

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). See Map O-2.

State Lands and Municipal Selections: Ownership and Acreage

The majority of land within Region 9 is state or Native owned¹². 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. Map O-2 depicts the boundaries of this Region, generalized land status, and the distribution of state owned, state selected, and borough-selected uplands.

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. Most of this land is covered by, depending on elevation and location, 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, Three Sisters Mountains as well as 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

¹² Primarily the Bristol Bay Native Corporation.

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 fourteen-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, ATV's 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 2 mixed historic/prehistoric sites within the Region.

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 has 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

Several local and state management plans affect this Region. These were reviewed during the preparation of the Area Plan.

Both the Comprehensive Plan and the District Coastal Management Plan of the Lake and Peninsula Borough apply to Region 9. The Comprehensive Plan focuses on economic and infrastructure development issues and does not contain specific land use standards or a land use

map. The Enforceable Policies of the District Coastal Management Plan are extensive; policies affecting anadromous streams, bald eagle nests, oil and gas development, material extraction and mining can be applicable, under certain instances, to state land. See www.alaskacoast.state.ak.us/ for more information on enforceable policies. These policies should be consulted by DNR prior to issuing an authorization.

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 revision replaces and supersedes the original plan. Many of the settlement areas identified in the 1984 area plan are continued in this revision. 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 (Map O-2).

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. See *Plan Map O-2, Appendix C*, and the *Municipal Entitlement section of Chapter 4*.

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; and, 3) in certain areas, remote settlement. Because of the extent of the state land, the absence of discernible economic patterns, and the potential to accommodate a variety of differing uses through siting and other development requirements, most state land is designated General Use. Smaller parts of the Region are designated Minerals, 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.

- General Use (Gu). Extensive areas throughout the Region (R09-01, R09-07) are designated General Use, for the reasons given above. Such areas are typically remote, inaccessible, and characterized by either steep or rolling terrain. Vegetation patterns are typically low and tall shrubs, or alpine adapted vegetation. These areas are less suitable for development than areas designated Settlement. Within areas designated General Use, a variety of uses may occur; nonetheless, because of the inherent limitations to development, it is expected that little development will occur during the planning period

and as a matter of policy it is not intended that intensive forms of development occur in these areas other than occasionally and at specific sites, usually associated with mining, oil and gas exploration and development, or recreation. The requirements of the section ‘Caribou and Moose Rutting and Calving Areas’ in the Fish and Wildlife Habitat and Harvest Areas section of Chapter 2 are to be followed in development authorizations.

- 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.
- 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.
- Habitat (Ha). Generally, this designation applies to areas of varied size that are important for fish and wildlife species during a sensitive life-history stage where alteration of the habitat or human disturbance could result in a permanent loss of a population or sustained yield of a species. In Region 9 this designation is applied to streams and shorelands cataloged by the Alaska Department of Fish and Game as anadromous (http://gis.sf.adfg.state.ak.us/AWC_IMS/viewer.htm). The designation is to be retained in state ownership.
- Minerals (Mi). The Fog Lake (Pond) area, a significant mineral occurrence with gold- and silver-bearing prospects, is designated Minerals and is to be retained in state ownership. Authorizations related to mining and its associated facilities are considered appropriate in these areas.
- 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.

Consult the Resource Allocation Table for more information about these management units.

Specific Management Considerations:

- **Generally Allowed Uses.** The Generally Allowed Uses in 11 AAC 96.020 can occur throughout the Region; there are no areas affected by 11 AAC 96.010 requiring a permit before being authorized.
- **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. No additional MCOs are recommended; 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. The MCOs in areas not selected for staking within three years of the land sale are to revert to ‘open to mineral entry’. In addition, no additional leasehold location orders are recommended. See the Mineral Resources section in Chapter 2 for more details on subsurface management requirements.
- **Municipal Entitlement Selections.** The municipal selections within this Region are either designated General Use or Settlement, which convert to the classifications of Resource Management Land and Settlement Land, respectively. Both classifications are conveyable to municipalities under the Municipal Entitlement Act. All lands so designated are considered appropriate for disposal, subject to a separate and subsequent Best Interest Finding.
- **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.** There are few state lands within this Region that are designated by the area plan to be retained other than the islands in Iliamna Lake or the upland areas that are used as public facilities. Lands that are identified as a Proposed Transportation Corridor are not to be conveyed out of state ownership unless ADOT/PF determines that it is in excess of state needs. A reasonable portion of lands within management unit R09-13 are to be retained in state ownership to suit the needs of the public for recreation on the south shore of Iliamna Lake.
- **Navigable Waters.** Shorelands (rivers and lakes) that are believed to be navigable are listed in Table 3.1 in the Navigability section of this Chapter. Authorizations in these waters must ensure the continued use of a waterway by the public for purposes of trade, travel, and commerce. Note: These waterbodies are assigned a plan designation of Habitat, Public Recreation and Tourism-Dispersed, a co-designation of Habitat and Public Recreation and Tourism-Dispersed, and, sometimes, General Use. Authorizations issued by DNR are to maintain the habitat 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 Gu -- General Use	Map O-2	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, 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.	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. A moose rutting area occupies portions of this unit. Leasehold Location Order #1 affects parts of this unit.
R09-02 Upper Chekok Creek	25,022 Se -- Settlement	Map O-2	The unit is designated Settlement 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, described in the Settlement, and Fish and Wildlife Habitat and Harvest Areas sections 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. Portions of a moose rutting area occupy parts of the unit. 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 Se -- Settlement	Map O-2	This land is designated Settlement and is considered appropriate for disposal during the planning period. Authorizations and disposals on land that is not conveyed to the Borough shall adhere to the requirements of Remote Settlement and Caribou and Moose Calving and Rutting Areas in Chapter 2. The areas of municipal selection are considered appropriate for conveyance to the Lake and Peninsula Borough, subject to a separate and subsequent Best Interest Finding.	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 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.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R09-04 Pedro Bay Airport	46 Pr -- Public Facilities- Retain	Map O-2 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 Pr -- Public Facilities- Retain	Map O-2 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	Map O-2	These units are designated Public Recreation and Tourism-Dispersed, 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.
R09-07 Tommy Creek/Chigmit	352,970 Gu -- General Use	Map O-2	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, 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 three 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 which are comprised of closed spruce forest. A moose calving area occupies portions of lowlands generally near Denny Creek in the southwestern part of the unit. MCO 393 closes several streams to mineral entry. Portions of the unit are affected by Municipal selections of the Lake and Peninsula Borough.

Unit #: / Name	Acres / Designation(s)	MTRS	Management Intent	Resources, Uses, Additional Info
R09-08 Kakhonak Lake	64,628 Se -- Settlement	Map O-2 S6S28W- S8S28W; S7S29W- S8S29W	This unit is designated Settlement and is considered appropriate for disposal during the planning period. Development should conform to the requirements for Remote Settlement in the Settlement section of Chapter 2. The lands selected by the Borough are considered appropriate for conveyance, subject to a separate and subsequent Best Interest Finding. The proximity of the Fog Lake gold prospect should be noted and authorizations should not be granted that will impede exploration or development efforts at Fog Lake. 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. LLO 1 affects portions of this unit.
R09-09 Copper River	921 Ha -- Fish and Wildlife Habitat	Map O-2 S7S29W	The unit is designated Habitat (Ha) and is to be managed for the protection of fish and wildlife habitat. 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. Brown bear also use the area.
R09-10 Fog Lake	4,480 Mi -- Minerals	Map O-2 S7S3W, S8S3W	If conveyed by the Federal government, this unit is to be retained in state ownership and managed for the exploration and development of subsurface resources.	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.
R09-11 Kakhonak School	4.94 Pr -- Public Facilities- Retain	Map O-2 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	Map O-2 S8S32W;S8 S33W;S9S3 3W	The unit is to be retained by state and to 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 Rd -- Public Recreation and Tourism-Dispersed	Map O-2 S9S34-35W	This unit 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. The mouth of Dennis Creek, an anadromous fish stream, is within this unit. Streams are utilized by brown bear, especially during the salmon spawning season. Moose calving and rutting areas occur in the unit. Raptors are located in or near the unit. The unit is partly affected by LLO 1 and MCO 393.
R09-14 Kamishak	15,698 Gu -- General Use	Map O-2	The unit is designated General Use (Gu) and is to be managed for a variety of uses including minerals exploration and development, dispersed public recreation and tourism, fish and wildlife harvest, and protection of fish and wildlife habitat. Development authorizations may be considered appropriate subject to the protection of these resources and the specific requirements of Chapter 2. 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.