the corridor of the upper Nushagak River as depicted in the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP). The unit consists of that portion of RRMP Management Units 10, 12, and 13 within state- owned lands in Region 6. The RRMP calls for these management units to be managed for either a "primitive" or "semi-primitive" experience. The RRMP also specifies those recreational uses that are appropriate. It includes the Nushagak, King Salmon, and Chichitnok River corridors as well as that of lower Vukpalik Creek. The width of the corridor varies and may be up to four miles wide. Vegetation consists of lichen tundra and low and tall shrublands. The corridors contain streams cataloged as anadromous. The unit is characterized as follows: (1) The unit contains 659 km of anadromous streams. (2) Stream corridors are utilized by brown bear, especially during the salmon spawning season. (3) Moose use stream corridors as calving areas. (4) About 37 percent of the unit is used as moose wintering habitat. (5) Nearly 100 percent of the unit supports caribous wintering habitat. Heritage Resources Survey (AHRS) reports many heritage sites in this unit. The unit is partly affected by MCO 393. This corridor does not include the specific public use sites identified in the RRMP. These are specific, individual units.
R06-03 Shotgun	35,409 Ha –Habitat Rd – Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources	S4N51W; S3N51W	This unit is designated as Habitat (Ha), Recreation and Tourism-Dispersed (Rd), and Subsistence (Su). However, mineral exploration has been ongoing and has produced evidence of subsurface resources. A co-classification to Mineral (Mi) may occur if development should be permitted by DNR. Mineral development is subject to DNR permitting requirements and requires a plan amendment. Development of mineral resources is subject to state permitting requirements. If portions of this unit are permitted for development, the unit designation could be co-classified as The unit is to be retained in state ownership. The Nushagak & Mulchatna Rivers Recreation Management Plan does not apply within this unit (p. 1-2; p. 2-11). Refer to the Recreation, Tourism, and Scenic Resources section of Chapter 2 for a listing of allowed and prohibited uses. However, permanent facilities related to commercial recreation are prohibited in this unit.	This land is located in the Shotgun Hills. Vegetation is primarily tall shrubs and barren land. The unit encompasses the Shotgun Hills mineral district, which consists of a number of known prospects, occurrences, and the Shotgun gold deposit. The Shotgun deposit has a drill measured resource of approximately 979,660 ounces of gold. Areas along the main valley of the King Salmon River, immediately south of the unit, are used by moose for calving. The area is utilized by brown bear for denning and caribou for wintering. Exploration and other mining related activities are permitted throughout the DNR's Annual Placer Mining Permit.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R06-04 PU20/Chichitnok River	206 Rp – Public Recreation and Tourism-Public Use Site	S3N46W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation. It is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	The unit consists of a campsite at the mouth of the Chichitnok River. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU20).
R06-05 RRMP 19	1,196,780 Ha – Fish and Wildlife Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		The unit is designated as Habitat (Ha), Recreation and Tourism-Dispersed (Rd), and Subsistence (Su) and can be managed for a variety of uses, including the protection of fish and wildlife resources and their associated habitats, mineral exploration, and dispersed recreation. Some forms of recreation use, including commercial recreation, may be appropriate if these recreational uses are found to be compatible with the management intent for adjacent river corridors designated Ha-Rd or Rd in the Area Plan. Development authorizations may be appropriate subject to the protection of these resources, consistency with the recreation uses specified in the RRMP, and the specific requirements of Chapter 2; see particularly the requirements for Management Guideline K, "Caribou and Moose Calving and Rutting Areas," in the Fish and Wildlife Habitat and Harvest Areas section and with Management Guideline J, "Nushagak & Mulchatna Rivers Recreation Management Plan," in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Management Guideline J in the Recreation, Tourism, and Scenic Resources section of Chapter 2 specifically defines the relationship between the RRMP and the BBAP and must be consulted in adjudication decisions. Intensive development is not expected within this unit during the planning period except occasionally and at specific locations associated with recreation uses and mineral exploration. Settlement is not considered an appropriate use.	The unit encompasses uplands in the lower Mulchatna drainage basin and coincides with Management Unit 19 of the Nushagak & Mulchatna Rivers Recreation Management Plan. The unit contains 620 km of anadromous fish streams, which include Old Man, Mosquito, and Keefer Creeks, and the Swan River. Vegetation consists of scattered spruce woodlands and tall shrublands at higher elevations and low shrub and lichen tundra. The unit contains some moose calving and wintering areas. Brown bear concentration areas and tundra swans are found in the general vicinity of the Swan River. Nearly the entire unit is essential caribou wintering habitat. Considerable mineral potential is present, and a large block of claims has been staked on state land east of the mouth of the Mulchatna River. The management of this unit is governed by the requirements of the Bristol Bay Area Plan. (Previous to this revision, DNR authorizations relating to recreation uses and structures were guided by the Nushagak & Mulchatna Rivers Recreation Management Plan [RRMP]). The requirements of the RRMP have been carried over except for prohibitions on permanent facilities and docks. Parts of the unit are affected by MCOs 393 and 249
R06-06 PU33/Upper Mulchatna River	161 Rp – Public Recreation and Tourism-Public Use Site	S4N37W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Conveyance of the unit to the Lake and Peninsula Borough is appropriate with the stipulation that the unit remain in public ownership as a public use site.	Unit consists of a campsite and floatplane and wheeled plane landing area on the upper Mulchatna River five miles downstream from Springway Creek. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan (April 2005) as a public use site (PU33). The unit is part of a land selection by the Lake and Peninsula Borough under its municipal entitlement.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R06-07 Corridor Middle Mulchatna River	19,946 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		This unit, which consists of the navigable portions of the Mulchatna River and its adjoining uplands as depicted in , is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su). Except for those areas that may be conveyed under the Municipal Entitlement program, the unit is to be retained by the state and managed to maintain the recreational uses of the Mulchatna River and the adjoining upland corridor, its fish and wildlife resources, and public recreation values. The management requirements of the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP) are to be followed by DNR in the granting of authorizations related to certain types of recreational uses and structures. See the Management Intent and Management Guidelines in the RRMP for Management Unit 20. Management Guideline J in the Recreation, Tourism, and Scenic Resources section of Chapter 2, which more specifically defines the relationship between the RRMP and the BBAP, also applies and should be consulted in adjudication decisions. In general, authorizations should not be issued for nonrecreational uses that are incompatible with the management intent of this unit and the management objectives of the RRMP. Mineral exploration is considered appropriate if consistent with these management objectives or if in the best interest of the state. The municipal selections affecting this unit are considered appropriate for conveyance, subject to a separate and subsequent Best Interest Finding by DNR. If conveyed to a borough, neither the requirements of the RRMP or the Area Plan will apply.	This unit consists of the uplands corridor adjacent to either side of the Mulchatna River upstream of the boundary of the Lake and Peninsula Borough and within Region 6. Its outer boundary corresponds to that of Management Unit 20 of the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP). The width of the corridor, adjacent to the streams, varies and may be up to four miles wide, measured from each side of the river system. Vegetation consists of lichen tundra and low shrub, tall shrub, and scattered spruce-birch-alder woodlands. The river is cataloged as an anadromous fish stream and is utilized by brown bear, especially during the salmon spawning season. Moose utilize the area for calving and wintering. Caribou utilize the entire area for wintering. Raptors nest along the river. The unit is partly affected by MCO 393 and LLO 1. This corridor does not include the specific public use sites identified in the RRMP. These are specific, individual units. The unit contains a large number of land selections by the Lake and Peninsula Borough under the Municipal Entitlement program.
R06-08 PU32/Mulchatna River	173 Rp – Public Recreation and Tourism-Public Use Site	S3N39W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in public ownership. See also the Management Guideline for “Public Use Sites” in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	Unit consists of a campsite on the north bank of the Mulchatna River, two miles southeast of Red Bluff. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan (April 2005) as a public use site (PU32).

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R06-09 Corridor of the Lower Mulchatna River	199,246 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		This unit, which consists of the anadromous portions of the Mulchatna River and its adjoining uplands as depicted in , is co-designated Public Recreation and Tourism- Dispersed (Rd), Habitat (Ha), and Subsistence (Su). Unit is to be retained by the state and managed to maintain the recreational uses of the Mulchatna River and the adjoining upland corridor, its fish and wildlife resources, and public recreation values. The management requirements of the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP) are to be followed by DNR in the granting of authorizations related to certain types of recreational uses and structures. See the Management Intent and Management Guidelines in the RRMP for Management Units 15, 18, and 20. Management Guideline J in the Recreation, Tourism, and Scenic Resources section of Chapter 2, which more specifically defines the relationship between the RRMP and the BBAP, also applies and should be consulted in adjudication decisions. In general, authorizations should not be issued for nonrecreational uses that are incompatible with the management intent of this unit and the management objectives of the RRMP. Mineral exploration is considered an appropriate use if compatible with the management intent for this unit or in the best interest of the state. Mineral development and compatibility is subject to DNR permitting requirements.	The unit is the corridor of the Lower Mulchatna River as depicted in the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP). The unit consists of that portion of RRMP Management Units 15, 18, and parts of 16, 17, and 20 within state-owned lands in Region 6. It includes the Mulchatna River up stream to the boundary of the Lake and Peninsula Borough and includes the corridors of the Stuyahok and lower Koktuli Rivers. The width of the corridor varies and may be up to four miles wide. Vegetation consists of lichen tundra and low shrub in the lower reaches and tall shrubland and scattered spruce woodlands in the upper reaches of the river corridors. The rivers are cataloged as anadromous fish streams and utilized by brown bear for feeding, especially during the salmon spawning season. Moose utilize the river corridors as calving areas. Moose and caribou utilize the majority of the area for wintering. Raptor nests occur along the main course of the Mulchatna River and especially along the lower reaches of the Koktuli River. The Alaska Heritage Resources Survey (AHRS) reports many heritage sites in this unit. The unit is partly affected by MCO 393. This corridor does not include the specific public use sites identified in the RRMP. These are specific, individual units.
R06-10 PU18/King Salmon River	174 Rp – Public Recreation and Tourism-Public Use Site	S2N51W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation. It is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	Unit consists of a campsite and floatplane landing area on unnamed lake near the headwaters of the King Salmon River. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan (April 2005) as a public use site (PU18).
R06-11 PU19/Nushagak River	157 Rp – Public Recreation and Tourism-Public Use Site	S2N46W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation. It is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	Unit consists of a campsite on the east bank of the Nushagak River two miles north of the mouth of the King Salmon River. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan (April 2005) as a public use site (PU19).
R06-12 PU15/King Salmon River	161 Rp – Public Recreation and Tourism-Public Use Site	S2N46W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation. It is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	Unit consists of a campsite and floatplane landing area at the mouth of the King Salmon River. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan (April 2005) as a public use site (PU15).

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R06-13 RRMP 11	587,500 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		The unit is designated as Habitat (Ha), Recreation and Tourism-Dispersed (Rd), and Subsistence (Su) but can be managed for a variety of uses, including the protection of fish and wildlife resources and their associated habitats, mineral exploration, and dispersed recreation. Some forms of recreation use, including commercial recreation, may be appropriate if these recreational uses are found to be compatible with the management intent for adjacent river corridors designated Ha-Rd or Rd in the Area Plan. Development authorizations may be appropriate subject to the protection of these resources, consistency with the recreation uses specified in the RRMP, and the specific requirements of Chapter 2; see particularly the requirements for Management Guideline K, "Caribou and Moose Calving and Rutting Areas," in the Fish and Wildlife Habitat and Harvest Areas section and with Management Guideline J, "Nushagak & Mulchatna Rivers Recreation Management Plan," in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Management Guideline J in the Recreation, Tourism, and Scenic Resources section of Chapter 2 specifically defines the relationship between the RRMP and the BBAP and must be consulted in adjudication decisions. Intensive development is not expected within this unit except occasionally and at specific locations associated with recreation uses and mineral exploration. Mineral development could be permitted if compatible with the Ha classification. Settlement is not considered an appropriate use.	The unit encompasses uplands east and west of the Nushagak River generally in the drainages of the Nuyakuk River as well as Klutuspak, Cranberry, and Vukpalik Creeks. The unit coincides with that of Management Unit 11 of the Nushagak & Mulchatna Rivers Recreation Management Plan. Vegetation consists of tall shrublands and lichen tundra. The unit is characterized as follows: (1) The unit contains moose calving areas. (2) About 10 percent of the unit is utilized for moose wintering. (3) About 64 percent of the unit is utilized for caribou wintering. (4) Brown bears concentrate around stream corridors. (5) The unit contains 467 km of catalogued anadromous steams, including Klutuspak Creek. The management of this unit is governed by the requirements of the Bristol Bay Area Plan. (Previous to this revision, DNR authorizations relating to recreation uses and structures were guided by the Nushagak & Mulchatna Rivers Recreation Management Plan [RRMP]). The requirements of the RRMP have been carried over except for prohibitions on permanent facilities and docks.
R06-14 PU16/Klutuspak Creek	197 Rp – Public Recreation and Tourism-Public Use Site	S1N48W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation. It is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	Unit includes a wheeled airplane landing area on upper Klutuspak Creek. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan (April 2005) as a public use site (PU16).
R06-15 PU17/Vukpalik Creek	234 Rp – Public Recreation and Tourism-Public Use Site	S1N45W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation. It is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	Wheeled plane landing area in uplands three miles southeast of Vukpalik Creek. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan (April 2005) as a public use site (PU17).
R06-16 Upper Chulitna Area	107,402 Ha – Fish and Wildlife Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		Unit is designated as Habitat (Ha), Recreation and Tourism-Dispersed (Rd), and Subsistence (Su). It can be managed for a variety of uses, including the protection of fish and wildlife resources and their associated habitat, mineral exploration, and dispersed recreation. Development authorizations may be considered appropriate subject to the protection of these resources and the specific requirements of Chapter 2. Intensive development is not expected in the foreseeable future.	The unit encompasses portions of the upper Chulitna River in Region 6. Vegetation consists of tall and low shrublands and lichen tundra. The entire unit is utilized for caribou wintering habitat. It is partly affected by LLO 1. Note: Area is not included as part of the Nushagak & Mulchatna Rivers Recreation Management Plan.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R06-17 PU14/Klutuspak Creek	235 Rp – Public Recreation and Tourism-Public Use Site	S1S47W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and tourism. The unit is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	Unit consists of a campsite on the Nushagak River at the mouth of Klutuspak Creek. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan (April 2005) as a public use site (PU14).
R06-18 Sleitat	73,099 Ha – Fish and Wildlife Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		The land is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), Subsistence (Su). It can be managed for a variety of uses, including the protection of fish and wildlife resources and their associated habitats, mineral exploration, and dispersed recreation. Mineral exploration has produced evidence of subsurface resources. A co-classification to Mineral (Mi) may occur if development should be permitted by DNR. The unit is to be retained in state ownership. The Nushagak & Mulchatna Rivers Recreation Management Plan does not apply within this unit (p. 1-2; p. 2-11). Refer to the Recreation, Tourism, and Scenic Resources section of Chapter 2 for a listing of allowed and prohibited uses. However, permanent facilities related to commercial recreation are prohibited in this unit.	This land is located east of the Nushagak River in the vicinity of Sleitat Mountain and Harris Creek. Vegetation consists of low shrub and lichen tundra. A tundra swan concentration is reported on the northern margin of the unit. Moose use part of the unit for wintering habitat. Caribou utilize the entire unit for wintering habitat. The unit contains 49 km of catalogued anadromous streams. The area is the locus of significant tin-tungsten-silver mineralization with peripheral gold. The Sleitat deposit has inferred resources of 64,000 to 106,000 tons of tin contained in 29 million tons of ore. One drill hole intercept contains 85 feet averaging 1.8 percent tin and 0.4 percent tungsten.
R06-19 Stuyahok	40 Hr – Heritage Resources	S4S43W Sec. 16	This unit is designated Heritage Resources (Hr) and is to be managed for the protection of the heritage resources present. Development authorizations are inappropriate except for those facilities related to the scientific examination or preservation of the site. No surface disturbance is authorized unless related to scientific inquiry. The site is to be retained in state ownership.	This unit is located at the former Eskimo village of Old Stuyahok (Stuyahok) near the confluence of the Stuyahok River with the Mulchatna River. The site is approximately 985 feet by 250 feet in a semicircular clearing. The foundations of ten to 15 cabins are present. These cabins were probably dismantled when the village was abandoned in 1939-1940 due to persistent flooding. Two dilapidated cabins are also present.
R06-20 PU27/Koktuli River	80 Rp – Public Recreation and Tourism-Public Use Site	S2S40W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	Unit consists of a campsite on the Koktuli River at the mouth of the Swan River. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan (April 2005) as a public use site (PU27).
R06-21 PU23/Mulchatna River	87 Rp – Public Recreation and Tourism-Public Use Site	S3S42W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	Unit consists of a campsite and floatplane landing area on the Mulchatna River at the mouth of the Koktuli River. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan (April 2005) as a public use site (PU23).
R06-22 PU22/Mulchatna River	142 Rp – Public Recreation and Tourism-Public Use Site	S3S42W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation. The unit is to be retained in state ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	Unit consists of a campsite and floatplane landing area on the Mulchatna River 1.5 miles downstream from the mouth of the Koktuli River. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan (April 2005) as a public use site (PU22).

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R06-23 Pebble	48,526 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		The land is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), Subsistence (Su). It can be managed for a variety of uses, including the protection of fish and wildlife resources and their associated habitats, mineral exploration, and dispersed recreation. Mineral exploration has produced evidence of subsurface resources. A co-classification to Mineral (Mi) may occur if development should be permitted by DNR. Mineral development is subject to DNR permitting requirements and requires a plan amendment. The unit is to be retained in state ownership. The Nushagak & Mulchatna Rivers Recreation Management Plan does not apply within this unit (p. 1-2; p. 2-11). Refer to the Recreation, Tourism, and Scenic Resources section of Chapter 2 for a listing of allowed and prohibited uses. However, permanent facilities related to commercial recreation are prohibited in this unit.	This land is located generally in the upper Koktuli River drainage in the area of Groundhog Mountain and Sharp Mountain. The unit is bisected by two stream corridors (R06-24). The terrain is of low to moderate relief, and vegetation consists of low to tall shrub. The unit is host to several mineral deposits, prospects, and discoveries and hosts the Pebble Copper deposit. The Pebble deposit is a very large copper-gold resource; the drill indicated resource is estimated at over 2 billion tons. Essential habitat in the unit is characterized as follows: (1) Upper portions of the Koktuli River support anadromous fish. (2) Approximately 95 percent of the unit is a caribou calving area. (3) About 94 percent of the area is utilized for caribou wintering. (4) The unit contains 25 km of catalogued anadromous streams. The unit is affected by Mineral Closing Order (MCO) 393. Note to adjudicators: See units R06-24 and R10-02.
R06-24 Pebble Streams	36,508 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		The land is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), Subsistence (Su). It is to be managed primarily to protect anadromous streams and essential moose wintering, caribou calving, and caribou wintering habitat. Management of this unit should protect fisheries production and avoid impacts to subsistence opportunities and public recreation along Upper Talarik Creek. Mineral exploration has produced evidence of subsurface resources. A co-classification to Mineral (Mi) may occur if development should be permitted by DNR. Mineral development is subject to DNR permitting requirements and requires a plan amendment. The unit is to be retained in state ownership. The Nushagak & Mulchatna Rivers Recreation Management Plan does apply within this unit. Refer to the Recreation, Tourism, and Scenic Resources section of Chapter 2 for a listing of allowed and prohibited uses. However, permanent facilities related to commercial recreation are prohibited in this unit. Mineral entry and location within the two streams is not allowed pursuant to MCO 393. Consult with ADF&G and other appropriate agencies to determine appropriate best management practices.	The unit consists of the two separate stream corridors that adjoin units R06-23 and R10-02, the Pebble Copper deposit. The unit is characterized as follows: (1) The Upper Talarik Creek region is utilized as a moose wintering area. (2) The unit contains 92 km of catalogued anadromous streams including Talarik Creek. (3) Upper Talarik Creek supports a recreational sports fishery for trout. (4) About 82 percent of the unit is utilized for caribou calving. (5) Approximately 97 percent of the unit is utilized for caribou wintering. The unit is affected by MCO 393. The unit is part of the Pebble unit, which contains the Pebble Copper copper-gold deposit – a very large copper-gold resource; the drill indicated resource is estimated at over 2 billion tons. Note to adjudicators: The requirements of the RRMP apply to these corridors

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R06-25 Corridor of the Nuyakuk River	40,319 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		This unit, which consists of the navigable portions of the Nuyakuk River and its adjoining uplands as depicted in, is co-designated Public Recreation and Tourism- Dispersed (Rd), Habitat (Ha), and Subsistence (Su). Unit is to be retained by the state and managed to maintain the recreational uses of the Nuyakuk River and the adjoining upland corridor, its fish and wildlife resources, and public recreation values. The management requirements of the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP) are to be followed by DNR in the granting of authorizations related to certain types of recreational uses and structures. See the Management Intent and Management Guidelines in the RRMP for Management Units 10, 12, and 13. Management Guideline J in the Recreation, Tourism, and Scenic Resources section of Chapter 2, which more specifically defines the relationship between the RRMP and the BBAP, also applies and should be consulted in adjudication decisions. In general, authorizations should not be issued for nonrecreational uses that are incompatible with the management intent of this unit and the management objectives of the RRMP. Mineral exploration is considered an appropriate use if compatible with the management intent for this unit or if in the best interest of the state. Mineral development is subject to DNR permitting requirements and requires a plan amendment	The unit is the corridor of the Nuyakuk River as depicted in the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP). The unit consists of that portion of RRMP Management Unit 8 within state-owned lands in Region 6. The width of the corridor varies and may be up to four miles wide, measured from each side of the river system. Vegetation consists of lichen tundra, tall and low shrublands, and scattered spruce woodlands. The river is cataloged as an anadromous fish stream. Brown bear use the corridor for feeding, especially during the salmon spawning season. Moose use 70 percent of the unit for wintering and the corridor as a calving area. The Alaska Heritage Resources Survey (AHRS) reports a heritage site in this unit. The unit is partly affected by MCO 393.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R06-26 Corridor of the Lower Nushagak River	12,495 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		This unit, which consists of anadromous portions of the Nushagak River and its adjoining state-selected uplands as depicted in, is co-designated Public Recreation and Tourism-Dispersed (Rd), Habitat (Ha), and Subsistence (Su). Unit is to be retained by the state and managed to maintain the recreational uses of the Nushagak River and the adjoining upland corridor, its fish and wildlife resources, and public recreation values. The management requirements of the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP) are to be followed by DNR in the granting of authorizations related to certain types of recreational uses and structures. See the Management Intent and Management Guidelines in the RRMP for Management Units 1, 3, 5, and 7. Management Guideline J in the Recreation, Tourism, and Scenic Resources section of Chapter 2, which more specifically defines the relationship between the RRMP and the BBAP, also applies and should be consulted in adjudication decisions. In general, authorizations should not be issued for nonrecreational uses that are incompatible with the management intent of this unit and the management objectives of the RRMP. Mineral exploration is considered an appropriate use if compatible with the management intent for this unit or if in the best interest of the state. Mineral development is subject to DNR permitting requirements and requires a plan amendment.	The unit consists of a number of scattered, noncontiguous small land blocks of state-selected lands along the lower Nushagak and lower Mulchatna Rivers and within the river corridor of the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP). One small selection is located on the Kokwok River corridor. The scattered land units are parts of the RRMP Management Units 4, 5, 7, 9, and 15. The area contains moose calving and wintering areas, caribou wintering areas, anadromous fish streams, raptor nesting sites, and streams utilized by brown bear. Some portions may be affected by MCO 393. Many cultural and historic sites are located along the river corridor.
R06-27 PU21/Nushagak SUA	361 Rp – Public Recreation and Tourism-Public Use Site	S4S43W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation, consistent with the requirements of the Special Use Designation. The unit is to be retained in state ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	This unit contains a campsite and floatplane landing area on the Mulchatna River at the mouth of the Stuyahok River. It is affected by a Special Use Area (ADL 226852), which limits use to personal, noncommercial uses for a period of seven consecutive days. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU21). Includes Old Stuyahok site.
R06-28 PU28/Koktuli River	161 Rp – Public Recreation and Tourism-Public Use Site	S4S38W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Conveyance of the unit to the Lake and Peninsula Borough is appropriate with the stipulation that the unit remain in public ownership as a public use site.	Unit consists of a wheeled plane landing area on the Koktuli River one mile downstream from the confluence of the north and south forks. The unit is part of a land selection by the Lake and Peninsula Borough under its municipal entitlement.
R06-29 PU29/Koktuli River	82 Rp – Public Recreation and Tourism-Public Use Site	S4S38W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	Unit consists of a campsite on the Koktuli River at the confluence of the north and south forks. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU29).

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R06-30 Corridor Upper Koktuli River	20,636 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		This unit, which consists of the navigable portions of the upper Koktuli River and its adjoining uplands as depicted in , is designated Habitat (Ha), Subsistence (Su), and Public Recreation and Tourism- Dispersed (Rd). Except for those areas that may be conveyed under the Municipal Entitlement program, unit is to be retained by the state and managed to maintain the recreational uses of the Koktuli River and the adjoining upland corridor, its fish and wildlife resources, and public recreation values. The management requirements of the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP) are to be followed by DNR in the granting of authorizations related to certain types of recreational uses and structures. See the Management Intent and Management Guidelines in the RRMP for Management Unit 17. Management Guideline J in the Recreation, Tourism, and Scenic Resources section of Chapter 2, which more specifically defines the relationship between the RRMP and the BBAP, also applies and should be consulted in adjudication decisions. In general, authorizations should not be issued for nonrecreational uses that are incompatible with the management intent of this unit and the management objectives of the RRMP. Mineral exploration is considered an appropriate use if compatible with the management intent for this unit or if in the best interest of the state. Mineral development is subject to DNR permitting requirements and requires a plan amendment.	This unit consists of the uplands corridor adjacent to either side of a portion of the Koktuli River. Its outer boundary corresponds to that of Management Unit 17 of the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP). The width of the corridor, adjacent to the streams, varies and may be up to four miles wide, measured from each side of the river system. Vegetation consists of lichen tundra and low and tall shrublands. The river is cataloged as an anadromous fish stream. Moose winter in the area, and caribou use the area as a calving ground. The unit is partly affected by MCO 393. This corridor does not include the specific public use sites identified in the RRMP. These are specific, individual units. The unit contains a land selection by the Lake and Peninsula Borough under the Municipal Entitlement program. This unit is characterized as follows: 1. About 32 km of anadromous streams; 2. 81 percent moose wintering habitat; 3. 89.6 percent caribou calving habitat; 4. 100 percent caribou wintering habitat; and 5. 5.4 km of known brown bear stream concentrations.
R06-31 PU30/Koktuli River	491 Rp – Public Recreation and Tourism-Public Use Site	S4S37W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and tourism. The unit is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Conveyance of the unit to the Lake and Peninsula Borough is appropriate with the stipulation that the unit remain in public ownership as a public use site.	This unit consists of a floatplane landing area on an unnamed lake one mile south of the upper Koktuli River and campsite on the Koktuli River, connected by a trail. The unit is part of a land selection by the Lake and Peninsula Borough under its municipal entitlement.
R06-32 PU31/Upper Koktuli River	241 Rp – Public Recreation and Tourism-Public Use Site	S4S35W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in state ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Conveyance of the unit to the Lake and Peninsula Borough is not appropriate since the preponderance of land surrounding the unit is designated Minerals (Mi).	This unit consists of a floatplane landing area on unnamed lake on the south side of the upper Koktuli River 2.5 miles northeast of Sharp Mountain. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU31). The unit is part of a land selection by the Lake and Peninsula Borough under its municipal entitlement.
R06-33 PU13/Nuyakuk Creek	357 Rp – Public Recreation and Tourism-Public Use Site	S4S47W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation. The unit is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	This unit consists of a campsite and floatplane landing area on shorelands on the Nushagak River at the mouth of Nuyakuk Creek. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU13).

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R06-34 PU12/Kemuk Mountain	161 Rp – Public Recreation and Tourism-Public Use Site	S6S53W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation. It is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	Campsite and floatplane landing area on an unnamed lake 15 miles north of Okstukuk Lake. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU12).
R06-35 Kokwok River	85,089 Ha – Habitat Rd and Ha -- Public Rd – Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		This unit, which consists of the Kokwok River and its adjoining uplands as depicted in, is co-designated Public Recreation and Tourism- Dispersed (Rd), Habitat (Ha), and Subsistence (Su). Unit is to be retained by the state and managed to maintain the recreational uses of the Kokwok River and the adjoining upland corridor, its fish and wildlife resources, and public recreation values. The management requirements of the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP) are to be followed by DNR in the granting of authorizations related to certain types of recreational uses and structures. See the Management Intent and Management Guidelines in the RRMP for Management Unit 4. Management Guideline J in the Recreation, Tourism, and Scenic Resources section of Chapter 2, which more specifically defines the relationship between the RRMP and the BBAP, also applies and should be consulted in adjudication decisions. In general, authorizations should not be issued for nonrecreational uses that are incompatible with the management intent of this unit and the management objectives of the RRMP. Mineral exploration is considered an appropriate use if compatible with the management intent for this unit or if in the best interest of the state. Mineral development is subject to DNR permitting requirements and requires a plan amendment.	The unit is the corridor of the Kokwok River as depicted in the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP). The unit consists of that portion of RRMP Management Unit 4 within state-owned lands in Region 6. The width of the corridor varies and may be up to four miles wide, measured from each side of the river system. Vegetation consists of lichen tundra and low shrub in the lower reaches and tall shrubland in the upper reaches of the river corridor. The drainage is cataloged as an anadromous fish stream. Brown bear utilize the upper reaches of the drainage for feeding during the salmon spawning season, and moose use the upper reaches as a calving area. The Alaska Heritage Resources Survey (AHRS) reports a heritage site in this unit. The unit is partly affected by MCO 393. This corridor does not include the specific public use sites identified in the RRMP. These are specific, individual units. This unit is characterized as follows: 1. 107.82 km of anadromous streams; 2. 76.3 percent moose wintering habitat; 3. 55.3 percent caribou calving habitat; 4. 26.2 km of known brown bear stream concentrations; and 5. 71 percent moose calving habitat.
R06-36 Kemuk	108,390 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		The land is designated Habitat (Ha), Subsistence (Su), and Public Recreation and Tourism-Dispersed (Rd) but can be managed for a variety of uses, including the protection of fish and wildlife resources and their associated habitats, mineral exploration, and dispersed recreation. Mineral exploration has produced evidence of subsurface resources. A co-classification to Mineral (Mi) may occur if development should be permitted by DNR. Mineral development is subject to DNR permitting requirements and requires a plan amendment. The unit is to be retained in state ownership. The Nushagak & Mulchatna Rivers Recreation Management Plan does apply within this unit. Refer to the Recreation, Tourism, and Scenic Resources section of Chapter 2 for a listing of allowed and prohibited uses. However, permanent facilities related to commercial recreation are prohibited in this unit.	This land is located generally west of Koliganek and on the upper reaches of Napotoli and Klutuk Creeks, in the east of Kemuk Mountain. This land is the locus of a mafic-ultramafic hosted iron deposit with potential for titanium, platinum group metals, and chromium. The unit is characterized as follows: (a) Over 50 percent is moose wintering habitat. (b) 128 km are designated anadromous habitat, including Napotoli and Klutuk Creeks, and many others. (c) Over 40 percent is caribou calving area, and caribou wintering areas are present.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R06-37 Koliganek Airport	167 Pr – Public Facilities- Retain	S5S47W Sec. 21,28	This land is to be managed consistent with FAA and ADOT/PF guidelines for airport use and in accordance with the Management Right. Unit is to be retained in state ownership.	This unit is located at the Koliganek public airport and is managed by the Department of Transportation and Public Facilities (ADOT/PF) for airport use pursuant to Management Rights (ADLs 200348 and 200341).
R06-38 PU24/Stuyahok River	445 Rp – Public Recreation and Tourism-Public Use Site	S5S41W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and tourism and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	Unit consists of a wheeled plane landing area on the Stuyahok River 20 miles southeast of old Stuyahok. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU24).
R06-39 PU25/Stuyahok River	432 Rp – Public Recreation and Tourism-Public Use Site	S5S41W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	Unit consists of a floatplane and wheeled plane landing area near the Stuyahok River on an unnamed lake 21 miles southeast of old Stuyahok. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU25).
R06-40 PU26/Unnamed Lake	693 Rp – Public Recreation and Tourism-Public Use Site	S5S40W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Conveyance of the unit to the Lake and Peninsula Borough is appropriate with the stipulation that the unit remain in public ownership as a public use site.	Unit consists of a campsite and floatplane landing area on an unnamed lake drained by the Stuyahok River 23 miles southeast of old Stuyahok. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU26). The unit is part of a land selection by the Lake and Peninsula Borough under its municipal entitlement.
R06-41 Stuyahok Hills	2,109 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources	S5S40W	The unit is designated as Habitat (Ha), Recreation and Tourism-Dispersed (Rd), and Subsistence (Su), except that land selections by the Lake and Peninsula Borough as part of its municipal entitlement are considered appropriate for conveyance and therefore are designated only Public Recreation and Tourism-Dispersed (Rd).	This relatively small unit consists of state-owned land south of the Stuyahok River in the vicinity of Public Use Site 26 as identified in the Nushagak & Mulchatna Rivers Recreation Management Plan. The public use site itself is a separate unit. Vegetation consists of spruce woodland. The unit is 100 percent caribou wintering habitat. It contains a land selection by the Lake and Peninsula Borough under the Municipal Entitlement program.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R06-42 RRMP 6	577,023 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		The unit is designated Habitat (Ha), Subsistence (Su), and Public Recreation and Tourism-Dispersed (Rd) but can be managed for a variety of uses, including the protection of fish and wildlife resources and their associated habitats, mineral exploration, and dispersed recreation. Some forms of recreation use, including commercial recreation, may be appropriate if these recreational uses are found to be compatible with the management intent for adjacent river corridors designated Ha-Rd or Rd in the Area Plan. Development authorizations may be appropriate subject to the protection of these resources, consistency with the recreation uses specified in the RRMP, and the specific requirements of Chapter 2; see particularly the requirements for Management Guideline K, "Caribou and Moose Calving and Rutting Areas," in the Fish and Wildlife Habitat and Harvest Areas section and with Management Guideline J, "Nushagak & Mulchatna Rivers Recreation Management Plan," in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Management Guideline J in the Recreation, Tourism, and Scenic Resources section of Chapter 2 specifically defines the relationship between the RRMP and the BBAP and must be consulted in adjudication decisions. Intensive development is not expected within this unit in the foreseeable future except occasionally and at specific locations associated with recreation uses and mineral exploration. Settlement is not considered an appropriate use.	The unit consists of a number of noncontiguous upland blocks of state-owned and state-selected land in the lower Nushagak drainage that are part of Management Unit 6 in the Nushagak & Mulchatna Rivers Recreation Management Plan. The largest area of state-owned land in the unit is located between the lower Nushagak River and Wood-Tikchik State Park. The unit is characterized as (a) 25 percent moose wintering habitat (b) 56 percent caribou calving habitat (c) 30 percent caribou wintering habitat (d) 272 km of anadromous streams Vegetation consists of tall and low shrublands and lichen tundra. The uplands are within the Koksetna and Iowithla drainages. The unit includes moose calving and wintering areas. The management of this unit is governed by the requirements of the Bristol Bay Area Plan. (Previous to this revision, DNR authorizations relating to recreation uses and structures were guided by the Nushagak & Mulchatna Rivers Recreation Management Plan [RRMP]). The requirements of the RRMP have been carried over except for prohibitions on permanent facilities and docks.
R06-43 PU11/Okstukuk Lake	247 Rp – Public Recreation and Tourism-Public Use Site	S8S53W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and tourism. The unit is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	This unit contains a campsite and floatplane landing area near the outlet of Okstukuk Lake. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU11).
R06-44 PU10/Kokwok River	161 Rp – Public Recreation and Tourism-Public Use Site	S8S52W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and tourism. The unit is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	This unit consists of a campsite on the Kokwok River near the Okstukuk Hills. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU10).
R06-45 New Stuyahok Airport	71 Pr – Public Facilities- Retain	S8S47W	The unit is to be managed consistent with FAA and ADOT/PF guidelines for airport use and in accordance with provisions of the Management Right (ADL 221465; OSL 900). The unit is to be retained in state ownership.	This unit of land is located at the New Stuyahok public airport and contains airport facilities managed by the ADOT/PF.
R06-46 New Stuyahok School	7.89 Pr – Public Facilities- Retain	S8S47W Sec. 29	This land is to be managed consistent with the management right (ADL 201852; OSL 707) for a new school site. The unit is to be retained in state ownership.	This unit is located in New Stuyahok and is managed by the Department of Transportation and Public Facilities (ADOT/PF) and is a school site.
R06-47 New Stuyahok	41 Ma – Materials Site	S8S48W Sec. 29	This unit is designated Materials (Ma) and is to be managed consistent with Alaska regulations and the management guidelines for materials sites specified in Chapter 2. Unit is to be retained in state ownership.	This unit (ADL 23739) is located in New Stuyahok on shorelands of the Nushagak River and has been used for the production or staging of material extraction.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R06-48 Iowithla River	46,449 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		The unit is designated as Habitat (Ha), Recreation and Tourism-Dispersed (Rd), and Subsistence (Su). Development authorizations may be appropriate, subject to the protection of these resources and the requirements of Chapter 2. The Iowithla River is not considered appropriate for settlement.	This management unit is 95 percent moose wintering habitat, 100 percent caribou calving area, and contains 13 km of anadromous streams. The Iowithla River is cataloged as an anadromous fish stream and is utilized by brown bear during the spawning season. Brown bear also use the area for denning. The area contains calving areas for moose and is used for subsistence and recreational fishing and hunting.
R06-49 Corridor of the Iowithla River	45,205 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		This unit, which consists of the navigable portions of the Iowithla River and its adjoining uplands as depicted in, is co-designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), Subsistence (Su). Unit is to be retained by the state and managed to maintain the recreational uses of the Iowithla River and the adjoining upland corridor, its fish and wildlife resources, and public recreation values. The management requirements of the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP) are to be followed by DNR in the granting of authorizations related to certain types of recreational uses and structures. See the Management Intent and Management Guidelines in the RRMP for Management Unit 2. Management Guideline J in the Recreation, Tourism, and Scenic Resources section of Chapter 2, which more specifically defines the relationship between the RRMP and the BBAP, also applies and should be consulted in adjudication decisions. In general, authorizations should not be issued for nonrecreational uses that are incompatible with the management intent of this unit and the management objectives of the RRMP. Mineral exploration is considered an appropriate use if compatible with the management intent for this unit or if in the best interest of the state.	The unit is 70 percent moose winter habitat, 100 percent corridor of the Iowithla River as depicted in the caribou calving habitat, and has 60 km of bear concentration streams and 89 km of anadromous streams. The width of the corridor varies and may be up to four miles wide, measured from each side of the river system. Vegetation consists of lichen tundra and low shrub in the lower reaches and tall shrubland in the upper reaches of the river corridor. The Iowithla River is cataloged as an anadromous fish stream and is utilized by brown bear, especially during the salmon spawning season. The river corridor is used as a calving area by moose. The unit is partly affected by MCO 393. This corridor does not include the specific public use sites identified in the RRMP. These are specific, individual units. Note: This corridor continues into Region 5. This unit is characterized as follows: 1. 55 km of anadromous waters; 2. 69.7 percent moose wintering habitat; 3. 69.7 percent moose calving habitat; 4. 100 percent caribou calving habitat; and 5. 37.6 km of known brown bear stream concentrations.
R06-50 PU8/Muklung Hills	297 Rp – Public Recreation and Tourism-Public Use Site	S10S53W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation. It is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	Unit contains a campsite and floatplane landing area on an unnamed lake near the Muklung Hills. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU8).
R06-51 PU7/Iowithla River	347 Rp – Public Recreation and Tourism-Public Use Site	S10S53W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation. It is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	This unit consists of wheeled plane landing area on the Iowithla River near the Muklung Hills. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU16).
R06-52 Ekwok Airport	94 Pr – Public Facilities- Retain	S9S49W Sec. 35,36	This unit is to be managed consistent with FAA and ADOT/PF guidelines for airports and according to the Management Right and the Limited State Holding. It is to be retained in state ownership.	This land contains airport facilities at the Ekwok public airport and is managed by ADOT/PF under a Management Right (ADLs 220376 and 224131) and requirements of a Limited State Holding (LSH 268). (OSL 850)

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R06-53 Ekwok School	5.66 Pr – Public Facilities- Retain	S9S49W Sec. 35	Unit is to be managed for public purposes and retained in state ownership.	This land (OSL 496) is located at Ekwok and utilized by the public school system.
R06-54 PU9/Nushagak SUA	147 Rp – Public Recreation and Tourism-Public Use Site	S1S49W Sec. 19	Unit is to be retained in state ownership and managed to support public recreation, consistent with the requirements of the Special Use Area. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	This unit is located on the Nushagak River near the junction with the Kokwok River. This unit is a portion of a Special Use Area (ADL 226852). It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU9).
R06-55 PU6/Nushagak SUA	40 Rp – Public Recreation and Tourism-Public Use Site	S5S5W Sec. 31	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation, consistent with the requirements of the Special Use Designation. The unit is to be retained in state ownership.	See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.

Chapter 3 – Region 7
UPPER MULCHATNA AND UPPER HOHOLITNA

Contents of Chapter 3 – Region 7

REGION 7 – UPPER MULCHATNA AND UPPER HOHOLITNA

SUMMARY OF RESOURCES AND USES IN THE REGION

Region Boundary

Region 7 is situated in the northeastern part of the Bristol Bay planning area and encompasses the upper Mulchatna River basin. The boundaries of the Region are defined on the north by the boundary of the Lake and Peninsula Borough and on the east by the boundary of the Lake Clark National Park and Preserve. The boundary is similar to that in the 1984 Bristol Bay Area Plan but has been modified to correspond to the Lake and Peninsula boundary on the north and thus encompasses slightly more land to the northwest than did the original area plan. Elevations range from less than 300 feet in the Nikabuna Lakes area in the south to over 4,200 feet in the Bonanza Hills. There are no settlements in the Region. The nearest settlement is Nondalton (pop. 221), a few miles to the south.

State Lands: Ownership and Acreage

The majority of land within Region 7 is owned by the state of Alaska. Approximately two townships are held by the federal government, and approximately one and a half townships are in possession of the Bristol Bay Native Corporation. Conveyances to the Lake and Peninsula Borough total approximately 14,575 acres. The plan applies to 1,606,959 acres of state-owned and state-selected uplands.

Physical Geography

Region 7 is within the Lime Hills ecological province. The upper Mulchatna drainage basin includes the Chilikadrotna, Chilchitna, Chulitna, and Koksetna Rivers. Other significant drainages include Bonanza Creek, Ptarmigan Creek, and Black Creek. Due to the change in the northwest boundary of Region 7, also included are the upper portions of the Holitna drainage, including the South Fork of the Hoholitna River, Gnat Creek, McKinley Creek, and Weasel Creek. Major lakes include Nikabuna, Long, Tutna, and Half Cabin Lakes. Named mountains include Groundhog Mountain in the south, Mesa Mountain in the central area, and Marys and Halfway Mountain in the north. Topographic relief is modest with most of it developed in the north and east. The highest elevations occur in the Bonanza Hills where over 2,800 feet of relief is present.

The Region displays a variety of landscapes, including mountains, fast-flowing rivers, tundra, marshy lowlands, and ponds. Higher elevations in the Bonanza Hills are marked by alpine tundra and barrens. Tree-covered areas occur along the valleys of the Mulchatna and Holitna Rivers; these areas consist of spruce woodland and shrubs, or at some locales an open spruce forest-shrub-bog mosaic. Most terrain in the low-lying country of the Long Lake-Nikabuna Lakes-Chulitna River area has cover consisting of low shrub and lichen tundra. At intermediate elevations the spruce woodland and tundra give way to tall shrub vegetation.

Climate

Region 7 lies in the transitional climatic zone. Average summer temperatures range from 42° to 62°; winter temperatures average 6° to 30°. The record high is 91° and the record low is -47°. Annual average rainfall is 26 inches, with 64 to 70 inches of snowfall. Most of the Region is underlain by isolated masses of permafrost. Generally the areas immediately under or adjacent to the main course of the Mulchatna and South Fork of the Hoholitna Rivers are free of permafrost.

Other

Region 7 is within the Lake Clark and Iliamna quadrangles. It is within the boundaries of the Bristol Bay Regional and the CIRI Native Corporations. It is also within the Lake and Peninsula Borough.

Access

Access to Region 7 is quite limited. There are no airports in the Region and no roads. An unimproved trail, the Telaquana-Nondalton Trail (RST No. 291), extends through the southeast portion of this planning region and connects with the Telaquana Trail (No. 1508) five miles southwest of Twin Lakes within Lake Clark National Park and Preserve. Of course, floatplanes can access many waterbodies in the Region.

Resources and Uses

Cultural and Historic. There has been little in the way of excavation of prehistoric sites in the Region. However, archaeologists believe evidence suggests that people of the Paleo-Arctic Tradition were active in the Lake Clark area about 6,000 years ago, and perhaps earlier. A site near Twin Lakes and another along the Tazimina River suggest occupation as early as 8,000 B.C. Historically the principal Native group in the area is the Tanaina Indians, and evidence indicates an indigenous Na-Dene population in the Lake area prior to Russian contact. Fourteen historic and archaeological sites have been cataloged in Region 7 – three historic, four prehistoric, and seven of mixed origin.

Recreation. Most recreational uses in Region 7 are related to outdoor activities such as sport fishing, hunting, camping, river travel, and wildlife viewing. Since the region borders Lake Clark National Park and Preserve, recreational uses are similar to those of park users. The majority of activities are concentrated along the Mulchatna River. The upper reaches of the Mulchatna and the Chilikadrotna Rivers, within the national park, are designated with Wild and Scenic River status; these extend partially into the Region and are the focus of recreational river use. Where the Mulchatna River flows through the Bonanza Hills, the shallow and rocky river channel is more suitable for rafts and kayaks than canoes; west of Bonanza Creek, where the valley broadens, the river is gentle. The Chilikadrotna is a swift, twisting, narrow river most suitable for rafts or kayaks.

Minerals. Region 7 is underlain by three principal rock packages: 1) Cretaceous sedimentary clastic rocks, chiefly deep marine shale and conglomerate, underlie the northwest portion of the Region; 2) the central portion of the Region is underlain by intermediate early Tertiary and late Cretaceous volcanic and associated plutonic rocks; and 3) the southeast portion of the Region is underlain by middle Tertiary felsic volcanic rocks. The Alaska Resource Data Files compilation by the U.S.G.S. shows 13 mines, prospects, and occurrences in Region 7, and the MILS database from the U.S. Bureau of Mines shows nine. Most of these locations indicate that gold is the principal commodity of interest with one being silver and copper with minor gold.

The Bonanza Hills are the locus of a number of important mineralized areas. One of the most significant mineral deposits is the Synneva (Scynneva) Creek placer gold mine located near the confluence of Bonanza Creek and Synneva Creek. Production began in 1957 in the valley alluvials; the principal commodity was gold, but significant cassiterite and tungsten occur in the concentrates. The valley alluvials are mostly uniform gravels with some boulders, interpreted as reworked glacial deposits. The Bonanza Creek placer mine is located near the intersection of Bonanza Creek and Little Bonanza Creek, and the deposit extends from Gill's Camp at least 6 km upstream to above Cabin (or Cash) Creek and about 6 km downstream to Caribou Creek. Bonanza Creek is both a placer and a gold-quartz vein occurrence. The Bonanza Creek placers are also considered to be reworked glacial deposits. A number of quartz-veins and shear zones are present in the bedrock, at least some of which contain free gold, minor arsenopyrite, and 5 to 6 percent pyrite. Seventy-four active mining claims and leasehold locations are on Little Bonanza Creek.

Other gold occurrences in the Region include the Finnbear lode, an unnamed placer west of Long Lake, Charlie Creek, Lambert's Bar (at the confluence of the Mulchatna and Chilikadrotna Rivers), and the Mulchatna River placer occurrences (where the southeast flowing Springway Creek enters the Mulchatna River).

Oil and Gas. Bedrock underlying Region 7 is composed chiefly of granitic rocks, metamorphic aureoles surrounding these intrusives, volcanics, and Cretaceous flysch. The oil and gas potential of these rocks is considered very low.

Materials. There are no active materials sites in Region 7.

Forestry. Regions 6 and 7 contain most of the forest resources of the Bristol Bay Area. These noncommercial forests are found primarily in the Nushagak-Mulchatna drainages. Along the Mulchatna River valleys are trees that can be used for house logs. Trees are largely concentrated in the river valleys and consist of spruce, birch, and aspen. The timberline is found at approximately 1,800 feet in Region 7. Spruce is the most common tree type and grows to heights of 30 to 40 feet and up to 10 or 12 inches in diameter. Birch is common, and some trees attain thicknesses of 8 to 10 inches. Perhaps the most extensive spruce forest in the Region is in the Koksetna and Chulitna River drainages.

Fish and Wildlife. Region 7 contains essential moose wintering habitat along the river valleys throughout much of the area. Region 7 also contains much essential caribou calving and wintering habitat. Many streams host returns of anadromous sockeye (red), chinook (king), and coho (silver) salmon. Eagles and other raptors nest along the Mulchatna River corridor and the lower reaches of the Chilchitna River. The majority of hunts are unguided although commercial services commonly include transport to the field.

Moose and caribou are important resources in the area. Between 1981 and 1996, the Mulchatna Caribou Herd increased from 19,000 to 200,000. Since then, it has declined to about 30,000. Region 7 contains significant numbers of caribou and contains areas that are important for calving. The area east of Tutna Lake and extending northeast to Turquoise Lake has been identified as calving grounds in the past. Recently, calving has expanded throughout the upper Hoholitna River and northeastern Nushagak Hills.

Brown bear occur throughout the area, and the density can be considered high. Bear streams include the Chilikadrotna drainage, the Mulchatna River, and the Chilchitna River. Spring habitat is found along the lowermost reaches of the Koksetna River.

MANAGEMENT CONSIDERATIONS: OTHER LOCAL, STATE, AND FEDERAL LAND USE PLANS

Chapter 1 contains a summary of the 45-year history of state and federal efforts to conserve the Kvichak and Nushagak drainages and balance conservation and development in the overall Bristol Bay drainages. In Chapter 2, the section titled "Coordination, Cooperative Land Use Planning, and Public Notice" re-emphasizes the state's historic position under Governor Hammond that the Bristol Bay drainages, and the Kvichak and Nushagak in particular, need cooperative land use planning to conserve habitat across property boundaries because fish and wildlife do not observe such boundaries. In Chapter 3, each regional section identifies a number of local, state, and federal management plans that were considered in development of this plan, and which provide context for cooperative land use planning efforts recommended by this Citizen's Alternative Bristol Bay Area Plan.

Local plans relevant to Region 7 include the Lake and Peninsula Borough Comprehensive Plan, Nushagak River Watershed Traditional Use Area Conservation Plan, including its appendix "Standards and Practices for Environmentally Responsible Mining in the Nushagak River Watershed" and the Southwest Alaska Comprehensive Economic Development Strategy 2009-2014. State plans include the Bristol Bay Area Plan, the Kuskokwim Area Plan, and the Nushagak & Mulchatna Rivers Recreation Management Plan. Federal plans include the Lake Clark National Park General Management Plan (1984) and the BLM Resource Management Plan and may include during the 20-year life of the BBAP a watershed assessment by the U.S. Environmental Protection Agency and a determination under Section 404(c) of the Clean Water Act with respect to mining metallic sulfide deposits in the Kvichak and Nushagak drainages.

Region 7 is located within the boundaries of the Lake and Peninsula Borough. The Comprehensive Plan of the Lake and Peninsula Borough applies to this portion of Region 7. The Comprehensive Plan focuses on economic and infrastructure development issues and does not contain specific land use standards or a land use map.

Prior to July 2011, enforceable policies of the District Coastal Management Plan were extensive and affected land use decisions with respect to anadromous streams, bald eagle nests, oil and gas development, material extraction, and mining. Before issuing a permit, the state was required to conduct a consistency review to determine whether the action conformed to the local enforceable policies. It provided an opportunity for local and tribal governments to meaningfully participate in the permitting process and to protect regionally significant habitat, fisheries, subsistence uses, and recreation values. These policies were eliminated when the state legislature failed to reauthorize the Alaska Coastal Management Program (ACMP). Hence, the current lack of an ACMP program is another reason to recommend cooperative land use planning in Region 7.

Region 7 is also subject to the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP; April 2005). This plan manages recreation uses on the two river systems and was adopted as an amendment to the Bristol Bay Area Plan (1984). The RRMP continues to provide the basis for the management of state lands affected by the designation of Public Recreation and Tourism-Dispersed within the river corridors of the Nushagak-Mulchatna system. The Area Plan forms the basis for the management of state lands with different designations.

Region 7 is also within the area covered by the Southwest Alaska Comprehensive Economic Development Strategy 2009-2014, which was developed for the U.S. Department of Commerce Economic Development Administration by the Southwest Alaska Municipal Conference (July 2003). This document developed a number of goals, objectives, and strategies to facilitate and support efforts that retain and grow the region's wealth, including diversifying the economic base.

The original Bristol Bay Area Plan (1984) affected all state lands in the Region. This plan stated that Region 7 was to be managed in conjunction with Region 6 for fish and wildlife habitat and harvest and for river-oriented recreation. This Citizens' Alternative continues managing Region 7 in conjunction with Region 6 because the habitats, values, and uses are related, most obviously by the

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Nushagak & Mulchatna Rivers Recreation Management Plan, which applies to both regions. The northwest portion of the Region, within the Holitna drainage basin, was previously covered by the Kuskokwim Area Plan (1988), which managed the area as general use and for wildlife resources. Mineral exploration and development was also permitted, subject to leasehold location. This Citizens' Alternative supersedes the 2005 revised BBAP and the original 1984 Area Plan. The Nushagak & Mulchatna Rivers Recreation Management Plan is retained as an element of the Citizens' Alternative. .

Municipal Selections

Region 7 contains a large number of municipal selections by the Lake and Peninsula Borough. The selections are distributed throughout the Region and total approximately 43,565 acres. A number of selections are clustered along the Mulchatna River, Tutna Lake, Nikabuna Lakes, and Weasel Creek.

MANAGEMENT SUMMARY: UPLANDS

Plan Designations and Management

State land in Region 7 is to be managed for a variety of multiple uses, including subsistence, settlement, materials extraction, public facilities development, dispersed public recreation, mineral exploration , and maintenance of sensitive wildlife habitats. Oil and gas exploration and development, although of only moderate to low potential, are also appropriate within the Region. The majority of lands in Region 7 are co-designated Habitat (Ha), Subsistence (Su) and Public Recreation and Tourism Dispersed (Rd). Lands at Half Cabin Lakes, designated Settlement in the 1984 Bristol Bay Area Plan, remain designated Settlement in this (current) revision. The major river corridors have been designated Habitat (Ha); they mostly correspond to the major river corridors as defined in the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP) and include the Mulchatna and Chilikadrotna Rivers. Public use sites that were identified in the RRMP that are used for recreation have been designated Public Recreation and Tourism-Public Use Sites (Rp).

The plan designations that are used within this Region have the following management intent. The policies and management intent guidelines described in Chapter 2 affect all DNR authorizations. Refer especially to those guidelines relating to Fish and Wildlife Habitat and Harvest Areas, and to Settlement.

- **General Use (Gu).** Within this Region, lands that contain one or more resource values, none of which is of sufficiently high value to merit designation as a primary use, and areas that are unlikely to be developed during the planning period are designated General Use. The land is to be managed for a variety of uses, including protection of fish and wildlife habitat and harvest, dispersed public recreation, minerals, oil and gas exploration and development, and protection of heritage resources. It is expected that little development will occur in these areas during the planning period, and it is not intended as a matter of policy that intensive forms of development occur in these areas other than occasionally and at specific sites. Municipal land selections, under the Municipal Entitlement program, are conveyable to the municipality subject to a Best Interest Finding by the state. The Lake and Peninsula Borough has made a number of municipal selections of lands designated General Use; these are in Weasel Creek, the Tutna Lake vicinity, and adjacent to Lake Clark National Park and Preserve.
- **Habitat (Ha).** Habitat is land that is primarily valuable for (1) fish and wildlife resource production, whether existing or through habitat manipulation, to supply sufficient numbers or a diversity of species to support commercial, subsistence, recreational, or traditional uses on an optimum sustained yield basis, including "essential habitat" and "important habitat;" or (2) a unique or rare assemblage of a single or multiple species of regional, state, or national significance. (See 11 AAC 55.230; see also "essential habitat" and "important habitat" herein.) Habitat also includes all anadromous waters specified under the Anadromous Fish Act, AS 16.05.871 *et seq*., and all land subject to mineral closing orders issued to protect anadromous waters.. The land use designation Ha is to be retained in state ownership.
- **Public Recreation and Tourism-Dispersed (Rd).** Lands with the designation of Public Recreation and Tourism-Dispersed are to be managed so that their public recreation values are protected and maintained. Within these areas the primary surface uses are intended to be those related to hiking, hunting, fishing, wildlife viewing, and the like. Selections on these lands are considered appropriate for conveyance to a borough under the Municipal Entitlement program (subject to a Best Interest Finding by the state). This designation is used along the corridor of the Mulchatna River, the Chilikadrotna River, and the Tutna Lake drainage.
- **Public Recreation and Tourism-Public Use Site (Rp).** This designation applies to areas with a concentration of recreational users or tourists, or that are likely to have such concentrations. Within this Region this designation applies to the specific recreation sites identified in the Nushagak & Mulchatna Rivers Recreation Management Plan. Unless otherwise indicated in the Resource Allocation Table, these sites are to be retained by the state. In some instances they may be conveyed to a borough, subject to the borough retaining them in public ownership and ensuring that they remain available for public use. The Lake and Peninsula Borough has made municipal selections on most of the public use sites in Region 7.
- **Settlement (Se).** This designation applies to state uplands suitable for sale, leasing, or permitting to allow private recreational or residential use. Lands designated Settlement occur at Half Cabin Lakes and a unit of state- selected lands southeast of the Chulitna River. All are intended for remote recreational use. The Lake and Peninsula Borough has a number of municipal selections on land designated Settlement at Nikabuna Lakes and the Tutna Lake vicinity. Settlement lands are appropriate for conveyance to the borough under the Municipal Entitlement program. See *Chapter 2* for specific requirements for remote settlement.
- **Subsistence (Su).** This designation applies to lands and waters that are suitable for subsistence activities, due to the ability of subsistence users to use the lands and waters productively over time for such activities. These activities include subsistence hunting, fishing and gathering.
- **Water Resources (Wr).** See Definition and Management Intent under page 85.

Specific Management Considerations

The plan designations that are used within this Region have the following management intent. The policies and management intent guidelines described in Chapter 2 affect all DNR authorizations. Refer especially to those guidelines relating to Fish and Wildlife Habitat and Harvest Areas, and to Settlement. See also the descriptions of the plan designations in the first part of this chapter; this section indicates which lands can be conveyed out of state ownership and those that must be retained.

- Generally Allowed Uses. The Generally Allowed Uses in 11 AAC 96.020 can occur throughout the Region, unless the circumstances indicate a particular use would be incompatible with the applicable land designation and classification.
- Except for areas closed to mineral entry under existing Mineral Closing Orders, all state lands within Region 7 are open to mineral entry. The proposed new mineral closing order affects streams in Region 7. Closure to mineral entry is recommended at or before plan adoption. No leasehold location orders are recommended. See the *Minerals section in Chapter 2* for more details on subsurface management requirements.
- Mineral Closing and Opening Orders. This Citizens' Alternative Bristol Bay Area Plan retains the mineral closing and opening orders largely implemented by DNR at the time of original plan adoption. These MCOs either close a proposed settlement area or close a number of major streams to mineral location. This includes the following:
  - MCO 393 – Major streams in the Nushagak and Mulchatna drainage basin

  An additional MCO is recommended for additional areas where mineral development is likely to occur in the vicinity of salmon habitat or other important habitat areas.
- Leasehold Location Orders. Leasehold Location Order No. 1 covers small portions of Region 6, much of Region 7, and portions of Regions 8 and 9. Under this order, rights to locatable minerals may be acquired only under the Leasehold Location System, AS 38.05.205, and may not be acquired by locating a mining claim under AS 38.05.195. In the affected area, an approved Plan of Operations for a mineral lease takes the place of a Land Use Permit required for unleased land. If the proposed lease activities are minor, a plan of operations is not required (11 AAC 86.800). The Plan of Operations must show how the operator proposes to comply with the lease stipulations and other pertinent guidelines in this plan. See *Chapter 2, section F*.
- Municipal Selections. Those management units considered appropriate for conveyance to the Lake and Peninsula Borough are identified in the Resource Allocation Table.
- Retained Lands. State lands in Region 7 designated as Habitat (Ha), Public Recreation and Tourism Dispersed (Rd), Public Facilities-Retain (Pr) and Subsistence (Su) shall be retained in state ownership.
- Waters. All catalogued anadromous waters in this region are classified Habitat (Ha).Authorizations in navigable waters must ensure the continued use of a waterway by the public for purposes of trade, travel, and commerce. Authorizations issued by DNR are to maintain the habitat, public recreation and subsistence values of these waterbodies. Adjacent to Region 7, this also includes the navigable waters of Lake Clark National Park and Preserve.

See the Resource Allocation Table for more detail on the upland management units.

RESOURCE ALLOCATION TABLE FOR UPLAND UNITS — REGION 7

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R07-01 Hoholitna	343,586 Gu – General Use		The unit is designated General Use (Gu) and is to be managed for a variety of uses, including the protection of fish and wildlife resources and their associated habitat, mineral exploration and development, and dispersed recreation. Development authorizations may be considered appropriate subject to the protection of these resources and the specific requirements of Chapter 2. Intensive development is not expected within this unit during the planning period. Land selections by the Lake and Peninsula Borough are considered appropriate for conveyance, subject to a separate and subsequent Best Interest Finding.	This unit is located in the northwest portion of Region 7. It encompasses the headwaters of the South Fork of the Hoholitna River including Weasel Creek and McKinley Creek. This unit is in an area that was previously part of the Kuskokwim Area Plan. It has been included as part of the Bristol Bay Area Plan in order to address municipal entitlement selections by the Lake and Peninsula Borough in the general vicinity of upper Weasel Creek. Vegetation consists of spruce, birch, and aspen woodlands with tall shrub at higher elevations. The South Fork of the Holitna River, Weasel Creek, McKinley Creek, Gnat Creek, and lower Killae Creek are cataloged as anadromous fish streams. The Holitna-Hoholitna sub-basin is perhaps the largest producer of salmon in the Kuskokwim River drainage – predominantly chinook, chum, and coho. Spawning populations of sockeye and pink salmon are also present. Additionally, it is a popular system for recreational fishing for pike and sheefish. The area is used by sport fish and hunting guides. The Lake and Peninsula Borough has selected land in the unit as part of its municipal entitlement. Part of the unit is affected by LLO 1.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R07-02 RRMP 25	565,591 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		The unit is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su). It is to be managed to protect anadromous streams, essential moose wintering and essential caribou calving and wintering areas. These essential habitats should be protected. The remainder of the unit is to be managed for a variety of uses, including the protection of fish and wildlife resources and their associated habitats, mineral exploration and development, and dispersed recreation. Some forms of recreation use, including commercial recreation, may be appropriate if these recreational uses are found to be compatible with the management intent for adjacent river corridors designated Ha-Rd or Rd in the Area Plan. Development authorizations may be appropriate subject to the protection of these resources, consistency with the recreation uses specified in the RRMP, and the specific requirements of Chapter 2; see particularly the requirements for Management Guideline K, "Caribou and Moose Calving and Rutting Areas," in the Fish and Wildlife Habitat and Harvest Areas section and with Management Guideline J, "Nushagak & Mulchatna Rivers Recreation Management Plan," in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Management Guideline J in the Recreation, Tourism, and Scenic Resources section of Chapter 2 specifically defines the relationship between the RRMP and the BBAP and must be consulted in adjudication decisions. Intensive development is not expected within this unit during the planning period except occasionally and at specific locations associated with recreation uses and mineral exploration and development. Settlement is not considered an appropriate use.	This unit is located in the upper Mulchatna River drainage and largely corresponds to Management Unit 25 from the Nushagak & Mulchatna Rivers Recreation Management Plan. The unit encompasses the uplands area drained by the Mulchatna River, Chilikadrotna River, Chilchitna River, and the Tutna Lake streams, which are cataloged as anadromous. The unit is characterized as follows: (1) It contains 119 miles (192 km) of anadromous streams designated in the Anadromous Waters Catalog. (2) About 21 percent of the unit has been caribou calving grounds. (3) About 19 miles (29 km) of brown bear concentration streams are in the unit. (4) Portions are also moose wintering areas. Two land selections by the Lake and Peninsula Borough occur within the unit that are located generally west and east of Tutna Lake. The unit is affected by LLO 1. The management of this unit is governed by the requirements of the Bristol Bay Area Plan. (Previous to this revision, DNR authorizations relating to recreation uses and structures were guided by the Nushagak & Mulchatna Rivers Recreation Management Plan [RRMP]). The requirements of the RRMP have been carried over except for prohibitions on permanent facilities and docks.
R07-03 PU38/Bonanza Creek	75 Rp – Public Recreation and Tourism-Public Use Site	S8N33W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and tourism. The unit is to be retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Conveyance of the unit to the Lake and Peninsula Borough is appropriate with the stipulation that the unit remain in public ownership as a public use site and be managed to protect moose wintering habitat.	There is a campsite on the Mulchatna River five miles upstream of the mouth of Bonanza Creek. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU38). The area is affected by MCO 393 and LLO 1. The unit is part of a land selection by the Lake and Peninsula Borough under its municipal entitlement.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R07-04 Half Cabin Lake	12,666 Se – Settlement		The unit is designated Settlement (Se) and is considered appropriate for disposal during the planning period. Development is to conform to the requirements of Remote Settlement and those for the Caribou and Moose Rutting and Calving Area, both of which are described in the Settlement and the Fish and Wildlife Habitat and Harvest Areas sections, respectively, of Chapter 2. Buffers along anadromous fish streams must also conform to the management guidelines in Chapter 2.	This land consists of three blocks located on the upper Mulchatna River drainage in the vicinity of Half Cabin Lake, generally east of the river and west of the Bonanza Hills. The terrain is modest with vegetation of spruce woodland (spruce, birch, and aspen) and shrub. Lakes in the unit provide excellent sites for floatplane landings. The unit also enjoys access to the upper Mulchatna River. There is a campsite and floatplane landing area at the outlet of Half Cabin Lake, a campsite and floatplane landing area at the outlet of an unnamed lake west of Loon Lake (local name), and a campsite and floatplane landing area at the outlet of Loon Lake. The main valley of the Mulchatna River contains wintering and calving areas for moose. Brown bear also utilize this stream, especially during the spawning season of anadromous fish. Raptors also nest along the Mulchatna River valley. The state may offer land for remote settlement in this area. The unit is affected in part by MCO 393 and LLO 1.
R07-05 PU49/Bonanza Hills	40 Rp – Public Recreation and Tourism-Public Use Site	S9N30W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Conveyance of the unit to the Lake and Peninsula Borough is appropriate with the stipulation that the unit remain in public ownership as a public use site.	This unit contains a campsite and floatplane landing area on an unnamed lake in the northern margin of the Bonanza Hills. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU49). The area is affected by LLO 1. The unit is part of a land selection by the Lake and Peninsula Borough under its municipal entitlement.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R07-06 Corridor of the Upper Mulchatna River	157,126 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		This unit, which consists of the navigable portions of the Mulchatna River and its adjoining uplands as depicted in, is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su). The unit is to be retained by the state and managed to maintain the habitat and recreational uses of the Mulchatna River and the adjoining upland corridor, its fish and wildlife resources, and public recreation values. The management requirements of the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP) are to be followed by DNR in the granting of authorizations related to certain types of recreational uses and structures. See the Management Intent and Management Guidelines in the RRMP for Management Units 20, 21, 22, and 23. Management Guideline J in the Recreation, Tourism, and Scenic Resources section of Chapter 2, which more specifically defines the relationship between the RRMP and the BBAP, also applies and should be consulted in adjudication decisions. In general, authorizations should not be issued for nonrecreational uses that are incompatible with the management intent of this unit and the management objectives of the RRMP. Oil, gas, and mineral exploration and development are considered appropriate if consistent with these management objectives or if in the best interest of the state. The municipal selections affecting this unit are considered appropriate for conveyance, subject to a separate and subsequent Best Interest Finding by DNR. If determined appropriate for conveyance, a public use easement of 200 feet, measured from OHW, shall be imposed. It is intended that this area shall remain vegetated and undisturbed, except for isolated sites necessary for public facilities or public recreation facilities. The purpose of this easement will be to protect resources and values of riverine areas and provide for public access.	This unit consists of uplands adjacent to the rivers of the upper Mulchatna River drainage, including the Chilikadrotna River, and Tutna Lake drainage within Region 7 as depicted in the Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP). The unit consists of RRMP Management Units 21, 22, 23, and part of 20. The width of the corridor adjacent to the streams varies and may be up to four miles wide. The unit is characterized as follows: (1) It contains over 186 miles (300 km) of designated anadromous streams in the Anadromous Waters Catalog. (2) Over 52 percent of the unit is essential moose wintering habitat. (3) About 21 percent of the unit is important moose rutting habitat. (4) About 21 percent of the unit is important moose calving habitat. (5) About 21 percent is essential caribou wintering area. (6) It contains about 118 miles (190 km) of brown bear concentration streams. Vegetation consists of lichen tundra and low shrub in the lower reaches and tall shrubland and scattered spruce-birch- aspen woodlands in the upper reaches of the river corridors. The corridors contain streams cataloged as anadromous; these are utilized by brown bear, especially during the salmon spawning season. Moose use the corridors as calving areas and wintering habitat in the upper reaches of the Mulchatna River. Raptors nest along the main valley of the Mulchatna. The unit is partly affected by MCO 393 and LLO 1. This corridor does not include the specific public use sites identified in the RRMP. These are specific, individual units. The unit contains a large number of land selections by the Lake and Peninsula Borough under the Municipal Entitlement program.
R07-07 PU37/Mulchatna River	171 Rp – Public Recreation and Tourism-Public Use Site	S7N34W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for habitat and public recreation and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Conveyance of the unit to the Lake and Peninsula Borough is appropriate with the stipulation that the unit remain in public ownership as a public use site.	This unit consists of a campsite on the Mulchatna River, three miles upstream of the mouth of Big Bonanza Creek. About 27 percent of the unit is closed to mineral entry to protect fish habitat. The unit is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU37). The area is affected by LLO 1. The unit is part of a land selection by the Lake and Peninsula Borough under its municipal entitlement.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R07-08 PU47/Ptarmigan Creek drainage	227 Rp – Public Recreation and Tourism-Public Use Site	S7N30W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Conveyance of the unit to the Lake and Peninsula Borough is appropriate with the stipulation that the unit remain in public ownership as a public use site.	There is a floatplane landing area on an unnamed lake in the Ptarmigan Creek drainage. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU47). The area is affected by LLO 1 and by a municipal selection of the Lake and Peninsula Borough under its municipal entitlement.
R07-09 PU48/Big Bonanza Creek	84 Rp – Public Recreation and Tourism-Public Use Site	S6N33W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Conveyance of the unit to the Lake and Peninsula Borough is appropriate with the stipulation that the unit remain in public ownership as a public use site.	There is a campsite and floatplane landing area on an unnamed lake drained by Big Bonanza Creek. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU48). The area is affected by LLO 1. The unit is part of a land selection by the Lake and Peninsula Borough under its municipal entitlement.
R07-10 PU35/ Chilikadrotna River	162 Rp – Public Recreation and Tourism-Public Use Site	S6N35W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	This unit consists of a campsite on the upper Mulchatna River at the mouth of the Chilikadrotna River. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU35). The Unit is 100 percent moose winter habitat and 64 percent MCO 393 land. It is also affected by LLO 1.
R07-11 PU42/ Chilikadrotna River	151 Rp – Public Recreation and Tourism-Public Use Site	S6N34W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Conveyance of the unit to the Lake and Peninsula Borough is appropriate with the stipulation that the unit remain in public ownership as a public use site.	This unit consists of a campsite and floatplane landing area on the Chilikadrotna River at the mouth of an unnamed creek. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU42). The area is affected by LLO 1. The unit is part of a land selection by the Lake and Peninsula Borough under its municipal entitlement.
R07-12 PU43/ Chilikadrotna River	160 Rp – Public Recreation and Tourism-Public Use Site	S6N32W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Conveyance of the unit to the Lake and Peninsula Borough is appropriate with the stipulation that the unit remain in public ownership as a public use site.	This unit consists of a campsite and floatplane landing area on the Chilikadrotna River at the mouth of Ptarmigan Creek. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU43). The area is affected by LLO 1. The unit is part of a land selection by the Lake and Peninsula Borough under its municipal entitlement.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R07-13 PU44/Little Mulchatna River	38 Rp – Public Recreation and Tourism-Public Use Site	S6N30W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Conveyance of the unit to the Lake and Peninsula Borough is appropriate with the stipulation that the unit remain in public ownership as a public use site.	There is a campsite on the Chilikadrotna River at the mouth of the Little Mulchatna River. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU44). The area is affected by LLO 1. The unit is part of a land selection by the Lake and Peninsula Borough under its municipal entitlement.
R07-14 PU45/ Chilikadrotna River	248 Rp – Public Recreation and Tourism-Public Use Site	S6N30W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Conveyance of the unit to the Lake and Peninsula Borough is appropriate with the stipulation that the unit remain in public ownership as a public use site.	There is a campsite on the Chilikadrotna River at the mouth of the creek, which drains Snipe Lake. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU45). The area is affected by LLO 1. The unit is part of a land selection by the Lake and Peninsula Borough under its municipal entitlement.
R07-15 PU34/Chilchitna River	276 Rp – Public Recreation and Tourism-Public Use Site	S5N36W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2.	This unit consists of a campsite and floatplane landing area on the Mulchatna River below the mouth of the Chilchitna River. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU34). The area is affected by LLO 1 and by a municipal selection of the Lake and Peninsula Borough.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R07-16 RRMP 19	40,343 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		The unit is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su) and is to be managed for a variety of uses, including the protection of fish and wildlife resources and their associated habitats, mineral exploration and development, and dispersed recreation. Some forms of recreation use, including commercial recreation, may be appropriate if these recreational uses are found to be compatible with the management intent for adjacent river corridors designated Ha-Rd or Rd in the Area Plan. Development authorizations may be appropriate subject to the protection of these resources, consistency with the recreation uses specified in the RRMP, and the specific requirements of Chapter 2; see particularly the requirements for Management Guideline J, "Nushagak & Mulchatna Rivers Recreation Management Plan," in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Management Guideline J in the Recreation, Tourism, and Scenic Resources section of Chapter 2 specifically defines the relationship between the RRMP and the BBAP and must be consulted in adjudication decisions. Intensive development is not expected within this unit during the planning period except occasionally and at specific locations associated with recreation uses and mineral exploration and development. Settlement is not considered an appropriate use.	This unit consists of state-owned uplands generally located to the west of Tutna Lake. It is 100 percent caribou wintering habitat. It encompasses that portion of Management Unit 19 from the Nushagak & Mulchatna Rivers Recreation Management Plan that extends into Region 7. It mostly includes lands that form the headwaters of Keefer Creek and an unnamed large creek northwest of Keefer Creek. Vegetation consists primarily of tall shrublands. Anadromous fish streams occur within the unit. The unit is affected by LLO 1. The management of this unit is governed by the requirements of the Bristol Bay Area Plan. (Previous to this revision, DNR authorizations relating to recreation uses and structures were guided by the Nushagak & Mulchatna Rivers Recreation Management Plan [RRMP]). The requirements of the RRMP have been carried over except for prohibitions on permanent facilities and docks.
R07-17 PU36/Tutna Lake	348 Rp – Public Recreation and Tourism-Public Use Site	S3N35W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Conveyance of the unit to the Lake and Peninsula Borough is appropriate with the stipulation that the unit remain in public ownership as a public use site.	This unit consists of a campsite and floatplane landing area on the north side of Tutna Lake. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU36). The area is affected by LLO 1. The unit is part of a land selection by the Lake and Peninsula Borough under its municipal entitlement.
R07-18 PU46/Chilchitna River	82 Rp – Public Recreation and Tourism-Public Use Site	S4N34W	This unit is designated Public Recreation and Tourism-Public Use Site (Rp) and is to be managed for public recreation and retained in public ownership. See also the Management Guideline for "Public Use Sites" in the Recreation, Tourism, and Scenic Resources section of Chapter 2. Conveyance of the unit to the Lake and Peninsula Borough is appropriate with the stipulation that the unit remain in public ownership as a Public Use Site.	There is a floatplane landing area on an unnamed lake drained by the Chilchitna River. It is identified in the Nushagak & Mulchatna Rivers Recreation Management Plan, April 2005, as a public use site (PU46). The area is affected by LLO 1. The unit is part of a land selection by the Lake and Peninsula Borough under its municipal entitlement.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R07-19 Chulitna	344,379 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		The unit is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su). About 25 percent of the area is essential moose wintering habitat. The area also is to be managed to protect high subsistence use for hunting. The area is to be retained in state ownership. These lands should be managed for a variety of uses, including protection of fish and wildlife and their associated habitats, dispersed recreation and tourism, subsistence, and minerals exploration and development. The unit is not suitable for settlement. Development authorizations may be appropriate subject to the protection of these resources and the requirements of Chapter 2.	This unit consists of the majority of the state-owned uplands in the southern portion of Region 7. The unit is characterized as follows: (1) about 25 percent essential moose wintering habitat (2) about 40 percent has been caribou calving ground (3) about 38 percent caribou wintering areas (4) about 34 miles of caribou migration corridor The terrain displays modest relief and is well dissected. Vegetation consists primarily of spruce, birch, and aspen woodlands, tall shrublands, and tundra at lower elevations. The unit encompasses uplands of drainages flowing into the Lake Clark system, including the Koksetna and Chulitna drainages. There are few anadromous streams. Many of the major drainages are used as wintering areas for moose, which also utilize the main course of the Mulchatna River as a calving area. A large area east of Tutna Lake has been used as calving grounds by the Mulchatna Caribou Herd. The Lake and Peninsula Borough has made a land selection in the unit, adjacent to Lake Clark National Park straddling the Koksetna River, as part of its municipal entitlement. The Telaquana-Nondalton trail passes through the eastern portion of the unit. The Alaska Heritage Resources Survey (AHRS) reports few sites within this unit, but this likely represents remoteness and lack of surveys. Much of the unit is affected by LLO 1.
R07-20 Tutna Lake	68,672 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		The unit is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su). Over 60 percent of the area is essential moose wintering habitat. The area also is to be managed to protect high subsistence use for hunting. The area is to be retained in state ownership.	This management unit is located on the upper Mulchatna River drainage in the vicinity of Tutna Lake. The lands are located generally south of Mesa Mountain in the valley of Black Creek. The unit is characterized as follows: (1) About 58 percent is essential moose wintering habitat. (2) About 26 percent has been caribou calving area. (3) Nearly 60 percent is caribou wintering habitat. Vegetation consists of spruce woodlands and shrubs. Access is principally via waterways or floatplane. The area around Tutna Lake and Black Creek is used as a wintering area by moose. The Telaquana-Nondalton trail passes through the eastern part of the unit. The area is affected by LLO 1. Within the unit are four selections by the Lake and Peninsula Borough.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R07-21 Nikabuna Lakes	63,692 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		The unit is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su) because 64 percent of the area is essential moose wintering habitat. The area also is to be managed to protect high subsistence use for hunting. The area is to be retained in state ownership.	This land is located on the upper Mulchatna River drainage in the vicinity of Nikabuna Lakes. The area is generally north and west of Groundhog Mountain and west of Long Lake. The area has several large lakes that are accessible by floatplane. The area is used as a wintering area by moose. The unit is characterized as follows: (1) About 64 percent is essential moose wintering habitat. (2) About 80 percent is caribou wintering habitat. The Telaquana- Nondalton trail passes through the eastern part of the unit. The area is affected by LLO 1. Within this unit are three land selections by the Lake and Peninsula Borough.
R07-22 Chulitna River	8,842 Ha – Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		This unit is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su). If these lands are conveyed by the federal government, they will be designated as habitat and not considered appropriate for settlement and for disposal during the planning period.	This state-selected land is located generally south of the Chulitna River approximately four miles east of Long Lake and adjacent to Lake Clark National Park and Preserve. The terrain is moderate with tall shrub woodlands. Local knowledge indicates moose calving. The area is utilized by moose for wintering and is near to a moose rutting area and a raptor nesting area. The area is affected by LLO 1.

Chapter 3 – Region 8
LAKE CLARK, NEWHALEN

Contents of Chapter 3 – Region 8

REGION 8 – LAKE CLARK, NEWHALEN

SUMMARY OF RESOURCES AND USES IN THE REGION

Region Boundary

Region 8 is the smallest of the planning regions in the Bristol Bay Area Plan and is situated in the area surrounding the Newhalen River encompassing the communities of Nondalton (pop. 221), Newhalen (pop. 177), and Iliamna (pop. 103). The boundaries are the same as the 1984 BBAP; they are largely defined by the drainage basin of the Newhalen River and the north shore of Iliamna Lake (see Map 0-2). Elevations range from 47 feet at Iliamna Lake to 3,170 at the summit of Roadhouse Mountain. Plan designations and management intent for state land in the adjacent Lake Clark National Park and Preserve are also included in this Region for reasons of convenience.

State Lands

The majority of land within Region 8 is Native-owned. Approximately two townships are held by the state and 1.25 townships are in possession of the federal government. The plan applies to 55,992 acres of state-owned and state-selected uplands.

Physical Geography

Region 8 is within the Lime Hills and Alaska Peninsula ecological provinces. The drainage basin includes the Newhalen River and the Bear and Eagle Bay Creeks. Other significant waterbodies include Six Mile Lake as well as the much smaller Alexcy, Negro, and Roadhouse Lakes. Named mountains include Roadhouse Mountain east of Iliamna and Groundhog Mountain north of Nondalton. Topographic relief is significant with over 3,100 feet from Iliamna Lake to the top of Roadhouse Mountain, all developed within about six miles of the shore.

The Region displays a variety of landscapes, including vistas overlooking Iliamna Lake, the largest lake in Alaska, mountains, fast-flowing rivers, tundra, marshy lowlands, and ponds. The higher elevations of Roadhouse Mountain show evidence of glaciation and are marked by alpine tundra and barrens; the summit of Groundhog basin is similarly barren. Tree-covered areas occur along the valley of the Newhalen River; these areas consist of spruce woodland and shrubs or at some locales an open spruce forest-shrub-bog mosaic. Most terrain in the low-lying country of the Newhalen floodplain has cover consisting of low shrub and lichen tundra. At intermediate elevations the spruce woodland and tundra give way to tall shrub vegetation.

Climate

The climate of Region 8 lies in the transitional climatic zone. Average summer temperatures range from 42° to 62°; winter temperatures average 6° to 30°. The record high is 91° and the record low is -47°. Annual average rainfall is approximately 26 inches, with 64 inches of snowfall. Most of the Region is underlain by isolated masses of permafrost.

Other

Region 8 is within the Lake Clark and Iliamna quadrangles. It is entirely within the boundaries of the Bristol Bay Regional Native Corporation. It is also within the Lake and Peninsula Borough.

Access

Access to Region 8 is good. Airports are located at Nondalton and Newhalen-Iliamna. A state- owned 4,800-foot runway is located five miles north of Newhalen, between Newhalen and Iliamna. A paved road connects these communities and the airport. Barges deliver bulk goods via the Kvichak River, which are lightered to shore. Nondalton is serviced by a state-owned 2,800-foot gravel runway. An unimproved trail, the Iliamna-Pile Bay Trail (No. 2173), extends along the north side of Iliamna Lake and connects the Newhalen and Iliamna communities with Pedro Bay and Pile Bay Village. Pile Bay Village is connected to the Cook Inlet by road. The following RS 2477 trails are partially or wholly within the Region:

- Newhalen River Portage (RST No. 1641)
- Iliamna-Pile Bay (RST No. 396)
- Telaquana-Nondalton (RST No. 291)

Resources and Uses

Cultural and Historic. There has been little excavation of prehistoric sites in the Region. However, archaeologistical evidence suggests that people of the Paleo-Arctic Tradition were active in the Lake Clark area about 6,000 years ago and perhaps earlier. A site near Twin Lakes and another along the Tazimina River suggest occupation as early as 8,000 B.C. Historically the Tanaina Indians were the principal native group in the area but there also has been influence and occupation by the Ogulmiut Eskimo. There are two native settlements: Iliamna and Nondalton. The state Office of History and Archeology lists 25 sites in Region 8; eight of these are prehistoric, 15 are historic, and two are of mixed origin. New sites are discovered periodically and added to the Alaska Heritage Resource Database when reported.

Prior to 1935, "Old Iliamna" was located near the mouth of the Iliamna River, a traditional Athabascan village. A post office was established there in 1901. Around 1935, villagers moved to the present location, approximately 40 miles from the old site. Iliamna's current size and character can be attributed to the development of fishing and hunting lodges. The first lodge opened in the 1930s.

The 1890 census listed the Eskimo village of "Noghelingamiut," meaning "people of Noghelin," at the present site of Newhalen. The "Newhalen" is an anglicized version of the original. The village was established in the late 1800s due to the bountiful fish and game in the immediate area. The village was originally located on the north shore of Six Mile Lake, but in 1940, wood depletion in the surrounding area and growing mud flats caused the village to move to its present location on the west shore. Nondalton formed an incorporated city government in 1971.

Economic. Commercial fishing, sport fishing, and tourism are the major sources of income for the community. A number of residents hold commercial fishing permits, and many depart each summer to fish in Bristol Bay. Iliamna Lake is the second largest lake in the U.S., and tourism is increasing. Thousands of sport fishermen visit the area each summer for trophy rainbow trout fishing on the lake. However, most lodge employees are hired from outside Alaska. Many residents participate in subsistence hunting and fishing activities. Some families travel to fish and camp each summer. Salmon, trout, grayling, moose, caribou, bear, Dall sheep, seal, porcupine, and rabbits are utilized. Northern Dynasty Minerals Ltd. is evaluating the gold, copper, and molybdenum potential of the Pebble Deposit, 15 miles from Iliamna.

Recreation. The Lake Clark-Newhalen River area is an important recreation corridor for outdoor recreation activities, especially sport fishing, river excursions, and wildlife viewing. The corridor contains at least half a dozen commercial recreation lodges with up to a dozen more located around Lake Clark itself. The Newhalen River is also utilized for commercial rafting and jet boat tours. The Newhalen River Gorge is Class V+ water and provides a thrilling experience for those interested in white water adventure. The clear turquoise-colored waters of the river contain all five species of anadromous Pacific salmon, trout, Arctic grayling, and Dolly Varden. The corridor is also used by wildlife such as eagles, other raptors, brown bear, moose, and caribou.

Minerals. Region 8 is underlain principally by middle Tertiary felsic volcanics overlain by Quaternary alluvium. One copper-gold-silver occurrence is known in the area – the Millet prospect, found near the shore of Iliamna Lake near the east boundary of the Region. Little is known of the occurrence. However, due to the proximity of significant mineral occurrences, the exploration potential for base and precious metals should be considered high.

Oil and Gas. The bedrock underlying Region 8 precludes a high potential for oil and gas.

Materials. There are no active materials sites in Region 8.

Forestry. Forestry resources are present in limited areas along Lake Clark; this resource is used for house logs and heating fuel by some of the villages. Most of the forestry resources in Region 8 are considered to have a very low to low suitability for local personal use.

Fish and Wildlife. The Lake Clark drainage is a major sockeye salmon spawning area, and the fisheries resources are used locally by both subsistence and sport fishermen. The Newhalen River is noteworthy for its clear water and good habitat; the river and its tributaries are important sockeye spawning grounds, contributing to 16 percent of the world's commercial wild red salmon harvest. All five Pacific salmon species are found as are rainbow trout, Dolly Varden, and Arctic grayling. Caribou, moose, and brown bear are also important to subsistence and recreational users. Eagles and other raptors are found in the Region.

MANAGEMENT CONSIDERATIONS: LOCAL AND STATE PLANS

Chapter 1 contains a summary of the 45-year history of state and federal efforts to conserve the Kvichak and Nushagak drainages and balance conservation and development in the overall Bristol Bay drainages. In Chapter 2, the section titled "Coordination, Cooperative Land Use Planning, and Public Notice" re-emphasizes the state's historic position under Governor Hammond that the Bristol Bay drainages, and the Kvichak and Nushagak in particular, need cooperative land use planning to conserve habitat across property boundaries because fish and wildlife do not observe such boundaries. In Chapter 3, each regional section identifies a number of local, state, and federal management plans that were considered in development of this plan, and which provide context for cooperative land use planning efforts recommended by the Citizen's Alternative Bristol Bay Area Plan.

A number of local, state, and federal management plans were considered in development of this plan. Local plans include the Lake and Peninsula Borough Comprehensive Plan and the Southwest Alaska Comprehensive Economic Development Strategy 2009-2014. State plans include the Bristol Bay Area Plan. Federal plans include the Lake Clark National Park General Management Plan (1984).

Region 8 is located wholly within the boundaries of the Lake and Peninsula Borough. The Lake and Peninsula Borough Comprehensive Plan applies to Region 8. The Comprehensive Plan focuses on economic and infrastructure development issues and does not contain specific land use standards or a land use map.

Prior to July 2011, enforceable policies of the District Coastal Management Plan were extensive and affected land use decisions with respect to anadromous streams, bald eagle nests, oil and gas development, material extraction, and mining. Before issuing a permit, the state was required to conduct a consistency review to determine whether the action conformed to the local enforceable policies. It provided an opportunity for local and tribal governments to meaningfully participate in the permitting process and to protect regionally significant habitat, fisheries, subsistence uses, and recreation values. These policies were eliminated when the state legislature failed to reauthorize the Alaska Coastal Management Program (ACMP). Hence, the current lack of an ACMP program is another reason to recommend cooperative land use planning in Region 8.

Region 8 is also within the area covered by the Southwest Alaska Comprehensive Economic Development Strategy 2003-2008, which was developed for the U.S. Department of Commerce Economic Development Administration by the Southwest Alaska Municipal Conference (July 2003). This document developed a number of goals, objectives, and strategies to facilitate and support efforts that retain and grow the region's wealth, including diversifying the economic base.

The Bristol Bay Area Plan (1984) affected all state lands in the Region until this revision. Under the 1984 plan, the Region was to be managed for fish and wildlife harvest and habitat. Lake Cark and the Newhalen River were to be managed for recreation and fisheries production. Some community expansion is encouraged in the Iliamna, Nondalton, and Newhalen areas. The 1984 Bristol Bay Area Plan for Region 8 includes land use designations for Fish and Wildlife, Recreation, Minerals, and Remote Settlement. This Citizens' Alternative replaces and supersedes the 1984 plan and the 2005 revision.

The Southwest Alaska Transportation Plan (ADOT/PF, November 2002) identified a Cook Inlet to Bristol Bay Transportation Corridor that, in general, extends from Cook Inlet to South Naknek connecting with the communities of Pedro Bay, Iliamna, Newhalen, Igiugig, Levelock, King Salmon, and Naknek. The transportation plan would connect the rich seafood resources and communities in the Bristol Bay, as well as the Iliamna Lake communities, with resupply support and market centers in the Alaskan railbelt. It consists of a marine segment (Cook Inlet), an intermodal transfer location at Williamsport or Iniskin Bay, and primarily overland and riverine routes along Iliamna Lake and the Kvichak River valley that terminate at the port town of Naknek on Bristol Bay. A tie-in to the Pebble Copper mine is also a possibility. The function of the route is primarily logistical. Transportation improvements along this corridor would lower the cost of transport, thus yielding benefits to the quality of life for residents and stimulating economic growth. Other ADOT/PF priorities in Region 8 include completion of the Nondalton to Newhalen road and construction of the Newhalen River Bridge. The Southwest Alaska Transportation Plan contains specific plans for the Nondalton-Newhalen River corridor, including a bridge over the Newhalen River. The proposed road to the Pebble Copper deposit would branch from the Bristol Bay road in Region 8, but the exact location of a bridge across the Newhalen River that is capable of handling large trucks is not known. The Bristol Bay transportation corridor would transect Region 8 in the Iliamna-Newhalen area.

Other plans consulted include the Southwest Alaska Salmon Habitat Partnership Strategic Conservation Plan. The partnership was recognized in 2008 by the National Fish Habitat Board. The state of Alaska, through the Department of Fish and Game, participates as a member of the partnership.

Municipal Selections

There are no municipal selections by the Lake and Peninsula Borough in Region 8.

MANAGEMENT SUMMARY: UPLANDS

State land in Region 8 is to be managed for a variety of multiple uses, including settlement, subsistence, materials extraction, public facilities development, dispersed public recreation, mineral exploration , and maintenance of sensitive wildlife habitats. Oil and gas exploration and development, although of low potential, are also appropriate within the Region. Although the majority of state lands are co-designated Habitat (Ha), Subsistence (Su) and Public Recreation and Tourism Dispersed (Rd), some lands are designated Settlement (Se). This Settlement land (predominantly state-selected land) is intended to facilitate recreation and community expansion in the area west of the Newhalen River. The Newhalen River, Six Mile Lake, and other anadromous streams have been designated Habitat (Ha). . Several small management units associated with airport or other such facilities are designated Public Facilities-Retain (Pr).

Plan Designations and Management

The plan designations that are used within this Region have the following management intent. The policies and management intent guidelines described in Chapter 2 affect all DNR authorizations. Refer especially to those guidelines relating to Fish and Wildlife Habitat and Harvest Areas, and to Settlement. See also the descriptions of the plan designations in the first part of this Chapter; this section indicates which lands can be conveyed out of state ownership and those that must be retained.

- **Habitat (Ha).** Habitat is land that is primarily valuable for (1) fish and wildlife resource production, whether existing or through habitat manipulation, to supply sufficient numbers or a diversity of species to support commercial, subsistence, recreational, or traditional uses on an optimum sustained yield basis, including "essential habitat" and "important habitat;" or (2) a unique or rare assemblage of a single or multiple species of regional, state, or national significance. (See 11 AAC 55.230; see also "essential habitat" and "important habitat" herein.) Habitat also includes all anadromous waters specified under the Anadromous Fish Act, AS 16.05.871 *et seq.*, and all land subject to mineral closing orders issued to protect anadromous waters The land use designation Ha is to be retained in state ownership.
- **Public Facilities-Retain (Pr).** This designation applies to sites that are reserved for a specific public infrastructure requirement. They are to be retained in state or public ownership. In this Region, this designation applies to lands containing public facilities, commonly airports or schools. Only a small amount of acreage is affected by this designation.
- **Public Recreation and Tourism-Dispersed and Habitat (co-designation).** Certain navigable waterbodies (lakes and streams) are co-designated Habitat (Ha) and Public Recreation and Tourism-Dispersed (Rd). Authorizations within these waterbodies should not interfere with important habitat or public recreation values. See Table 3.1 in the Navigability section of this chapter for a listing of these streams. Note: Certain waterbodies may (only) be designated Public Recreation and Tourism-Dispersed (Rd), Habitat (Ha), or General Use (Gu).
- **Public Recreation and Tourism-Dispersed (Rd).** Lands with the designation of Public Recreation and Tourism-Dispersed are to be managed so their public recreation values are protected and maintained. Within these areas the primary surface uses are intended to be those related to hiking, hunting, fishing, wildlife viewing, and the like.
- **Settlement (Se).** This designation applies to state uplands suitable for sale, leasing, or permitting to allow private recreational or residential use. Within this Region one area of state land is considered appropriate for settlement and has been designated Settlement. This occurs on the west side of the Newhalen River (on mostly state-selected land) and is intended for remote recreational use and community expansion; see Chapter 2 for specific requirements for this form of settlement. Settlement lands are appropriate for conveyance to the borough.
- **Subsistence (Su).** This designation applies to lands and waters that are suitable for subsistence activities, due to the ability of subsistence users to use the lands and waters productively over time for such activities. These activities include subsistence hunting, fishing and gathering.
- **Water Resources (Wr).** See Definition and Management Intent under page 85.

Specific Management Considerations

- Generally Allowed Uses. The Generally Allowed Uses in 11 AAC 96.020 can occur throughout the Region, unless the circumstances indicate a particular use would be incompatible with the applicable land designation and classification.

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- Proposed Transportation Corridor. The areas identified on the Region Map as a "Potential Transportation Corridor" should be retained by the state during the planning period. Authorizations granted by DNR within or adjacent to this corridor should not preclude the future development of transportation access. Authorizations or disposals within and adjacent to this corridor should only be allowed after consultation with ADOT/PF.
- Except for areas closed to mineral entry under existing Mineral Closing Orders, all state lands within Region 8 are open to mineral entry. The proposed new mineral closing order affects streams in Region 8. No leasehold location orders are recommended. See the Minerals section in Chapter 2 for more details on subsurface management requirements.
- Mineral Closing and Opening Orders. This Citizens' Alternative Bristol Bay Area Plan retains the mineral closing and opening orders largely implemented by DNR at the time of original plan adoption. These MCOs either close a proposed settlement area or close a number of major streams to mineral location. These include the following:
  - MCO 393 – Newhalen River and tributaries to Iliamna Lake

  An additional MCO is recommended for additional areas where mineral development is likely to occur in the vicinity of salmon habitat or other important habitat areas.
- Leasehold Location Orders. Leasehold Location Order No. 1 covers small portions of Region 6, much of Region 7, and portions of Regions 8 and 9. Under this order, rights to locatable minerals may be acquired only under the Leasehold Location System, AS 38.05.205, and may not be acquired by locating a mining claim under AS 38.05.195. In the affected area, an approved Plan of Operations for a mineral lease takes the place of a Land Use Permit required for unleased land. If the proposed lease activities are minor, a plan of operations is not required (11 AAC 86.800). The Plan of Operations must show how the operator proposes to comply with the lease stipulations and other pertinent guidelines in this plan.
- Retained Lands. State lands in Region 8 designated as Habitat (Ha), Public Recreation and Tourism Dispersed (Rd), Public Facilities-Retain (Pr) and Subsistence (Su) shall be retained in state ownership.
- Waters. All catalogued anadromous waters in this region are classified Habitat (Ha). Authorizations in navigable waters must ensure the continued use of a waterway by the public for purposes of trade, travel, and commerce. Authorizations issued by DNR are to maintain the habitat, public recreation and subsistence values of these waterbodies.
- Three land management units are located outside Region 8 and inside Lake Clark National Park and Preserve. They are denoted LC-01, LC-02, and LC-03 and are described more fully in the Resource Allocation Table at the end of this section.

See the Resource Allocation Table for more details on the upland management units in Region 8.

RESOURCE ALLOCATION TABLE FOR UPLAND UNITS — REGION 8

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
LC-01 Chulitna	8,196 Ha – Fish and Wildlife Habitat	S2N31W Sec. 4, 5, 8, 9, 16-21, 28-33	The unit is designated Habitat (Ha) and is to be managed for the protection of fish and wildlife habitat and for cooperative land use planning with the Park Service. Development authorizations may be considered appropriate but only if the resources and values of the unit are maintained. Consult Lake Clark National Park and Preserve prior to issuing any authorization.	The unit consists of state-owned land within the boundaries of Lake Clark National Park and Preserve. It is located approximately six miles northwest of Chulitna Bay. The northern portion of the unit is in steep mountainous terrain, and the southern part is within the flat valley of the Chulitna River. Vegetation is a mixture of tall and low shrub and wet sedge tundra. The unit contains areas utilized by caribou for calving and by moose for wintering. It contains areas considered essential for brown bear spring use.
LC-02 Pickerel Lake	7,680 Ha – Fish and Wildlife Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence		The unit is designated Habitat (Ha), Public Recreation and Tourism- Tourism-Dispersed (Rd), and Subsistence (Su). If the land is conveyed by the federal government, it is to be managed consistent with the surrounding recreation uses and fish and wildlife habitat values.	The unit consists of state-selected land within Lake Clark National Park and Preserve. It is approximately 12 sections of land located south of Pickerel Lake and north of the Tazimina River. The unit contains little topographic relief and includes the south end of Pickerel Lake and several unnamed lakes. Vegetation consists of low shrub and lichen tundra. The outlet of Pickerel Lake and the lower Tazimina River are anadromous streams that are utilized by brown bear, especially during the spawning season.
LC-03 Tazimina River	10 Pr – Public Facilities- Retain	S3S32W	The unit is to be retained in state ownership (see ADL 226877).	This is a small unit of land within the boundaries of Lake Clark National Park and Preserve. It is located on the Tazimina River and contains a private easement to the Iliamna- Newhalen-Nondalton Electric Coop. for a channel control sill (ADL 226877).

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R08-01 Groundhog Mountain	23,284 Ha – Fish and Wildlife Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence		The unit is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su). It is to be managed for the protection of fish and wildlife resources and their associated essential habitat and for mineral exploration and dispersed recreation. Some forms of recreation use, including commercial recreation, may be appropriate. Development authorizations may be appropriate subject to the protection of these resources and the specific requirements of Chapter 2. Settlement may be considered appropriate. The Bristol Bay transportation corridor transects the unit; the actual position of the road alignment has yet to be determined. No authorizations or disposals should be considered that are within or near the corridor until the road alignment is known or without consultation with the ADOT/PF. State land selections in this unit are considered to be a high-level selection priority.	The unit consists of state-owned and state-selected uplands in two noncontiguous blocks west of the Newhalen River in Region 8. Vegetation consists of tall shrubland. The area has moderate to high exploration potential for base and precious metals. The unit is partly affected by LLO1. The proposed Pebble Copper road and transportation corridor extends through the unit. The unit contains essential habitat for brown bear, moose, caribou, and waterfowl.
R08-02 Nondalton	2,552 Se – Settlement		The unit is designated Settlement (Se) and is considered appropriate for disposal during the planning period. Disposals are to conform to the requirements of Remote Settlement and other applicable management guidelines in Chapter 2.	The unit consists of approximately three sections of state-owned land and one section of state-selected land located west of Nondalton. The moderate terrain supports a tall shrub woodland. Nearby waters support anadromous fish, and raptors nest in the vicinity. The Newhalen River valley supports moose, caribou, and brown bear. The Alaska Heritage Resources Survey (AHRS) reports several heritage sites in or near this unit in the vicinity of Six Mile Lake. The Telaquana-Nondalton trail extends through the unit.
R08-03 Nondalton Airstrip	82 Pr – Public Facilities- Retain	S2S32W Sec. 19, 20, 29, 30	This unit is to be managed by the ADOT/PF consistent with FAA and ADOT/PF guidelines for such use. The unit is to be retained in state ownership.	This unit of state land (OSL 1125) is located at the Nondalton public airport and managed by the Department of Transportation and Public Facilities (ADOT/PF). The area is affected by LLO 1.
R08-04 Nondalton	18.09 Pr – Public Facilities- Retain	S2S32W Sec. 30, 31	This unit is to be managed by the ADOT/PF for public purposes related to the airport and is to be retained in state ownership.	This management unit (OSL 686) is located near the Nondalton public airport and managed by the Department of Transportation and Public Facilities (ADOT/PF). The area is affected by LLO 1.
R08-05 Newhalen River	16,806 Se – Settlement		If these lands are conveyed by the federal government, they are considered suitable for settlement. The unit is designated Settlement (Se) and is considered appropriate for disposal during the planning period. Development is to conform to the requirements of Remote Settlement in the Settlement section of Chapter 2. The Pebble Copper road corridor transects the unit; the actual position of the road alignment has yet to be determined. No authorizations or disposals should be considered that are within or near the corridor until the road alignment is known, or without consultation with the ADOT/PF.	This unit consists of state-selected land west of the Nondalton River. The unit contains several lakes that are accessible by floatplane. The moderate terrain is suitable for settlement and supports a tall shrub woodland. The area is partly affected by LLO 1.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R08-06 Roadhouse Mountain	11,622 Ha – Fish and Wildlife Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence		The unit is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su). If conveyed by the federal government, the unit is to be managed for the protection of fish and wildlife resources and their associated habitats and dispersed recreation, mineral exploration, and dispersed recreation. Some forms of recreation use, including commercial recreation, may be appropriate. Development authorizations may be appropriate subject to the protection of these resources and the specific requirements of Chapter 2. Intensive development is not expected within this unit during the planning period except occasionally and at specific locations associated with recreation uses and mineral exploration and development. Settlement is not considered appropriate. The land selection is considered to be of moderate priority.	The unit consists of state-selected land in the Roadhouse Mountain area. Vegetation consists of tall shrubland. Moose winter in part of the unit. The unit also supports concentrations of brown bear and caribou. The unit is partly affected by LL01.
R08-07 Iliamna Airport	1,203 Pr – Public Facilities- Retain	S5S33W Sec. 4, 8, 9, 16, 17, 12	The unit is to be managed by ADOT/PF consistent with FAA and ADOT/PF guidelines for airport and ancillary facilities use. The land is to be retained in state ownership.	This land (OSL 321) is located at the Iliamna public airport and managed by the Department of Transportation and Public Facilities (ADOT/PF). This unit also includes land two miles east of the airport that is managed by ADOT/PF.
R08-08 Iliamna	326 Se – Settlement	S5S32W Sec. 12, 13	If these lands are conveyed by the federal government, they are considered appropriate for settlement and disposal during the planning period. Development should follow the requirements of Remote Settlement in the Settlement section of Chapter 2.	The unit consists of small amounts of state-selected lands in the immediate vicinity of the community of Iliamna within sections 12 and 13. The unit has road access and may be appropriate for subdivision or other community expansion.

Chapter 3 – Region 9
EASTERN ILIAMNA LAKE

Contents of Chapter 3 – Region 9

REGION 9 – EASTERN ILIAMNA LAKE

SUMMARY OF RESOURCES AND USES IN THE REGION

Region Boundary

Region 9 encompasses the eastern portion of Iliamna Lake; the northern, eastern, and southern borders are largely defined by the boundary of Lake Clark National Park and Preserve, the boundary of the Lake and Peninsula Borough, and the boundary of Katmai National Park and Preserve. The Eastern Iliamna Lake Planning Region includes the communities of Pedro Bay (pop. 37), Kokhanok (pop. 168), and Pope-Vannoy Landing (pop. 5).

State Lands and Municipal Selections: Ownership and Acreage

The majority of land within Region 9 is state- or Native-owned[1]. The Region contains some large land selections by the Lake and Peninsula Borough. State-owned and state-selected lands total 690,645 acres. Most state lands occur in areas of steep topography and are situated some distance away from Iliamna Lake. Borough-selected land (63,206 acres) coincides with important river drainages or lakes scattered throughout the Region.

Physical Geography

State land within Region 9 occurs in four large areas scattered throughout the Region. The Region displays a variety of landscapes, including mountains, fast-flowing rivers, tundra, marshy lowlands, and ponds. Depending on elevation and location, most of this land is covered by alpine tundra, low or tall shrubs, or areas of mixed broadleaf and spruce trees.

The Region is characterized by steep and mountainous terrain except for the major river drainages and areas around the larger lakes. The drainage basins on the east end of Iliamna Lake include the Pile, Iliamna, and Copper Rivers as well as Chekok, Canyon, Knutson, Chinkelyes, and Dennis Creeks. Major waterbodies include east Iliamna Lake and Gibraltar, Kokhanok, Meadow, Moose, and Upper and Lower Copper Lakes. Significant topographic relief is present; named peaks include Roadhouse, Knutson, and Three Sisters Mountains and Big Hill. Topographic relief is significant with over 4,600 feet from Iliamna Lake to the summit of Three Sisters Mountain, all developed within about six miles of the shore. Vegetation cover consists of alpine tundra and barrens at elevation and a mixture of short and tall shrub throughout the remainder of the Region except for riverine areas where there tends to be a mix of spruce and broadleaf forest. Several broad bands of the latter occupy the flat areas next to the principal drainages east of Kakhonak Lake.

Climate

The climate of Region 9 is within the transitional climatic zone. Average summer temperatures range from 40° to 64°; winter temperatures average 3° to 30°. The record high is 84° and the record low is -47°. Annual precipitation is between 26 and 32 inches, with 64 to 89 inches of snowfall. Most of the Region is underlain only by isolated masses of permafrost.

Access

Access to Region 9 is relatively good compared to other parts of the planning area. Pedro Bay is accessible by air and water; there is a state-owned 3,000-foot gravel airstrip that is undergoing improvements. Barge service is available from Naknek via the Kvichak River. Goods are also sent by barge from Homer to Iliamna Bay, on the Cook Inlet side, and portaged over a 14-mile road to Pile Bay. Fishing vessels that fish the waters of Bristol Bay are commonly transported by truck over this Williamsport-Pile Bay road to Iliamna Lake where they travel across the Lake and down the Kvichak River to the waters of Bristol Bay. At Kakhonak the state owns a 4,400-foot gravel airstrip and a seaplane base. Skiffs, ATVs, and trucks are common forms of local transportation.

Resources and Uses

Most uses in the Region are associated with subsistence by the locals and dispersed commercial recreation related to sport fishing during the summer. The population of the Region is concentrated at the two villages of Pedro Bay and Kakhonak. Settlement potential is considered relatively good because of the presence of attractions (streams, lakes, and recreation opportunities), relatively good access, and building terrain. Many areas within the Region are affected by municipal entitlement selections of the Lake and Peninsula Borough. There are no known areas of state land with grazing, agriculture, or commercial timber harvest potential.

Cultural and Historic. The Dena'ina Indians have occupied this area historically. The Dena'ina warred with Russian fur traders over trade practices in the early 1800s. There are a relatively large number of historic and prehistoric uses within the Region. Most of these occur along the shores of Iliamna Lake. There are 14 historic, 14 prehistoric, and two mixed historic/prehistoric sites within the Region.

1 Primarily the Bristol Bay Native Corporations.

Economic. Most residents obtain summer employment in the Bristol Bay fishery or in Iliamna Lake tourism services. Several backcountry lodges operate in Pedro Bay. Commercial fishing has declined since several limited entry permits were sold. Most families depend heavily on subsistence activities, utilizing salmon, trout, moose, bear, rabbit, and seal.

Recreation. Recreation resources and uses are primarily related to use of Iliamna Lake for boating and fishing, and to commercial and noncommercial sport fishing and hunting. A number of sport fishing lodges are clustered in the Pedro Bay, Copper River, and Kakhonak areas.

Minerals. Mineral resources associated with mafic intrusives occur north of Pedro Bay and east of Kakhonak. A wide range of commodities is represented by the occurrences including copper, molybdenum, gold, silver, and arsenic. The most significant mineral occurrence within Region 9 is perhaps the Fog Lake (Fog Pond) gold prospect, considered to be a gold- and silver- bearing prospect with minor copper values. Significant amounts of exploration have been conducted on the Kamishak prospect on the southern boundary of Region 9. Seventeen drill holes totaling 3,755 feet of drilling have been completed on this porphyry copper-gold prospect.

Oil and Gas. The bedrock of the Region consists predominantly of a mix of volcanic, intrusive, and metamorphic terranes. Thus, there is little oil and gas potential.

Materials. There are no active materials sites in the Region.

Forestry. The forest resources found on the eastern shores of Iliamna Lake and Lake Clark are the most concentrated and the most extensive in the Bristol Bay planning area. The forests around Kakhonak, Kakhonak Lake, Pedro Bay, and Pile Bay include extensive stands of conifers (white spruce) and mixed forests (birch and white spruce) along the shoreline and extending far up major drainages.

Fish and Wildlife. This Region has significant moose and caribou populations and contains many waterbodies utilized by anadromous fish. Moose rutting areas occur near Kakhonak, on non-state lands, and moose calving areas occur along the Pile River and both Knutson and Chekok Creeks. The upper portions of these drainages occupy state land. Caribou frequent small portions of the far western part of the Region, but there are no known calving or rutting areas within the Region. All five species of Pacific salmon occur in the streams of the Region; sockeye are the most important species commercially. Brown bears concentrate along streams throughout the Region during spawning periods. Freshwater sport fish are generally prolific and, along with sockeye salmon, provide the basis for the commercial sport fishing industry.

MANAGEMENT CONSIDERATIONS: LOCAL AND STATE PLANS

Chapter 1 contains a summary of the 45-year history of state and federal efforts to conserve the Kvichak and Nushagak drainages and balance conservation and development in the overall Bristol Bay drainages. In Chapter 2, the section titled "Coordination, Cooperative Land Use Planning, and Public Notice" re-emphasizes the state's historic position under Governor Hammond that the Bristol Bay drainages, and the Kvichak and Nushagak in particular, need cooperative land use planning to conserve habitat across property boundaries because fish and wildlife do not observe such boundaries. In Chapter 3, each regional section identifies a number of local, state, and federal management plans that were considered in development of this plan, and which provide context for cooperative land use planning efforts recommended by this Citizens' Alternative Bristol Bay Area Plan.

Several local and state management plans affect Region 9. The Lake and Peninsula Borough Comprehensive Plan applies to Region 9. Generally, the Comprehensive Plan focuses on economic and infrastructure development issues and does not contain specific land use standards or a land use map.

Prior to July 2011, enforceable policies of the District Coastal Management Plan were extensive and affected land use decisions with respect to anadromous streams, bald eagle nests, oil and gas development, material extraction, and mining. Before issuing a permit, the state was required to conduct a consistency review to determine whether the action conformed to the local enforceable policies. It provided an opportunity for local and tribal governments to meaningfully participate in the permitting process and to protect regionally significant habitat, fisheries, subsistence uses, and recreation values. These policies were eliminated when the state legislature failed to reauthorize the Alaska Coastal Management Program (ACMP). Hence, the current lack of an ACMP program is another reason to recommend cooperative land use planning in Region 9.

The two state management plans affecting this Region include the Bristol Bay Area Plan and the Southwest Alaska Transportation Plan (SATP), prepared by ADOT/PF in 2002. The original Bristol Bay Area Plan has affected the management of state lands throughout the Region since its adoption in 1984. This Citizens' Alternative replace and supersede the 2005 revised BBAP and the original 1984 plan. Many of the settlement areas identified in the 1984 area plan are continued in this Citizens' Alternative.. The SATP identifies needed access facilities, which include a Bristol Bay Transportation Corridor. This corridor extends from Iniskin Bay in Cook Inlet over the Chigmit Mountains and then continues westward, paralleling the north shoreline of Iliamna Lake until extending inland to the west with a spur, eventually ending at the Pebble Copper deposit.

Other plans consulted include the Southwest Alaska Salmon Habitat Partnership Strategic Conservation Plan. The partnership was recognized in 2008 by the National Fish Habitat Board. The state of Alaska, through the Department of Fish and Game, participates as a member of the partnership.

Municipal Selections

Municipal selections by the Lake and Peninsula Borough occupy extensive areas of state uplands; these total approximately 63,206 acres and are distributed along streams and lakes with attractive recreation and development features.

MANAGEMENT SUMMARY: UPLANDS

Region 9 is to be managed for a variety of multiple uses, including 1) the maintenance of sensitive habitats, wildlife, and fisheries; 2) dispersed public recreation; 3) subsistence; and 4) in certain areas, remote settlement. Due to the high value habitat throughout the Region, particularly in anadromous watersheds characterized by state ownership upstream of Native ownership, most state land is co-designated Fish and Wildlife Habitat (Ha), Subsistence (Su) and Public Recreation and Tourism Dispersed (Rd).. Doing so serves three objectives: (1) to protect private interests, including subsistence, associated with private lands downstream; (2) to protect public values, particularly of fish production, downstream; and (3) to foster cooperative land use planning. Smaller parts of the Region are designated Settlement and Public Recreation and Tourism-Dispersed.

Plan Designations and Management

The plan designations that are used within this Region have the following management intent. The policies and management intent guidelines described in Chapter 2 affect all DNR authorizations. Refer especially to those guidelines relating to Fish and Wildlife Habitat and Harvest Areas, Subsurface Resources, and Settlement.

- **Habitat (Ha).** Habitat is land that is primarily valuable for 1) fish and wildlife resource production, whether existing or through habitat manipulation, to supply sufficient numbers or a diversity of species to support commercial, subsistence, recreational, or traditional uses on an optimum sustained yield basis, including "essential habitat" and "important habitat;" or 2) a unique or rare assemblage of a single or multiple species of regional, state, or national significance. (See 11 AAC 55.230; see also "essential habitat" and "important habitat" herein.) Habitat also includes all anadromous waters specified under the Anadromous Fish Act, AS 16.05.871 *et seq*., and all land subject to mineral closing orders issued to protect anadromous waters. The land use designation Ha is to be retained in state ownership.

- **Public Facilities-Retain (Pr).** There are a number of small management units that are designated Public Facilities-Retain. These are either local or state structures or facilities of public importance (schools, airports, etc.). These management units are to be retained in state ownership.
- **Public Recreation and Tourism-Dispersed (Rd).** Islands within Iliamna Lake are designated Public Recreation and Tourism-Dispersed. These management units, because of their unique scenic and cultural values, are to be retained in state ownership. Development authorizations, if issued, must ensure that public recreation and scenic values be maintained.
- **Public Recreation and Tourism-Dispersed and Habitat (co-designation).** The designations of Public Recreation and Tourism-Dispersed (Rd) and Habitat (Ha) apply to Iliamna Lake. The navigable waters of this lake are to be managed so that its public recreation and habitat values are maintained. Development authorizations within these waters may be appropriate insofar as essential habitat and public recreation values are maintained. This co-designation also applies to the navigable rivers in this Region, which are listed in Table 3.1 in the Navigability section of this chapter. Authorizations within these waterbodies should not interfere with navigability, important habitat values, or recreational uses.
- **Settlement (Se).** There are three separate areas of varying size that are designated Settlement. These areas are appropriate for remote settlement; see *Chapter 2* for specific requirements on this form of settlement. Settlement areas occur near lakes and rivers that are surrounded with generally flat to moderately rolling terrain. Portions of these areas are affected by Municipal Entitlement selections. Areas designated Settlement are considered appropriate for conveyance to the borough, subject to a separate, subsequent DNR Best Interest Finding.
- **Subsistence (Su).** This designation applies to lands and waters that are suitable for subsistence activities, due to the ability of subsistence users to use the lands and waters productively over time for such activities. These activities include subsistence hunting, fishing and gathering.
- **Water Resources (Wr).** See Definition and Management Intent under page 85.

This Citizen's Alternative Bristol Bay Area Plan uses a definition of the Mineral (Mi) designation that closely tracks the definition of the Mineral classification category at 11 AAC 55.130 because a land classification order converts designations to corresponding classifications. The Mineral *classification category*, at 11 AAC 55.130 is defined as follows:

> **Mineral Land.** Land classified Mineral is land where known mineral resources exist and where development is occurring or is reasonably likely to occur, or where there is reason to believe that commercial quantities of minerals exist.

The definition of the Mineral (Mi) *designation* in the Glossary of this Citizen's Alternative Bristol Bay Area Plan is as follows:

> **Mineral Land.** Land where known mineral resources exist and where development is occurring or is reasonably likely to occur, or where there is reason to believe that commercially developable quantities of minerals exist, taking into account the federal, state, and local laws, regulations, executive branch actions including conservation designations, mineral closing orders, Section 404(c) determinations, and the like, which affect whether a given mineral deposit is commercially and legally developable.

Using a definition of the Mineral Land designation that tracks the Mineral Land classification category results in deleting the Mineral Land designation for the Fog Lake unit (R09-10) because the deposit is a prospect yet to experience enough exploration to make any judgment about whether it is commercially developable. Exploration can continue, and if the exploration and future designs in light of governmental actions (including any 404[c] determination) indicate that commercial development is "reasonably likely," as stated in 11 AAC 55.130, then the owners of the claims may petition under 11 AAC 55.270 to reclassify the land as Mineral Land under the public process required by the planning statutes at AS 38.04.065.

Specific Management Considerations:

- Generally Allowed Uses. The Generally Allowed Uses in 11 AAC 96.020 can occur throughout the Region, unless the circumstances indicate a particular use would be incompatible with the applicable land designation and classification.
- Mineral Closing Orders and Leasehold Location Orders. Except for areas closed to mineral entry under Mineral Closing Order 393 or Leasehold Location Order No. 1, all lands within the Region are open to mineral entry. The proposed new mineral closing order affects streams in Region 9. The only exception applies to areas to be disposed of by DNR for remote settlement purposes. In these instances, closure of the settlement area prior to sale is required. See the Mineral Resources section in Chapter 2 for more details on subsurface management requirements.
- Mineral Closing and Opening Orders. This Citizens' Alternative Bristol Bay Area Plan retains the mineral closing and opening orders largely implemented by DNR at the time of original plan adoption. These MCOs either close a proposed settlement area or close a number of major streams to mineral location. These include the following:
  - MCO 393 – Major streams in the Nushagak and Mulchatna drainage basin

  An additional MCO is recommended for additional areas where mineral development is likely to occur in the vicinity of salmon habitat or other important habitat areas.

- Proposed Transportation Corridors. The area identified on the Region Map as "Potential Transportation Corridor" shall be retained by the state during the planning period. Authorizations granted by DNR within the area of this corridor shall not preclude the opportunity for the development of access at some time in the future. Authorizations or disposals within and adjacent to this corridor should only be allowed after consultation with ADOT/PF.
- Retained Lands. State lands in Region 9 designated as Habitat (Ha), Public Recreation and Tourism Dispersed (Rd), Public Facilities-Retain (Pr) and Subsistence (Su) shall be retained in state ownership.
- Waters. All catalogued anadromous waters in this region are classified Habitat (Ha). Authorizations in navigable waters must ensure the continued use of a waterway by the public for purposes of trade, travel, and commerce. Authorizations issued by DNR are to maintain the habitat, subsistence and public recreation values of these waterbodies.

RESOURCE ALLOCATION TABLE FOR UPLAND UNITS — REGION 9

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R09-01 Knutson Creek-Three Sisters Mt.	183,905 Ha – Fish and Wildlife Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		This unit is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su). It is to be managed for the protection of fish and wildlife resources and their associated habitat and for mineral exploration and dispersed tourism. Development authorizations may be considered appropriate subject to the protection of these resources and the specific requirements of Chapter 2. See particularly the requirements for "Caribou and Moose Calving and Rutting Areas" in this chapter. Intensive development is not expected within this unit during the planning period except occasionally and at isolated sites.	Unit largely consists of mountainous terrain between the Pile River and Chekok Creek drainages as well as similar terrain east of the Pile River. Vegetation consists of either alpine tundra and barrens or tall shrub in the less mountainous areas. Because of the steep topographic conditions, little development can be expected within this unit with the possible exception of the upper drainages of Knutson Creek. The unit contains 32 km of anadromous streams. Moose rutting and wintering areas occupy portions of this unit. The unit also supports brown bear concentrations. Leasehold Location Order No. 1 affects parts of this unit.
R09-02 Upper Chekok Creek	25,022 Ha – Fish and Wildlife Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		The unit is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su). It is to be managed for the protection of anadromous streams, essential moose wintering, and brown bear habitat. Development authorizations may be appropriate, subject to the protection of these resources and the requirements of Chapter 2.	This land is located in the general vicinity of Chekok Lake and valley, a fairly flat area near the lake and river but increasing in elevation to the west and east. Vegetation cover is predominantly tall shrub. Chekok Creek and Chekok Lake are anadromous and support resident sport fish. Approximately 40 percent of the unit is utilized for moose wintering habitat and moose rutting. Unit is affected by municipal selections of the Lake and Peninsula Borough, some of which have already been conveyed in the northern part of the Upper Chekok Creek drainage. MCO 393 affects Chekok Creek.
R09-03 Pile River	20,758 Ha – Fish and Wildlife Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		This unit is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su). It is to be managed for the protection of anadromous streams, essential moose wintering and calving, and brown bear habitat. Development authorizations may be appropriate, subject to the protection of these resources and the requirements of Chapter 2.	This unit is located in the valley of the Pile River, an anadromous stream with predominantly sockeye salmon. The terrain is gently rolling near the Pile River but increases quickly in elevation to the west and east. The vegetative cover is predominantly tall shrub. A moose calving area covers large portions of the unit. The unit also supports moose wintering habitat and is utilized for moose rutting. The lower portion of the Pile River drainage contains numerous ponds, lakes, and wetlands. MCO 393 affects the Pile River, and LLO 1 affects the entirety of the unit. Large portions of the unit are affected by municipal entitlement selections of the Lake and Peninsula Borough.
R09-04 Pedro Bay Airport	46 Pr – Public Facilities- Retain	S4S28W Sec. 29, 32	The unit is to be retained in state ownership and managed consistent with the requirements of the Management Right (ADL 221516).	This land (ADL 221516; OSL 915) is located at the Pedro Bay public airport and managed by the Department of Transportation and Public Facilities (ADOT/PF).
R09-05 Pedro Bay School	0.92 P – Public Facilities- Retain	S4S28W Sec. 33	The unit is to be retained by the state and is to be managed consistent with the terms and conditions of the lease and Management Right.	This unit (ADL 221497) is located at Pedro Bay. The land is subject to a lease with the public school system and is affected by Management Right (ADL 221497).
R09-06 Iliamna Lake Islands	19,833 Rd – Public Recreation and Tourism-Dispersed		These units are designated Public Recreation and Tourism-Dispersed and are to be managed for dispersed public recreation purposes and retained by the state.	This unit consists of over 10 islands in Lake Iliamna, all of which are vacant and undeveloped. They are of varying size, the largest being Tangle, Flat, and Porcupine Islands in the eastern part of Lake Iliamna.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R09-07 Tommy Creek/ Chigmit	352,970 Ha – Fish and Wildlife Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		This unit is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su) and is to be managed for the protection of fish and wildlife resources, the associated habitat, and dispersed recreation. Development authorizations may be considered appropriate subject to the protection of these resources and the specific requirements of Chapter 2. See particularly the requirements for "Caribou and Moose Calving and Rutting Areas" in this chapter. Intensive development is not expected within this unit during the planning period except occasionally and at isolated sites. Areas affected by municipal selections of the Lake and Peninsula Borough are considered appropriate for conveyance, subject to a separate and subsequent Best Interest Finding.	This large unit consists of four separate parts: a mountainous area west of the Chigmit Mountains that is predominately covered by tall shrub, a similarly mountainous area centering on Tommy Creek south of Lake Iliamna, an area that occupies both fairly flat to rolling terrain near Big Mountain, and an area of similar topography but with numerous lakes situated generally south of the Kakhonak River and Lake. Low or tall shrub predominates throughout the two latter areas except for a few sites in the far eastern part that are composed of closed spruce forest. A moose calving area occupies portions of lowlands generally near Dennis Creek in the southwestern part of the unit. Tommy Creek and Dennis Creek are anadromous and support resident fish. The unit also includes essential moose wintering and brown bear habitat, and a portion of the unit is utilized for moose rutting. MCO 393 closes several streams to mineral entry. Portions of the unit are affected by municipal selections of the Lake and Peninsula Borough.
R09-08 Kakhonak Lake	64,628 Se – Settlement Rd – Public Recreation and Tourism-Dispersed	S6S28W–S8S28W; S7S29W–S8S29W	This unit is designated Settlement and Public Recreation and Tourism-Dispersed (Rd). It is to be managed to protect recreational uses. Some areas are considered appropriate for disposal during the planning period. Development should conform to the requirements for Remote Settlement in Chapter 2. Siting should avoid essential fish and wildlife habitat consistent with the Fish and Wildlife section of Chapter 2. The lands selected by the borough are considered appropriate for conveyance, subject to a separate and subsequent Best Interest Finding. Authorizations shall be consistent with LLO 1.	This large unit is situated south of Iliamna Lake and occupies lands around and near Boot, Moose, and Meadows, as well as portions of Kakhonak Lakes. Most of the land that adjoins this unit, as well as areas within the unit proper, are affected by municipal selections of the Lake and Peninsula Borough, and some of these selection have already been conveyed to the borough. This area is considered suitable for remote settlement and has been designated Settlement since the original Bristol Bay Area Plan. Much of the land borders lakes or streams and is flat to gently rolling. Depending on location, the vegetation is either tall shrub or mixed spruce and broadleaf forest, the latter predominating in the eastern portions of the unit. There are relatively few wetlands. Anadromous streams are common in the northern part of the unit. The unit supports moose, brown bear, and waterfowl. LLO 1 affects portions of this unit.
R09-09 Copper River	921 Ha – Fish and Wildlife Habitat Wr – Water Resources	S7S29W	The unit is designated Habitat (Ha) and Water Resources Land (Wr) and is to be managed for the protection of fish and wildlife habitat and the entire Copper River watershed. Development authorizations may be appropriate, subject to the protection of these resources and the requirements of Chapter 2.	This management unit is located southeast of Iliamna Lake along the Copper River downstream of the falls. The Copper River is cataloged as an anadromous fish stream and has important fishery value for resident fish. Brown bear and moose also use the area.
R09-10 Fog Lake	4,480 Ha – Fish and Wildlife Habitat	S7S3W, S8S3W	If conveyed by the federal government, this unit is to be retained in state ownership and managed for the protection of fish and wildlife resources and their associated habitat.	This unit encompasses state-selected land adjacent to the Fog Lake gold prospect, considered to be a gold- and silver- bearing prospect with minor copper values. Essential habitat in this unit supports moose wintering areas, brown bear, and waterfowl.
R09-11 Kakhonak School	4.94 Pr – Public Facilities- Retain	S8S32W Sec. 32	The unit is to be retained by the state and is to be managed according to the terms and conditions of the lease or its successors.	This unit is located in the community of Kakhonak. The land is subject to a lease (ADL 221395) with the public school system.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R09-12 Kakhonak Airport/Road	111 Pr – Public Facilities- Retain	S8S32W; S8S33W; S9S33W	The unit is to be retained by the state and is to be managed consistent with the Management Right (ADL 221396).	This unit (ADL 221396; LSH 200) is located at the Kakhonak public airport and managed by the Department of Transportation and Public Facilities (ADOT/PF) under a Management Right. Also included is a road, approximately 1.5 miles in length (ADL 221392; LSH 199).
R09-13 Dennis	2,268 Ha – Fish and Wildlife Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources	S9S34-35W	This unit is to be managed for dispersed recreation, subsistence, and the protection of fish and wildlife resources and their habitats. DNR authorizations shall consider siting requirements that avoid or minimize impacts to principal recreational use areas and other recreation values. Such authorizations shall also ensure that impacts to anadromous streams are avoided and are consistent with the requirements for such uses in Chapter 2. See Chapter 2 for guidelines dealing with moose rutting and calving areas.	The unit consists of state-owned land in the vicinity of Big Mountain, south of Iliamna Lake. Vegetation consists of low shrublands and tundra. The mouth of Dennis Creek, an anadromous and resident fish stream, is within this unit. Streams are utilized by brown bear, especially during the salmon spawning season. Moose calving areas occur in the unit. Over 90 percent of the unit is used for moose rutting. Raptors are located in or near the unit. The unit is partly affected by LLO 1 and MCO 393.
R09-14 Kamishak	15,698 Ha – Fish and Wildlife Habitat		The unit is designated Habitat (Ha) and is to be managed for the protection of fish and wildlife and their associated habitats. Development authorizations may be considered appropriate subject to the protection of these resources and the specific requirements of Chapter 2. Management policies for the Katmai National Park and Preserve and the McNeil River State Game Sanctuary should be consulted before any development authorization is approved. The unit is not suitable for settlement.	The unit consists of a sliver of state-owned land between Katmai National Park and Preserve and the McNeil River State Game Sanctuary. It is located in the headwaters region of Dream Creek and the Lake Fork of the Pain River. The unit is within steep mountainous terrain but includes the valley of Lake Fork and several other lakes. The unit contains significant mineral potential; the Kamishak prospect occurs on the south edge of the unit, and claims associated with the deposit overlap into the Bristol Bay Planning Area. The unit contains a number of other mineral prospects and occurrences.

Chapter 3 – Region 10
WESTERN ILIAMNA LAKE, KVICHAK RIVER

Contents of Chapter 3 – Region 10

REGION 10 – WESTERN ILIAMNA LAKE, KVICHAK RIVER

SUMMARY OF RESOURCES AND USES IN THE REGION

Region Boundary

Region 10 encompasses the western portion of Iliamna Lake and the Kvichak River to its mouth in Bristol Bay. The eastern boundary is defined as a line from the point of land near VABM Newhalen southeast through the peak of Peters Plug; the southern boundary of the Region follows the boundary of Katmai National Park and Preserve and the drainage divide of the Alagnak River as well as the northern boundary of the Bristol Bay Borough. The western and northern boundaries of the Region largely follow the drainage divide between the Kvichak and Nushagak-Mulchatna drainage basins. The communities of Igiugig (pop. 46) and Levelock (pop. 115) are within Region 10. The Region has little to moderate topographic relief.

State Lands: Ownership and Acreage

The majority of land within Region 10 is in federal ownership; Native-owned holdings are extensive, largely along the Kvichak and lower Alagnak Rivers as well as along the west and southern shores of Iliamna Lake. State-owned land is but a small part of the Region, mostly in the center and in the Big Mountain area; however, the state has a large number of land selections in the central part of Region 10. The plan applies to 783,904 acres of state-owned and state-selected uplands.

Physical Geography

The eastern portion of Region 10 is within portions of the Alaska Peninsula ecological provinces, whereas the western portion is part of the Bristol Bay lowlands. The drainage basins on the west end of Iliamna Lake include the southwesterly flowing Kvichak River, which discharges from Iliamna Lake, and the Alagnak River, which flows from Kukaklik Lake in Katmai National Park and Preserve. Important tributaries to the Kvichak River include Kaskanak, Yellow, and Bear Creeks; Pecks Creek and Ole Creek are major tributaries to the Alagnak River. Drainages also within Region 10 that flow directly into Iliamna Lake include Lower and Upper Talarik Creek, Pete Andrews Creek on the north side of the lake, and Belinda Creek on the south. Major waterbodies include east Iliamna Lake. The Region as a whole exhibits little topographic relief. However, the northeast portion of the Region includes the southern slope of Groundhog Mountain (elev. 3,074) and a feature known as Big Mountain (elev. 2,161).

The Region displays a variety of landscapes, including vistas overlooking Iliamna Lake, mountains, rivers, tundra, marshy lowlands, and ponds. Iliamna Lake is a huge body of water 75 miles long and 20 miles wide with a surface area of more than 1,000 square miles and a water depth exceeding 2,000 feet in places. The highest elevations in Region 10 are marked by tundra and barrens; elevations above 1,500 feet are sparsely vegetated.

Climate

The climate of Region 10 is mostly within the transitional climatic zone; however, it is maritime on the west. Average summer temperatures range from 30° to 66°; winter temperatures average 4° to 30°. The record high is 91° and the record low is -47°. Annual precipitation is 26 inches, with 70 inches of snowfall. The Kvichak River is ice-free from June through mid-November. Most of the Region west of Iliamna Lake is wetlands and underlain by isolated masses of permafrost; the floodplains of the lower Kvichak and Alagnak Rivers are generally free of permafrost.

Other

Region 10 is within the Dillingham, Iliamna, Naknek, and Mount Katmai quadrangles. It is within the boundaries of the Bristol Bay Regional Native Corporation and the Lake and Peninsula Borough.

Access

Access to Region 10 is good, utilizing river, lake, or air transport. There are five airport facilities in the Region and a number of others nearby. Airports are located at the communities of Igiugig and Levelock as well as at Big Mountain, Koggiung, and Kvichak/Diamond J. Of course floatplanes and amphibious aircraft can land throughout the area. The state owns and maintains a 3,000-foot gravel runway at Igiugig and a 1,900-foot lighted gravel runway with an 1,800-foot crosswind runway at Levelock. Barges negotiate the Kvichak River from Dillingham and Naknek, delivering bulk items. Trails are present along the Kvichak River and from the Big Mountain airstrip to the summit of Big Mountain. The Coffee Creek Channel-Kvichak River Trail and the Nakeen-Igiugig Winter Trail follow along the route of the Kvichak River. Skiffs and ATVs are common forms of local transportation. Bristol Bay boats ply the water across Iliamna Lake from Pile Bay and down the Kvichak River for delivery to Bristol Bay. The following RS 2477 designated trails are wholly or partially in the Region:

- Coffee Creek Channel-Kvichak River (RST No. 1215)
- Lewis Point-Naknek (RST No. 128)
- Nakeen-Igiugig Winter Trail (RST No. 90)

Robert Ketchum

Resources and Uses

The Kvichak River System, including the Alagnak (Branch) River and Iliamna Lake, is the single most important source of salmon in the Bristol Bay area. This resource provides for commercial, subsistence, and sport users. Recreational potential is high; the Alagnak River is designated a Wild and Scenic River. Most of Region 10 is part of the Nushagak oil and gas basin and has recently been proposed for exploration licensing; the area has potential for oil and gas as well as coalbed methane. Other important resources include moose, caribou, beaver, waterfowl, and brown bear.

Cultural and Historic. There have been little in the way of excavations of prehistoric sites in the Region. However, archaeologists believe that people of the Paleo-Arctic Tradition were active in the Lake Clark area about 6,000 years ago and perhaps earlier. Cultural influences from the Bering Sea coast can be seen in the presence on Paleo-Arctic sites at Ugashik Lake and at the mouth of the Kvichak River. The Northern Archaic tradition appeared in the area about 5,000 BP as indicated by archeological sites along the Kvichak River and in Katmai National Park and Preserve. There are two native settlements in the Region: Levelock, situated on the west bank of the Kvichak River, and Igiugig, located on the south shore of the Kvichak River. The state Office of History and Archeology lists 14 sites in Region 10; two of these are prehistoric, 11 are historic, and one is of mixed origin. Most of the historic and archeological sites occur along the courses of the Kvichak and Alagnak Rivers. New sites are discovered periodically and added to the Alaska Heritage Resource Database when reported.

Igiugig is located on the south shore of the Kvichak River, which flows from Iliamna Lake. Kiatagmiut Eskimos originally lived on the north bank of the Kvichak River in the village of Kaskanak and used Igiugig as a summer fish camp. At the turn of the century, these people moved upriver to the present site of Igiugig. Many locals can trace their roots back to the Branch River village.

Levelock is located on the west bank of the Kvichak River, 10 miles inland from Kvichak Bay. Early Russian explorers reported the presence of Levelock, which they called "Kvichak." The smallpox epidemic of 1837 killed more than half of the residents of the Bristol Bay region and left entire villages abandoned. A measles epidemic hit the region in 1900. A 1908 survey of Russian missions identified "Lovelock's Mission" at this site. The worldwide influenza epidemic in 1918-19 again devastated area villages. Koggiung Packers operated a cannery at Levelock in 1925-26. A large fire at the cannery threatened the entire village in 1926, but residents dug fire lines, which saved their homes. The fire depleted the scarce wood resources used to heat homes.

Economic. As is typical for the area, salmon fishing is the mainstay of the economy. Many residents hold commercial fishing permits; people commonly travel to Naknek each summer to fish or work in the canneries. Subsistence is an important part of the residents' lifestyle. Salmon, trout, whitefish, moose, caribou, and rabbit are utilized. Some trapping occurs. Trophy rainbow trout attract sport fishermen. There are seven commercial lodges that serve sport fishermen and hunters seasonally in Igiugig.

Recreation. Sport fishing is an important seasonal resource in Region 10. Lower Talarik Creek is popular for trout fishing, and the Alagnak River area is renowned for its stream fishing for salmon and trout. Lower Talarik Creek is known for its large rainbow trout and is a fly-fishing-only stream. The Alagnak River is designated as a Wild and Scenic River. The Alagnak River rainbow trout fishery has a reputation of being a world-class fishery and therefore attracts large numbers of anglers. It is considered to be one of the most popular fly-in fishing destinations in southwest Alaska supporting important salmon (chinook, sockeye, pink, chum, and coho), Arctic grayling, Arctic char, and lake trout sport fisheries. About a dozen commercial recreation fishing lodges and camps are located on the Kvichak and Alagnak Rivers. Several lodges on the main stem of the Alagnak at the outlet of Nonvianuk Lake, and one on the Kulik River, provide guided fishing services. Together these lodges support the majority of the visitation for fishing. The amount of use is a cause of concern to some users and managers. The Alaska Department of Fish and Game reports that visitor use for fishing has increased from approximately 1,900 angler days per year (a 4-month fishing season) in 1981 to over 13,000 in 1995. This has since fallen to 10,614 in 2002.

Minerals. Region 10 is underlain principally by middle Tertiary volcanics and a Tertiary onlap assemblage that is the northern extension (Nushagak basin) of the Bristol Bay basin. The U.S. Bureau of Mines MILS database lists but two mineral occurrences on opposite sides of Iliamna Lake. The Anelon gold prospect is located near VABM Newhalen on the north side of the lake, and the Aukney gold prospect is located on the north flank of Big Mountain. Bedrock in these two areas is composed primarily of Tertiary volcanics. A large claim block has been staked in an area 26 miles west of Igiugig and 16 miles northeast of Levelock as part of a recent exploration effort. It is possible that a significant geophysical anomaly (airborne and ground) is present representing buried intrusive rocks. The exploration target at the Iliamna project is a gold-enriched porphyry deposit. Significant exploration potential occurs in the extreme northeast portion of Region 10 in the Sheep Mountain-Talarik Creeks area due to the proximity of the Pebble Copper deposit (see Region 6).

Oil and Gas. The Alaska Peninsula-Bristol Bay region is a frontier basin in southwest Alaska – 500 miles long and up to 100 miles wide. The northwestern part of the peninsula is underlain by up to 18,000 feet of Tertiary sediments that thicken northwestward into the Bristol Bay basin. Gently folded Mesozoic and Tertiary sedimentary rocks and Quaternary volcanic rocks crop out on the southeastern peninsula. The offshore Bristol Bay basin is a sediment-filled structural depression that underlies the northern continental shelf of the Alaska Peninsula. The shallow portion of the basin, which underlies the western and southern portions of Region 10, has potential for coalbed methane and perhaps gas and oil. Most of the potential for oil and gas in Region 10 is in the area between Kvichak Bay and Iliamna Lake.

State and Native landowners are currently pursuing a new hydrocarbon exploration licensing and leasing program. The Alaska Department of Natural Resources, Lake and Peninsula, Bristol Bay, and Aleutians East Boroughs have signed a memorandum of understanding (MOU) in support of oil and gas lease sales and licensing of state land in the Bristol Bay and Alaska Peninsula region (March 17, 2004). Similar MOUs are in effect between the DNR and The Aleut Regional Native Corporation (December 18, 2003) and the DNR and Bristol Bay Native Corporation (July 10, 2003).

Materials. There are no active materials sites in the Region.

Forestry. The forestry resources in Region 10 are located primarily along the Kvichak and Alagnak River valleys and along the side of Iliamna Lake. These are noncommercial forests and have very low suitability for local personal use. Most trees are too small for house logs but can be used as a source of fuel.

Fish and Wildlife. All five species of Pacific salmon – king, sockeye, pink, silver, and chum – spawn in the Kvichak and Alagnak river systems. Sockeye salmon are the most important commercially. However, king and silver salmon are important to the recreational sport fishing industry as are trout and char. The Alagnak River corridor and Ole, Belinda, Dennis, and Kaskanak Creeks are heavily used by bears. The south side of Iliamna Lake and the Alagnak River drainage are moose calving and rutting areas.

Eagles and other raptors nest along the Alagnak River and on the west end of Iliamna Lake. The lowlands west of Iliamna Lake contain a plethora of lakes, ponds, and marshes that are used by waterfowl; high concentrations of red-breasted mergansers, black scoters, scaup, mallards, and tundra swans occur in this area.

Iliamna Lake is also home to this continent's sole population of freshwater seals. This phenomenon only occurs in one other lake in the world: Lake Baikal in Russia.

MANAGEMENT CONSIDERATIONS: LOCAL AND STATE PLANS AND SPECIAL USE SITE

Chapter 1 contains a summary of the 45-year history of state and federal efforts to conserve the Kvichak and Nushagak drainages and balance conservation and development in the overall Bristol Bay drainages. In Chapter 2, the section titled "Coordination, Cooperative Land Use Planning, and Public Notice" re-emphasizes the state's historic position under Governor Hammond that the Bristol Bay drainages, and the Kvichak and Nushagak in particular, need cooperative land use planning to conserve habitat across property boundaries because fish and wildlife do not observe such boundaries. In Chapter 3, each regional section identifies a number of local, state, and federal management plans that were considered in development of this plan, and which provide context for cooperative land use planning efforts recommended by this Citizen's Alternative Bristol Bay Area Plan.

A number of local, state, and federal management plans were considered in development of this plan. Local plans include the Lake and Peninsula Borough Comprehensive Plan and the Southwest Alaska Comprehensive Economic Development Strategy 2003-2008. State plans include the Bristol Bay Area Plan and the Southwest Alaska Transportation Plan. Federal plans include the Katmai National Park and Preserve, Aniakchak National Monument and Preserve, and the Alagnak Wild River Compendium (2003).

Most of Region 10 is located within the boundaries of the Lake and Peninsula Borough. The Lake and Peninsula Borough Comprehensive Plan applies to this portion of Region 10. The Comprehensive Plan focuses on economic and infrastructure development issues and does not contain specific land use standards or a land use map.

Prior to July 2011, enforceable policies of the District Coastal Management Plan were extensive and affected land use decisions with respect to anadromous streams, bald eagle nests, oil and gas development, material extraction, and mining. Before issuing a permit, the state was required to conduct a consistency review to determine whether the action conformed to the local enforceable policies. It provided an opportunity for local and tribal governments to meaningfully participate in the permitting process and to protect regionally significant habitat, fisheries, subsistence uses, and recreation values. These policies were eliminated when the state legislature failed to reauthorize the Alaska Coastal Management Program (ACMP). Hence, the current lack of an ACMP program is another reason to recommend cooperative land use planning in Region 10.

Region 10 is also within the area covered by the Southwest Alaska Comprehensive Economic Development Strategy 2003-2008, which was developed for the U.S. Department of Commerce Economic Development Administration by the Southwest Alaska Municipal Conference (July 2003). This document developed a number of goals, objectives, and strategies to facilitate and support efforts that retain and grow the region's wealth, including diversifying the economic base.

The Bristol Bay Area Plan (BBAP) affects all state lands in the Region. The original version of the Area Plan (1984) stated the Region is to be managed for fish and wildlife with an emphasis on fisheries production and public recreation on the Talarik Creeks and the Kvichak and Alagnak Rivers. This Citizens' Alternative supersedes the 2005 revised BBAP and the 1984 BBAP.

The Southwest Alaska Transportation Plan (ADOT/PF, November 2002) identified a Cook Inlet to Bristol Bay Transportation Corridor, which in general extends from Cook Inlet to South Naknek connecting with the communities of Pedro Bay, Iliamna, Newhalen, Igiugig, Levelock, King Salmon, and Naknek. The transportation corridor connects the rich seafood resources and communities in Bristol Bay, as well as the Iliamna Lake communities, with resupply, support, and market centers in the Alaskan railbelt. It consists of a marine segment (Cook Inlet), an intermodal transfer location at Williamsport or Iniskin Bay, and then primarily overland and riverine routes along Iliamna Lake and the Kvichak River valley to the port town of Naknek on Bristol Bay. A tie-in to the Pebble Copper mine is also a possibility. The function of the route is primarily logistical. Transportation improvements along this corridor would lower the cost of transport, thus yielding benefits to the quality of life of residents and helping to stimulate economic growth.

The Southwest Alaska Transportation Plan (ADOT/PF, November 2002) also identified a Dillingham/Bristol Bay Area Transportation Corridor, which in general extends from Levelock to Dillingham, connecting with the communities of Ekwok and Aleknagik. It includes a crossing of the Wood River at Aleknagik and a major crossing of the Nushagak River. There are several possible tie-in locations to the Bristol Bay to Cook Inlet corridor. The plan models a corridor from Aleknagik to Igiugig via Levelock.

The state DNR established the Lower Talarik Creek Special Use Area (ADL 227445) in 1999 in recognition that both the uplands and shorelands within the affected area of the SUA have a high value for fish and wildlife habitat and harvest as well as recreation. Commercial recreation activities are limited to day use only, if registration has been completed under 11 AAC 96.018. Between August 1 and October 31, setting up and using a camp for personal, noncommercial use is allowed without a permit but only in a designated area that is adjacent to the Department of Fish and Game cabin (in section 26) and for no more than five consecutive days.

Other plans consulted include the Southwest Alaska Salmon Habitat Partnership Strategic Conservation Plan. The partnership was recognized in 2008 by the National Fish Habitat Board. The state of Alaska, through the Department of Fish and Game, participates as a member of the partnership.

Municipal Selections

Municipal selections by the Lake and Peninsula Borough occur along Lower Talarik Creek, the northwestern shore of Iliamna Lake, and Kvichak River. These selections total approximately 26,745 acres and are distributed along streams and lakes with attractive recreation and development features.

MANAGEMENT SUMMARY: UPLANDS

State land in Region 10 is to be managed for a variety of multiple uses, including subsistence, settlement, materials extraction, public facilities development, dispersed public recreation, mineral exploration , and maintenance of sensitive wildlife habitats. Oil and gas potential, although only of moderate to low potential, is also appropriate within the Region. The majority of state-owned lands in Region 10 are co-designated Habitat (Ha), Subsistence (Su) and Public Recreation and Tourism- Dispersed (Rd).

Most of the state-owned or state-selected land along the river corridors, anadromous streams, and shorelands is co-designated Habitat (Ha) and Public Recreation and Tourism-Dispersed (Rd). Areas associated with the Pebble Copper deposit that overlap into Region 10 are designated Habitat (Ha). A small amount of land at Big Mountain remains designated Settlement (Se); this designation was utilized in the original BBAP (1984), and the designation is retained in this revision. The Lower Talarik Creek Special Use Area is designated Recreation and Tourism-Public Use Sites (Rp) and Habitat (Ha). A number of small management units associated with airports or other such facilities are designated Public Facilities-Retain (Pr). Active materials sites are designated Materials (Ma).

Plan Designations and Management

The plan designations that are used within this Region have the following management intent. The policies and management intent guidelines described in Chapter 2 affect all DNR authorizations. Refer especially to those guidelines relating to Fish and Wildlife Habitat and Harvest Areas, and to Settlement. See also the descriptions of the plan designations in the first part of this chapter; this section indicates which lands can be conveyed out of state ownership and those that must be retained.

- **Habitat (Ha).** Habitat is land that is primarily valuable for (1) fish and wildlife resource production, whether existing or through habitat manipulation, to supply sufficient numbers or a diversity of species to support commercial, subsistence, recreational, or traditional uses on an optimum sustained yield basis, including "essential habitat" and "important habitat;" or (2) a unique or rare assemblage of a single or multiple species of regional, state, or national significance. (See 11 AAC 55.230; see also "essential habitat" and "important habitat" herein.) Habitat also includes all anadromous waters specified under the Anadromous Fish Act, AS 16.05.871 *et seq*., and all land subject to mineral closing orders issued to protect anadromous waters. The land use designation Ha is to be retained in state ownership.
- **Public Recreation and Tourism-Dispersed (Rd).** Lands with the designation of Public Recreation and Tourism-Dispersed are to be managed so that their public recreation values are protected and maintained. Within these areas the primary surface uses are intended to be those related to hiking, hunting, fishing, wildlife viewing, and the like.
- **Public Recreation and Tourism-Dispersed and Habitat (co-designation).** Certain navigable waterbodies (lakes and streams) are co-designated Habitat (Ha) and Public Recreation and Tourism-Dispersed (Rd). Authorizations within these waterbodies should not interfere with important habitat or public recreation values. See Table 3.1 in the Navigability section of this chapter for a listing of these streams. Note: Certain waterbodies may (only) be designated Public Recreation and Tourism-Dispersed (Rd), Habitat (Ha), or General Use (Gu).
- **Public Facilities-Retain (Pr).** This designation applies to sites that are reserved for a specific public infrastructure requirement. They are to be retained in state or public ownership. In this Region, this designation applies to lands containing public facilities, commonly airports or schools. Only a small amount of acreage is affected by this designation.
- **Public Recreation and Tourism-Public Use Site (Rp).** This designation applies to areas with a concentration of recreational users or tourists, or that are likely to have such concentrations. Within this Region this designation applies to specific recreation sites, such as the Lower Talarik Special Use Area. Unless otherwise indicated in the Resource Allocation Table, these sites are to be retained by the state.

- **Settlement (Se).** This designation applies to state uplands suitable for sale, leasing, or permitting to allow private recreational or residential use. A single area of state land (R10-10) is considered appropriate for residential settlement and has been designated Settlement. This is an area near Big Mountain and is intended for either remote recreation use or subdivision development, the type to be determined at the time when these areas are considered for disposal by the DNR. See Chapter 2 for specific requirements for these forms of settlement. Settlement lands are appropriate for conveyance to the Lake and Peninsula Borough through the Municipal Entitlement program.
- **Subsistence (Su).** This designation applies to lands and waters that are suitable for subsistence activities, due to the ability of subsistence users to use the lands and waters productively over time for such activities. These activities include subsistence hunting, fishing and gathering.
- **Water Resources (Wr).** See Definition and Management intent under page 85.

This Citizens' Alternative Bristol Bay Area Plan uses a definition of the Mineral (Mi) designation that closely tracks the definition of the Mineral classification category at 11 AAC 55.130, because a land classification order converts designations to corresponding classifications. The Mineral *classification category*, at 11 AAC 55.130 is defined as follows:

> **Mineral Land.** Land classified Mineral is land where known mineral resources exist and where development is occurring or is reasonably likely to occur, or where there is reason to believe that commercial quantities of minerals exist.

The definition of the Mineral (Mi) *designation* in the glossary of this Citizen's Alternative Bristol Bay Area Plan is as follows:

> **Mineral Land.** Land where known mineral resources exist and where development is occurring or is reasonably likely to occur, or where there is reason to believe that commercially developable quantities of minerals exist, taking into account the federal, state, and local laws, regulations, executive branch actions including conservation designations, mineral closing orders, Section 404(c) determinations, and the like, which affect whether a given mineral deposit is commercially and legally developable.

All mineral activity on state land in Regions 6 and 10 is occurring on prospects and is still in the exploration stage. Therefore, the state lacks a basis for concluding, as a factual matter, that commercially and legally developable quantities of minerals exist. This is most evident on the prospects other than the Pebble deposit. But even at the Pebble deposit, the Pebble Limited Partnership has long taken the position that the deposit will not be developable if it cannot be designed to protect the fisheries, and the EPA may issue a 404(c) determination that further complicates the potential for development of all the metallic sulfide deposits such as the Pebble deposit.

For these reasons, this Citizen's Alternative Bristol Bay Area Plan deletes the Mineral designations at four areas – i.e., the areas designated Mineral in the 2005 BBAP surrounding the Kemuk, Seitat, and Shotgun Hills deposits in Region 6 and surrounding the Pebble deposit in Regions 6 and 10.

Exploration can continue, and if the exploration and future designs in light of governmental actions (including any 404[c] determination) indicate that commercial development is "reasonably likely," as stated in 11 AAC 55.130, then the owners of the claims may petition under 11 AAC 55.270 to reclassify the land as Mineral Land under the public process required by the planning statutes at AS 38.04.065.

Specific Management Considerations

- Generally Allowed Uses. The Generally Allowed Uses in 11 AAC 96.020 can occur throughout the Region, unless the circumstances indicate a particular use would be incompatible with the applicable land designation and classification.
- Proposed Transportation Corridor. The area identified on the Region Map as a "Potential Transportation Corridor" should be retained by the state during the planning period. Authorizations granted by the DNR within or adjacent to this corridor should not preclude the future development of transportation access. Authorizations or disposals within and adjacent to this corridor should only be allowed after consultation with ADOT/PF.
- Except for areas closed to mineral entry under existing Mineral Closing Orders, all state lands within Region 10 are open to mineral entry. The only exception applies to the areas to be disposed of by the DNR for purposes of Community Settlement. The proposed new mineral closing order affects Region 10. Closure to mineral entry is recommended at or before plan adoption. No lease-hold location orders are recommended. See the *Mineral Resources section in Chapter 2* for more details on subsurface management requirements.

- Mineral Closing and Opening Orders. This Citizens' Alternative Bristol Bay Area Plan retains the mineral closing and opening orders largely implemented by DNR at the time of original plan adoption. These MCOs either close a proposed settlement area or close a number of major streams to mineral location. These include the following:
  - MCO 393 – Kvichak River, Pecks Creek, and others draining into Iliamna Lake

  An additional MCO is recommended for additional areas where mineral development is likely to occur in the vicinity of salmon habitat or other important habitat areas.
- Leasehold Location Orders. Leasehold Location Order No. 1 covers small portions of Region 10 within T9S535W, T9SR36W, T10SR35W, and T10SR36W (Seward Meridian). Under this order, rights to locatable minerals may be acquired only under the Leasehold Location System, AS 38.05.205, and may not be acquired by locating a mining claim under AS 38.05.195. In the affected area, an approved Plan of Operations for a mineral lease takes the place of a Land Use Permit required for unleased land. If the proposed lease activities are minor, a plan of operations is not required (11 AAC 86.800). The Plan of Operations must show how the operator proposes to comply with the lease stipulations and other pertinent guidelines in this plan.
- Retained Lands. State lands in Region 10 designated as Habitat (Ha), Public Recreation and Tourism Dispersed (Rd), Public Facilities-Retain (Pr) and Subsistence (Su) shall be retained in state ownership.
- Waters. All catalogued anadromous waters in this region are classified Habitat (Ha). Authorizations in navigable waters must ensure the continued use of a waterway by the public for purposes of trade, travel, and commerce. Authorizations issued by DNR are to maintain the habitat, subsistence and public recreation values of these waterbodies.

See the Resource Allocation Table for more details on the upland management units.

RESOURCE ALLOCATION TABLE FOR UPLAND UNITS — REGION 10

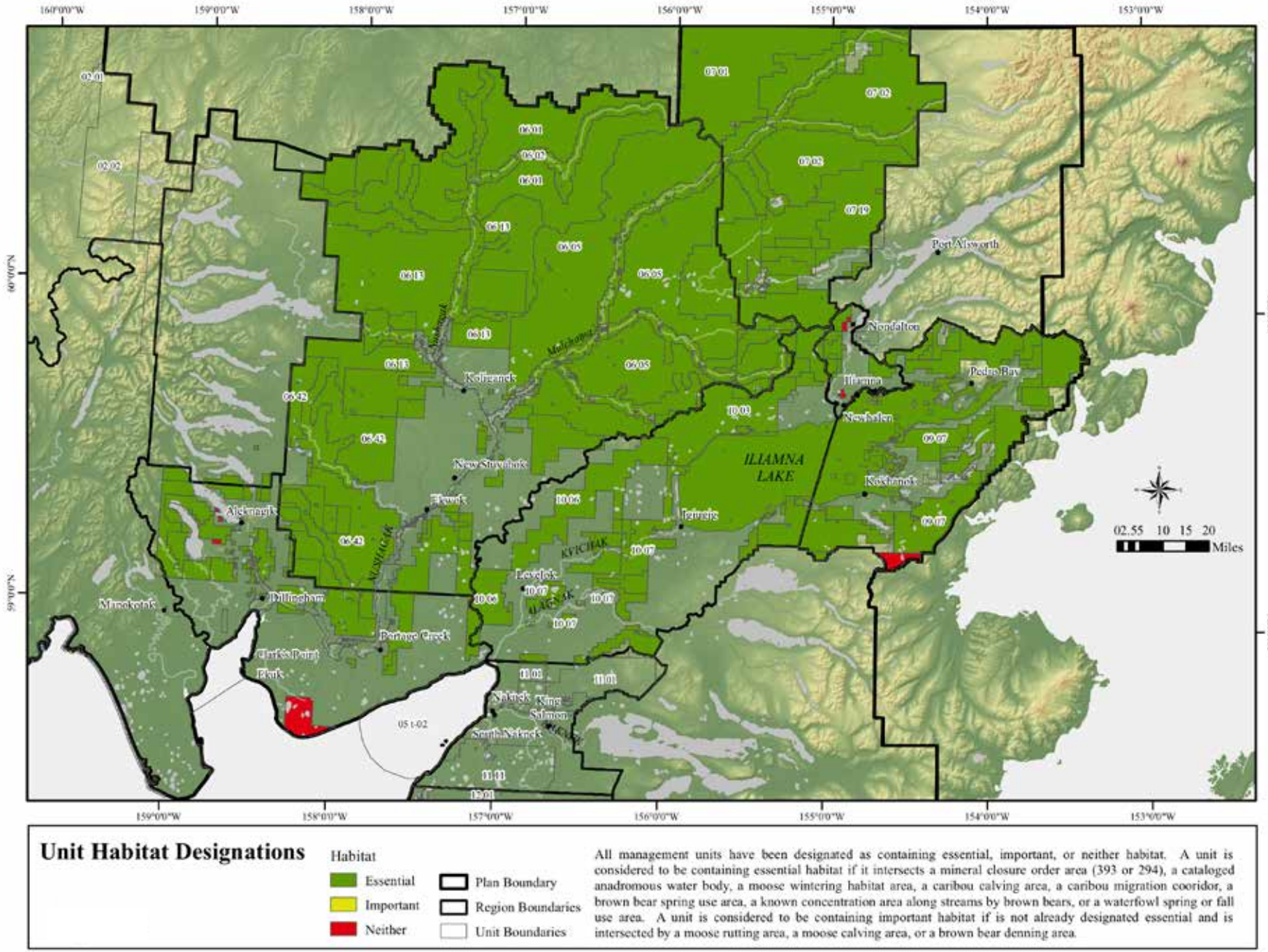
Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R10-01 Upper Talarik Creek	41,962 Ha – Fish and Wildlife Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		The unit is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su) and is to be managed for the protection of anadromous streams and essential moose wintering, caribou calving, and brown bear concentration areas. Management should emphasize fisheries production, subsistence, and public recreation. Development authorizations may be appropriate subject to the protection of these resources and the requirements of Chapter 2. See specific management requirements for anadromous streams and caribou calving areas in this chapter. The proposed Pebble Copper transportation corridor transects the unit; the actual position of the road alignment has yet to be determined. No authorizations or disposals should be considered that are within or near the corridor until the road alignment is known or without consultation with the ADOT/PF. State land selections in this unit are considered to be a high-level selection priority.	This unit consists of state-owned and state-selected land in the eastern portion of Region 10, in the general vicinity of Upper Talarik Creek. Upper Talarik Creek is cataloged as an anadromous fish stream and is noted for its good sport fishing. The area is used by moose for wintering and is a caribou calving area. Brown bear utilize the stream for feeding during the salmon spawning season. The unit has high exploration potential for base and precious metals. The proposed Pebble Copper transportation and road corridor extends through the middle of the unit. The unit is affected in part by MCO 393.
R10-02 Pebble2	25,046 Ha – Fish and Wildlife Habitat Wr – Water Resources		The unit is designated Habitat (Ha) and is to be managed to protect anadromous streams and essential moose wintering, caribou calving, caribou wintering, and brown bear habitat. Management of this unit should protect fisheries production and avoid impacts to subsistence opportunities and public recreation along Talarik Creek. Permanent facilities related to commercial recreation are prohibited in this unit. This unit is to be retained in state ownership.	This unit is the portion of the Pebble Copper unit that extends into Region 10 from Region 6. It includes the upper portion of Upper Talarik Creek, an important anadromous and resident fish steam. The terrain is of low to moderate relief, and vegetation consists of low to tall shrub. The unit is host to several mineral deposits, prospects, and discoveries and hosts the Pebble Copper deposit. The Pebble deposit is a very large, low-grade copper-gold resource estimated at several billion tons. The unit is characterized for its high essential habitat values as follows: (1) About 42 percent of the unit provides moose wintering habitat. (2) About 89 percent of the unit is used for caribou calving. (3) Caribou use about 36 percent of the unit during winter. (4) The area supports brown bear concentration streams. (5) The unit has 26 km of anadromous streams, including Upper Talarik Creek. The unit is partly affected by MCO 393. The Pebble Road Corridor transects the unit.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R10-03 Iliamna Lake NW	171,321 Ha – Fish and Wildlife Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		This unit is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su) and is to be retained in state ownership. The unit is to be managed for the protection of anadromous streams and essential moose, caribou, and brown bear habitat. Management should emphasize fisheries production, subsistence, and public recreation. Such uses are to maintain the recreational and habitat values of this area to the maximum extent practicable. DNR authorizations shall consider siting requirements that avoid or minimize impacts to principal recreational and subsistence use areas. Such authorizations shall also ensure that impacts to anadromous streams and tundra swan concentrations are minimized and are consistent with the requirements for such uses in Chapter 2. The Bristol Bay Transportation Corridor transects the unit; the actual position of the road alignment has yet to be determined. No authorizations or disposals should be considered that are within or near the corridor until the road alignment is known, or without consultation with the ADOT/PF.	This large unit is situated on the northwest side of Iliamna Lake that includes the Lower Talarik Creek and Kaskanak Creek drainages. It contains many anadromous fish streams and raptor nesting areas; Lower Talarik Creek is noteworthy for its outstanding trout fishing. The recreational values of the unit are considered to be very high and are primarily related to sport fishing. The habitat values of the unit are characterized as follows: (1) About 70 percent of the unit is used for caribou calving. (2) About 98 percent of the unit consists of essential caribou wintering habitat. (3) High concentrations of brown bear are found throughout the unit. (4) An area of tundra swan concentration occurs in the central part of the unit. The area has significant mineral potential, indicated by the proximity to the Pebble Copper deposit and other nearby prospects. The unit is partly affected by MCO 393.
R10-04 Lower Talarik Creek	3,120 Ha – Fish and Wildlife Habitat Rp – Public Recreation and Tourism-Public Use Site	S6S37W Sec. 22, 23, 24, 25, 26, 27	The unit is designated Habitat (Ha) and Public Recreation and Tourism-Public Use Site (Rp), is to be managed consistent with the requirements of the Special Use Designation, and is to be retained in state ownership. The unit is also to be managed for the protection of anadromous streams and essential caribou calving and wintering areas. See also the Management Guideline for "Public Use Sites" and Fish and Wildlife in the Recreation, Tourism, and Scenic Resources and the Fish and Wildlife Resources sections of Chapter 2.	This unit coincides with the special use area (ADL 227445) located on Lower Talarik Creek on the north shore of Iliamna Lake. Lower Talarik Creek is an anadromous fish stream and is noted for its recreational trout fishing. Under the requirements of the special use area, setting up and using a camp for personal, noncommercial use is allowed between August 1 and October 31 without a permit only in a designated area adjacent to the Alaska Department of Fish and Game Cabin located in Section 26 and for no more than five consecutive days. Between August 1 and October 31, commercial recreation activities are limited to day use only if registration has been completed under 11 AAC 96.018. This unit is affected by a municipal selection of the Lake and Peninsula Borough.
R10-05 Lower Talarik Creek SUA	161 Ha – Fish and Wildlife Habitat Rp – Public Recreation and Tourism-Public Use Site	S6S37W	The unit is designated Habitat (Ha) and Public Recreation and Tourism-Public Use Site (Rp). This unit is subject to cooperative agreement between the Alaska Department of Fish and Game, the Department of Natural Resources, and The Nature Conservancy, and is to be managed in accordance with the conditions of the agreement. The land is subject to restrictions on camping as outlined in the Lower Talarik Creek Special Use Area. See also the Management Guideline for "Public Use Sites" and habitat protection requirements in the Recreation, Tourism, and Scenic Resources and the Fish and Wildlife sections of Chapter 2. The unit is to be retained in state ownership.	This land (OSL 1285; LSH 419) is located at Lower Talarik Creek on the north shore of Iliamna Lake and within the Lower Talarik Creek Special Use Area (ADL 227445).

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R10-06 Kvichak River	265,565 Ha – Fish and Wildlife Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		If conveyed by the federal government, this unit is to be designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su). It is to be managed for the protection of anadromous streams and essential moose and caribou habitat. Management will emphasize the protection of fisheries production, subsistence uses, and public recreation. Intensive development is not intended within the unit during the planning period except occasionally and at specific locations unless related to mineral development. The Bristol Bay Transportation Corridor transects the unit; the actual position of the road alignment has yet to be determined. No authorizations or disposals should be considered that are within or near the corridor until the road alignment is known, or without consultation with the ADOT/PF. This is considered to be a high priority selection.	The unit consists of mostly state-selected lands north of the Kvichak River along a potential transportation route. The terrain is mostly low-lying with little relief. Vegetation consists of lichen tundra, low shrub, and moist herbaceous tundra. The unit is characterized as follows: (1) About 14 percent of the unit is moose wintering habitat. (2) Moose rut in the southwest portion of the unit. (3) About 97 percent of the unit is caribou wintering habitat. (4) The unit contains 129 km of anadromous streams, including Yellow Creek. The unit contains significant mineral potential. A large number of claims have been staked in T9SR44W, T9SR43W, and T10SR44W (Seward Meridian).
R10-07 Kvichak/Alagnak Rivers	187,025 Ha – Fish and Wildlife Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		Most of this unit, consisting of uplands adjoining the Kvichak and Alagnak Rivers, is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su). The Lake and Peninsula Borough "Hallersville" selection is designated Public Recreation and Tourism-Dispersed (Rd). The unit is to be managed for the protection of anadromous streams and essential moose and caribou habitat. Management will emphasize the protection of fisheries production, subsistence uses, and public recreation. It is to be managed to maintain the current recreational values and uses of these uplands. The municipal selection is considered appropriate for conveyance to the Lake and Peninsula Borough subject to a separate and subsequent Best Interest Finding. Development authorizations may be appropriate subject to the requirements of Chapter 2 and with the management intent given above. Such authorizations shall be limited to those uses that are related to commercial recreation, public facilities, or other economic activities that are of a recreation type and are consistent with the management intent given above. Leases or disposals should be limited to those uses that are related to commercial recreation, public facilities, or other economic activities that are of a recreation type. It is intended that these disposals and leases be confined to areas no greater than five acres in size and that there be distance separation of at least three miles, unless site conditions warrant a lesser distance. Settlement is not considered suitable in this unit. The Bristol Bay Transportation Corridor transects the unit; the actual position of the road alignment has yet to be determined. No authorizations or disposals should be issued within or near the corridor until the road alignment is known or without consultation with the ADOT/PF.	The unit consists mostly of state-selected land along the Kvichak and Alagnak Rivers. This low-lying country receives heavy use by commercial and noncommercial recreationists and subsistence users. The Alagnak River is designated a Wild and Scenic River. Both rivers support large populations of anadromous fish and are important transit areas for anadromous fish as well. The Kvichak River is a navigable waterway utilized for shipping and barging. The area contains moose calving and rutting areas, streams essential to brown bears, vast caribou wintering habitat, and areas used by raptors for nesting. The Alaska Heritage Resources Survey (AHRS) reports several heritage sites in or near this unit, primarily scattered along the Kvichak and Alagnak Rivers. The unit encompasses part of the Nakeen-Igiugig trail.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R10-08 Big Mountain	58,137 Ha – Fish and Wildlife Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		This unit, including lands that may be eventually conveyed by the federal government, is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su). It is to be managed for the protection of anadromous streams and essential moose wintering and brown bear habitat. Management will emphasize fish production, dispersed recreation, and subsistence. See Chapter 2 for guidelines dealing with moose calving areas. Intensive development is not intended within the unit during the planning period except occasionally and at specific locations. State land selections in this unit vary from high to low priority.	The unit consists of state-owned and state-selected land in the general vicinity of Big Mountain, south of Iliamna Lake. Vegetation consists of low shrublands and tundra. Several anadromous fish streams are present, including Pecks Creek and Belinda Creek. These streams are utilized by brown bear, especially during the salmon spawning season. About 89 percent of the unit supports moose wintering habitat. Moose calving areas occur in the unit, and 95 percent of the area is used for moose rutting. Raptors are located in or near the unit. The unit is partly affected by LLO 1 and MCO 393.
R10-09 Eagle Bluff	2,600 Ha – Fish and Wildlife Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources	S9S35W	The unit is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su). It is to be managed for dispersed recreation and the protection of fish and wildlife resources and their habitats. DNR authorizations shall consider siting requirements that avoid or minimize impacts to principal recreational use areas and other recreation values. Such authorizations shall also ensure that impacts to anadromous streams are minimized and are consistent with the requirements for such uses in Chapter 2. See Chapter 2 for guidelines dealing with moose rutting and calving areas.	The unit consists of state-owned land in the vicinity of Big Mountain, south of Iliamna Lake. Vegetation consists of low shrublands and tundra. Streams are utilized by brown bear, especially during the salmon spawning season. Moose calving occurs in the unit, and important moose rutting areas occupy 55 percent of the unit. Raptors are located in or near the unit. The unit is partly affected by LLO 1 and MCO 393.
R10-10 Big Mountain	1,455 Se – Settlement	S9S36W	The unit is designated Settlement (Se) and is considered appropriate for disposal during the planning period. Development is to conform to the requirements of Remote Settlement and those for the caribou and moose rutting and calving area, both of which are described in the Settlement, and Fish and Wildlife Habitat and Harvest Areas sections of Chapter 2. Buffers along anadromous fish streams must also conform to the management guidelines in Chapter 2.	This unit is located on the south shore of Iliamna Lake and on the west flank of Big Mountain. The unit is accessible by boat or floatplane from Iliamna Lake. The road from Big Mountain airstrip is also close to the south end of the unit. The unit is utilized by moose as a rutting and calving area. The unit is affected by LLO 1 and in part by MCO 393.
R10-11 Igiugig	171 Pr – Public Facilities- Retain	S1S39W Sec. 7, 8	The unit is to be managed consistent with FAA and ADOT/PF guidelines for public airport use.	This land (ADLs 221403 and 224031) is located at the Igiugig public airport and managed by the Alaska Department of Transportation and Public Facilities (ADOT/PF). The unit also includes an easement (ADL 226067) on the Newhalen River to protect the aircraft approach and departure path as well as the transitional slopes adjacent to the runway.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R10-12 Alagnak River	66,923 Ha – Fish and Wildlife Habitat Rd – Public Recreation and Tourism-Dispersed Su – Subsistence Wr – Water Resources		This unit, if eventually conveyed by the federal government, is designated Habitat (Ha), Public Recreation and Tourism-Dispersed (Rd), and Subsistence (Su). It is to be managed for the protection of fish and wildlife resources and their habitats and for dispersed recreation. Intensive development is not intended within the unit during the planning period except occasionally and at specific locations. The Bristol Bay Transportation Corridor transects the unit; the actual position of the road alignment has yet to be determined. No authorizations or disposals should be considered that are within or near the corridor until the road alignment is known, or without consultation with the ADOT/PF. This is considered to be a high-level selection priority.	The unit consists of two noncontiguous blocks of state- selected uplands generally north and south of the Kvichak River. Lands in the unit have little relief, and vegetation consists of tundra and low shrubland. A portion of the unit is utilized by moose for rutting.
R10-13 Levelock Airport	80 Pr – Public Facilities- Retain	S12S45W Sec. 21, 22, 27, 28	This land is designated Public Facilities-Retain and is to be managed by the ADOT/PF according to FAA and ADOT/PF guidelines for public airport use and in accordance with the Management Right (ADL 221434). The unit is to be retained in state ownership.	This land (ADL 221434; OSL 889) is located at the Levelock public airport and managed by the Alaska Department of Transportation and Public Facilities (ADOT/PF).



Unit Habitat Designations

Habitat

- Essential
- Important
- Neither

- Plan Boundary
- Region Boundaries
- Unit Boundaries

All management units have been designated as containing essential, important, or neither habitat. A unit is considered to be containing essential habitat if it intersects a mineral closure order area (393 or 294), a cataloged anadromous water body, a moose wintering habitat area, a caribou calving area, a caribou migration cooridor, a brown bear spring use area, a known concentration area along streams by brown bears, or a waterfowl spring or fall use area. A unit is considered to be containing important habitat if is not already designated essential and is intersected by a moose rutting area, a moose calving area, or a brown bear denning area.

Chapter 4
IMPLEMENTATION AND RECOMMENDATIONS





Robert Ketchum

Contents of Chapter 4

STATE LAND CLASSIFICATION

To implement the plan on state lands, DNR must "classify" state lands to reflect the intent of "land use designations" made by this plan. State law requires that classification precede most conveyance or leasing of state uplands or tidelands. According to regulation at 11 AAC 55.280, classification means "the designation of land according to its primary use and in a manner that will provide the maximum benefit to the people of Alaska." It " ... identifies the primary use for which the land will be managed ... " but " ... all other uses are initially presumed as compatible with the primary use." For this reason, all plan classifications are intended for multiple uses. In this plan most management units are assigned a single, principle designation.

In some instances more than one designation is identified; these are termed co-designations and indicate that two (or more) uses are considered to be compatible within a specific management unit of state land. Compatibility of uses may be achieved through distance or siting and design techniques that could reduce or preclude the undesirable effects of a particular use. However, if DNR determines that a use conflict exists and that activities attendant to a secondary use are incompatible with the primary use, the secondary user must either cease the activity or modify the use to enable DNR to determine that an incompatibility no longer exists. The secondary user may also request the land be reclassified under 11 AAC 55.270 to identify the secondary use as a primary use.

If DNR determines that a use conflict exists between co-designated uses it must reclassify the management unit and resolve the conflict in favor of the use that is least likely to change the undisturbed condition of the land.

Following is a list of land classifications and their associated definitions in Alaska regulations (the Alaska Administrative Code—AAC) that will apply to state lands in the planning area as a result of plan adoption. DNR will manage state lands and resources consistent with these classifications and with the management directions given in Chapter 3 for specific management units of state land.[1]

11 AAC 55.095. Heritage Resource Land. Land classified heritage resource is land where there is active preservation of or research for significant historical, prehistoric, paleontological, or other cultural values or where there is reason to believe that these values exist.

11 AAC 55.120. Material Land. Land classified material is land that is suitable for the extraction of common varieties of sand, gravel, stone, peat, clay, and other similar materials.

11 AAC 55.130. Mineral Land. Land classified mineral is land where known mineral resources exist and where development is occurring or is reasonably likely to occur or where there is reason to believe that commercial quantities of minerals exist.

11 AAC 55.160. Public Recreation Land. Land classified public recreation is land that is suitable for recreation uses, waysides, parks, campsites, scenic overlooks, hunting, fishing or boating access sites, trail corridors, or greenbelts along bodies of water or roadways.

11 AAC 55.170. Reserved Land Use. (a) Land classified reserved use is land that:

1) is reserved for transfer to another governmental or non-governmental agency that is performing a public service;

2) is reserved for transfer through land exchanges; or

3) has been designated for a public facility.

(b) Nothing in this section requires classification of land identified for a future land exchange under AS 38.50.

11 AAC 55.200. Resource Management Land. Land classified resource management is either:

1) land that might have a number of important resources but for which a specific resource allocation decision is not possible because of a lack of adequate resource, economic, or other relevant information or for which a decision is not necessary because the land is presently inaccessible and remote and development is not likely to occur within the next 10 years; or

2) land that contains one or more resource values, none of which is of sufficiently high value to merit designation as a primary use.

1 Land not otherwise classified on the plan maps within the planning area, or if reconveyed to the state and previously classified under the previous applicable classification order, is classified consistent with the major classification in the management unit in which it is located.

11 AAC 55.202. Settlement Land. An upland area classified settlement is land that is by reason of its physical qualities and location suitable for year-round or seasonal residential or private recreational use or for commercial or industrial development. Tideland, submerged land, or shoreland classified settlement land is land that is suitable for floathomes or land that is immediately adjacent to upland areas with existing or proposed settlement and that will be managed to support those existing or proposed upland settlement uses.

11 AAC 55.2XX Subsistence Land. Land classified subsistence is land that is suitable for subsistence activities due to the ability of subsistence users to use the land productively over time for such activities. These activities include subsistence hunting,fishing, and gathering.

11 AAC 55.215. Waterfront Development Land. Land classified waterfront development is tideland, submerged land, or shoreland that is suitable to be used for commercial or industrial activities such as fish processing, aquatic farming, mineral and log transfer facilities, or commercial recreation.

11 AAC 55.222. Water Resources Land. Land classified water resources is land encompassing watersheds or portions of watersheds and is suitable for such uses as water supply, watershed protection, or hydropower sites.

11 AAC 55.230. Wildlife Habitat Land. Land classified wildlife habitat is land that is primarily valuable for:

1) fish and wildlife resource production, whether existing or through habitat manipulation, to supply sufficient numbers or diversity of species to support commercial, recreational, or traditional uses on an optimum sustained yield basis; or

2) a unique or rare assemblage of a single or multiple species of regional, state, or national significance.

CLASSIFICATION ORDER

State land is classified under the authority of AS 38.04.005, AS 38.05.300, and 11 AAC 55.010 -.280 according to the management intent set forth in this Area Plan.

Table of Conversions
to be inserted later

PUBLIC TRUST DOCTRINE

See the Management Intent for Navigable Rivers section at the end of Chapter 3.

SURFACE LEASING

Under the authority of AS 38.05 and 11 AAC 58.300-.340, state land within the planning area is available for surface leasing, provided that the leasing is allowed under the classification and is consistent with the management intent set forth in this Area Plan. State lands within the boundaries of a mineral closing order are not available for surface leasing for mineral exploration or development.

Applications for uses of state land within the planning area will be considered by the Regional Manager, Department of Natural Resources, Division of Mining, Land and Water, Southcentral Region, Anchorage, Alaska.

SPECIAL USE DESIGNATIONS

Special Use Designations are used whenever it is necessary to establish specific requirements for uses of state lands that would otherwise be permitted under 11 AAC 96. This section of administrative code specifies those uses that require or do not require a permit for the authorization of a use on state land. It also provides under 11 AAC 96.014 that DNR may through the use of a Special Use Designation extract a certain use from the list of Generally Allowed Uses (GAU) that would otherwise be authorized without permit and require that this use receive an authorization to occur. Special Use Designations usually affect a specific type of use and are usually confined to specific geographic areas. They also usually specify conditions or standards that must be satisfied by the affected use. The three current (2004) Special Use Designations[2] in effect within the planning area are retained and are unaffected by the provisions of this plan. An additional special use designation used to protect the large walrus haulout at Cape Seniavin is recommended and is in development under a separate process involving the DMLW Southcentral Region Office.

2 The three SUDs (ADLs 226851, 226,852, and 227445) relate to camping activities in the Togiak NWR and Lower Goodnews River (ADL 226851), Lower Talarik Creek (ADL 227445), and the Nushagak River public use sites (ADL 226852).

SURVIVOR DESIGNATIONS AND CLASSIFICATIONS

This revision of the BBAP replaces and supersedes all previous plan designation and land classifications (termed survivor) that affect the BBAP planning area. It does not replace or supersede Special Use Designations predating the approval of this revision.

MUNICIPAL ENTITLEMENT

The Municipal Entitlement Act (AS 29.65) determines a municipal general grant land entitlement and identifies what lands are available for transfer to a qualifying municipality. The term municipality includes both incorporated cities and organized boroughs. The size of a municipality's entitlement is generally 10 percent of the vacant, unappropriated, unreserved (VUU) state general grant land within the municipal boundaries. State general grant lands that meet the criteria of VUU land as defined in AS 29.65.130 (i.e., classified as Agricultural, Grazing, Material, Public Recreation, Settlement, Resource Management, or unclassified land) may be appropriate for conveyance to municipalities with a remaining general grant land entitlement under AS 29.65.

Tables 4.1(A) *(Acreage Associated with Upland Designations – Management Units)*
and
4.1(B) *(Acreage Associated with Tideland, Submerged Land, and Shoreland Designations – Management Units)*
to be inserted later

Municipalities that are eligible to receive state general grant land under the Municipal Entitlement Program include the Aleutians East Borough (entitlement of 7,633 acres), the Lake and Peninsula Borough (entitlement of 125,000 acres), and the Bristol Bay Borough (entitlement of 2,898 acres), for a total entitlement of 135,531 acres within the planning boundary. Of this entitlement, the Lake and Peninsula Borough has 31,620 acres of DNR-approved selections, the state has conveyed 2,549 acres to the Bristol Bay Borough, and the Aleutians East Borough has 1,913 acres of approved selections. The remaining entitlement, while selected by the boroughs, could not be conveyed by the state under the 1984 BBAP because the selections coincided with plan designations that precluded conveyance. Approximately 93,380 acres of selections by the Lake and Peninsula Borough, 349 acres of selections by the Bristol Bay Borough, and 5,720 acres of selections by the Aleutians East Borough were affected by plan designations in the 1984 Area Plan that precluded conveyance. This plan revision (2004) assigns land use designations that provide for the conveyance of the pending municipal selections in many instances.

The formation of a new borough in the Bristol Bay region has been under consideration and is likely to continue to be an issue. If a new borough is formed, it will also be eligible for 10 percent of the vacant, unappropriated, and unreserved state general grant land within its corporate limits.

TABLE 4.2(A): *Upland Designations – Conversion to Classifications*

Symbol	Designation	Classification
Gu	General Use	Resource Management Land
Ha	Habitat	Wildlife Habitat Land
Hr	Heritage Resources	Heritage Resources Land
Ma	Materials	Material Land
Mi	Minerals	Mineral Land
Pr	Public Facilities - Retain	Reserved Use Land
Rd	Public Rec. & Tourism - Dispersed	Public Recreation Land
Rp	Public Rec. & Tourism - Public Use Site	Public Recreation Land
Rm	Resource Managment - High Value	Resource Management Land
Se	Settlement	Settlement Land
Sc	Settlement - Commercial	Settlement Land
Su	Subsistence	Subsistence Land
W	Water Resources	Water Resources Land

TABLE 4.2(B): *Tideland, Submerged Land, and Shoreland Designations – Conversion to Classifications*

Symbol	Designation	Classification
Gu	General Use	Resource Management Land
Ha	Habitat	Wildlife Habitat Land
Hv	Harvest	Wildlife Habitat Land
Pr	Public Facilities–Retain	Reserved Use Land
Rd	Public Rec. & Tourism-Dispersed Use	Public Recreation Land
Su	Subsistence	Subsistence Land
Wd	Waterfront Development	Waterfront Development Land

State land with land use designations of Settlement, Settlement-Commercial, Public Recreation, and Tourism-Dispersed in the Area Plan may be conveyed to municipalities to fulfill outstanding municipal entitlements. Consult the Resource Allocation Table to determine whether an area of municipal selection is appropriate for conveyance under this plan. Areas so identified are considered appropriate for conveyance, subject to the outcome of a separate and subsequent state Best Interest Finding. The conversion of these land use designations to corresponding land classifications will enable the land to be conveyed to municipalities. However, it should be noted that certain of the management units that are designated Public Recreation and Tourism-Dispersed (normally conveyable categories) are not appropriate for conveyance. The management intent of each management unit affected by these designations must be carefully reviewed, since in some instances all or portions of these management units are identified for retention by the state.

Lands identified for retention in management intent statements or designated Habitat, Minerals, Water Resources, or Public Facilities-Retain are not appropriate for conveyance under the Municipal Entitlement program. Public Use Sites within the Nushagak/Mulchatna river system are designated Public Recreation and Tourism-Public Use Sites. These sites may be conveyed to municipalities if so indicated in the management intent statement contained in the Resource Allocation Tables but if conveyed must remain in public ownership and use.

A listing of municipal selections by the Lake and Peninsula and Aleutians East Boroughs is provided in tabular form in Appendix ?. Those selections or portions of selections that are considered appropriate for conveyance are so indicated. Certain selections or portions of selections are considered **not** appropriate for conveyance. These include

- A block of selections on the Mulchatna River, mostly within units R06-07 and R07-06; only portions of these selections are appropriate for conveyance. The selection must be reconfigured to adhere to the 4:1 rule.[3] A public use easement of 100 feet is to be maintained; this area is to remain vegetated and undisturbed except for utility and road crossings and public facilities related to recreation or public safety.
- A selection at Dream Creek within management unit R09-07 is considered not appropriate for conveyance because of high fishery values.
- A selection along the Kvichak River within unit R10-07; only portions of the selection are considered appropriate for conveyance. The selection must be reconfigured to adhere to the 4:1 rule. A public use easement of 100 feet is to be maintained; this area is to remain vegetated and undisturbed except for utility and road crossings and public facilities related to recreation or public safety.

3 Selections must be compact in form, and length cannot exceed width by a ratio of approximately 4:1.

Table 4.3
(Acres of State Lands Classified)
to be inserted later

- A selection on the Koktuli River that encompasses land designated for minerals, a public use site (PU31), and a small amount of general use land are not considered appropriate for conveyance in order to prevent conflicts with nearby mineral resource development.
- Portions of a selection on the Copper River below the falls is not considered appropriate for conveyance; the management unit that encompasses this area has been designated fish and wildlife habitat (unit R09-09).
- Portions of selections falling within units R09-13 and R10-09 on the south shore of Lake Iliamna in the vicinity of Dennis Creek-Eagle Bluff are considered not appropriate for conveyance in order to provide for public recreation opportunities along the lake. (Note: The remainder of the municipal selection—that portion within units R09-07 and R10-08—is, however, considered appropriate for conveyance.)
- All selections in the Lower Talarik Creek vicinity of Region 10 are considered not appropriate for conveyance; the lands contain a special use area and are heavily utilized by the public for sports fishing.
- A selection on the northwest shore of Lake Iliamna is considered not appropriate for conveyance in order to ensure public access and recreational opportunities (management unit R10-03).

STATE LAND SELECTIONS, ANILCA TOPFILED LANDS, AND PUBLIC LAND ORDERS

STATE LAND SELECTIONS

Under the Statehood Act, Alaska is entitled to approximately 130 million acres of federal land. The selections made by the state in the planning area occurred under the General Grant program and nearly all have been either conveyed to the state through patent or are in TA (Tentative Approval) status, which gives management authority to the state. The areas noted as state-selected land on the Plan Maps depict those areas of federal land selected for eventual conveyance to the state. These are primarily located in Regions 5 (Dillingham, Snake Lake, Nushagak Bay), 6 (Nushagak, Mulchatna), 8 (Lake Clark, Newhalen), 9 (Eastern Iliamna Lake), and 10 (Western Iliamna Lake, Kvichak River), totaling approximately 1.6 million acres.[4] Over 10.5 million acres have been conveyed to the state. Areas of state selections on the Region Plan Maps include, in addition to state selections proper, ANILCA topfiled selections and areas subject to Public Land Orders.

ANILCA TOPFILED LANDS

There are certain areas that are topfiled by the state under the provisions of ANILCA legislation. These are selections made by the state that apply, or "attach," when native regional or village selections are adjudicated by the Bureau of Land Management, but it is uncertain how many of these selections will attach during the planning period. The amount of native selections in terms of acreage greatly exceeds that allowed under their selection entitlement, and BLM does not require that these selections be prioritized, which would otherwise make it possible to adjudicate the lower-ranked native selections. The distribution of ANILCA topfiled selections is generally similar to the distribution of state-selected lands. The category of State-Selected Land on Region Plan Maps includes areas of ANILCA topfiled selections in addition to areas of state-selected land.

PUBLIC LAND ORDERS

Public Land Orders (PLO) of the U.S. Bureau of Land Management withdraw federally owned land for a specific federal use. PLOs may be rescinded if the specific use no longer occurs or if the affected area is no longer needed for a federal purpose. These withdrawals may, depending on a variety of considerations, be conveyable to the state, and all the PLOs within the planning area have been topfiled by the state. Many of the PLOs within the planning area are associated with village or regional native corporation selections or with withdrawals for national parks and wildlife refuges, although there are some PLOs that withdrew federal land for other purposes. Areas affected by PLOs coincide with areas of state selections on Region Plan Maps. This plan assumes that all such PLOs that are lifted should be conveyed to the state unless affected by hazardous materials.[5] The following table provides a listing of significant Public Land Orders that affect the north and central parts of the planning area:

4 Note to DNR adjudicators: Check land status of selection when reviewing authorizations. Management units may have already been conveyed to the state or to native corporations.

5 Unless the area of federal land affected by hazardous materials is remediated.

TABLE 4.4: *Significant Public Land Orders in the Planning Area*

PLO #	Location	Townships	Nature of PLO
5172	Nyac Area	S12N59W, S12N60W, S10N60W, S10N61W, S11N60W, S11N59W	Withdrawn for village and regional native corporation selections
5179	Goodnews Bay Area, Nyac Area, West Iliamna	S8S71W, S9S71W, S9S72W, S14N60W, S7S40W–S7S41W, S8S41W–S8S42W, S9S42W, S12S42W, S13S41W–S13S43W, S14S40W–S14S43W, S15S40W, S17S44W	Withdraws land in aid of legislation for creation or additions to federal CSUs
5180	Nyac Area, West Iliamna	S14N56W–S14N59W, S13N56W–S13N59W, S9S43W–S9S44W, S17S44W	Withdraws land for the classification and protection of public interest in lands
5181	Goodnews Bay Area	S8S72W, S9S74W, S9S73W, S9S72W,	Withdraws land for classification and study for possible additions to NWR
5183	Platinum	S15S75W	Withdrawn for classification and aid in legislation, revoking in part EO No. 8979
5184	Goodnews Bay Area, Platinum, Togiak & Twin Hills Area, Nyac Area, West Iliamna	S10S71W–S10S74W, S11S71W, S11S74W, S12S74W, S12S72W, S13S75W, S15S75W, S13S67W, S13S66W, S14N60W, S11N65W, S8S39W, S9S40W, S10S37W, S10S40W, S10S41W, S10S44W–S10S45W, S10S47W–S10S49W, S11S37W, S11S41W, S11S45W, S11S47W, S12S41W, S12S44W, S12S46W–S12S47W, S13S44W–S13S47W, S13S51W, S14S47W, S15S47W, S16S45W–S16S46W, S17S44W–S17S45W, S18S47W	Withdraws land for classification or reclassification of areas withdrawn under Section 11 of ANSCA
5186	Nyac Area	S14N56W, S14N57W, S13N56W, S13N57W	Withdraws land for the classification and protection of public interest in lands; not selected by the state of Alaska (but amended by various PLOs)
5250	Goodnews Bay Area	S8S71W	Same as 5179 and 5180, withdrawn for classification of public interest lands
5392	Nyac Area	S13N60W, S12N61W, S11N61W	Same as PLOs 5172, 5179, 5180, and 5181
5442	Nyac Area	S12N59W, S12N60W, S11N59W, S11N60W, S10N59W–S10N61W, S9N59W, S8N60W, S7N60W, S6N60W	Same as PLO 5172
7314	West Iliamna	S10S44W	Withdrawn for village native corporation selections

COORDINATION WITH FEDERAL, MUNICIPAL, AND NATIVE CORPORATION LAND MANAGEMENT

Coordination with Federal Government: Large portions of the planning area are within federal wildlife refuges or national parks or remain under the management authority of the Bureau of Land Management. Most of the northwestern part of the planning area, generally within the drainages of the Goodnews and Togiak Rivers, is occupied by the Togiak National Wildlife Refuge (NWR). The U.S. Fish and Wildlife Service administers this refuge according to a management plan[6] that is in the process of being revised (2004). Large portions of the uplands on the Alaska Peninsula, especially on the south side of the Peninsula fronting the Pacific Ocean, lie within the Alaska Peninsula, Becharof, and Izembek NWRs. These refuges are currently administered under separate management plans of the U.S. Fish and Wildlife Service but are also in the process of being revised and incorporated into a combined management plan (2003).[7] The eastern portion of the Alaska Peninsula is occupied by the Katmai National Park and Preserve. The park/preserve is administered through a General Management Plan (1986). Numerous rocks, islets, and offshore islands located throughout the planning area are part of the Alaska Maritime National Wildlife Refuge. The Alaska Maritime NWR is also administered according to a Comprehensive Conservation Plan.[8]

The Area Plan makes decisions only for state lands. However, it is appropriate to coordinate tidelands and uplands management, over which the state has jurisdiction, with the management of federally owned uplands in order to avoid the siting and development of tideland with incompatible uses. Certain types of mariculture operations, floating facilities, and development activities are considered generally incompatible with adjacent refuge or park uplands and should not be authorized by the Department. There are certain exceptions to this general management intent, and the Resource Allocation Tables and the sections appropriate in Chapter 2 must be consulted prior to granting authorizations.

Other types of uses may be appropriate pursuant to ANILCA; for example, see the sections on specific tidelands management provisions in the *Management Summary: Tide and Submerged Land* for each region in Chapter 3 for these uses. In general, Department land authorizations are to be made compatible with the federal upland management designations to the extent feasible and prudent, consistent with the exceptions noted above and if the authorization is in the overall best interest of the state.

Cooperative Management Units: This Citizens' Alternative, in Chapter 2, strongly encourages two methods of voluntary cooperative land use planning; under section 1203 of ANILCA and through cooperative management agreements. The1984 BBAP strongly encouraged the development of cooperative management agreements with adjacent landowners to "ensure compatible land use and wise management among various landowners." The 1984 BBAP also recommended specific areas for such agreements. However, any management unit or similar area within the Bristol Bay planning area may be appropriate for a cooperative arrangement between the state and adjacent landowners. To that end, a native corporation or municipality or the federal government may petition the Commissioner of DNR and enter an agreement with the state to create a Cooperative Management Unit (CMU) within the Bristol Bay Area Plan.

The purpose of a CMU may be varied, but the primary purpose should be to facilitate compatible land use and management policies among the various signatories to the cooperative agreement. A CMU will be governed in accordance with the terms of the cooperative agreement and must remain in effect as long as all parties to the cooperative agreement abide by its terms.

The creation of a CMU should be treated as an amendment to the Bristol Bay Area Plan where the agreed-upon terms differ significantly from the guidelines for the management unit in which the CMU may be located. In such a case, the creation of a CMU is subject to the public notice and public review process for amendments. Substantive changes to the approved cooperative agreement that governs the CMU must also be treated as amendments to the Area Plan.

6 Togiak National Wildlife Refuge Comprehensive Conservation Plan/ Environmental Impact Statement and Wilderness Review (1986).

7 Draft Alaska Peninsula/Becharof National Wildlife Refuge Comprehensive Conservation Plan/Environmental Impact Statement and Wilderness Review (2003).

8 Alaska Maritime National Wildlife Refuge Comprehensive Conservation Plan/Environmental Impact Statement and Wilderness Review (1988).

MINERAL CLOSING AND LEASEHOLD LOCATION ORDERS

Alaska Statute 38.05.185 requires the Commissioner of DNR to determine that mineral entry and location are incompatible with significant surface uses in order to close state-owned lands to mineral entry. This determination was made in the 1984 Plan with respect to 64 streams. The actual closing order, Mineral Closing Order 393, defines the grounds for closing those lands to mineral entry. This Citizens' Alternative retains Mineral Closing Order 393 and Leasehold Location Order 1 from the 1984 BBAP. Additional mineral closing orders are recommended, but new leasehold location orders are not recommended. The recommended orders close state lands on additional anadromous streams to new mineral entry. The grounds for closing additional lands to mineral entry are set forth in the respective orders. Settlement areas are not located within or adjacent to the areas of principal mineral deposits, which are designated as minerals in this Area Plan.

PROPOSED ADDITIONS TO THE STATE PARK SYSTEM

Areas of state-owned land and state-selected land adjacent to western and southwestern portions of Wood-Tikchik State Park are recommended for inclusion in the Legislatively Designated Area of this state park. The Wood-Tikchik State Park Management Plan recommends that the western boundaries of the park be extended to include these areas. The proposed areas total over 170,000 acres within the plan area. Other additions to the state park system (including marine parks) are not recommended.

COORDINATION WITH NUSHAGAK & MULCHATNA RIVERS RECREATION MANAGEMENT PLAN

The Nushagak & Mulchatna Rivers Recreation Management Plan (RRMP) was developed by DNR and other entities to provide the basis for the management of recreation uses and structures on state land within the Nushagak and Mulchatna drainage basin. It was adopted in 1990 as an element of the Bristol Bay Area Plan and as an Area Meriting Special Attention in the District Coastal Plan of the Bristol Bay Coastal Resource Service Area.

This Citizens' Alternative restores the applicability of the RRMP as an element of the plan for all lands and waters in the Nushagak-Mulchatna drainage basin.. The revised RRMP (RRMP) is to be used as the basis for decision making for the following types of recreation and related uses within these areas: Permanent Facilities, TemporaryFacilities, Trapping Cabin, Boat Storage, Airstrip Development, Docks, and Other Uses as more fully described in Chapter 3 of the RRMP.[9] The definitions of these terms as they are applied to the RRMP planning area are included in the glossary.

There are a number of restrictions in the application of the RRMP to DNR decision making. It does not apply to areas designated Settlement and Mining in the BBAP, and it does not affect decisions related to municipal entitlement selections, mining, other forms of subsurface use, or oil and gas development. All types of uses other than those specifically related to recreation are also managed under the auspices of the BBAP. DNR adjudicators should therefore review the management guidelines for specific management units in the BBAP in addition to listing allowed and prohibited uses identified in the Nushagak & Mulchatna Rivers Recreation Management Plan.

TYPES OF PLAN CHANGES

The various kinds of changes allowed in 11 AAC 55.030 follow.

A revision to a land use plan is subject to the planning process requirements of AS 38.04.065. For the purposes of this section and AS 38.04.065, a revision is an amendment or special exception to a land use plan.

An amendment permanently changes the land use plan by adding to or modifying the basic management intent for one or more of the plan's subunits or by changing its allowed or prohibited uses, policies, or guidelines. For example, an amendment might close to new mineral entry an area that the plan designated to be open, allow a land use in an area where the plan prohibited it, or allow land to be opened to homestead entry in an area that the plan designated for retention in public ownership.

9 The RRMP covers only certain types of activities related to short-term and long-term uses. These are listed in Table 2.1 of the RRMP. For convenience, this table is also included as Table 2.1 in this plan; however, adjudicators should read the entire section on allowed uses in Chapter 2 of the RRMP as well as the specific requirements for particular river segments.

A special exception does not permanently change the provisions of a land use plan and cannot be used as the basis for a reclassification of the subunit. Instead, it allows a one-time, limited- purpose variance of the plan's provisions without changing the plan's general management intent or guidelines. For example, a special exception might be used to grant an eligible applicant a preference right under AS 38.05.035 to purchase land in a subunit designated for retention in public ownership. A special exception might be made if complying with the plan would be excessively burdensome or impractical or if compliance would be inequitable to a third party and if the purposes and spirit of the plan can be achieved despite the exception.

A minor change to a land use plan is not considered a revision under AS 38.04.065. A minor change is a change that does not modify or add to the plan's basic intent and that serves only to clarify the plan, make it consistent, facilitate its implementation, or make technical corrections.

BRISTOL BAY ADVISORY GROUP

The 1984 BBAP charged the Commissioner of DNR with establishing a Bristol Bay Advisory Group to assist with plan monitoring, annual plan review, and making recommendations on plan amendments. The Citizens' Alternative calls for the establishment of a Nushagak and Kvichak Advisory Group. The Advisory Group will be composed of the following entities: State and Federal resource management agencies including the Alaska Department of Fish and Game, representatives of village and regional Native corporations, local municipalities and other stakeholder groups. The Commissioner may appoint additional state or local government agencies, tribal governments, native organizations, or other persons or groups as appropriate.

The Commissioner of DNR shall consult with and obtain input from the Bristol Bay Advisory Group before significant changes are made to the Plan. Such consultation shall begin at least one year before the twenty year review.

Appendices

Robert Ketchum

Contents of Appendices

AAC. Alaska Administrative Code, regulations for the state of Alaska.

Access. A way or means of approach. Includes transportation, trails, easements, rights-of-way, and public use sites.

ADF&G. Alaska Department of Fish and Game.

ADL. Alaska Division of Land (now the Division of Mining, Land & Water; used most often with a number to identify a land use case file).

ADOT/PF. Alaska Department of Transportation and Public Facilities.

Airstrip Development. Construction of a landing strip for airplanes that involves leveling the ground or removing or modifying a substantial amount of vegetation. (Definition applies to RRMP area.)

Anadromous Fish. A fish or fish species that spends portions of its life cycle in both fresh and salt waters, entering fresh water from the sea to spawn; these include the anadromous forms of Pacific trout and salmon of the genus *Oncothynchus* (rainbow and cutthroat trout and chinook, coho, chum, sockeye, and pink salmon), Arctic char, Dolly Varden, sheefish, smelts, lamprey, whitefish, and sturgeon.

Anadromous Waters. A river, lake, or stream from its mouth to its uppermost reach, including all sloughs and backwaters adjoining the listed water and that portion of the streambed or lakebed covered by ordinary high water used by anadromous fish.. Anadromous waters are shown in the *Atlas to the Catalog of Waters Important for Spawning, Rearing, or Migration of Salmon* (referred to as the Anadromous Fish Stream Catalog) compiled by ADF&G.

Anchorage. A location commonly used by private, recreational, or commercial vessels for anchoring.

ANCSA. Alaska Native Claims Settlement Act.

ANILCA. Alaska National Interest Land Conservation Act.

Aquaculture. Fish enhancement or hatchery development by ADF&G, a private nonprofit corporation, or another group. Does not include aquatic farming.

Aquatic Farming. The culture and propagation of marine aquatic shellfish such as mollusks, crustaceans, and other invertebrates and marine vegetation such as kelp and algae under positive control, meaning either enclosed within a natural or artificial escape-proof barrier for mobile species or managed cultivation in unenclosed waters for limited or immobile species. This does not include finfish and their related hatcheries.

Area Plan. A plan approved by the Commissioner of the Department of Natural Resources under the authority of AS 38.04.065 that establishes the land and resource management policies for state land within a planning area. Such plans also assign land use designations to individual parcels of state land, which are subsequently converted to land use classifications in a Land Classification Order. When used in this plan, the term Area Plan refers to the revised Bristol Bay Area Plan.

AS. Alaska Statutes.

ASLS. Alaska State Land Survey.

ATS. Alaska Tideland Survey.

Authorization. A decision issued by DNR allowing a use and setting the conditions for that use. This usually takes the form of a permit or lease.

Authorized Use. A use allowed by DNR by permit or lease.

Banks. The portion of the stream channel cross section that restricts the lateral movement of water at normal bank-full levels, often exhibiting a distinct break in slope from the stream bottom.

BBAP. Bristol Bay Area Plan.

Boat Storage. Storing any type of boat or water-related craft in the same place for longer than
14 consecutive days. (Definition applies to RRMP area.)

Buffer. An area of land between two areas with different activities or resources; used to reduce the effect of one activity or resource upon another.

CSU. See *Federal Conservation System Unit*.

Caretaker Facilities. Single- or multifamily floating residential facilities used as housing that are necessary to contain equipment or processing facilities for economic development activities such as commercial timber harvest, mineral exploration, or aquatic farming operations or those associated with public activities. Caretaker facilities may be floating facilities or may be located on uplands.

Classification. Land classification identifies the purposes for which state land will be managed. All classification categories are for multiple uses, although a particular use may be considered primary. Land may be given a maximum of three classifications in combination.

Classification Order. See *Land Classification Order.*

Clean Fill. Fill that is free of organics, human refuse, and toxic pollutants.

Closed to Mineral Entry. Areas where the staking of new mineral claims is prohibited because mining has been determined to be in conflict with significant surface uses in the area. Existing mineral claims that are active at the time of plan adoption are not affected by mineral closures.

Commissioner. The Commissioner of the Alaska Department of Natural Resources.

Concurrence. Under existing statutes, regulations, and procedures, the Department of Natural Resources is required to obtain the approval of other groups before taking a specific action. Concurrence binds all parties to conduct their activities consistent with the approved course of action.

Consultation. Under existing statutes, regulations, and procedures, the Department of Natural Resources informs other groups of its intention to take a specific action and seeks their advice or assistance. Consultation is not intended to be binding on a decision. It is a means of informing affected organizations and individuals about forthcoming decisions and getting the benefit of their expertise.

Cooperative Management Unit. A specific management unit established by a cooperative agreement between the department and other landowners to coordinate land management, development, and conservation practices within a specific area.

DEC. Alaska Department of Environmental Conservation.

Department. Alaska Department of Natural Resources.

Designated Use. An allowed use of major importance in a particular management unit. Activities in the unit will be managed to encourage, develop, or protect this use. Where a unit has two or more designated uses, the management intent statement and guidelines for the unit and Chapter 2 guidelines together with existing statutes, regulations, and procedures will direct how resources are managed in order to avoid or minimize conflicts between designated uses.

Designation. See *Land Use Designation*.

Developed Recreational Facility. Any structure or facility that serves either public or private recreational needs.

Director. The division director of the state division responsible for managing state land. Most often "director" refers to the director of the Division of Mining, Land and Water; for lands administered by DPOR, director refers to the director of DPOR.

Discouraged Use. An activity that, due to conflict with designated uses, should not be authorized or will not be allowed if there are feasible and prudent alternatives.

Dispersed Recreation. Recreational pursuits that are not site-specific in nature, such as beachcombing, recreational boating, or wildlife viewing.

DMLW. Division of Mining, Land, and Water, a division of DNR.

DNR. Alaska Department of Natural Resources.

Dock. A platform or landing pier that extends over or onto water and is usually used for receiving boats.

DOF. Division of Forestry, a division of DNR.

DPOR. Division of Parks and Outdoor Recreation, a division of DNR.

Easement. An interest in land owned by another that entitles its holder to a specific limited use.

17(b) Easement. Easement across Native corporation land reserved through the Alaska Native Claims Settlement Act [ANCSA, Section 17(b)]. Uses of the easements are limited to transportation purposes and other uses specified in the act and in conveyance documents.

Essential Habitat. Habitat necessary to support essential life cycle functions of individual fish and wildlife species and to provide for the existence and maintenance of local and/or regional fish and wildlife populations. Relative to other geographical areas or habitat designations, essential habitats are the highest-value fish and wildlife areas. Human-induced disturbance and land use changes in essential habitat areas would be expected to have the most severe and immediate impact on local and/or regional populations of fish and wildlife. Within the Bristol Bay area, essential habitat, as depicted on the Fish and Wildlife Distribution Maps, includes: caribou calving areas, winter use areas, and migration corridors; brown bear spring use and stream concentration areas; moose winter use areas; sea lion haulout areas; harbor seal haulout areas; raptor nesting areas and stream concentration areas; waterfowl spring high-use areas and fall high-use areas; and marine bird nesting areas. Essential habitat includes all marine and fresh waters identified in the Alaska Department of Fish and Game's *Atlas to the Catalog of Waters Important for the Spawning, Rearing, or Migration of Anadromous Fishes* and the riparian corridor defined by the 100-year floodplain of all rivers and streams. Essential habitat also includes lands closed to mineral entry by MCO 393 or any other such closing order or leasehold location order, to protect fish or wildlife habitat.

Estuary. A semiclosed coastal body of water that has a free connection with the sea and within which seawater is measurably diluted with fresh water derived from land drainage. [6 AAC 80.900 (6)]

Feasible. Capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, technical, and safety factors.

Feasible and Prudent. Consistent with applicable laws and sound engineering practice and not causing environmental, social, or economic problems or costs that outweigh the public benefit to be derived from compliance with the guideline modified by the term "feasible and prudent."

Federal Conservation System Unit. In this plan, this term refers to those areas of federal land that are in some form of protected status and are identified in ANILCA (National Wildlife Refuge, National Park, National Monument). Not included in this definition are lands administered by the U.S. Bureau of Land Management or the U.S. Forest Service, except those lands administered by those agencies that are designated Wilderness or National Trails, which are considered Conservation System Units.

Fish Habitat. This term means the marine and fresh waters identified in the Alaska Department of Fish and Game's (ADF&G) *Atlas to the Catalog of Waters Important for Spawning, Rearing, or Migration of Anadromous Fishes* and Alaska Freshwater Fish Inventory or for freshwater fish in the Fish Distribution Map, Map 1, Appendix A.

Fish and Wildlife. Any species of aquatic fish, invertebrates, and amphibians in any state of their life cycle and all species of birds and mammals, except domestic birds and mammals, found in or which may be introduced into Alaska. The term area(s) in association with the term fish and wildlife refers to both harvest and habitat areas.

Floatcamp, Floating Camp, or Floating Caretaker Facility. Single- or multifamily floating residential facilities used as housing or that are necessary to contain equipment or processing to support facilities for economic development activities such as commercial timber harvest, mineral exploration, or aquatic farming operations or those associated with public activities.

Floating Residential Facilities. A general phrase used to encompass floathomes, floatlodges, floating caretaker facilities, and floatcamps.

Floathome. Floathouses, houseboats, barges, and boats, powered or not, that are intended for noncommercial residential use. A floathome is generally for single-family use and not associated with economic development activities.

Floatlodge. A floating residential facility providing overnight accommodations for commercial recreation services to the public.

FLUP. Forest Land Use Plan. Prepared by the Division of Forestry, Alaska Department of Natural Resources.

Forestry. On tidelands: any activity or structure for timber harvest or for transfer of logs from uplands to tidelands, including but not limited to felling, yarding, and hauling of logs; roads; log transfer facilities; floating A-frame logging; upland and marine log storage areas; and camps and other support facilities associated with timber resource development. On uplands: any activity or structure for the harvest or management of timber resources.

Generally Allowed Use. An activity conducted on state land managed by the Division of Mining, Land, and Water that is not in a special category or status. See 11 AAC 96.020.

Goal. A statement of basic intent or general condition desired in the long term. Goals usually are not quantifiable and do not have specified dates for achievement.

Guideline. A course of action to be followed by DNR resource managers or required of land users when the manager permits, leases, or otherwise authorizes the use of state land or resources. Guidelines also range in their level of specificity, from giving general guidance for decision making or identifying factors that need to be considered to setting detailed standards for on-the-ground decisions. Some guidelines state the intent that must be followed and allow flexibility in achieving it.

Habitat. Habitat is land that is primarily valuable for (1) fish and wildlife resource production, whether existing or through habitat manipulation, to supply sufficient numbers or a diversity of species to support commercial, recreational, or traditional uses on an optimum sustained yield basis, including "essential habitat" and "important habitat" or (2) a unique or rare assemblage of a single or multiple species of regional, state, or national significance. (See 11 AAC 55.230; see also *essential habitat* and *important habitat* herein.) Habitat also includes land suitable for subsistence use under the definition of "subsistence land."

Haulout. Location where concentrations of seals, sea lions, or walrus have been observed hauled out on shore during more than one year to breed, pup, rest, or molt.

ILMA. See *Interagency Land Management Agreement/ Transfer.*

ILMT. See *Interagency Land Management Agreement/ Transfer.*

Important Habitat. Habitat used to support life cycle functions of individual fish and wildlife species and important in maintaining optimal levels of local and/or regional fish and wildlife populations. On a unit area-basis, human-induced development and disturbances in important habitat areas would be expected to have less severe and longer-range impacts on local and/or regional populations of fish and wildlife when compared to similar disturbances in essential habitat. Within the Bristol Bay area, important habitat, as depicted on the Fish and Wildlife Distribution Maps, includes: caribou summer use areas; brown bear summer use areas, fall use areas, and denning areas; moose spring, summer, and fall use areas; and waterfowl summer high- to moderate-use areas.

Improvements. Buildings, wharves, piers, dry docks, and other similar types of structures permanently fixed to the uplands, tidelands, or submerged lands that were constructed and/or maintained by the applicant for business, commercial, recreational, residential, or other beneficial uses or purposes. In no event may fill be considered a permanent improvement when placed on the tidelands solely for the purposes of disposing of waste or spoils. However, fill material actually utilized for beneficial purposes by the applicant is considered a permanent improvement. (11 AAC 62.840)

Instream Flow. An instantaneous flow rate of water through a stream during specified periods of time from a designated location upstream to a designated location downstream. The instream flow of any stream segment in the Bristol Bay planning area cannot be significantly diminished until ADF&G has determined the instream flow in the stream segment that must be maintained for the protection of fish.

Instream Flow Reservation. The legal water reservation for instream uses such as fish, wildlife, recreation, navigation, and water quality as provided under AS 46.15.145.

Interagency Land Management Agreement/Transfer (ILMA/ILMT). An agreement between DNR and other state agencies that transfers some land management responsibility to these other agencies.

Land Classification Order. An order approved by the Commissioner of the Department of Natural Resources that classifies state land into specific land use categories (AS 38.04.065). The Land Classification Order in this Area Plan (Appendix B) classifies all state lands within the planning area according to the land use designations assigned to individual land parcels in the Resource Allocation Tables contained in Chapter 3 of the Area Plan.

Land Disposal. Same as *land offering*, defined below, except that land disposal areas referenced in Chapter 3 may include lots reserved for lease or sale for public, commercial, or industrial facilities.

Land Manager. A representative of the state agency or division responsible for managing state land.

Land Offering. Transfer of state land to private ownership as authorized by AS 38.04.010, including fee simple sale, homesteading, and sale of agricultural rights. This does not include leases, land use permits, water rights, rights-of-way, material sales, or other disposals of interest in lands or waters. (See also *Land Disposal*.)

Land Sale. Same as *land offering* as defined above.

Land Use Designation. A category of land allocation determined by a land use plan. Designations identify the primary and co-primary uses for state land. (Chapter 4 sets out how the land use designations of this plan will be classified according to 11 AAC 55.)

Leasable Minerals. Leasable minerals include deposits of coal, sulfur phosphates, oil shale, sodium potassium, oil, and gas. Leasable minerals do not include locatable minerals unless specified by a leasehold location order.

LDA. Legislatively Designated Area. This includes state parks, critical habitat areas, game refuges, etc.

Lease. A Department of Natural Resources authorization for the use of state land according to terms set forth in AS 38.05.070-105.

Leasehold Location Order. An order by the Commissioner of the Department of Natural Resources which provides that mineral rights may only be acquired by the leasehold location system set forth in AS 38.05.205.

Legislative Designation. An action by the state legislature that sets aside a specific area for special management actions and ensures that the area is kept in public ownership.

Limited State Holding (LSH). Land in which the state has a limited (less than fee) property rights interest. Examples are easements, airspace easements, clear zone easements, rights-of-way, leases, fish weir permits, conservation easements, equitable servitude, etc., acquired from other source authorities, such as by direct purchase, donation, escheat, condemnation, and special congressional legislation.

LLO. *See Leasehold Location Order.*

Locatable Minerals. Locatable minerals include both metallic (gold, silver, lead, etc.) and non- metallic (feldspar, asbestos, mica, etc.) minerals. Locatable minerals do not include leasable minerals.

Log Transfer Facility (LTF). Any facility or mechanism necessary to transfer timber from uplands to marine waters.

Log Transfer Site (LTS). A site for all facilities necessary for transfer of timber from uplands to marine waters, including associated components such as log rafting and sorting areas, floating camps, access ramps, etc. A single site (LTS) may contain more than one facility (LTF).

Management Intent Statement. The statements that define the department's near- and long-term management objectives and the methods to achieve those objectives.

Mariculture. See *Aquatic Farming*.

Materials. Materials include but are not limited to common varieties of sand, gravel, rock, peat, pumice, pumicite, cinders, clay, and sod.

MCO. See *Mineral Closing Order*.

Mean High Water. The tidal datum plane of the average of all the high tides as would be established by the National Geodetic Survey at any place subject to tidal influence [from 11 AAC 53.900 (14)]. Mean high water is the dividing line between uplands and tidelands.

Mean Low Water. The tidal datum plane of the average of the low tides as would be established by the National Geodetic Survey at any place subject to tidal influence [from 11 AAC 53.900 (16)].

Mean Lower Low Water. The tidal datum plane of the average of the lower of the two low waters of each day as would be established by the National Geodetic Survey at any place subject to tidal influence [from 11 AAC 53.900 (17)]. Mean lower low water is the "zero tide line."

Mineral Closing Order (MCO). An order issued by the Commissioner of the Department of Natural Resources closing land to mineral entry. All state lands are open for the prospecting and production of locatable minerals unless the lands are specifically closed to mineral entry. The Commissioner of the Department of Natural Resources may close land to mineral entry if a finding has been made that mining would be incompatible with significant surface uses on state land (AS 38.05.185; 11 AAC 55.040e). [Note: A significant surface use of the land has been interpreted by DNR to include not only residential and commercial structures but also fish and wildlife habitat, recreational, and scenic values.]

Mineral Entry. Acquiring exploration and mining rights under AS 38.05.185-38.05.275.

Mineral Land. Land where known mineral resources exist and where development is occurring or is reasonably likely to occur or where there is reason to believe that commercially and legally developable quantities of minerals exist, taking into account the federal, state, and local laws; regulations; executive branch actions including conservation designations; mineral closing orders; Section 404(c) determinations and the like that affect whether a given mineral deposit is commercially and legally developable.

Mineral Transfer Facility. Any facility or mechanism to transfer mineral resources from upland to marine waters.

Mineral Transfer Site. A site for all facilities necessary for transferring mineral resources from uplands to marine waters. A single site may contain more than one facility.

Mining. Any structure or activity for commercial exploration and recovery of minerals, including but not limited to resource transfer facilities, camps, and other support facilities associated with mineral development. The term mining does not refer to offshore prospecting.

Mining Claim. Rights to deposits of minerals, subject to AS 38.05.185-38.05.275, in or on state land that is open to claim staking may be acquired by discovery, location, and recording as prescribed in AS 38.05.185-38.05.275. The locator has the exclusive right of possession and extraction of the minerals lying within the boundaries of the claim, subject to AS 38.05.185 - 38.05.275.

Minor Change. A minor change to a land use plan is not considered a revision under AS 38.04.065. A minor change is a change that does not modify or add to the plan's basic intent and that serves only to clarify the plan, make it consistent, facilitate its implementation, or make technical corrections. (11 AAC 55.030)

Multiple Use. Means the management of state land and its various resource values so that it is used in the combination that will best meet the present and future needs of the people of Alaska, making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions. It includes:

1. the use of some land for less than all of the resources, and
2. a combination of balanced and diverse resource uses that takes into account the short- term and long-term needs of present and future generations for renewable and nonrenewable resources, including but not limited to recreation; range; timber; minerals; watershed; wildlife and fish; and natural scenic, scientific, and historic values. (AS 38.04.910)

NPS. See *U.S. National Park Service*.

NWR. National Wildlife Refuge.

Native Owned. Land that is patented or will be patented to a Native corporation.

Native Selected. Land selected from the federal government by a Native corporation but not yet patented.

Navigable. Used in its legal context, it refers to lakes and rivers that meet federal or state criteria for navigability. Under the Equal Footing Doctrine, the Alaska Statehood Act, and the Submerged Lands Act, the state owns land under navigable water bodies.

Off-Road Vehicle (ORV). Any motorized vehicle capable of or designed for travel on or immediately over land, water, or other natural terrain, excluding non-amphibious motorboats, fixed-wing and rotor-wing aircraft, and snowmobiles.

Ordinary High Water Mark. The mark along the bank or shore up to which the presence and action of the nontidal water are so common and usual and so long continued in all ordinary years as to leave a natural line impressed on the bank or shore indicated by erosion, shelving, changes in soil characteristics, destruction of terrestrial vegetation, or other distinctive physical characteristics [from 11 AAC 53.900 (23)].

OPP or Offshore Prospecting Permit. A permit issued by DNR giving the permittee exclusive right to explore for and, if commercial quantities are discovered, develop locatable minerals in the state's tidelands and submerged lands.

Permanent Use. A use that includes a structure or facility that is not readily removable.

Permanent Facility. Permanent facilities are improvements that do not need to be removed and usually involve the construction of a foundation for the improvement. In the context of the RRMP (only), it also refers to a significant ground area that may be affected by an allowed activity but that may not involve the construction of a foundation for structure improvements. Permanent facilities on state land must be authorized by the Department of Natural Resources by lease. Examples of permanent facilities are structures that require a foundation, log or solid wall structures, or frame tents. Trapping cabins are not permanent facilities in the plan and are treated separately in Chapter 2 of the RRMP. (Definition applies to RRMP area only.)

Permit. A Department of Natural Resources authorization for use of state land according to terms set forth in 11 AAC 96.

Personal Use. The harvest of fish and wildlife for personal consumption, including but not limited to subsistence and recreational harvest. Commercial harvest is not included.

Planning Period. The period of time that the area plan guides the management of state land
and that is to be used as the basis for DNR decision making. This period is 20 years or until the Area Plan is revised.

Policy. An intended course of action or a principle for guiding actions; in this plan, DNR policies for land and resource management include goals, management intent statements, management guidelines, land use designations, implementation plans and procedures, and various other statements of DNR's intentions.

Primary Use. See *Designated Use*.

Prohibited Use. A use not allowed in a management unit because of conflicts with the management intent, designated primary or secondary uses, or management guidelines. Uses not specifically prohibited nor designated as primary or secondary uses in a management unit are allowed if compatible with the primary and secondary uses, the management intent statements for the unit, and the plan's guidelines. Changing a prohibited use to an allowable use requires a plan amendment.

Public Recreation Land. Land that is suitable for recreation uses, waysides, parks, campsites, scenic overlooks, hunting, fishing, boating and access sites, trail corridors, or greenbelts along bodies of water or roadways. (11 AAC 55.160)

Public Trust Doctrine. A doctrine that requires the state to manage tidelands, shorelands, submerged lands, surface waters, groundwater, and other public resources for the benefit of the people so that they can engage in such things as commerce, navigation, fishing, hunting, swimming, and ecological study. (See *Navigable Rivers and Lakes: Public Trust Doctrine* at the end of Chapter 3.)

Public Use. Any human use of state land, including commercial and noncommercial uses.

Public Use Cabin. A cabin owned or built by the state on state land that is managed for the benefit of the residents of the state and visitors to the state.

Public Use Site. Any site identified on state land that is important for public access (including important float and wheeled plane landing areas), camping, hunting, fishing, or other recreation or public use.

Rearing. The developmental life phase of a fish from fertilization of egg to adult.

Recreation. Any activity intended for recreational purposes, including but not limited to sport hunting, sport fishing, hiking, camping, boating, and sightseeing. Recreation does not refer to subsistence hunting and fishing. (See also *Public Recreation Land*.)

Region. A large geographic unit used in Area Plans to describe parts of the planning area. Often these areas contain contiguous lands, occupy areas that are contiguous or are generally close to each other, and may have similar resource and use characteristics. In this Area Plan, there are over 20 regions.

Resource Transfer Facility (RTF). Any facility or mechanism necessary to transfer timber, minerals, or other resources from uplands to marine waters, including all necessary components such as log rafting and sorting areas, floating camps, etc.

Resource Transfer Site (RTS). A site for all facilities necessary to transfer timber, minerals, or other resources from uplands to marine waters, including all necessary components such as log rafting and sorting areas, floating camps, access ramps, etc. A single resource transfer site may contain more than one resource transfer facility.

Retained Land. Uplands, shorelands, tidelands, and submerged lands that are to remain in state ownership.

Right-of-Way. The legal right to cross the land of another. May be abbreviated ROW.

Riparian Zone. The area around a stream or river in which that steam or river has meandered over time. For purposes of the BBAP, the riparian zone is the area encompassed by the 100-year floodplain.

RRMP. The Nushagak & Mulchatna Rivers Recreation Management Plan (August 1990; updated April 2005).

RTF. See *Resource Transfer Facility*.

SCRO. Southcentral Regional Office of the Division of Mining, Land, and Water, Alaska Department of Natural Resources.

Sensitive Period. A period during a species' annual life cycle when the population has a significant chance of being harmed by activities that are not part of the natural environment and that cause the animal to detrimentally alter its normal behavior pattern. An example is a disturbance that might cause a calving caribou to run during the birthing process or to abandon the helpless calf immediately after it is born. These periods generally occur when large numbers of a particular species are concentrated in relatively small geographic areas.

Settlement. The sale, leasing, or permitting of state lands to allow private recreational, residential, commercial, industrial, or community use.

Shall. Same as "will."

Shoreland. Land belonging to the state that is covered by navigable, nontidal water up to the ordinary high water mark as modified by accretion, erosion, or reliction. (See definition of *Navigable*.) Shorelands are generally lake bottoms or the beds of navigable rivers and streams.

Shoreline Development. Any water-dependent or water-related structure or facility that is permanent and/or used for private, public, commercial, or industrial purposes. Shoreline development excludes log or other resource transfer facilities, log storage, floating A-frame logging, or camps and other resource development support facilities associated with forestry or mineral development.

Should. State's intent for a course of action or a set of conditions to be achieved. Guidelines modified by the word "should" state the plan's intent and allow the manager to use discretion in deciding the specific means for best achieving the intent or whether particular circumstances justify deviations from the intended action or set of conditions. A guideline may include criteria for deciding whether such a deviation is justified. (See *Types of Plan Changes*, Chapter 4.)

Significant Impact, Significant Effect, Significant Conflict, or Significant Loss. A use or an activity associated with that use that proximately contributes to a material change or alteration in the natural or social characteristic of the land on which:

1. the use or activity associated with it would have a net adverse effect on the quality of the resources;
2. the use or activity associated with it would limit the range of alternative uses of the resources; or
3. the use would of itself constitute a tolerable change or alteration of the resources but that cumulatively would have an adverse effect.

State Land. All land, including shore, tidal, and submerged land or resources belonging to or acquired by the state. [AS 38.05.965 (20)] (See also definitions of *State-Owned Land* and *State-Selected Land* as well as definitions for *Shoreland*, *Tidelands*, and *Submerged Lands*.) Refer to Figure 1.1 in Chapter 1 for a graphical depiction of these areas. State land excludes lands owned by the University of Alaska, the Mental Health Trust Authority, or by state agencies that have acquired them through deed.

State-Owned Land. Land that has been conveyed to the state of Alaska, including uplands, shorelands, tidelands, and submerged lands (includes tentatively approved land).

State-Selected Land. Federal land selected by the state of Alaska pursuant to federal grants and statehood entitlement that has not yet been conveyed (includes topfilings).

Stream Corridor. This is defined as the area within the 100-year floodplain.

Submerged Lands. Land covered by tidal waters between the line of mean lower low water and seaward to a distance of three geographic miles or as may hereafter be properly claimed by the state. (AS 38.05.965) (See definition of *Tidelands* and Figure 1.1, Chapter 1.)

Subsistence Land. Land classified subsistence is land that is suitable for subsistence activities due to the ability of subsistence users to use the land productively over time for such activities. These activities include subsistence hunting, fishing, and gathering..

Subsistence Uses. The noncommercial, customary, and traditional uses of wild, renewable resources by Alaska residents for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of nonedible by-products of fish and wildlife resources taken for personal or family consumption; and for the customary trade, barter, or sharing for personal or family consumption. In this paragraph, family means persons related by blood, marriage, or adoption and a person living in the household on a permanent basis. [AS 16.05.940 (33)]

Suitable. Land that is physically, including biologically, capable of supporting a particular type of resource use or development.

Temporary Use. A low-impact, short-term use that does not involve the establishment of permanent improvements or foundations. Any structure associated with a temporary use must be readily removable within 48 hours.

Temporary Facility. Temporary facilities or structures or those that can be dismantled and removed from a site or that can be dismantled and stored on the site. Temporary facilities on state land are authorized under permits. Examples of a temporary facility are heliports or frame, dome, or pup tents. Floating facilities are considered temporary facilities in the RRMP. (Definition applies to RRMP area only.)

Tidelands. Lands that are periodically covered by tidal waters between the elevation of mean high water and mean lower low water. (AS 38.05.965) (See Figure 1.1, Chapter 1.)

Tideland Resource Management Zones. An extensive area of tidelands and submerged lands where there is a high concentration of significant marine resources or the presence of public uses managed under requirements common to the entire zone. Such areas are used where there is common upland property ownership of a large area under a protected status, such as a park or refuge, or where there is a high concentration of significant marine uses or resources and individual tideland units cannot effectively capture the diversity and extent of these resources.

There is only one Tideland Resource Management Zone in the Bristol Bay Area Plan. A TRMZ is applied to tidelands adjacent to federally owned lands in federal conservation units (National Wildlife Refuge, National Park and Preserve, National Monument).

TRMZ. See *Tideland Resource Management Zones*.

Trapping Cabin. A cabin constructed under a Trapping Cabin Construction Permit as authorized and described in AS 38.95.080 and 11 AAC 94. In the RRMP, trapping cabins are not permanent facilities and are treated separately. (Definition applies to RRMP area only.)

Unit. An area of state-owned or state-selected land, usually but not always contained within Resource Allocation Tables of the area plan, for which a land use designation and management intent is provided. Units may be of varying size. They are assigned a specific unit number for purposes of identification.

Unsuitable. Land that is physically incapable of supporting a particular type of resource development (usually because that resource doesn't exist in that location).

Uplands. Lands above mean high water (See Figure 1.1, Chapter 1.)

U.S. Fish and Wildlife Service. United States Fish and Wildlife Service, a division of the U.S. Department of Interior.

USFWS. See *U.S. Fish and Wildlife Service*.

U.S. National Park Service. United States National Park Service, a division of the U.S. Department of Interior.

Water-Dependent. A use or activity that can be carried out only on, in, or adjacent to water areas because the use requires access to the water body. [6 AAC 80.900 (17)]

Water-Related. A use or activity that is not directly dependent upon access to a water body but that provides goods or services that are directly associated with water-dependence and that if not located adjacent to water would result in a public loss of quality in the goods or services offered. [6 AAC 80.900(18)]

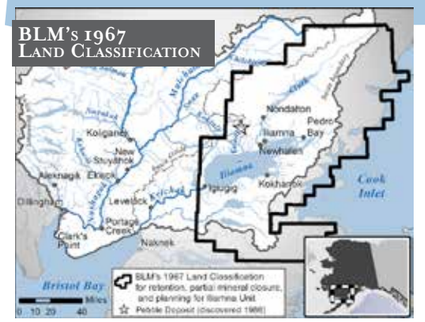
Wetlands. Includes both freshwater and saltwater wetlands. Freshwater wetlands means those environments characterized by rooted vegetation that is partially submerged either continuously or periodically by surface fresh water with less than .5 parts per thousand salt content and not exceeding three meters in depth. Saltwater wetlands means those coastal areas along sheltered shorelines characterized by salt-tolerant, marshy plants and large algae extending from extreme low tide that are influenced by sea spray or tidally induced water table changes.

Wetlands Hydrologically Important to Fish Habitat. Wetlands adjacent to fish habitat that store surface runoff and ground water. The discharge of water from these wetlands is necessary in maintaining and stabilizing water levels to maintain productivity of fish habitat during periods of extremely high (floods) or reduced (winter) flow rates.

Will. Requires a course of action or a set of conditions to be achieved. A guideline modified by the word will must be followed by land managers and users. If such a guideline is not complied with, a written decision justifying the noncompliance is required. (See *Types of Plan Changes*, Chapter 4.)

A Long History of Protecting Bristol Bay Fisheries

1967 Federal Land Management put Fish First



1967 –Federal Bureau of Land Management classifies 6.5 million acres of federal land in the Kvichak/Iliamna Lake drainages for retention and multiple use, and closes nearly all the land state selections and to new mining claims within a half mile of sockeye salmon lakes over 50 acres. Governor Hickel supports this federal action to conserve the Kvichak drainages and protect salmon and recreation.

1970 -AK Senate passes Sen. Res. 14 opposing Iniskin Bay-Iliamna Lake road route to Bristol Bay (now route to Pebble), because it would cross "prime big game habitat" and "principal spawning streams" of "most important red salmon spawning area in the world," and historically, such areas "readily accessible to highways have been seriously

AK Legislature passes, for the first time, legislation to establish a "Bristol Bay Fisheries Reserve" of state-owned land beneath navigable waters draining into Bristol Bay, and barring oil, gas, and mineral leasing or permits within the reserve. Governor Miller vetoes because most of the land was federal or beyond the State's jurisdiction.

1971

1971 - Alaska Senate and House of Representatives unanimously pass resolutions (S.J.R. No. 4 and H.J.R. No. 16), which "urgently requested" the federal government "to manage the Kvichak, Naknek, Egegik, and Alagnak watersheds in a manner designed to give primary recognition to the extremely valuable commercial and sport fishing resources existing there."

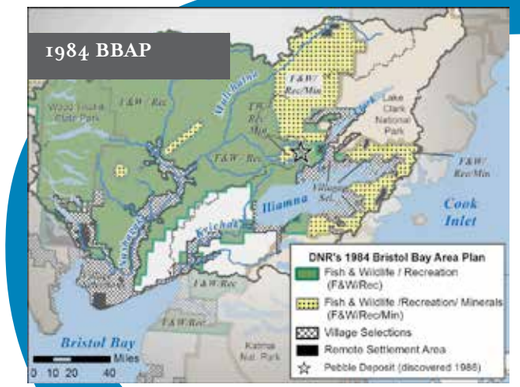
BLM's resource analysis for its "Iliamna Planning Unit and Classification Area" established in 1967 recommends (1) restricting mining in the Kvichak drainage to protect salmon and trout habitat, and commercial, sport and subsistence fisheries, and (2) managing the land in its natural, wilderness condition.

ANCSA requires Department of the Interior to recommend new federal conservation units in Alaska.

1972 – Federal legislation proposes a Bristol Bay National Wildlife Refuge that includes the Kvichak and Nushagak drainages.

Alaska legislature designates state-owned beds of navigable waters as the Bristol Bay Fisheries Reserve.

Fragmented Land Ownership But Still put Fish First



1984 to 2005 - State's 1984 Bristol Bay Area Plan gives primary recognition to fish and wildlife and public uses of them by co-classifying all twelve million acres of state uplands and beds of freshwaters as habitat with recreation, oil and gas or mineral co-classifications.

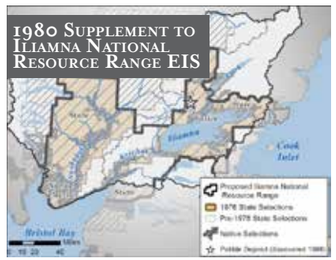
2000 - Alaska Board of Fisheries adopts Sustainable Salmon Management Policy that addresses habitat, establishes a "precautionary approach" by erring on the side of conservation when science is uncertain, and guides the Board's interaction with other agencies to protect salmon habitat.

1981 - State and federal governments, and local Native interests, begin cooperative land use planning within the Bristol Bay Cooperative Planning Region.

1983 – Bristol Bay Native Association adopts resolution urging the Alaska Legislature to enact legislation to protect all state land within five miles of the Nushagak River (including its major tributaries Nuyakuk, Mulchatna, Kokwok, Koktuli, Swan, King Salmon, and Chichitnok rivers), the Kvichak River, and Iliamna Lake, and manage the land exclusively for subsistence and recreational uses. A second resolution opposes any land disposals in the Bristol Bay region.

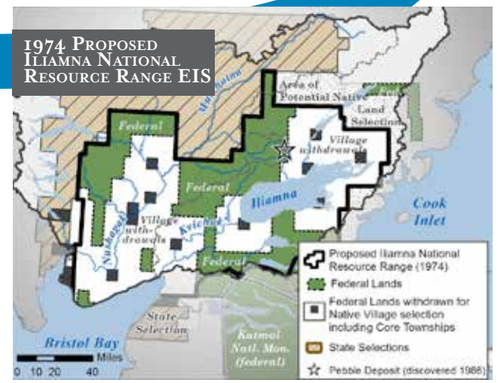
1984 – State withdraws from cooperative plan and adopts 1984 BBAP.

1977 to 1980 - Congress considers and enacts Alaska National Interest Lands Conservation Act. It establishes the Bristol Bay Cooperative Region for cooperative land use planning.



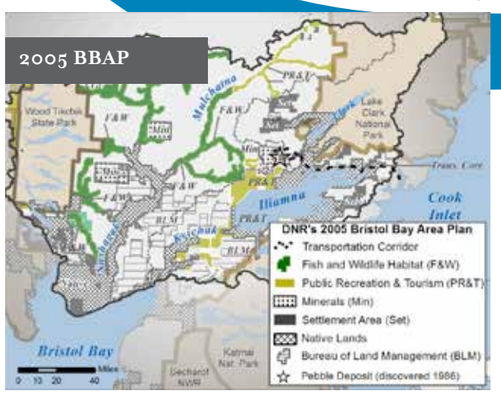
1976 - Congress and Alaska legislature ratify the Cook Inlet Land Exchange by which the State acquires federal land in the Kvichak and Nushagak drainages to protect fish. State then acquires the land where the Pebble claims are now located to protect fish.

1978 - Alaska legislature enacts comprehensive land use planning legislation for state lands, and establishes Wood-Tikchik State Park to protect fish and wildlife.



1973 – Department of the Interior proposes to Congress an Iliamna National Resource Range as a unit of National Wildlife Refuge System.

2005 AK DNR Ignores Past Priorities that Put Fish First present



2005 -- DNR adopts 2005 Bristol Bay Area Plan. It uses primarily marine criteria, such as whether land is a walrus haulout, to identify inland upland. Salmon streams qualify as habitat only if navigable, which is irrelevant to salmon. Moose and caribou are omitted from criteria. All this eliminates 93 percent of prior habitat classifications under the 1984 BBAP, including at Pebble. The 2005 BBAP defines recreation for purposes of land classification as excluding sport hunting and fishing. This eliminates 86 percent of prior recreation classifications, including at Pebble.

2009 – Nondalton, Koliganek, New Stuyahok, Ekwok, Curyung, Levelock tribal councils, Alaska Independent Fishermen's Marketing Assoc. (AIFMA) and Trout Unlimited (TU) sue DNR to overturn the 2005 BBAP.

2012 – State and the Six tribes, AIFMA and TU settle the litigation. State agrees to re-open the BBAP planning process and proposes some changes

2013 - Tribes, AIFMA and TU prepare Citizens' Alternative Draft Bristol Bay Area Plan." It restores most habitat classifications in the Kvichak and Nushagak drainges, prohibits metallic sulfide mines like Pebble mine in those drainages, manages land to protect habitat and commercial, subsistence and sport uses of fish and game, and fosters cooperative land use planning.

IN THE SUPERIOR COURT FOR THE STATE OF ALASKA
THIRD JUDICIAL DISTRICT AT DILLINGHAM

NONDALTON TRIBAL COUNCIL, KOLIGANEK VILLAGE TRIBAL COUNCIL, NEW STUYAHOK TRADITIONAL COUNCIL, EKWOK VILLAGE COUNCIL, CURYUNG TRIBAL COUNCIL, LEVELOCK VILLAGE COUNCIL, TROUT UNLIMITED and AIFMA COOPERATIVE Plaintiffs, v. STATE OF ALASKA DEPARTMENT OF NATURAL RESOURCES, and TOM IRWIN, Commissioner of Natural Resources, Defendants, and PEBBLE LIMITED PARTNERSHIP, Acting through its General Partner, PEBBLE MINES CORP., Intervenors.	)	Case No. 3DI-09-46 CI

STIPULATION FOR REMAND AND DISMISSAL WITHOUT PREJUDICE

This stipulated Agreement is entered into between the parties to this action: Plaintiffs Nondalton Tribal Council, Koliganek Village Tribal Council, New Stuyahok Traditional Council, Ekwok Village Council, Curyung Tribal Council, Levelock Village Council, Trout Unlimited and AIFMA Cooperative (collectively, "Tribes" or "Plaintiffs"), the State of Alaska, Department of Natural Resources ("DNR"), including Commissioner of Natural Resources Daniel S. Sullivan, successor to defendant Tom

Irwin, and Pebble Limited Partnership, acting through its general partner, Pebble Mines Corporation ("PLP").

WHEREAS:

1. DNR intends to initiate the process to revise certain aspects of the 2005 Bristol Bay Area Plan ("2005 BBAP" or "Plan") in accordance with AS 38.04.065(a), as stated in the attached June 29, 2012 affidavit of Martin Parsons, the Deputy Director of DNR's Division of Mining, Land and Water;

2. Counts 1 through 8 in the Third Amended Complaint allege error in land use classification decisions documented in Land Classification Order No. SC-04-002 (Apr. 19, 2005), which states that the classifications in the Order are based on the written justification contained in the 2005 Bristol Bay Area Plan;

3. 11 AAC 55.270 authorizes any person, group or agency to propose a land use classification or reclassification;

4. DNR has elected to treat causes of action one through eight of the Third Amended Complaint as a petition to reclassify land under 11 AAC 55.270 and to do so for purposes of the revisions described in the June 29, 2012 affidavit of Martin Parsons;

5. The adoption of revisions to an area land use plan, including decisions to classify or reclassify land, is a decision of the Department of Natural Resources subject to the DNR appeal and reconsideration procedures at 11 AAC 02.010-.900;

6. Count 9 in the Third Amended Complaint alleges that DNR has violated the constitutional principle of sustained yield, the requirements of AS 38.05.300, and has abused its discretion by not adopting a regulatory definition for a subsistence land use classification;

7. AS 44.62.220 authorizes an interested person to petition DNR for the adoption of a regulation that defines a subsistence land use classification; and

8. AS 38.04.900(a) authorizes the DNR commissioner to adopt under the Administrative Procedure Act (AS 44.62) regulations believed necessary by the commissioner to carry out the purposes of AS 38.04, including the provisions of AS 38.04.065, Land use planning and classification;

THE PARTIES THEREFORE AGREE:

1. They will request that the Court enter the attached Order remanding the first through eighth causes of action in the Third Amended Complaint to DNR to address as a petition to reclassify land, in accordance with 11 AAC 55.270, and dismissing the first through eighth causes of action without prejudice.

2. The primary objectives of the revision process include:

(a) establish a management unit and accompanying classification or co-classifications for the western Iliamna Lake shorelands;

(b) revise the definition of the "minerals" land use designation to better correspond with the Mineral Land classification definition at 11 AAC 55.130;

(c) revise the list of criteria that are used to identify sensitive habitats to include caribou and moose wintering and calving areas;

(d) revise the definition of "recreation" to better correspond with the Public Recreation Land classification definition at 11 AAC 55.160, by including sport hunting and sport fishing as recreation;

(e) reclassify as Wildlife Habitat Land (11 AAC 55.230) the spawning and rearing areas of navigable anadromous waters; and

(f) co-classify the Lower Talarik Creek Special Use Area as Wildlife Habitat Land (11 AAC 55.230) and Public Recreation Land (11 AAC 55.160).

The proposed changes, described in (a) through (f) above, may affect other aspects of the 2005 BBAP, in which case additional revisions to the Plan may be made.

3. These proposed changes to the Plan meet the regulatory definition of a plan amendment at 11 AAC 55.030(f)(1)(A). Therefore, pursuant to 11 AAC 55.030(f)(1), the plan revision process for the BBAP must comply with AS 38.04.065, including the same procedural and public participation guarantees applicable to the initial development of an area land use plan.

4. DNR will make its best effort to issue a public review draft of revisions to the 2005 Bristol Bay Area Plan no later than 140 days (20 weeks) following entry of the attached Order, and DNR shall provide a public comment period on the draft revisions that is no shorter than 90 days.

5. DNR will make its best effort to issue a commissioner's decision regarding revisions to the 2005 Bristol Bay Area Plan no later than one year (365 days) following entry of the attached Order.

6. The ninth cause of action in the Third Amended Complaint, alleging that DNR has violated the constitutional principle of sustained yield, the requirements of AS 38.05.300, and has abused its discretion by not adopting a regulatory definition for a subsistence land use classification, shall be dismissed without prejudice.

7. The Parties do not waive any causes of action, cross-claims, rights or defenses in any future administrative or judicial proceedings.

8. Each Party shall bear its own costs and attorneys' fees.

Respectfully submitted on this 31st day of August, 2012.

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Federal Statutes on Cooperative Land Use Planning in the Bristol Bay Drainages

Section 1203 of the Alaska National Interest Lands Conservation Act

BRISTOL BAY COOPERATIVE REGION

§1203. (a) DEFINITIONS.--For purposes of this section--

(1) The term "Governor" means the Governor of the State of Alaska.

(2) The term "region" means the land (other than any land within the National Park System) within the Bristol Bay Cooperative Region as generally depicted on the map entitled "Bristol Bay-Alaska Peninsula", dated October 1979.

(b) PURPOSE.--The purpose of this section is to provide for the preparation and implementation of a comprehensive and systematic plan cooperative management plan (hereinafter in this section referred to as the "plan"), agreed to by the United States and the State--

(1) to conserve the fish and wildlife and other significant natural and cultural resources within the region;

(2) to provide for the rational and orderly development of economic resources within the region in an environmentally sound manner;

(3) to provide for such exchanges of land among the Federal Government, the State, and other public or private owners as will facilitate the carrying out of paragraphs (1) and (2);

(4) to identify any further lands within the region which are appropriate for selections by the State under §6 of the Alaska Statehood Act and this Act; and

(5) to identify any further lands within the region which may be appropriate for congressional designation as national conservation system units.

(c) FEDERAL-STATE COOPERATION IN PREPARATION OF PLANS.--(1) If within three months after the date of enactment of this Act, the Governor notifies the Secretary that the State wishes to participate in the preparation of the plan, and that the Governor will, to the extent of his authority, manage State lands within the region to conserve fish and wildlife during such preparation, the Secretary and the Governor shall undertake to prepare the plan which shall contain such provisions as are necessary and appropriate to achieve the purposes set forth in subsection (b), including but not limited to--

(A) the identification of the significant resources of the region;

(B) the identification of present and potential uses of land within the region;

(C) the identification of areas within the region according to their significant resources and the present or potential uses within each such area;

(D) the identification of land (other than any land within the National Park System) which should be exchanged in order to facilitate the conserving of fish and wildlife and the management and development of other resources within the region; and

(E) the specification of the uses which may be permitted each area identified under paragraph (C) and the manner in which these uses shall be regulated by the Secretary or the State as appropriate, if such plan is approved.

(2) The plan shall also--

(A) specify those elements of the plan, and its implementation which the Secretary or the Governor:

(i) may modify without prior approval of both parties to the plan; and

(ii) may not modify without such prior approval; and (B) include a description of the procedures which will be used to make modifications to which paragraph (A)(i) applies.

(d) ACTION BY SECRETARY IF STATE DOES NOT PARTICIPATE PLAN.--If--

(1) the Secretary does not receive notification under subsection (c) that the State will participate in the preparation of the plan; or

(2) after the State agrees to so participate, the Governor submits to the Secretary written notification that the State is terminating its participation; the Secretary shall prepare a plan containing the provisions referred to in subsection (c)(1)(and containing a specification of those elements in the plan which the Secretary may modify without prior approval of Congress), and submit copies of such plan to the Congress, as provided in subsection (e)(2), within three years after the date of the enactment of this Act.

(e) TAKING EFFECT OF PLAN.--

(1) If within three years after the date of the enactment of this Act, a plan has been prepared under subsection (c) which is agreed to by the Secretary and the Governor, the plan shall take effect with respect to the United States and the State.

(2) If the plan prepared pursuant to this section is agreed to by the Secretary and the Governor includes any recommendations regarding (i) the exchange of State lands, (ii) the management of Federal lands within any conservation system unit, or (iii) any other actions which require the approval of either the Congress or the Alaska State Legislature, then the Secretary and the Governor shall submit to the Congress and the State Legislature as appropriate, their proposals for legislation necessary to carry out the recommendations contained in the plan.

(f) TRANSITIONAL PROVISIONS.--On the date of the enactment of this Act, and for a period of three years thereafter, all Federal land within the region (except that land conveyed by Title IX of this Act to the State of Alaska and Federal lands located within the boundaries of conservation system units) shall be withdrawn from all forms of appropriation under the public land laws, including selections by the State, and from location and entry under the mining laws and from leasing under the Mineral Leasing Act, and shall be managed by the Bureau of Land Management under its existing statutory authority and consistent with provisions of this section.

Note: Section 1201(j)(2) and (3) provide:

(2) With respect to lands, waters, and interests therein which are subject to a cooperative agreement . . . the Secretary, in addition to any requirement of applicable law, may provide technical and other assistance to the landowner with respect to fire control, trespass control, law enforcement, resource use, and planning. Such assistance may be provided without reimbursement if the Secretary determines that to do so would further the purposes of the cooperative agreement and would be in the public interest.

(3) Cooperative agreements established pursuant to this section shall include a plan for public participation consistent with the guidelines established by the Council pursuant to subsection (m).

PROPOSED MINERAL CLOSING ORDER FOR STATE LANDS IN BRISTOL BAY (PRELIMINARY)

This mineral closing order supplements Mineral Closing Order 393 and closes additional anadromous waterbodies in the Nushagak and Kvichak watersheds to new mineral entry.

BACKGROUND:

FISH AND WILDLIFE USE

The use of renewable resources, in particular the use of salmon and other fish, buttress the lives and livelihoods of most Bristol Bay residents. Such was the case when the first Bristol Bay Area Plan (BBAP) and Mineral Closing Order 393 (MCO 393) were adopted in 1984, and such is the case in 2013.

Mineral Closing Order 393 enacted with the 1984 Bristol Bay Area Plan (BBAP) specifically noted the protection of the Bristol Bay salmon fishery was justification for closing 63 streams to new mineral entry. The following are the findings made by the 1984 order:

> The Bristol Bay salmon fishery is, and historically has been, the most valuable economic resource in the Bristol Bay region; providing a major portion of all the salmon harvested in the State of Alaska and the world annually. Bristol Bay area residents rely heavily on this salmon resource to support their livelihood and economy through commercial, sport, and subsistence fishing activities. The existence and future success of the Bristol Bay salmon fishery depends on the maintenance of anadromous stream habitat for salmon spawning and rearing. Essential conditions for successful salmonid spawning, egg, and fry development are clear, cool, well-oxygenated water, and gravel that is free of sediment, highly permeable, and stable. Salmon are a renewable resource and the continued propagation and production of Bristol Bay salmon for commercial, sport, and subsistence harvest constitutes a significant surface use of stream waters and stream bed gravel in the Bristol Bay area. Through maintenance of water quality, stream habitat, and fishery management practices, the Bristol Bay salmon fishery should continue to proper in the future and contribute to the regional and state economy. Other fish, primarily rainbow trout, arctic char, and grayling are of major importance to the region's sport fishery.

Bristol Bay continues to host one the most robust commercial fisheries in the world, generating significant income in both commercial and recreational sectors for over a century, and sustaining Native communities for millennia.

COMMERCIAL SALMON HARVEST

The Bristol Bay commercial salmon fishery now spans three centuries dating back to 1884. The importance of the fishery has not diminished in the intervening years since the BBAP was adopted in 1984. The fishery continues to produce exceptional returns, and a reliable economic benefit for Alaska and Bristol Bay. The salmon fishery remains the foundation on which the culture and economy of the area rest. The Bristol Bay area includes all of Bristol Bay, Alaska Peninsula, and Chignik fishery management units of the Alaska Department of Fish and Game (ADFG). Five species of Pacific salmon are native to the Bristol Bay planning area with sockeye salmon being the most important commercial (Jones et al. 2012). Sockeye salmon account for about 95% of the volume of Bristol Bay salmon harvests and an even greater share of the value (Sands 2012). Nushagak and Kvichak salmon generally account for most of the sockeye salmon caught in Bristol Bay (Ruggerone et al. 2010).

Total catches vary from year to year. Between 1991 and 2010, Bristol Bay sockeye salmon harvests ranged from 10 million to 44 million fish (Jones et al. 2012). Annual pre-season forecasts are subject to a wide margin of error. According to ADFG, the 2012 Bristol Bay sockeye run was 29.1 million with a harvest of 20.6 million (ADFG 2012). The 2012 season was 28% below the average run 37.3 million for the period 1992-2011. The run was 7% below the preseason forecast (ADFG 2012).

When the first BBAP was adopted in 1984, it noted:

> The average ex-vessel value for salmon catches (all species) in the entire Bristol Bay study area (1977-1982) exceeded $150 million annually with the first wholesale value surpassing $250 million in 1982. In 1983, a record commercial catch of more than 39 million sockeye salmon from the Bristol Bay fisheries management unit and the north side of the Alaska Peninsula was recorded with an ex-vessel value in excess of $145 million for that species alone.

New technologies and increased Japanese demand for frozen sockeye salmon caused a sharp rise in Bristol Bay salmon prices during the 1970s and 1980s. The ex-vessel value (the value earned by fishermen) rose to a high of $359 million paid to fishermen in 1988 (Knapp 2004). Competition from increased farmed salmon production drove a long and significant decline in prices between 1988 and 2001, which led to an economic crisis in the industry. The late 1990's experienced a decline in ex-vessel value falling to a low of $39 million in 2002 (Knapp 2004). However, growing world salmon demand, slowing of farmed salmon production growth, diversification of Bristol Bay salmon products and markets, improvements in quality and marketing efforts emphasizing the health and environmental benefits of wild salmon have driven a strong recovery in prices over the past decade (Knapp 2012).

The ex-vessel value rebounded to $181 million in 2010 (Knapp 2012). The real first wholesale value of Bristol Bay salmon production rose to $616 million in 1988 and fell to $124 million in 2002, and then rose to $390 million in 2010 (Knapp 2012). In 2009, the ex-vessel value of Bristol Bay salmon harvest was approximately $300 million (Knapp 2012). In general, despite varying factors such as changes in wild salmon harvests, exchange rates, diseases and recovery in Chilean farmed salmon, and global economic conditions Bristol Bay fishermen have generally fared better in the years following the adoption of the mineral closing order than in the years prior to the order.

According to the 1984 MCO:

> An estimated 3,000 limited entry fishing permits were issued for the Bristol Bay and Alaska Peninsula purse seine, drift gill net, and set gill net salmon fisheries in 1975. Approximately 67% of these licensed gear holders [were] Alaska resident, and 70% of these [were] Bristol Bay residents. More than 7,700 commercial fishermen [were] employed in the fishery during the season. In addition, twelve-shore-based canneries [operated] in Bristol Bay [employing] more than 21,000 cannery workers each season with floating processors employing an additional 700 workers. In addition, air freighting of fresh salmon, for processing elsewhere, [was] also a substantial enterprise, particularly during high production years. On the average, more than 10,000 people [were] seasonally employed by the Bristol Bay salmon fishery.

The Bristol Bay salmon harvest is now processed by about 10 large processing companies and 20 smaller companies employing about 3700 processing workers at the peak of the season in both land-based and floating processing operations (ADLWD 2011). Most of the land-based processors operate only during the short summer salmon season. Cannery workers are generally flown in from outside the region; and live in bunkhouse facilities at the processing plants (ADLWD 2011). Most Bristol Bay salmon is processed into either frozen headed and gutted salmon or canned salmon. Formerly almost all Bristol Bay frozen salmon was exported to Japan. In recent years, exports to Japan have declined sharply while shipments to the US domestic market have increased and exports have increased to Europe and to China (for reprocessing into fillets sold in Europe, Japan and the United States). Most canned salmon is exported, primarily to the United Kingdom, Canada and other markets (Knapp 2012).

In 2013 the Bristol Bay salmon fishery remains one of the world's largest and must valuable wild salmon fisheries (Duffield et al. 2007, Ruggerone et al. 2010), and sockeye remains the most commercially valuable of Alaska's salmon species (Jones et al. 2012). In the past two decades, the Bristol Bay salmon industry averaged:

- Annual harvests of 39 million salmon (including 37 million sockeye salmon) from 1991-2010 (Jones et al. 2012);
- 51% of world sockeye salmon harvests (Ruggerone et al. 2010);
- Annual ex-vessel value of $115.2 million (ADFG 2012); and
- Seasonal employment of more than 6800 fishermen and 3700 processing workers for the past decade (ADLWD 2011).

RECREATION/SPORT FISHING

Next to commercial fishing and processing, recreation is the most important private economic sector in the Bristol Bay region (Duffield et al. 2007). To that end, the Alaska Department of Natural Resources (ADNR) also cited the importance of recreation and sportfishing as a component of Alaska and Bristol Bay's economy in justification for MCO 393. Findings from 1984 include the following:

> The Bristol Bay study area ranks among the finest sport fishing and hunting areas in the world. Recreation, including sport fishing, has been recognized as a component of the Bristol Bay economy for over 50 years. In recognition of the region's exceptional rainbow trout fishery, the Alaska Board of Fisheries has designated the Kvichak River (from the mouth of the Alagnak River) and the Iliamna Lake drainage as a Wild Rainbow Trout Area. Within this drainage, Lower Talarik Creek, Upper Talarik Creek, Pete Andrew Creek, Newhalen River, Copper River, Gibraltar River, Dream Creek, and Belinda Creek are world-renowned rainbow trout streams. At present, the recreational industry in the Bristol Bay area is comprised of three components: lodges, guides, and air taxi operators. Most air taxi operators draw their business from the lodges and guides. Approximately 50 to 60 lodges operated in Bristol Bay during 1983. Most of these lodges are geared for sport fishing activities. Approximately two-thirds of the lodge clients were foreign, with the majority of the remaining clients being non-Alaskans. The estimated cost for lodging and fishing at a typical Bristol Bay fishing lodge ranges from $1,500 to $3,500 per person, per week (Nebesky 1984). The 1982 State Guide Register recorded 189 sport fishing and hunting guides in the Bristol Bay area. About 50 registered fishing guides work for the lodges and another 25 operate fly-out float fishing trips on Bristol Bay rivers. Guided fishing trips in Bristol Bay are estimated to average $1,400 per person, per trip (Nebesky 1984). Nonguided independent fishing trips are becoming increasingly popular in Bristol Bay. An estimated 750 to 1,000 persons (mostly Alaskans) take nonguided float-fishing trips in Bristol Bay each year. The majority of the float trips are taken on the Mulchatna, Nushagak, Nuyakuk, Koktuli, Chilikadrotna, Copper, Alagnak (Branch), and Gibraltar rivers, and the Wood River-Tikchik River system. The local economic effect of nonguided fishing tours accrues primarily to air taxi operators (Nebesky 1984). Overall, the Bristol Bay recreation industry, of which sport fishing is a major component, produces in excess of $25 million annually. Of this amount, an estimated $6.7 million is earned by Bristol Bay residents, $16.3 million is earned by Alaskans outside of Bristol Bay, and $2 million is tied to nonresident wages (Nebesky 1984).

A 2005 Bristol Bay angler survey (Duffield et al. 2007) confirmed that the fresh water rivers, streams, and lakes of the region are a recreational resource equal or superior in quality to other world renowned sport fisheries. The attractiveness of Bristol Bay as a destination for sportfishing and recreation has grown from the industry as described in 1984 by MCO 393. In fact, the economic value has more than doubled since 1984 (Duffield et al. 2007).

Recreational fishing use of the Bristol Bay region is roughly divided between 57% trips to the area by Alaska residents and 43% trips to nonresidents (ADFG 2007). These nonresidents account for the large majority of total recreational fishing spending in the region (ADFG 2007). Most spending results from the purchase of sportfishing packages at remote fishing lodges and trip-related expenses. In the southcentral region of Alaska, which includes Bristol Bay, it is estimated that in 2007 approximately $428 million was spent in Alaska by nonresidents specifically for the purpose of fishing in the Bristol Bay region (ADFG 2007).

A 2005 anglers survey indicated the importance of Bristol Bay's uncrowded, remote, wild setting in anglers' decision to the fish in the area (Duffield et al. 2007). Additionally, a significant proportion of these anglers specifically travelled to the region to fish the world-class rainbow fisheries (Duffield et al. 2007). These finding indicate that Bristol Bay sport fishing is a relatively unique market segment.

SUBSISTENCE SALMON HARVEST

The Bristol Bay economy currently remains a mixed cash-subsistence economy as it was in 1984 (Fall et al. 2009). The following findings provided further justification for the 1984 MCO 393:

> The subsistence harvest of fish and wildlife is essential to the way of life in Bristol Bay communities regardless of the birthplace, ethnic origin, or economic status of the area residents. Salmon are the most important fish and wildlife resource harvested for subsistence by the region's residents. The subsistence harvest of salmon (all species) in the Bristol Bay study area averages about 176,000 salmon per year (1973-1982). In 1982, an estimated 1,000 subsistence permit holders harvested more than 169,000 salmon for personal consumption in the Bristol Bay study area. Taking into consideration the average weights of the different salmon species and the percentage of usable food weight per salmon, the 1982 subsistence harvest figures translate into approximately 821 pounds of dressed out salmon per family or subsistence permit holder in the Bristol Bay study area.
>
> The behavioral, social, and cultural values associated with the subsistence harvest cannot be measured in standard monetary terms. However, and estimation can be made of the local food replacement cost of the subsistence salmon harvest if the harvest had to be replaced with similar food or a protein equivalent purchased and shipped in from Anchorage or Dillingham. Methodology used in determining the local food replacement cost of the subsistence harvest is still being refined. Preliminary estimates for the local food replacement cost of the 1982 subsistence salmon harvest range from $2 to $4 million.

Subsistence in 2013 continues to be important in the region as both a cultural value and economic supplement. The key features of Bristol Bay's subsistence economy include the use of a relatively large number of wild resources (on the order of 70 to 80 specific resources in this area, but primarily salmon, moose, caribou and other fish (Krieg et al. 1998, Fall et al. 2006, Fall et al. 2010), a community-wide seasonal round of activities based on the availability of wild resources, a domestic mode of production (households and close kin), frequent and large scale noncommercial distribution and exchange of wild resources, traditional systems of land use and occupancy based on customary use by kin groups and communities and a mixed economy relying on cash and subsistence activities (Wolfe and Ellanna 1983, Wolfe 1984, Fall et al. 2006, Fall et al. 2010). The heart of this cash-subsistence economy is the resident population of 7,475 individuals located in 25 communities spread across a primarily un-roaded area (US Census Bureau, 2011).

The average annual per capita subsistence harvest for several of Bristol Bay's communities in 2004 was about 315 pounds per person (Fall et al. 2006, Duffield et al. 2007). Overall, salmon make up the largest share of this harvest (on a basis of usable pounds), and accounts for over one-half of the harvest. After salmon, land mammals are the next most harvested animals for subsistence, and non-salmon fish comprise of the next most frequent component of harvest (Fall et al. 2006). The use of subsistence resources continues to provide significant offsets to commercial produced forms of nutrition as well as providing annual direct subsistence related expenditures (gas, ammunition, nets, etc.).

INSTREAM MINING

MCO 393 notes:

> Historically, many areas in the Bristol Bay region have been subject to placer mining exploration and mineral discovery. The majority of this placer activity has occurred on the rivers and streams around the eastern half of Iliamna Lake, the upper Nushagak and Mulchana river drainages, the south side of the Alaska Peninusla, and west of the Ahklun Mountains. Many deposits have been recorded (Cobb 1972, Cobb et al. 1972).

EFFECTS OF INSTREAM MINING

The following findings were made in support of MCO 393 with respect to the impact of mining, in particular instream placer mining, on fish and aquatic resources. These findings remain true today:

> The development of mining claims within the active stream channel of an anadromous stream creates a serious use conflict and could jeopardize the commercial, sport, and subsistence harvest of salmon and the overall economic and sociocultural structure of the Bristol Bay region. In general, instream placer mining can seriously degrade anadromous stream habitat by producing excessive sediment, increasing turbidity, changing pH, adding toxic heavy metals to stream water, and altering stream channels and stream flows. The effects of placer mining immediately adjacent to streams are similar to other land disturbance activities (i.e., logging, agriculture, vegetation removal, road construction) that can introduce unnaturally high levels of sediment into stream environments. Existing literature contains many studies, reports, and documents on the effects of increased sediment loads on salmonids, food chain components, and on aquatic ecosystems. Properly designed and maintained settling ponds and recycling systems when utilized, may minimize some impacts of sedimentation on aquatic life. The major conclusions reached by investigators studying the effects of placer mining and sedimentation on aquatic life and stream systems are summarized by Madison (1981) as follows:

Effects on Fish Life

- Temporary or permanent destruction or modification of spawning beds that can result in failure to spawn or complete or partial mortality of eggs, alevins, or fry. The primary causes are: Reduction of dissolved oxygen, increase in the percentage of silt and sand in the spawning gravel, reduction in intergravel flow rates, scouring of the spawning gravels subsequent to spawning, removal of stream gravels, or complete covering of the spawning beds with sediment;
- Loss of available food supply due to reduction in production at the lower trophic levels (plant life and benthic invertebrates);
- Interference with the sight-dependent feeding habits of salmonids;
- Obliteration of hiding or living areas in gravel by clogging of the interstices with fine sediment, or by reduction of pool areas;
- Short-term exposure to very large concentrations of suspended sediment that can cause fish mortality through damage to the gill structure; and
- Avoidance of normal spawning areas (even at relatively low turbidity) and displacement to cleaner tributaries or other sections of a stream.

Effects on Aquatic Plant Life

- Reduction in photosynthetic activity and consequent reduction in growth of algae and macrophytes which form the basis of the food chain for salmon and other freshwater fish;
- Smothering of plant life inhabiting the stream bottom; and
- Increase in the mobility of the substrate.

Effects on Benthic Invertebrates

- Reduction in the abundance and diversity of benthos as a result of reduction in available food supply (plant life), increased drift and susceptibility predation, clogging of the feeding apparatus by fine sediments, and loss of available or suitable substrate habitat; and
- Changes in community composition from clean-water species to species more adaptable to higher sediment levels but possibly less suitable as fish-food organisms.

Physical Effects on the Hydrologic System

- Increased turbidity and resultant reduction in light penetration;
- Alteration of channels, including changes in slope, stream velocity, discharge, depth and width, scouring characteristics, stream length, poll-riffle ratio, groundwater/surface-water relationships, groundwater recharge characteristics, and water temperature; and
- Changes in the stream bottom material, including changes in the particle-size composition which may change the rate of intergravel water flow, deposition of fine material and gravel on riffle areas, and changes in bed load movement.

Recent studies completed by researchers at the University of Alaska, Fairbanks (LaPerrier et al. 1983 and Van Nieuwenhuyse 1983) have substantiated many of these same effects on freshwater habitats in Alaska. In brief, Alaskan researchers have found that mining-induced sedimentation and turbidity results in reduced light penetration, reduced production of plant material, and ultimately a decrease in the production and abundance of fish. In Birch Creek, an anadromous stream heavily impacted by mining, all fish, insect life, and even most algae had been eliminated as a result of mining. Mining-induced turbidity also adversely affects the human use of clear-water habitat for sport fishing, river floating, canoeing, and other recreational activities.

HARD ROCK MINING

In addition to placer deposits, the Nushagak and Kvichak River watersheds contain other mineral resources. However, access to most of these resources will require different mining methods (Ghaffari et al. 2011). The potential for large-scale open-pit type mine development within the region is greatest for copper deposits and to a lesser extent for intrusion-related gold deposits (e.g., Hawley 2004, Anderson et al. 2009). Because these deposits are low-grade, containing small amounts of metals relative to ore—profitable mining depends on vast amounts of ore processing and waste production.

The largest known deposit, located at the headwaters of the Koktuli River and Upper Talarik Creeks, is currently in the most advanced stages of exploration in the Bristol Bay region. If mined to the maximum extent of its current known potential, the deposit could produce more than 11 billion metric tons of ore, which would make it the largest mines of its type in North America. Further, mining could produce more than twice the amount of waste rock in order to access the ore (Ghaffari et al. 2011). After copper and molybdenum concentrates are removed, over 99% of waste produced will remain permanently onsite. In comparison, the largest existing copper mine in the United States is the Safford Mine in Arizona with 7.3 billion metric tons of ore. Although the deposit at the headwaters of the Koktuli River and Upper Talarik Creek represents the most imminent and likely site of mine development, other mineral deposits with potentially significant resources exist within the Nushagak River and Kvichak River watersheds. According to ADNR (2010), many claims have been filed since MCO 393 was adopted, now totaling over 2,000 km^2 (792 mi^2) (ADNR 2010).

EFFECTS OF HARD ROCK MINING

The development of mining claims with open pit, underground, or strip mining methods also creates a serious use conflict and could jeopardize the commercial, sport, and subsistence harvest of salmon and the overall economic and sociocultural structure of the Bristol Bay region. This may be exacerbated where such methods are used in a sulfide ore body, posing the risk of generating acid mine drainage (AMD). Hard rock mining has an impact similar to placer/instream mining, but to a larger extent. Hard rock mining can also seriously degrade anadromous stream habitat by producing excessive sediment, increasing turbidity, changing pH—often lowering pH via AMD in sulfide ore bodies, increasing toxic heavy metals, and altering or even removing streams and habitat. Further, hard rock mining necessitates infrastructure like access roads, tailings ponds and waste rock piles that must be managed in perpetuity to prevent ongoing habitat impacts. Impacts of open-pit hard rock mining to freshwater ecosystems, including salmonids, are well documented (Nelson et al. 1991, Barry et al. 2000, USGS 2004). Properly designed and maintained mining infrastructure may minimize some impacts, but cannot eliminate them.

Other effects on aquatic life and habitats of open-pit hard rock mining which may occur in addition to those effects from instream mining described in MCO 393 are summarized as follows:

Effects on Fish Life:

- Increased sediment and turbidity at both chronic and acute levels (Bisson and Bilby 1982, Marcus et al. 2001);
- Loss of stream flow resulting from the use of water in mine operations that blocks access to spawning and rearing habitat, alters stream temperatures, impacts stream velocities and lowers oxygen levels (Berg and Northcote 1985, NRC 1996, Poff et al. 1997, Madej et al. 2006, Poff et al. 2010);

- Alteration of groundwater-surface water interactions critical to salmonid spawning and rearing (Leman 1993, Garret et al. 1998, Baxter and McPhail 1999, Malcom et al. 2004);
- Decreases in pH resulting from AMD which can have lethal and sublethal impacts to fish including impaired gill function, increased susceptibility to disease, inability to maintain osmotic regulation, and inhibited homing and spawning behavior (Morris et al. 1989, Potts and McWilliams 1989, Balm et al. 1996, Ikuta et al. 2001). Acidification may also decrease or eliminate invertebrate prey (Hildrew 1984, Earle and Callaghan 1998).
- Increases in copper and other heavy metals concentrations that have both lethal and sublethal impacts to fish and their food sources across life stages (Clements et al. 1990, Eisler 1998). At increases in olfaction of 2-20 µg/L, salmonid olfaction may be impacted, decreasing their ability return to their natal streams to spawn, and to locate predators, prey, kin, and mates (Sandahl et al. 2007, Baldwin et al. 2011, McIntyre et al. 2012);
- Tailings dam failures that cause catastrophic loss of fish and habitat and long term declines of productivity (UNEP 2001); and
- Failure of wastewater collection and treatment systems resulting in short and long term releases of untreated leachates.

Effects on Aquatic Plant Life

- Diatoms, which form the base of the aquatic foodweb, are often more sensitive to copper and other metals contamination. Copper is one of the most toxic metals to unicellular algae, which form the base of the salmonid food chain (USEPA 1980, Franklin et al. 2002).

Effects on Benthic Invertebrates

- Aquatic insects are important food items for salmon and other fish species, as well as other macroinvertebrates. They comprise the majority of juvenile coho and Chinook salmon diets (up to 80%) as well as Dolly Varden diets (up to 100%) in some rivers (Higgs et al. 1995, Eberle and Stanford 2010). Invertebrates are sensitive to changes in temperature, increased sedimentation, changes in pH, and increased metals concentrations (Vannote and Sweeney 1980, Martin and Platts 1981, Culp et al. 1983, Hildrew et al. 1984, Eisler 2000, Lee et al. 2000, Zweig and Rabeni 2001, Smolders et al. 2003, Relyea et al. 2012).

Physical Effects on the Hydrologic System

- Reduced and altered stream and groundwater flow has impacts to temperature, sedimentation, channel morphology, and habitat availability. Related impacts are considered a primary cause of salmon declines in the Pacific Northwest (Heggnes et al. 1996, NRC 1996).

JUSTIFICATION FOR MINERAL CLOSING ORDER:

Title 38 of the Alaska Statutes addresses the management of public lands of the State of Alaska. Section 38.05.185 states:

> State land may not be closed to mining or mineral location unless the commissioner makes a finding that mining would be incompatible with significant surface uses on state land."

Section 38.05.185 provides further:

> The determination required under this subsection shall be made in compliance with land classification orders and land use plans developed under AS 38.05.300

A land use plan such as the BBAP is an appropriate forum for classifying state lands and designating specific areas for mineral closures when these areas meet the criteria set forth in Section 38.05.185 (see also 11 AAC 55, Land Planning and Classification Regulations).

The BBAP recognizes continued salmon propagation and production as a significant surface use of state lands in the Nushagak and Kvichak watersheds of Bristol Bay. The plan also recognizes instream placer and hard rock mining as conflicting with the continued propagation and production of Bristol Bay salmon and therefore requires closure of selected anadromous streams to new mineral entry. The plan specifically states the following:

> The anadromous portion of the following waterbodies in the Nushagak River Watershed and Kvichak River Watershed of Bristol Bay as designated pursuant to AS 16.05.870 and any state uplands 100 feet from the ordinary high watermark (on both sides of a designated stream or waterbody) including island which are state selected, patented or tentatively approved and excluding islands of other ownership will be closed to new mineral entry in accordance with AS 38.05.185.

These streams are in addition to those already closed by MCO 393 and other closing orders:

Nushagak River Watershed
- Stuyahok River and tributaries
- Napatoli Creek and tributaries
- Other steams to be designated (see map)

Kvichak River Watershed
- Kaskanak Creek and tributaries
- Other steams to be designated (see map)

Mining has been previously found to be incompatible with several different types of land uses determined to be significant surface uses of state land, state park and recreation areas, residential subdivisions, river corridors, agricultural areas, and disposal of state land for remote settlement are some examples where mining has been determined to be incompatible with a significant surface use of state land. The propagation and production of salmon is also a significant use of state lands in Bristol Bay, particularly state lands in the Nushagak River and Kvichak River Watersheds (Ruggerone et al. 2010, Jones et al. 2012). This surface use activity is the mainstay of the Bristol Bay economy and is also a substantial contributor to the state economy. Instream placer mining and hard rock mining would create serious use conflicts in anadromous streams and waterbodies and jeopardize the overall productivity of anadromous streams in Bristol Bay, and ultimately, the economy of the Bristol Bay region and the livelihood of area residents.

The conflict between fisheries and mining was recognized by both the state legislature and the U.S. Congress when they established parks and refuges in the region. Mineral entry is incompatible with the fish, wildlife, subsistence, and recreation use of Wood-Tikcik State Park (see AS.41.21.161). Mining on federal public lands in Lake Clark National Park and Preserve was viewed as incompatible with protection of fish and wildlife habitats and populations. Streams to be closed by this order and MCO 393 originate within these parks and refuges. Providing sufficient protection to these fishery resources on state lands outside the parks and refuges is critical to protection of these resources within them.

Only the anadromous streams and any islands contained therein, which would be in highest conflict with mining activities, are to be closed to new mineral entry. High conflict was determined by a stream juxtaposition to known and verified mineral terranes within the Bristol Bay study area. Legitimate mining claims existing on the date of this order and not otherwise affected by another mineral closing order are not affected by the closures. Native conveyed lands within the active stream channel of an anadromous stream designated by this order are not subject to the mineral closure, as these lands are privately owned.

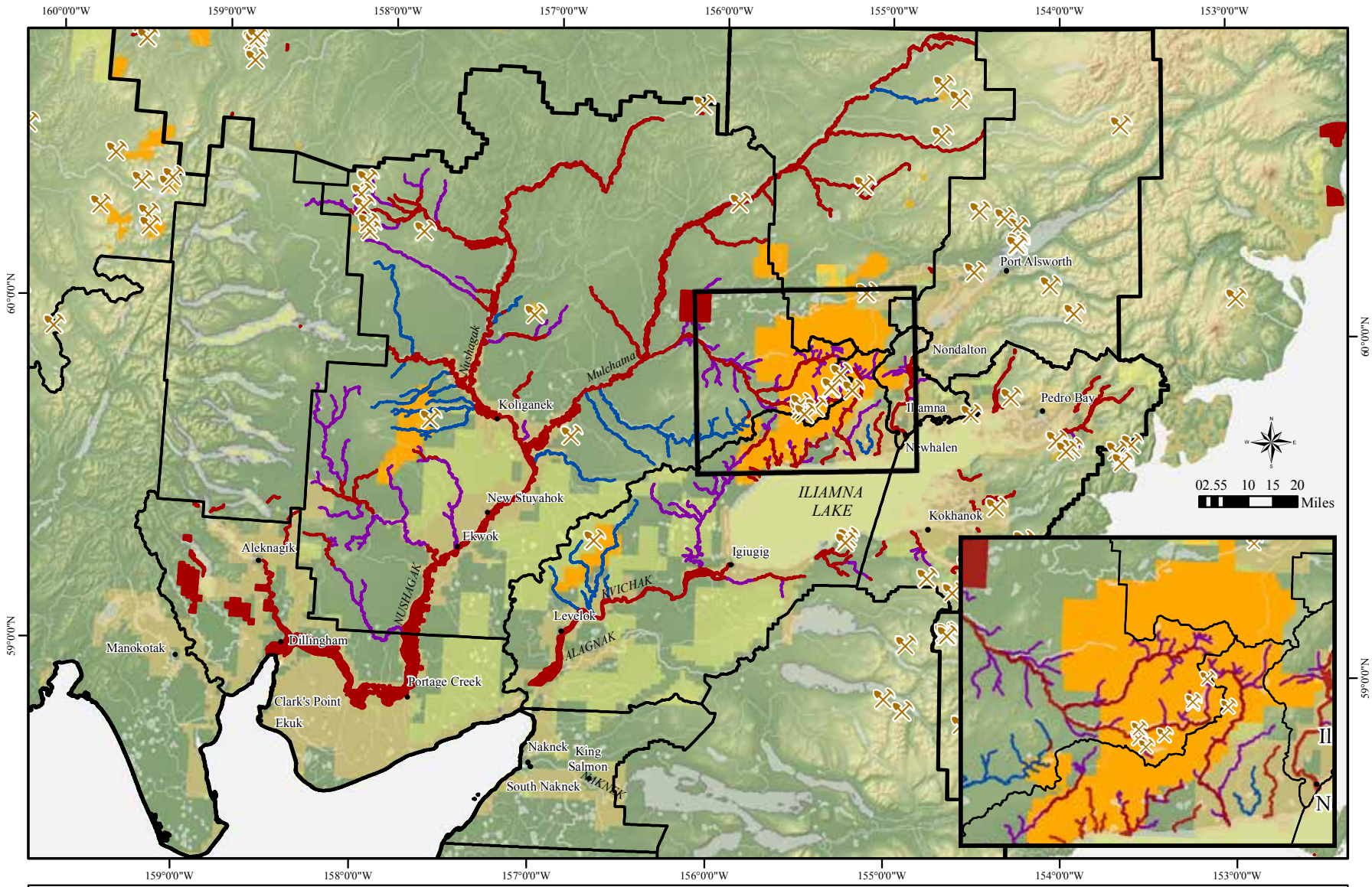
Seafood remains Alaska's premier export, valued at $2.5 billion in 2011 (AOIT 2012). Alaska ranks ninth in the world in terms of global seafood production (NMFS 2012). Over half of all U.S. seafood landings come from Alaska and 96% of all wild caught salmon (NMFS 2012). Jobs in the seafood industry outnumber jobs in the oil, mining, tourism and timber industries combined (McDowell Group, Inc. 2012,Welch 2013).

Sockeye salmon are the largest and most valuable component of Bristol Bay's salmon production (Kruse 2011, Jones 2012), constituting the largest Alaska sockeye fishery and one of the most significant fisheries in the state, if not the world, producing salmon runs not enhanced by hatcheries. The Nushagak and Kvichak watersheds account for one half of Bristol Bay's sockeye runs, and therefore Alaska's seafood industry would be immeasurably damaged if these watersheds should be compromised by incompatible mining activity (Ruggerone et al. 2010). If there are any watersheds in Alaska that should be protected with mineral closing orders, it should be the Nushagak and Kvichak watersheds.

By closing that portion of Bristol Bay to new mineral entry where the most conflict between fishery production and mining would occur, through other plan provisions requiring leasehold location mining, and through enforcement of existing statutes and regulations, protection can be provided to a large portion of the Bristol Bay sockeye salmon run.

Existing state and federal water quality regulations and standards were considered inadequate to guarantee the continue propagation and production of the salmon and other fish resources in the stream waters in the Bristol Bay area. The past and present lack of compliance with and enforcement of these water quality standards in this area and other areas in the state were some of the factors considered during the development of the Bristol Bay Area Plan. The existing standard for turbidity, a measure of suspended sediment, allows for levels of sediment which some experts indicate is detrimental to salmon and their eggs and fry. Also, these levels create conditions which make adequate and effective fishery management extremely difficult due to the inability to visually determine escapement. Further, given site specific water chemistry, water quality standards for copper and other potentially toxic heavy metals may be inadequate to protect fisheries resources and other aquatic biota (Zamzow 2011, Craven et al. *In prep*.). Within the waterbodies designated for closure by this order, sufficient protection of fish and game resources (as required in AS 16.05.870(d)) would likely preclude mining in these areas after a mining claim has already been filed. Actual closings more effectively and efficiently achieve the level of fisheries protection required. The result of these analyses is to close to new mineral entry the waterbodies of the Nushagak and Kvichak River watersheds where highest conflict between the salmon and mining would occur.

In closing, the best interest of the State of Alaska and its residents are served by the closure of the anadromous portion of waterbodies in the Nushagak River Watershed and Kvichak River Watershed of Bristol Bay as those portions are designated pursuant to AS 16.05.870.



Citizen's Alternative Proposed Mineral Closure Orders

Current Conditions

- State Mining Claims
- Mining Prospect
- Existing Mineral Closure Orders

Proposed Changes

- Proposed New Mineral Closing Order
- Cataloged Anadromous Stream Extentions of Existing Mineral Closing Orders

Non-State-Owned Lands

- BLM
- Native Land

- Plan Boundary
- Region Boundaries

The proposed closure of new streams to mineral entry follows the justification of MCO 393, which closed streams in which there was a potential for high conflict between an anadromous stream and mining. High conflict was determined by a stream juxtaposition to known and verified mineral terranes within the Nushagak and Kvichak watersheds.

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MF-378. Metallic Mineral Resources Map of the Lake Clark Quadrangle, AK.
MF-384. Metallic Mineral Resources Map of the Taylor Mountains Quadrangle, AK.
MF-441. Metallic Mineral Resources Map of the Cold Bay Quadrangle, AK.
MF-442. Metallic Mineral Resources Map of the Naknek Quadrangle, AK.
MF-443. Metallic Mineral Resources Map of the Port Moller Quadrangle, AK.
MF-456. Metallic Mineral Resources Map of the Bristol Bay Quadrangle, AK.
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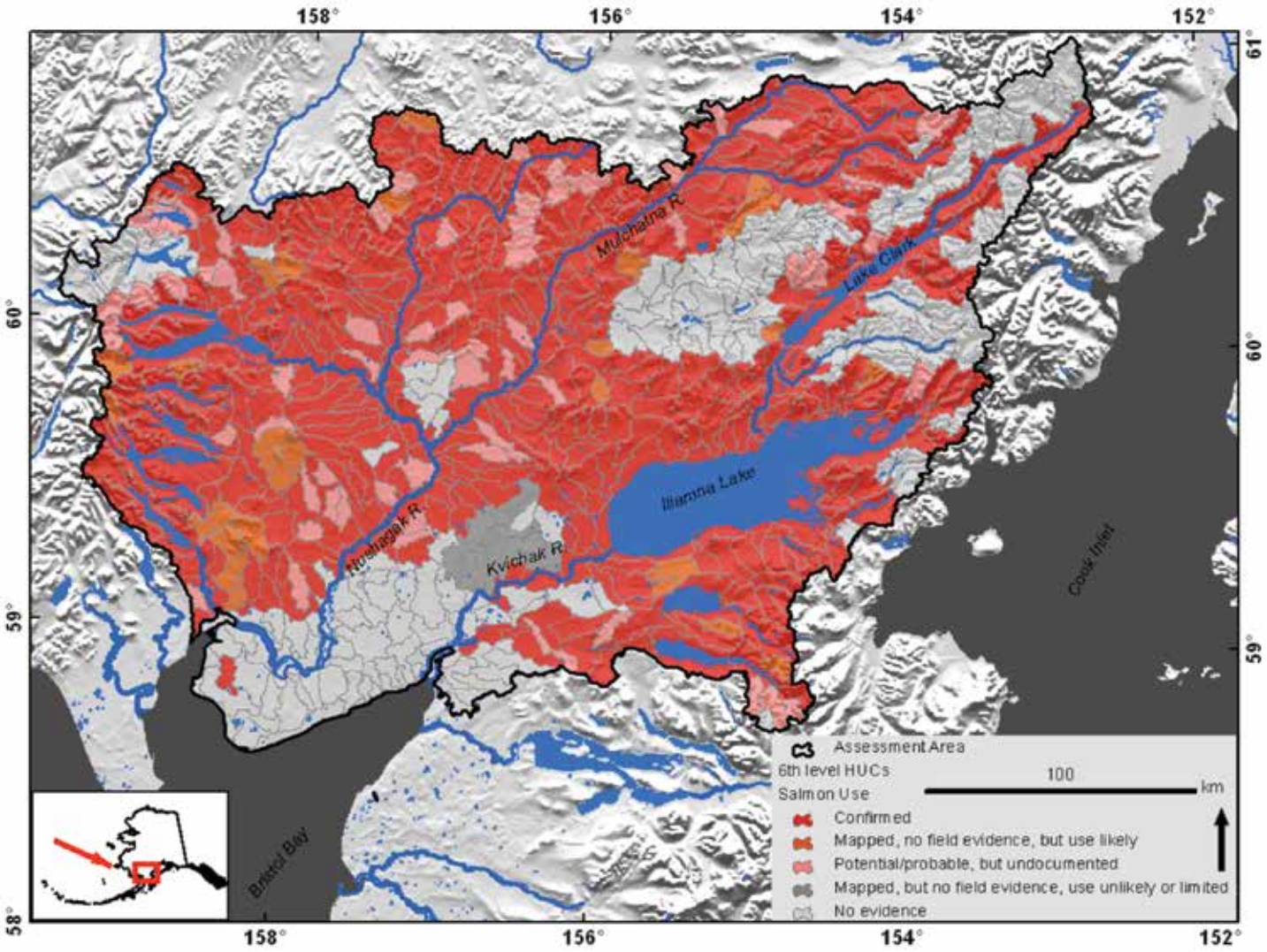

Figure X. Nushagak and Kvichak river drainage region salmon-producing subwatersheds (total area = 61,317 km2, total subwatersheds = 568; USDA-NRCS et al. 2011). **Confirmed** (N = 316, 66% of total area): field reports (e.g., ADF&G 2012a; ADF&G 2012b; Demory et al. 1964; Nelson 1967; Salomone et al. 2009) document salmon spawning and/or rearing in fresh waters within the subwatershed; **Mapped, no field evidence, but use likely** (N = 27, 4% of total area): no available field reports document salmon spawning and/or rearing in fresh waters with the subwatershed, but salmon presence is indicated by Johnson and Blanche (2011) and landscapes and freshwater access are comparable to other assessment area subwatersheds known to provide salmon spawning/and or rearing habitat; **Potential/probable, but undocumented** (N = 63, 7% of total area): because of insufficient sampling, there are no available field reports and no salmon habitats mapped by Johnson and Blanche (2011), but landscapes and freshwater access are comparable to other assessment area subwatersheds known to provide salmon spawning and/or rearing habitat; **Mapped, but no field evidence, use unlikely or limited** (N = 8, 1% of total area): salmon spawning and/or rearing indicated by Johnson and Blanche (2011), but no field reports substantiate use and landscapes are similar to other assessment area subwatersheds where repeated sampling indicates salmon are not present; **No evidence** (N = 154, 22% of total area): no reports of salmon spawning and/or rearing exist and landscapes and/or freshwater access are similar to other assessment area subwatersheds where repeated sampling indicates salmon are not present. Salmon are known to spawn and rear downstream to or in the tidal reaches of the Nushagak and Kvichak river mainstems, but salmon are not known to spawn or rear in the tributaries flowing through the subwatersheds adjacent to the lower Nushagak and Kvichak rivers.

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Bristol Bay Regional Vision

www.bristolbayvision.org

About the Bristol Bay Regional Vision Statement

Commissioners for the Bristol Bay Regional Vision project prepared a region-wide vision statement after listening to the opinions and concerns of nearly 1,000 residents of the region. Meetings took place in 27 communities between September 2010 and January 2011.

This Vision Statement reflects the shared values of the people of the region based on what residents in every community said. In each community, residents responded to an identical set of questions using electronic voting keypads; they also engaged in conversations around key issues.

Across the region, there is strong agreement about the most important aspects of peoples' lives and goals for the future. The electronic polling results and discussion notes for each community are posted on the project website. Compiled results for the region are also available. Please visit *www.bristolbayvision.org*.

The following themes emerged from the community meetings:

- Participants in all communities hold family, connection to the land and water, and subsistence activities as the most important parts of their lives today, and expect the same to be true 25 years from now.
- When asked about things they would like to change in their community, the most often cited issue was alcohol/drug abuse and/or fear of domestic violence.
- People said the goal of education is to prepare youth to graduate with skills needed for success in college or vocational schools.
- Respondents welcome sustainable economic development that is based largely on renewable resources. Overwhelmingly, people said large development must not threaten land and waters.
- People believe they can live healthy and productive lives here in the next 25 years.

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Bristol Bay Regional Vision

WWW.BRISTOLBAYVISION.ORG

Vision Statement

February 2011

The foundation of the Bristol Bay Region is committed families, connected to our land and waters.

We believe future generations can live healthy and productive lives here. Across our region, we share common values of community, culture, and subsistence.

We see a future of educated, creative people who are well prepared for life. This requires:

- Excellent schools
- Safe and healthy families
- Local jobs
- Understanding our cultural values and traditions

We assert the importance of local voices in managing our natural resources to continue our way of life.

We welcome sustainable economic development that advances the values of Bristol Bay people. Our future includes diverse economic opportunities in businesses and industries based largely on renewable resources. Large development based on renewable and non-renewable resources must not threaten our land, our waters, or our way of life.

We foster cooperation among local and regional entities to coordinate infrastructure planning for stronger, more affordable communities. Investments in energy, housing and transportation promote sustainable communities and spur economic development.

We recognize the need to locate new sources of capital to implement this vision with a goal of generating self-sustaining regional economies.

We are unified to secure a prosperous future.

Tollfree 1-877-990-2287 **Web** bristolbayvision.org **Email** info@bristolbayvision.org

The

CITIZEN'S ALTERNATIVE BRISTOL BAY AREA PLAN FOR STATE LANDS

Submit Comments on this Public Review Draft

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