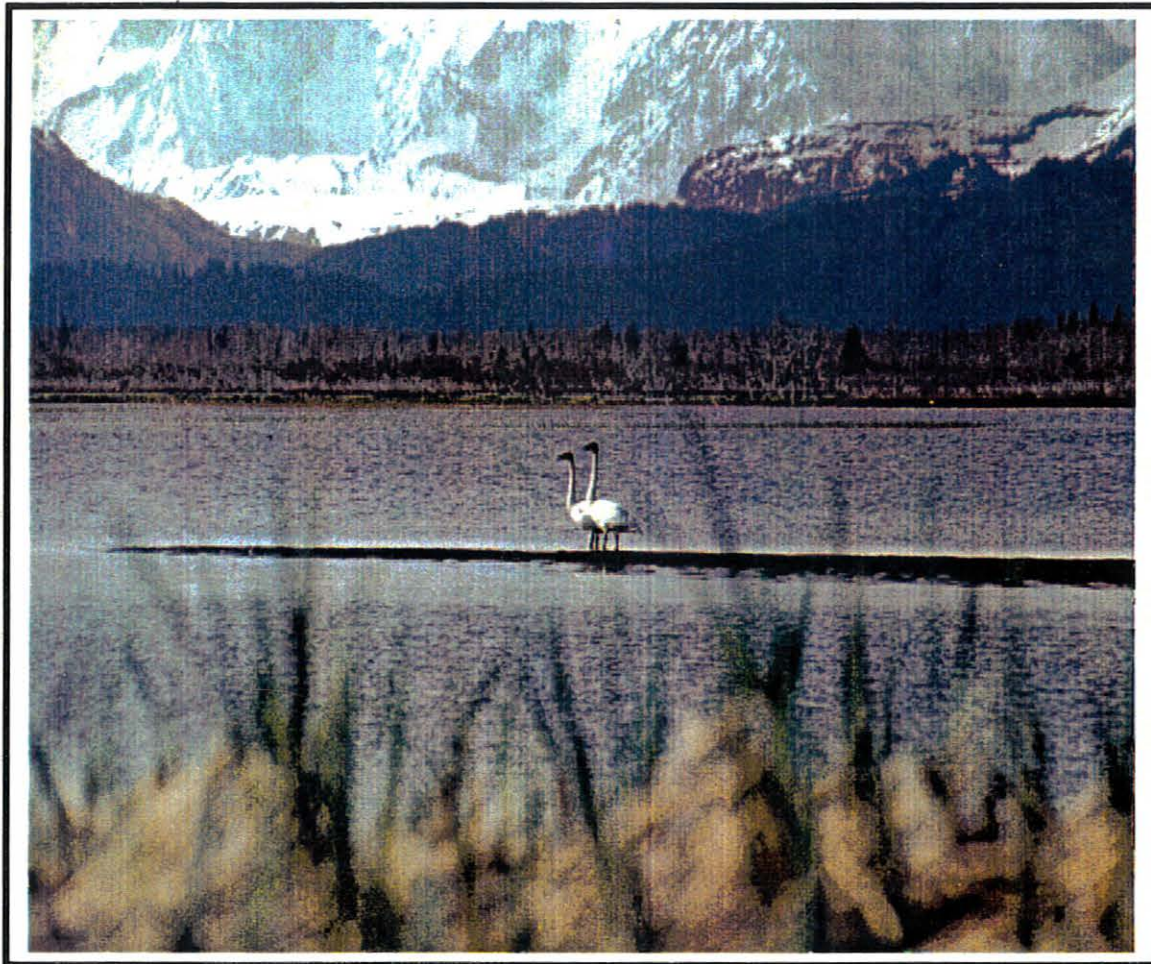


YAKATAGA STATE GAME REFUGE MANAGEMENT PLAN



Prepared by:
Alaska Department of Fish and Game
June 1999

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Division of Habitat and Restoration

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INTRODUCTION

The Yakataga State Game Refuge (Refuge) was established by Alaska's Sixteenth Legislature in 1990 (SCS CSHB 346). This 82,000 acre area is located between Cape Yakataga and Cape Suckling along the coast of the Gulf of Alaska and bounded on the north by the Bering Glacier and the Robinson Mountains. The Refuge was established to provide permanent protection for fish and wildlife habitat and populations, including salmon spawning and rearing habitat and critical goat and moose winter habitat and the public uses of these resources. The use and disposition of other resources is allowed if the activities are consistent with the protection of the above uses of the Refuge.

PURPOSE

The purpose of the Yakataga State Game Refuge Management Plan (Plan) is to provide consistent, long-range guidance to the Alaska Department of Fish and Game (ADF&G) and other agencies involved in managing the Refuge. In addition, the Plan provides users of the Refuge a clear description of what activities are anticipated to occur on the Refuge.

The Plan presents management goals for the Refuge and its resources, and identifies policies to be used in determining whether proposed activities within the Refuge are compatible with the protection of fish and wildlife, their habitats, and public use of these resources. The Plan will be reviewed every five years and, if appropriate, updated as funding permits. Public participation will be solicited during the update process. The Plan does not address hunting or fishing regulations, which are the authority of the Boards of Fisheries and Game.

PROCESS

This Plan is the result of a public planning process led by ADF&G. A draft Plan was developed by a planning team representing state, federal and municipal agencies and private corporations including: the ADF&G, Natural Resources (DNR), and Environmental Conservation (DEC); the University of Alaska; the U.S. Fish and Wildlife Service (USFWS); Southeast Alaska Conservation Council; the National Marine Fisheries Service (NMFS); the City and Borough of Yakutat; and Chugach Alaska Corporation.

At the beginning of the public planning process, a list of issues was generated with input from the planning team. This list was published and public response regarding additional issues, interests, and concerns was solicited. Public meetings were held in Cordova and Yakutat to receive further public input regarding Refuge management. Public input at the meetings and written comments were used by the planning team to identify a list of issues to be considered in the Plan and to determine how those issues should be addressed. At the same time, resource information of fish and wildlife populations, other natural resources, existing land use, and land ownership was being collected and synthesized. This information, presented in narrative form, comprises the Plan's resource inventory.

Draft management goals and policies for the Refuge were developed by the planning team to address the identified issues. All draft policies were developed with consideration of their ability to meet the statutory purpose of the Refuge and the Plan's management goals. In addition, other applicable laws and the Public Trust Doctrine¹ were considered.

The final draft of the Refuge Plan was made available for review and comment to the planning team. Those comments were incorporated into a final version that was presented and reviewed by the Commissioner of Fish and Game. Following the commissioner's review and approval the Plan will be adopted for use by the department in managing the Refuge.

IMPLEMENTATION

Once adopted, the Plan will be implemented by ADF&G primarily through the Special Area Permit program. A permit will be required from ADF&G whenever any habitat-altering activity is proposed in the designated Refuge (5 AAC 95). The Habitat and Restoration Division will review all proposed activities in the Refuge for consistency with the goals and policies outlined in the Plan. Proposed activities will be approved, conditioned, or denied based on the direction provided in the Plan as well as other applicable state laws and regulations. Research programs, public use facilities, and other department projects must also be consistent with the goals and policies presented in this plan.

Other state, federal, and local agencies also have management responsibilities within the Refuge. Many uses, including lease or disposal of resources on state land in the Refuge requires DNR authorization. Activities affecting air or water quality require authorization from DEC. The U.S. Army Corps of Engineers (COE) evaluates applications for discharging dredged and fill material in waters of the U.S., including wetlands. Federal and state agencies, including USFWS, NMFS, the Environmental Protection Agency (EPA), ADF&G, DEC, and DNR along with local governments, review proposals for COE permits, pursuant to the Fish and Wildlife Coordination Act (16 USC 661-666 et. Seq.). The City and Borough of Yakutat and the City of Cordova may review and comment on all permit proposals within the Refuge. Review of activities requiring more than one type of authorization will be coordinated through the Division of Governmental Coordination (Office of the Governor) for a finding of consistency with the Alaska Coastal Management Program (ACMP).

ISSUES THAT INFLUENCED THE REFUGE PLAN

The Refuge plan has a specific relationship in its development and application to three items discussed below. Each of these (the Public Trust Doctrine, December 1994

¹ A common law doctrine that requires the state to manage tidelands, shorelands, and submerged lands for the benefit of the people so that they can engage in beneficial uses such as navigation, commerce, fishing, and other uses.

Settlement Agreement with the University of Alaska, and the Yakataga Area Plan) influences the Refuge plan in separate and inter-related ways.²

ACCESS AND THE PUBLIC TRUST DOCTRINE

The Alaska Constitution (Article VII, Sections 1,2,3,6,13, and 14) and Alaska Statutes (38.05.127 and 38.05.128) are the legal basis for applying the Public Trust Doctrine in Alaska. This doctrine guarantees the public access to navigable or public waterways to engage in such things as navigation, commerce, fishing, and other uses.

The Alaska Constitution provides that “free access to the navigable or public waters of the state, as defined by the legislature, shall not be denied any citizen of the United States or resident of the state, except that the legislature may by general law regulate and limit such access for other beneficial uses or public purposes.” Eliminating private upland owners reasonable access to navigable waters may require compensation.

Both federal and state laws regarding the transfer of land to private parties provide for Alaska waters (Article VIII, Section 14). AS 38.05.127 requires the commissioner of DNR to “provide for the specific easements or rights-of-way necessary to ensure free access to and along the body of water, unless the commissioner finds that regulating or eliminating access is necessary for the beneficial uses of public purposes.”

It has never been held that any lands normally subject to the Public Trust Doctrine in Alaska are exempt from it, including lands occupied and developed. These statutes and concepts are considered and used throughout this plan. ADF&G management actions will be consistent with the Public Trust Doctrine as defined by the Alaska Constitution, statutes, court decision and public involvement.

THE UNIVERSITY SETTLEMENT AGREEMENT

In August 1995, Alaska Superior Court Judge Larry Zervos approved a settlement to a seven-year lawsuit regarding timber rights held by the University of Alaska for harvest of state timber in the Yakataga area. The settlement had been signed by the litigants³ on December 2, 1994 and is referred to in this plan as the December 1994 Settlement Agreement. It resulted in several eleventh-hour changes to the Draft Yakataga Area Plan, and set the pattern for timber harvest on state lands in the area for the next twenty years.

In 1987, three parcels of land in the Yakataga area were identified in a DNR best interest finding and decision to convey to the University of Alaska for one-time timber harvest rights. These parcels were: Cape Yakataga (approximately 2,065 acres), Cape Suckling

² The explanation of the Public Trust Doctrine, December 1994 Settlement Agreement, and Yakataga Area Plan were cited from the Yakataga Area Plan.

³ Yakutat Fishermen’s Association V. Brady, Consolidated Case 1JU-88-271 civil. The appellants were: the City and Borough of Yakutat, Yakutat Fishermen’s Association, Cordova District Fishermen United, Steven Ranney, Alaska Center for the Environment, Inc., and Southeast Alaska Conservation Council, Inc. The appellees were Alaska DNR and the University of Alaska.

(approximately 32,300 acres), and White River (approximately 3,411 acres). The timber rights were part of a settlement to compensate the University for trust lands that the state had conveyed to the Municipality of Anchorage under the Municipal Entitlement Act.

The decision to convey the timber rights precipitated two lawsuits against the State and the University. Both lawsuits sought to overturn the decision to convey the timber. The two cases were combined under the heading of Yakutat Fishermen's Association v. Brady.

In the litigation that followed, the state legislature in 1990 directed DNR to "make every reasonable effort to achieve settlement" of the timber litigation, and to "make every reasonable effort to reach agreement (with the University) on the fair market value" of the Cape Suckling and Yakataga timber tracts, with the intent that the timber rights to these tracts be reacquired by the next legislature.

In 1991, DNR and the University agreed to the current fair-market-value of the Yakataga timber cutting rights, but declared an impasse with respect to the value of the Cape Suckling timber cutting rights. In 1991, the legislature was informed of the agreement on the value for the Yakataga parcel and the impasse on the value of the Cape Suckling parcel. During the 1992 legislative session, the legislature appropriated \$6 million from the Exxon Valdez criminal funds towards the purchase of timber cutting rights at Cape Suckling. This appropriation was vetoed by Governor Walter Hickel, and the legislature has not taken any further action. During the 1993 -1997 legislative sessions, there was little discussion of this issue.

The Cape Suckling tract (also known as Tract A-148) is discussed in the Yakataga Area Plan as Cape Suckling - Unit 1. In accordance with the 1994 Settlement Agreement, DNR will manage the tract as general state land.⁴ According to the Yakataga Area Plan (3-15), "the tract is available for addition to the Yakataga State Game Refuge, subject to future legislative action."

The December 1994 Settlement Agreement noted in item 7 (b) (ii) that the creation of the Refuge, which occurred after the original conveyance of limited timber cutting rights to the University, further reduced the applicable land base upon which the annual allowable cut was calculated. Item 9 of the December 1994 Settlement Agreement specifically stated that ADF&G "shall seek adequate funding to begin the process for adoption of a Yakataga State Game Refuge Management Plan by July 1, 1997, and to complete the refuge management planning process by July 1, 1999. During this process, ADF&G shall consider data and research provided by the University and other parties to this Agreement. ADF&G may make recommendations for addition of land west of the Duktoth River to the Yakataga State Game Refuge." A history of events leading to the December 1994 Settlement Agreement is provided in greater detail in the appendix.

⁴ If any party withdraws from the December 1994 Settlement Agreement, pursuant to Section 16 of the agreement, the University would re-acquire timber rights to Cape Suckling *status quo ante*, as if the agreement had not been entered into, except that the volume of timber harvested from the substitute tract would be subtracted from the Cape Suckling timber rights (YAP, 3-15).

THE YAKATAGA AREA PLAN

The Yakataga Area Plan (YAP) directs how DNR will manage state uplands, shorelands, tidelands, and submerged lands between Cape Suckling and the northern boundary of Glacier Bay National Park (near Dry Bay).⁵ The planning process, under DNR's responsibility, began in the late 1980's with surveys of resources. The Draft YAP was issued for public review in the summer of 1993. After a public comment and review period, as well as agency review, the final YAP was completed in April 1995.⁶

State land surrounds the Refuge boundary and the YAP presented resource information and prescribed management policy for specific tracts of land. The policy prescription contains three parts; designation, management intent, and management guidelines. A designation indicates which resource uses DNR intends to emphasize, but it does not preclude other uses. The designation is accompanied by the management intent and guidelines. Together, the three parts promote the most beneficial use(s) and set conditions for allowing undesignated uses. The area covered by the YAP is divided into 13 units (regions) and 102 subunits. The subunits are generally homogeneous in resources and topography.⁷ The intent of the YAP is to guide land uses (with designations reflecting current or future uses) for the next twenty years (2014), subject to periodic reviews.

Surrounding the Refuge are Unit 1 (Cape Suckling), Unit 2 (Bering Glacier), Unit 3A (Tsiu to Duktoth coastal strip), Unit 3B (upper Kaliakh River and tributary drainages), and Unit 3C (lower Kaliakh River and tributary drainages). These units and their subunits are discussed in detail in Chapter 3 and shown on the index map (Map 3.1) in the YAP.

The land use designations of the YAP influence the Refuge directly and indirectly. Establishment of commercial sportfishing and hunting lodges in Units 1 and 3A significantly affect the number and kinds of uses within the Refuge. It also recommended leasehold location to new mineral entry on the Tsiu, Tsiwat, and Kaliakh rivers. Additionally, the December 1994 Settlement Agreement between the state, the University of Alaska, and litigants resulted in last minute changes to the Draft YAP and included provisions related to land classifications, withdrawal from the December 1994 Settlement Agreement, future state timber offerings, annual allowable cut, sustained yield, and other items.

⁵ The area plan does not apply to state lands managed by state agencies other than DNR. The plan therefore excludes Yakataga State Game Refuge, Mental Health Trust lands, and Yakutat airport or other lands managed by DOTPF. The plan does apply to shorelands beneath navigable waterbodies, and to the state-owned and reserved subsurface mineral estate, such as beneath municipal lands.

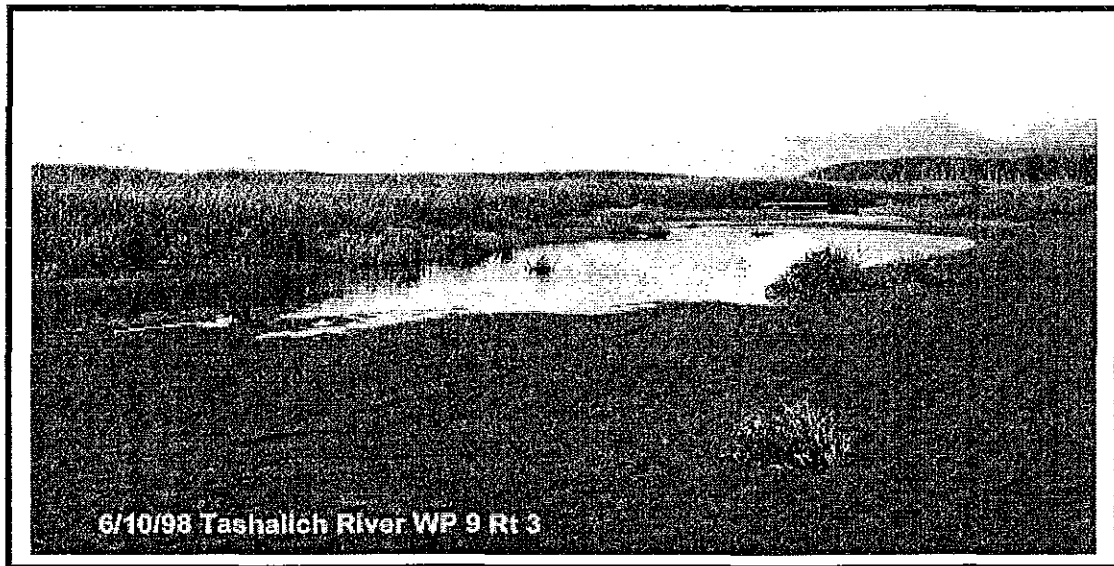
⁶ Copies of the YAP are available for use or purchase from DNR in Anchorage and Juneau. Contact the DNR Public Information Center at 3601 C Street, Suite 200, Anchorage; or the DNR Division of Land public counter at 400 Willoughby Avenue, Suite 400, Juneau.

⁷ See Chapter 3 of the YAP for additional details.

As part of the December 1994 Settlement Agreement, "DNR shall not offer for harvest state timber in the Yakataga area from Icy Bay westward to Cape Suckling sooner than 20 years from the effective date of this Agreement."⁸ The December 1994 Settlement Agreement also stipulated that DNR must revise the YAP before any other future state timber offerings can be made. The revision must include a re-examination of land classifications and land use designations. DNR also suggested that an interagency planning team should review the YAP every five to ten years to determine if conditions warrant updating the plan.

When the 1990 legislature passed the act establishing the Refuge, it directed DNR to prepare an area plan that considered, among other things, reducing or expanding the boundaries of the Refuge. It further established the area east of the Kaliakh River as a temporary Special Management Area and directed the YAP process to evaluate the area for inclusion in the Refuge.⁹ This eastern parcel, known as the Yakataga Special Management Area, extends easterly from the Kaliakh River to the edge of the Duktoth River and includes Kulthieth Mountain. In Chapter 4 of the YAP, DNR recommended that Subunit 3c-4 (Yakataga Special Management Area) be added to the Refuge to help meet the legislative intent for creating the Refuge.

A second tract of land was identified in the YAP for possible future inclusion into the Refuge. The western parcel, known as Tract A- 148 (Unit 1-Cape Suckling), roughly extends from Seal River to, and including, the Suckling Hills. In accordance with the December 1994 Settlement Agreement, DNR will manage the tract as general state land.¹⁰ According to the Yakataga Area Plan (3-15), "the tract is available for addition to the Yakataga State Game Refuge, subject to future legislative action."



⁸ December 1994 Settlement Agreement, Item 4(c)(i).

⁹ See the YAP, Chapter 4, pg 5.

¹⁰ If any party withdraws from the settlement agreement, pursuant to Section 16 of the agreement, the University would re-acquire timber rights to Cape Suckling *status quo ante*, as if the agreement had not been entered into, except that the volume of timber harvested from the substitute tract would be subtracted from the Cape Suckling timber rights (YAP, 3-15).

STATUTES

The following statute pertains specifically to the establishment and management of the Yakataga State Game Refuge.

Sec. 16.20.033 Yakataga State Game Refuge. (a) The following state-owned land and water and all land acquired in the future by the state lying within the parcels described in this subsection are established as the Yakataga State Game Refuge:

- (1) Township 20 South, Range 13 East, Copper River Meridian
 - Section 11: SE1/4
 - Section 12: S1/2
 - Section 13
 - Section 14: E1/2
 - Sections 22 – 27
 - Sections 34 – 36;
- (2) Township 20 South, Range 14 East, Copper River Meridian
 - Sections 7 -- 12: S1/2
 - Sections 13 -- 36;
- (3) Township 20 South, Range 15 East, Copper River Meridian
 - Sections 7 -- 12: S1/2
 - Sections 13 -- 36;
- (4) Township 20 South, Range 16 East, Copper River Meridian
 - Sections 7 -- 9: S1/2
 - Sections 16 -- 36;
- (5) Township 21 South, Range 11 East, Copper River Meridian
 - Excluding that portion of Tract A-148 lying north and west of Seal River:
 - Sections 1 – 2
 - Sections 3 -- 4: North and east of the Seal River and its associated lake system
 - Section 10: East of Seal River and one mile north of mean high tide line on the Gulf of Alaska
 - Sections 11 – 12
 - Sections 13 -- 14: above mean high tide line on the Gulf of Alaska;
- (6) Township 21 South, Range 11 1/2 East, Copper River Meridian
 - Sections 6 – 7
 - Section 18: Above mean high tide line on the Gulf of Alaska;
- (7) Township 21 South, Range 12 East, Copper River Meridian
 - Sections 13 – 14: S1/2
 - Sections 23 – 26
 - Sections 35 -- 36: Above mean high tide line on the Gulf of Alaska;

- (8) Township 21 South, Range 13 East, Copper River Meridian
Sections 1 – 21
Section 22: W1/2, E1/2 one mile north of mean high tide line on the Gulf of Alaska
Sections 23 -- 24: One mile north of mean high tide line on the Gulf of Alaska;
- (9) Township 21 South, Range 14 East, Copper River Meridian
Sections 1 – 12
Sections 13 -- 15: One mile north of mean high tide line on the Gulf of Alaska
Sections 16 – 18
Sections 19 -- 22: One mile north of mean high tide line on the Gulf of Alaska;
- (10) Township 21 South, Range 15 East, Copper River Meridian
Sections 1 – 7
Sections 8 -- 12: One mile north of mean high tide line on the Gulf of Alaska;
- (11) Township 21 South, Range 16 East, Copper River Meridian
Sections 1 – 6
Sections 7 -- 12: One mile north of mean high tide line on the Gulf of Alaska.
- (b) The Yakataga State Game Refuge is established to protect the
- (1) fish and wildlife habitat and populations, including salmon spawning and rearing habitat and critical goat and moose winter habitat;
 - (2) public uses of fish and wildlife and their habitat, particularly commercial, sport, and subsistence fishing, hunting, viewing, photography, and general public recreation in a high quality environment; and
 - (3) the use and disposition of other resources when the activities are not inconsistent with (1) and (2) of this subsection.
- (c) The department shall permit timber harvest activities in the area east of the Kaliakh River when the activities are not inconsistent with (b)(1) of this section.
- (d) The state may not acquire by eminent domain private land that is located within the state-owned land specified in (a) of this section for inclusion in the Yakataga State Game Refuge. The state may acquire private land that is located within the state-owned land specified in (a) of this section by purchase, exchange, or otherwise from willing owners for inclusion in the Yakataga State Game Refuge.
- (e) The establishment of the Yakataga State Game Refuge under this section does not impair or alter valid existing rights including pending Native allotment applications, access to set net sites, and access to and from private land located within the Yakataga State Game Refuge.
- (f) The department shall allow commercial, sport, and subsistence fishing and hunting within the Yakataga State Game Refuge under regulations of the Board of Fisheries and the Board of Game. The department shall also permit associated support activities when

necessary and consistent with AS 16.20.010 - 16.20.080 to support fishing and hunting permitted under this section, including fish buying operations, aircraft support including landing strips, and off-road vehicle use.

(g) Egress and ingress to and from private property within the parcels described in (a) of this section shall be allowed through access corridors established by agreement between the department, the Department of Natural Resources, and the owners of private land involved. The establishment of the Yakataga State Game Refuge does not impair or alter existing rights of access to set net lease sites.

(h) The department shall adopt and may revise a management plan for the Yakataga State Game Refuge.

Sec. 2. AS 16.20.033(a)(5) is amended to read:

(5) Township 21 South, Range 11 East, Copper River Meridian [EXCLUDING THAT PORTION OF] Tract A-148 lying north and west of Seal River [:]

Sections 1-2

Section 3-4: North and east of the Seal River and its associated lake system

Section 10: East of Seal River and one mile north of mean high tide line on the Gulf of Alaska

Sections 11-12

Section 13-14: Above mean high tide line on the Gulf of Alaska

Sec. 3. AS 16.20.033(a) is amended by adding new paragraphs to read:

(12) Township 21 South, Range 9 East, Copper River Meridian Tract A-148

Township 21 South, Range 10 East, Copper River Meridian Tract A-148.

Sec. 6. LEGISLATIVE INTENT. It is the intent of the legislature that the establishment of the Yakataga State Game Refuge only take effect if the administrative decision of the commissioner of natural resources that authorizes timber harvesting in the "extension area" under the Icy Cape II timber sale, ADL 203002, as amended on March 7, 1990, is not challenged in the Alaska Superior Court by administrative appeal within the time permitted by law, or, if appealed, the decision is affirmed by a final judicial order not subject to further appeal.

Sec. 7. Sections 2-3 of this Act take effect on the effective date of an appropriation Act appropriating to the University of Alaska those amounts necessary to compensate the university for the agreed value reached under sec. 5(b) of this Act for the interest of the university in Tract A-148 at Cape Suckling after crediting to the university those amounts received by the university under sec. 5(c) and (d) of this Act.

Sec. 8. Except as provided in sec. 9 of this Act, secs. 1 and 4-5 of this Act take effect on the date that the commissioner of natural resources certifies to the lieutenant governor and the reviser of statutes that the administrative decision of the commissioner authorizing timber harvesting in the extension area under the Icy Cape II timber sale,

ADL 203002, as amended on March 7, 1990, has become final and is not subject to further administrative or judicial review.

Sec. 9, ch.143, SLA 1990 provides that the area described in sec. 1 of this Act that is east of the Kaliakh River shall be included in the Yakataga State Game Refuge only if and to the extent that the area plan prepared by the commissioner of natural resources under sec. 4 of this Act contains a recommendation of the commissioner to include that area within the Yakataga State Game Refuge. Until the commissioner issues an area plan under sec. 4 of this Act, the area east of the Kaliakh River shall be described as the Yakataga Special Management Area and managed by the commissioner of natural resources.

NOTE: This eastern parcel, formerly known as the Yakataga Special Management Area, extends easterly from the Kaliakh River to the edge of the Duktoth River and includes a portion of the Kulthieth Mountain. In Chapter 4 of the Yakataga Area Plan, DNR recommended that Subunit 3c-4 (Yakataga Special Management Area) be added to the Refuge to help meet the legislative intent for creating the Refuge. The Yakataga Area Plan was signed and adopted by DNR Commissioner John Shively on April 3, 1995, thereby incorporating the area into the Yakataga State Game Refuge. The parcels include:

- (1) Township 20 South, Range 16 East, Copper River Meridian
Sections 21-36;
- (2) Township 21 South, Range 16 East, Copper River Meridian
Sections 1-3
Sections 9-12: One mile north of mean high tide line on the Gulf of Alaska.

STATUTORY GOALS

Activities within the Yakataga State Game Refuge will reflect the following goals in accordance with the purpose for which the Refuge was established. All department management decisions in the Refuge, whether affecting activities undertaken by the department, other agencies, or the public, will be in accordance with these goals.

- I. Protect the fish and wildlife habitat and populations, including salmon spawning and rearing habitat and critical goat and moose winter habitat.
- II. Protect the public uses of fish and wildlife and their habitat, particularly commercial, sport, and subsistence fishing, hunting, viewing, photography, and general public recreation in a high quality environment.
- III. Protect the use and disposition of other resources when the activities are not inconsistent with goals I and II.



POLICIES

Where applicable, a single Special Area Permit will be issued on one or more of the following policies for the Refuge.

PUBLIC ACCESS

Airstrip Refuge Policy: Maintain existing public access for continued public use and research compatible with the goals of the management plan. Do not allow the development of additional airstrips within the Refuge unless there is a demonstrable need for which no other alternative is feasible. A Special Area Permit is required for development and/or maintenance of airstrips within the Refuge. The Refuge policy does not remove the obligation of airstrips or improved aircraft landing areas to comply with Federal Aviation Administration regulations.

ATV Refuge Policy: To ensure protection of sensitive habitats and avoid harmful disturbance to fish and wildlife, all-terrain vehicle (ATV) use in the Refuge shall be regulated by a Special Area General Permit which will be renewed annually.¹¹ The wetlands associated with the Tsiu and Tsiwat Rivers are an especially sensitive area and ATV use will not be authorized in this area under the Special Area General Permit. ADF&G may, in its discretion, issue an individual Special Area Permit for the use of wheeled, tracked, or other ground-effect motorized vehicles in any portion of the Refuge if the use is consistent with the goals and policies of this management plan and with Special Area Regulations (5 AAC 95) and fulfills a demonstrable need for which there is no feasible alternative.

As of 1999, the Special Area General Permit for use of any wheeled, tracked or other ground-effect motorized vehicle less than 1,000 pounds gross vehicle weight pursuant to 5AAC 95 states:

Off road use of wheeled, tracked, or other ground-effect motorized vehicle is permitted only on the established trails. Specifically, these trails are the Tsiu River Trail, Mid-Timber Lake Trail, West Fork Tsiwat River Trail and a short trail in the vicinity of the ADF&G cabin.

Airboat Refuge Policy: To ensure protection of sensitive habitats and avoid harmful disturbance to fish and wildlife, particularly migratory birds, airboat use in the Refuge shall be regulated by a Special Area General Permit which will be renewed annually. ADF&G may, in its discretion, issue an individual Special Area Permit for the use of airboats during a restricted period, if the use is consistent with the goals and policies of this management plan and Special Area Regulations and fulfills a demonstrable need for which there is no feasible alternative.

As of 1999, the Special Area General Permit for use of airboats pursuant to 5AAC 95 states:

Use of airboats is allowed in flowing channels with water depths greater than 6 inches from May 1 to August 10.

¹¹ An example of the Special Area General permit and its accompanying map is located in the Appendix.

Other motorboat use will not be regulated unless future evidence indicates physical habitat damage or disturbance of fish or wildlife is resulting from this type of activity.

INFORMATION/EDUCATION

Refuge Policy: Provide information to Refuge users regarding resource values and rules, especially information about avoiding impacts to wetlands, migratory and nesting birds, brown and black bears and spawning fish habitat. Encourage compatible research of fish, wildlife, and habitat resources and their use. If it becomes appropriate, place boundary markers along the southern border in high-use areas.

RECREATIONAL ACTIVITIES

Refuge Policy: Low intensity recreational activities do not require a Special Area Permit and can generally occur. These activities include fishing, hunting, trapping, hiking, photography, and wildlife viewing, compatible with the goals and policies of this management plan and the purposes for which the Refuge was established.

HABITAT ENHANCEMENT

Refuge Policy: As appropriate, allow enhancement of fish and wildlife populations and their habitats if it furthers the statutory goals of the Refuge, especially enhancement of anadromous fish, moose, or mountain goat habitat. This shall not be at the expense of resource values (including diversity and abundance) nor interfere with public use and enjoyment. A Special Area Permit may be required for the activity (5 AAC 95.420).

NONCOMMERCIAL CAMPING

Refuge Policy: Dispersed seasonal camping is allowed in the Refuge. However, to protect fish and wildlife habitat, conserve fish and wildlife populations, and maintain public use opportunities in a high quality environment, establishment of a camp in excess of 14 consecutive days or relocating a camp within a 14-day period within a two-mile radius of the previous 14-day camp requires authorization through a Special Area Permit. Solid waste disposal is not allowed within the Refuge. Food and garbage must be kept in bear-resistant containers. All garbage must be removed from the Refuge. If measurable impacts to fish and wildlife resources are attributed to camping activities in sensitive areas of the Refuge, specific campsites should be established and camping activity limited to established sites.

COMMERCIAL FACILITIES/STRUCTURES

Refuge Policy: To protect fish and wildlife habitat, conserve fish and wildlife populations, and maintain public use opportunities in a high-quality environment, permanent commercial facilities will only be allowed in the Refuge under a Special Area Permit. Commercial facilities will be permitted with terms and conditions that assure they are compatible with the goals and policies of the Refuge and fulfill a demonstrable need for which there is no feasible alternative.

Existing and proposed permanent facilities are required to obtain a Special Area Permit. These permits will require adequate water use, sewage and waste disposal plans; restrictions on what may be stored at the permitted facility; and soil and vegetation disturbance restrictions.

The University of Alaska entered into a Settlement Agreement in December 1994, ending litigation related to timber harvesting in the Cape Suckling – Cape Yakataga area. As part of this agreement, the University agreed to fund a planning and marketing study for a hut/lodge and trail system west of the Duktoth River. Location of these huts may be permitted within the Refuge boundaries.

Temporary structures (not exceeding one season's use), including tent platforms, may be allowed by an individual Special Area Permit. Use of temporary structures does not convey any future or exclusive rights. To allow for monitoring of levels and periods of use, permits for commercial operations will require an annual report for the frequency, location, and timing of aircraft landings in the Refuge, numbers of visitors transported, and numbers/kinds of wildlife and fish harvested.

NONRENEWABLE RESOURCE EXTRACTION

Refuge Policy: To protect fish and wildlife habitat, conserve fish and wildlife populations, and maintain public use opportunities in a high-quality environment, nonrenewable resource exploration and extraction would need to occur in a manner that is compatible with the goals and policies of this management plan. Any exploration or development would require a Special Area Permit (see 5 AAC 95.420).

HAZARDOUS SUBSTANCES AND PETROLEUM-BASED FUEL

Refuge Policy: Hazardous substances may not be stored or deposited in the Refuge. Temporary personal fuel supplies of 20 gallons or less are allowed in the Refuge without a Special Area Permit. Greater amounts of these substances may be allowed by a Special Area Permit. This policy does not apply to fuel on board aircraft.

ROADS/DOCKS/PIPELINES/UTILITY LINES

Refuge Policy: To prevent damage or disturbance to fish and wildlife habitats and populations, construction of new permanent roads, pipelines, utility lines, docks or other infrastructure in the Refuge will not be allowed. The Commissioner may, in his or her discretion, allow permanent infrastructure in the Refuge under appropriate terms and conditions and in a manner compatible with the goals and policies of the Refuge and Special Area Regulations and if they fulfill a demonstrable need for which there is no feasible alternative. Any project involving Refuge lands would require a Special Area Permit and impacts associated with these improvements would need to be fully mitigated including, if appropriate, rehabilitation and restoration.

REFUGE MANAGEMENT AND RESEARCH FACILITIES

Refuge Policy: Construction and maintenance of management or research facilities within the Refuge will be allowed under appropriate terms and conditions and in a manner compatible with the goals and policies of the Refuge. Refuge research and management activities requiring facilities within the Refuge boundaries would require a Special Area Permit. Impacts associated with these improvements must be fully mitigated including, if appropriate, rehabilitation and restoration.

TIMBER HARVEST

Refuge Policy: To prevent damage and disturbance to fish and wildlife habitats and populations, any timber harvest within the Refuge must be compatible with the goals and policies of this management plan. A Special Area Permit is required for any timber harvest, including personal use, in the Refuge.

ADF&G's Management Intent for the Refuge Boundaries

The department concurs with the Yakataga Area Plan (YAP) recommendation of including the designated YAP Subunit 3c4 of the Yakataga Special Management Area into the Refuge.

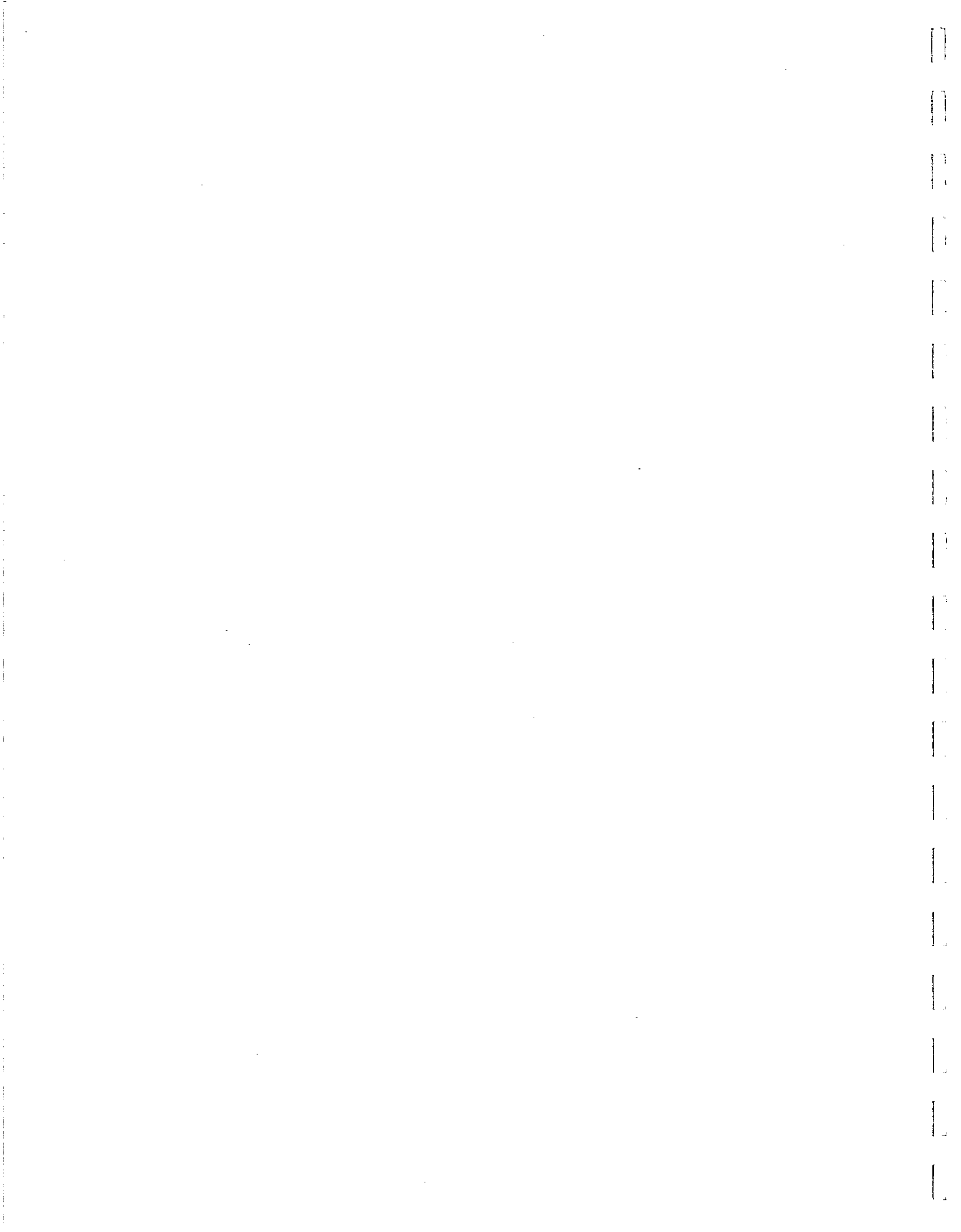
The Cape Suckling area, designated as Tract A-148 in the Yakataga State Game Refuge Act, west of the existing Refuge, is also available for addition to the Refuge, subject to future legislative action. The department supports this addition to the Refuge. However, the department recognizes the importance of the December 1994 University Settlement Agreement and will not seek the addition until the terms and time period of the agreement are expired.

A fixed boundary along the southern portion of the Refuge should be set through legislation, in lieu of the floating boundary designated as one mile north of mean high tide. The fixed boundary should exclude all existing cabin permit/lease holders. Given the dynamic nature of the shoreline along the north Gulf of Alaska, a fixed boundary would ensure that all existing and currently pending leaseholders are outside of the Refuge. It would also provide a defined point from which users could identify their location outside of or within the Refuge where activities would be regulated by Special Area Permits.

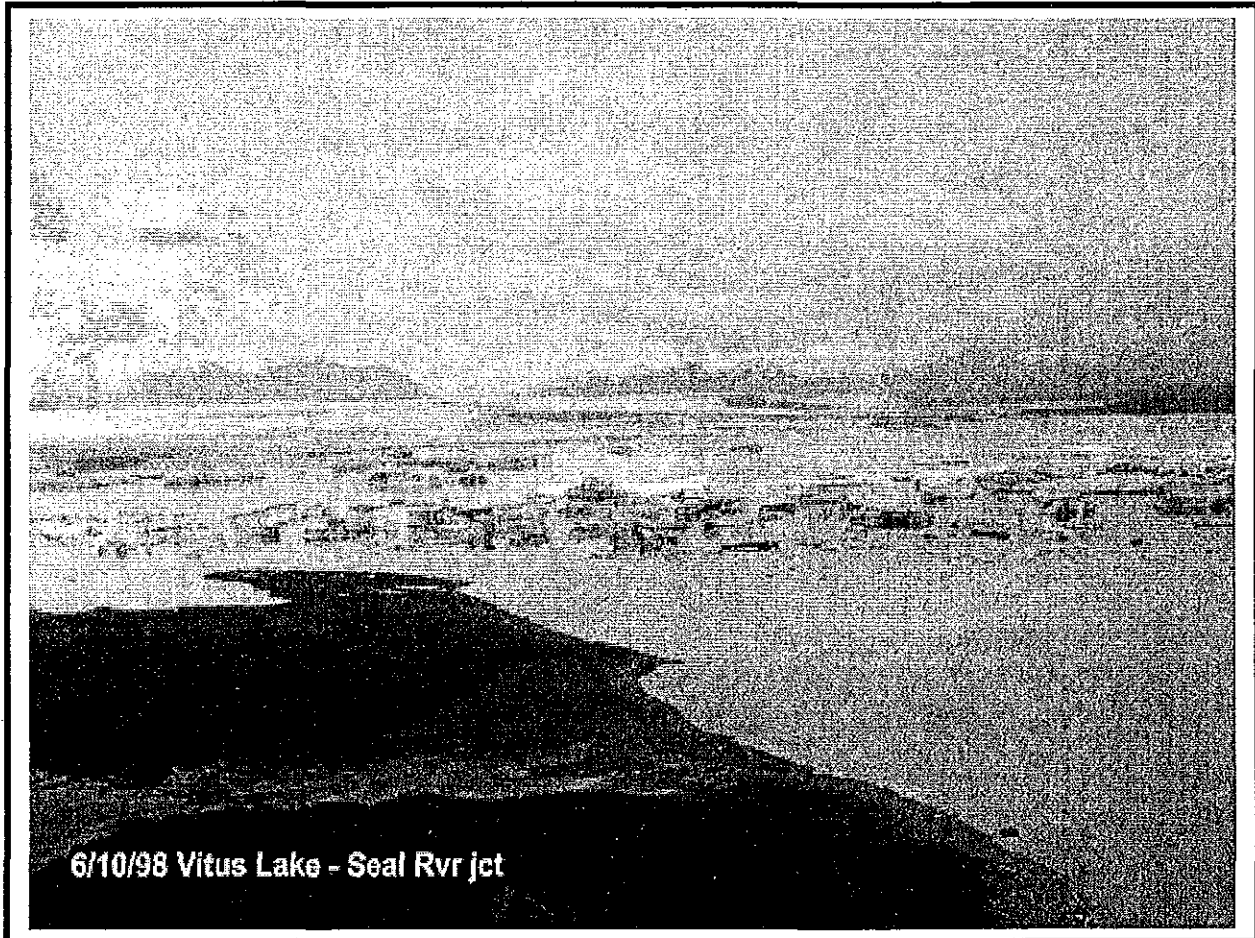
OTHER USES

Refuge Policy: To protect fish and wildlife habitats and populations, the department may allow, by permit only, those activities compatible with the purposes for which the Refuge was established, terms and standards of 5 AAC 95, and the goals and policies of the plan.¹² Any activity that is not compatible with the purposes for which the Refuge was established, terms and standards of 5 AAC 95, and the goals and policies of this plan will not be allowed.

¹² Chapter 95 of the Alaska Administrative Code are the regulations related to protection of fish and game habitat.



YAKATAGA
STATE GAME REFUGE
RESOURCE INVENTORY



6/10/98 Vitus Lake - Seal Rvr jct

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AREA DESCRIPTION

The Yakataga State Game Refuge comprises 82,000 acres of productive lowlands between Cape Yakataga and Cape Suckling, south of the Robinson Mountains and Bering Glacier Ice Fields, and fronting the storm-battered north coast of the Gulf of Alaska. More precisely, the Refuge is bounded on the west by the Seal River and on the east by the Duktoth River. The southern boundary of the Refuge is one mile inland from the mean high tide line, for most of its southern boundary. A legal description of the Refuge boundaries may be found in Alaska Statutes AS.16.20.033(a).¹ The Refuge was established by the Alaska State Legislature in 1990.

The primary drainages within the existing Refuge are the Tsiu/Tsivat Rivers system, the Midtimber Lake system and the lower portions of the Kaliakh and Seal Rivers. The flatness of the terrain provides for widely braided river channels in the Tsiu/Tsivat system. The existing Refuge consists of the lowlands between the Seal and Duktoth Rivers. The Kulthieth Mountain is also located within the refuge providing habitat for goats. The majority of the Refuge is under 200 feet in elevation.

To the west of the Seal River is Tract A-148 (Suckling Hills – Unit 1 of the YAP). As stated in the YAP in Chapter 3 and the 1994 Settlement Agreement, this area is also available for addition to the Refuge. The area contains two important anadromous fish stream systems, the Tashalich and Kiklukh Rivers, and most of the Suckling Hills. The tract also includes a diversity of habitat not found in the existing Refuge, including goat habitat that the Refuge was intended to protect.

The Refuge is located between the communities of Cordova and Yakutat. Cordova is approximately 96 air miles to the northwest while Yakutat is approximately 162 air miles to the southeast. Both of these communities can only be reached by either air or water. Commercial fishing and seafood processing are the mainstay of the local economies, which are also supported by government employment, some logging and tourism/recreation businesses. Most residents participate in subsistence hunting and fishing.

PHYSICAL ENVIRONMENT

CLIMATE

The northeastern Gulf of Alaska is a harsh geophysical environment. The mainland is dominated by steep glaciated mountains rising abruptly from the sea and forming a barrier to moisture-laden air masses moving north from the relatively warmer waters of the gulf. The collision of these wet atmospheric currents with the St. Elias and Robinson mountain range complexes give birth to heavy precipitation. As the warmer air rises and is forced upward along the mountains, it is quickly cooled and condensation of water vapor occurs. This precipitation falls as snow in winter and as rain in summer. The Refuge is located in this maritime climatic zone, which is characterized by heavy

¹ See Statutes section on page 9

precipitation, cool summers, and mild winters. July is the warmest month with an average temperature of approximately 54°F. January is the coldest month with an average temperature of approximately 26°F. Annual precipitation for the area is approximately 150 inches, while the average annual snowfall accumulation may exceed 200 inches. June, usually the driest month, receives approximately seven inches of rain. The greatest amount of precipitation occurs in October with approximately 23 inches of rain.

Prevailing winds blow from the east to southeast at an average velocity of six to eight miles per hour. Higher wind velocities scour sand and dry silt from beach terraces and areas such as the large basin area where the Tsiu and Tsivat Rivers join together. Huge clouds of sand and dust can envelope and obscure the foreland area at times and reach the Suckling Hills, rising up to 1,500 feet to the west. As a result, the forelands have extensive areas of rolling sand dunes that are constantly being reshaped across the landscape. Trees and shrubs begin to establish themselves between one-half to one-mile inland.

GEOLOGY AND SOILS

The Refuge is on a gently sloping unconsolidated quaternary glacial outwash plain. Associated moraine, lacustrine, and alluvial sediments were deposited during repeated cycles of glacial advance and retreat by the Bering Glacier 500 to 600 years ago. Tertiary sedimentary rocks are located beneath the superficial deposits at depths ranging from 175-300 feet below ground surface.

The Bering Glacier, Vitus Lake, and Seal River are subject to dynamic glacial activity. The beach at the mouth of the Seal River is eroding rapidly, and the U.S. Geological Survey (USGS) predicts that tidewater influx at the Bering Glacier will cause the glacier to retreat rapidly within the next ten years.²

HYDROLOGY AND WATER QUALITY

Numerous rivers, lakes, ponds, and wetlands exist throughout the Refuge area and much of it is classified as wetlands. Wetlands and intertidal areas are highly productive habitats that are important to the area's fish and wildlife resources. Major rivers/streams/lakes in the Refuge area include the Kaliakh, Chiuki, Tsivat, Tsiu, Midtimber Lake, and Seal. Vitus Lake, Tashalich River, and the Kiklukh River either adjoin the Refuge or are located in the areas for possible Refuge additions.

The region's main water-bearing zones occur in unconsolidated quaternary glacial outwash deposits. Ground water in the Refuge area typically occurs within ten feet of the ground surface. Commercial sportfishing and hunting lodges, as well as individual commercial set net cabins (located primarily on state lands adjacent to the Refuge) often use sandpoint wells to utilize fresh water for their domestic use. The single leaseholder

² Prediction of Bering Glacier's future was presented in 14 scientific papers at the American Geophysical Conference in December 1994.

inside of the Refuge utilizes ground water from a sandpoint well in the Tsiu River watershed. The water is then transferred by means of an electrical pump to the lodge and outbuildings.

NATURAL HAZARDS

Natural hazards for the area include earthquake, ground instability, tsunamis, seafloor instability, and faulting. Additional hazards include glacial advancement and retreat, outburst flooding, and coastal erosion.

BIOLOGICAL ENVIRONMENT

The interface of terrestrial and marine environments along the northeastern Gulf of Alaska creates niches for a relatively high diversity of wildlife. The presence of marine environments greatly promotes the diversity of organisms dependent (directly or otherwise) upon marine ecosystems (e.g., anadromous fish, marine mammals, bears, bald eagles, waterfowl, and shorebirds).

Winter weather may well be the most important factor limiting terrestrial wildlife populations, including mountain goats, moose, and smaller mammals. During the long winter, critical habitat for wildlife is frequently in short supply. Tidelands and beaches are most important when inland snows are deep. At such times, carrion (dead marine mammals, fish, crabs, and other winter-killed animals) and intertidal invertebrates provide a virtually universal food source for animals active in winter and early spring. The timing of grass and sedge emergence is critical to survival of bears and other wildlife in prolonged negative energy balance during winter (ADFG 1975).

The forelands between Icy Cape and Cape Suckling, including the Refuge, are important migration routes for waterfowl and shorebirds. Located along the main Pacific migration route of birds flying north to breed, the high coastal mountains funnel millions of birds along this narrow corridor. Most waterfowl migrating north along the coast stop to rest and feed in these wet lowlands on their way to summer nesting grounds. The migration period for both passerine and waterfowl species is centered around a period of April 15 – May 20. In the late summer and autumn, the area is once again heavily used by migrating birds stopping to rest and feed on their way south to wintering grounds. Passerine species may return as early as July and continue through October. Waterfowl species make their appearances in August through November. Trumpeter swans nest in this area at some of the highest densities in the state and many overwinter here as well. Bald eagles winter in high densities along lower stream reaches. Coastal areas in and adjacent to the Refuge are also important wintering areas for scoters, goldeneyes, buffleheads, harlequin ducks, old squaws, mallards, scaups, gulls, and eiders.

BIOLOGICAL RESOURCES

MARINE MAMMALS AND FISH

The seaward boundary for most of the Refuge is one mile north of the mean high tide line. The exception to this is a five mile long section from Midtimber Lake towards the

Seal River. The marine environment has a significant influence on the Refuge and its biological resources. There are several marine species that dwell in waters adjacent to the Refuge in both seasonal and permanent capacities. Carrion and intertidal invertebrates provide a vital food source for other animals that are active in the winter and early spring.

Waters adjacent to the Refuge area are within the historic range of seven species of whales; blue whale (*Balaenoptera musculus*), bowhead whale (*Balaena mysticetus*), fin whale (*Balaenoptera physalus*), humpback whale (*Megaptera novaeangliae*), northern right whale (*Eubalaena glacialis*), sei whale (*Balaenoptera borealis*), and sperm whale (*Physeter catodon*). All of these whales are federally listed as endangered. While some species of whales are infrequent visitors to nearshore waters, humpback whales are commonly seen just beyond the breaking surf as they migrate along the coast.

The Steller [or northern] sea lion (*Eumetopias jubatus*) population in close proximity to the Refuge is classified as threatened. The Steller sea lion population west of the 144 W Longitude (a line near Cape Suckling) was placed on the endangered species list in April 1997 due to recent declines in populations in the western Gulf of Alaska. Recent declines are believed to be due in part to juvenile mortality.

Harbor seals (*Phoca vitulina*) and sea lions follow migrating anadromous fish a considerable distance up freshwater streams. Major sea lion and seal haul-outs are located near the mouths of the Kaliakh and Seal Rivers. Seals and sea lions are known to travel upstream in these systems. The Tsivat/Tsiu Rivers may also be used for brief periods.

Pacific halibut (*Hippoglossus stenolepis*), Tanner crab (*Chionoecetes bairdi*), red king crab, (*Paralithodes camtschaticus*), blue king crab (*P. platypus*), spot shrimp (*Pandalus platyceros*), and weathervane scallops (*Patinopecten caurinus*) are a few of the more commonly found marine species adjacent to the Refuge. These species have high commercial and personal use value.

Stream estuaries of the Refuge support the following marine species: Pacific staghorn sculpin (*Leptocottus armatus*), starry flounder (*Platichthys stellatus*), threespine stickleback (*Gasterosteus aculeatus*), Pacific sand lance (*Ammodytes hexapterus*), Pacific herring (*Clupea pallasii*), arrowtooth flounder (*Atheresthes stomias*), Pacific prickleback (*Lumpenus sagitta*), sand sole (*Psettichthys melanostictus*), greenling (*Hexagrammos superciliosus*), surf smelt (*Hypomesus pretiosus*), sculpins (*Cottus* sp.), and Dungeness crab (*Cancer magister*). Estuaries are extremely important for the schooling and/or rearing of anadromous fish. Crucial anadromous fish habitat occurs in estuarine waters off the mouths of all anadromous streams out to a depth of 40 feet at Mean Lower Low Water (MLLW).

MARINE INVERTEBRATES

The nearshore marine area adjacent to the Refuge supports a limited number of diverse marine invertebrates. There are few areas of mudflats, but there are areas of rock reefs

that are exposed at lower tides. The primary substrate consists of sand. Marine invertebrate life is limited due to the continual deposition and scouring by high energy wave action and ice scour. Department staff have recorded some general information during field surveys in and around the area from Yakutat to Cape Suckling. Commonly found marine invertebrates include:

Jellyfish:	<i>Staurophora</i> sp.
Limpets:	<i>Notoacmea</i> sp.
Mussels:	<i>Mytilus edulis</i>
Cockles:	<i>Clinocardium</i> sp.
Razor clams:	<i>Siliqua patula</i>
Soft-shelled clams:	<i>Mya</i> sp.
Barnacles:	<i>Balanus glandula</i> & <i>Lepas pacifica</i>
Amphipods:	<i>Anonyx</i> sp.
Hermit crabs:	<i>Elassochirus</i> sp. & <i>Pagurus</i> sp.

After severe storms, other marine invertebrates are washed up on the beaches, suggesting that suitable habitat for other species exist. The majority of these organisms are sea squirts (*Halosynthia aurantium*), barnacles (*Lepas* sp.) and mussels (*Mytilus edulis*).

MARINE VEGETATION

Saltwater habitats support important species including herring, halibut, flounder, cod, rockfish, crab, clams and cockles. Nearshore waters less than 50 fathoms deep provide habitat necessary for many crab species (such as king crab) to molt and breed. Often this is the lower zone of kelp (species such as *Alaria* sp., *Costaria* sp., and *Laminaria* sp.) where crab larvae are released. The kelp provides the cover necessary for protection from predation.

Intertidal areas provide habitats for cockles, littleneck and softshell clams, in areas with sandy silt, sandy clay, or sandy substrate. Lower intertidal and shallow subtidal areas in protected estuarine areas contain eelgrass (*Zostera* sp.) and kelp species that provide important habitat components to a variety of marine organisms.

Storms along the Gulf Coast often bring marine vegetation, such as kelp and seaweed, ashore. Here it is used by intertidal marine animals for cover and foraging. Terrestrial animals and birds (brown and black bears, wolves, coyotes, otters, shorebirds, ravens, crows, and eagles) often prowl the kelp line looking for a tidbit to eat. Dried pieces of seaweed are used by some birds for nest building materials.

TERRESTRIAL VEGETATION

Along the sand dune areas fronting the ocean, grass and sedge emergence in the spring is critical to survival of bears and other wildlife. This beach grass community (*Elymus* sp.) helps to stabilize the sand dunes in the shorefront area. Although most of the Refuge is one mile north of the mean high tide line, many animals within the Refuge utilize this area as an important habitat component. Moose may be forced into this area during

winters with deep snow accumulation. In the Tsiu/Tsivat Rivers area, within five miles of the beach, winter densities can range from two - five moose per square mile (Nowlin 1996). Wildlife can travel on the tidelands from one drainage to another when the uplands are blocked by snow. Predators such as bears, wolves, and wolverines are commonly found as they scavenge the area for food in the winter months.

In addition to grass and sedge species, legumes (lupine, clover, and vetch), strawberries (*Fragaria* sp.), fireweed (*Epilobium* sp.), and nagoonberry (*Rubus arcticus stelatis*) comprise important forage for brown and black bears and many other wildlife species. Voles and mice, having cached seeds and plants, remain active during the winter months and are actively sought by predators. Biologists familiar with the area have stated in various reports that the beach front area is a critical habitat link in maintaining diverse and abundant wildlife populations within the Refuge (Griese 1988, Hardy 1990, Nowlin 1996).

The Refuge includes large expanses of riparian and sedge/muskeg wetlands with extensive ponding formed by glacial moraines and enhanced (historically, as well as currently) by beaver dam-building activity. Better drained sites support healthy stands of Sitka spruce and western and mountain hemlock. Dense alder thickets crowd the lowlands. Western black cottonwood is also present in better-drained areas along the braided rivers. The lowlands near the Tsivat/Tsiu Rivers have extensive communities of riparian willow that provide important moose browse.

FRESHWATER AND ANADROMOUS FISH

The flat topography of the Refuge contributes to the great abundance of stream-rearing salmonids because of the preponderance of flood plain and palustrine stream channels. The lower and middle reaches of the Refuge's streams average less than 0.7% in gradient. Most adult anadromous fish enter the streams to spawn between early March and late October; an exception is fall steelhead, which enter a few systems in October and November.

All of the major river and stream systems in the Refuge and adjacent areas have been cataloged, or have been nominated for cataloging, in *The Atlas to the Catalog of Waters Important for Spawning, Rearing, or Migration of Anadromous Fish* (AWC). Although a significant effort has been made to catalog the major streams, the intricate nature of the waterways in the Refuge and logistical problems of surveying this area leaves much work to be done. An initial stream survey effort was conducted in August 1988 by a six-person team, assisted by helicopter support (ADFG 1988). A follow-up effort to determine the upper extent of fish habitat in some of the major streams, as well as in the myriad tributaries, was undertaken in June 1998 by a three-person team, also assisted by helicopter support (ADFG 1998).

Five species of Pacific salmon (*Oncorhynchus* sp.) occur in the streams of the Refuge and adjacent areas: coho salmon (*O. kisutch*), chinook salmon (*O. tshawytscha*), sockeye (*O. nerka*), pink salmon (*O. gorbuscha*), and chum salmon (*O. keta*). Also indigenous to the stream systems within the Refuge and adjacent areas are: steelhead trout (*O. mykiss*), cutthroat trout (*O. clarki*), Dolly Varden char (*Salvelinus malma*), and eulachon (*Thaleichthys pacificus*).

Life histories of salmon species are summarized below. Much of the general information is taken from work that was conducted during studies on the Situk River in Yakutat (AFSC 93-01, 1993). Additional information was incorporated from the department's *Wildlife Notebook Series* as well as from regional fieldwork conducted by department staff (ADF&G, 1994). Research on specific deviations for anadromous species in the Refuge streams has not been undertaken and is a goal for its future management.

Coho salmon: Coho are one of the most numerous species within the area. Migration of adults begins in early August and peaks in late September. Spawning begins in mid-September and continues into December. A number of streams from the Yakutat, Icy Bay, and Cape Yakataga areas have documented spawning as late as February and March. Therefore, spawning also may occur very late in streams in the Refuge. Coho eggs and alevins incubate for about 210 days, emerging in early to mid-May if they spawned in mid-October. Situk River system studies at Yakutat indicated that fry emerging in early June may incubate in cooler conditions or may be the offspring of fish that spawn in the winter.

Chinook salmon: Although not widely distributed in great numbers within the Refuge, stream surveys have documented areas where chinook salmon do occur. The migration of adult chinook usually begins in early June, peaks in mid-July, and declines through mid-September. Because chinook often hold in large deep pools (>2 m) or deep glides (>1 m) along banks with overhanging vegetation or submerged vegetation until mature, chinook may be limited by a lack of suitable habitat. It is expected that chinook spawn in relatively deep (80 centimeters), fast water (73 cubic meters/second) and use large substrate (76% gravel, 19% coarse sediment) based on studies on the Situk River.

Sockeye salmon: These salmon generally migrate rapidly from salt water to lakes, or stream sections near lakes, and remain there until they spawn. Stream-spawning sockeye use spawning habitat characterized by shallow, low-velocity water, variable substrate, and close proximity to lakes. The Seal River-Vitus Lake system may support ocean-type sockeye that use holding areas in the mainstem during upstream migration and spawn in areas with upwelling groundwater.³ The Kaliakh and Tsiu River systems have documented sockeye catches.

Pink salmon: Pinks are found in some of the area's larger stream systems. They occur sporadically in smaller streams during periods of large runs, such as occurred in the area in 1997 (ADFG 1997). Migration of adults begins in early July and peaks in early August and they generally migrate directly to spawning areas. They are commonly found in the mainstem zones of the larger stream and river systems. Pink salmon eggs and alevins incubate approximately 245 days. If peak spawning occurred in late August, peak emergence would occur in early May.

³ Vitus Lake has been observed with large number of adult sockeye in it but preliminary survey attempts to locate specific spawning areas have been unsuccessful. It is suspected that areas near the interface of the glacier's edge where upwelling water is found may contain the spawning areas (G. Woods, personal communication 1996).

Chum salmon: Few chum salmon are found in the Refuge but they have been documented incidentally during stream surveys. None of the Refuge streams have been catalogued for chum salmon. Chum salmon are known to prefer areas of glacial moraine deposits where groundwater aquifers supply upwelling water for spawning areas. Additional surveys are needed to document chum salmon habitat. Generally spawning would begin in early August, peaking in late August, and ending in September. Fry emergence (after an incubation period of approximately 240 days) would occur in late April.

Steelhead: Small runs of spring steelhead occur in a couple of stream systems within the Refuge. Spring steelhead spawn from late April through June (within two - six weeks of entering the streams). Emigration from the river of spawned-out steelhead likely begins in early May, peaks in June, and is complete by late July. Steelhead eggs and alevins incubate for about 40 days and emerge in early July, based on a peak spawning period in late May. It is not known if a distinct run of fall steelhead occurs.

Cutthroat trout: Adults spawn in small, isolated headwater streams from late April to early June. Young cutthroat emerge from the gravel in July. Later the juveniles occupy beaver ponds, sloughs, or lakes. Sea-run juveniles can be displaced to downstream mainstem and estuarine areas where they reside for the summer, then migrate back upstream with the onset of winter floods. Sea-run cutthroat rear for three to four years in fresh water and migrate to sea during May when they are about eight inches in length. Their time at sea varies from a few days to over a hundred days before returning to their home stream in the fall. They mature during the winter months in fresh water. Fish mature at five to seven years and live to be nine to ten years old. Resident cutthroat remain in fresh water after emergence and live in streams, beaver ponds, sloughs, and lakes.

Dolly Varden char: Seasonal distribution of Dolly Varden is poorly documented in the Refuge stream systems. Consistent with Dolly Varden behavior in other Alaska streams, it is assumed that many adults spend much of the year in the stream systems. Dolly Varden emigrate from lakes and other wintering areas in early spring (March-April) and enter salt water. They immigrate into the streams to feed on fish eggs and fry from April to mid-September. Spawning probably occurs in the mainstem and smaller tributaries, peaking in early October. Fish surveys in 1997 of the upper tributaries of the South Fork of the Yakataga River documented numerous spawning Dolly Varden in early November.⁴ Dolly Varden eggs and alevins incubate for about 235 days. If the peak spawning period occurs in early October, peak emergence would occur in late May.

Eulachon: Little is known about the life history of eulachon in the Refuge's streams. Elsewhere, eulachon typically spend little time in fresh water; adults spawn over a four week period in the spring. Nearly all spawning occurs within the mainstem zone. Eggs then incubate for about three weeks. Larvae enter the ocean soon after hatching and

⁴ November 1997 field trip report, ADF&G Sitka Area Office.

juveniles spend at least three years at sea before maturing and returning to freshwater to spawn.

Blackfish: The distribution of blackfish (*Dallia pectoralis*) in Alaska is common to the tundra regions and lowland areas from the central Alaska Peninsula and north along the arctic coast. Inland it is found in the Yukon River system to the Fairbanks area. So it is somewhat surprising that they have been captured in the Tsiu/Tsivat River system (G. Woods, personal communication 1999). Typically an inhabitant of lowland swamps and ponds that are weed-choked, blackfish also occur in streams, rivers, and large lakes. It has a reputation for withstanding very low temperatures, nearly to the point of freezing. It is uniquely equipped to survive drought because it can breathe air from an esophagus evolved to absorb oxygen from the atmosphere. During winter time in lakes where the oxygen levels may become low, this fish will surface and gulp air. Blackfish feed on aquatic insects and smaller fish, but little more is known about this species in the Refuge.

STREAM SYSTEMS

The Kaliakh River has documented runs of coho and sockeye salmon. There are three major tributaries of the Kaliakh River: Chiuki Creek, Kosakuts River and Kulthieth Creek. Chiuki Creek has been nominated into the AWC for coho salmon and cutthroat trout after the 1998 survey work. An upper portion of the Kaliakh River system, east of Donald Ridge, is known as the Kosakuts River. This system is catalogued for both coho and sockeye salmon. West of Sunshine Point, Kulthieth Creek flows into the Kaliakh River. This system is also catalogued for coho salmon. Two major un-named tributaries of the Kaliakh river system that drain from the south side of Sunshine Point over to Kulthieth Mountain are also cataloged as containing coho salmon habitat.

The Tsiu/Tsivat drainage contains a veritable maze of channels that contain exceptional rearing and spawning habitat for coho salmon. Chinook, sockeye, pink, and chum salmon, and Dolly Varden char utilize this system. Steelhead trout are known to spawn in these rivers. The 1998 surveys documented adult chinook salmon in a portion of the upper Tsivat River. There are also a number of ponds and lakes of various sizes scattered throughout the watershed (ADF&G 1998).

Two and a half miles east of Midtimber Lake is another isolated stream system locally known as Quonset Hut Lake. In the late fall of 1997 and into the spring of 1998 the outlet of Midtimber Lake was blocked off by sand. Water from this system flowed to the east and joined up with Quonset Hut Lake. From here the streams continued their overflow eastward, inside the beach terrace, until they reached the Tsiu/Tsivat River basin nearly six miles away. This may explain how some of these isolated stream systems maintain anadromous fish species. During 1998 stream surveys a number of multi-age class juvenile coho salmon were minnow trapped in this stream and it has been nominated for addition into the AWC.

Midtimber Lake was documented as containing juvenile coho salmon during stream surveys in 1998 and has been nominated for addition into the AWC. Further study and

research is needed in this and other systems (such as the Tsiu, Tsivat, Quonset Hut Lake, Tashalich, Kiklukh Rivers) in the area where multi-age class juvenile salmon occur.

The Seal River, which is the outlet of Vitus Lake and fronts the Bering Glacier, is known to support populations of coho and sockeye salmon. Three tributaries of the Seal River within the Refuge are documented as containing coho salmon habitat. Two tributaries that once flowed into the Seal River in Tract A-148 are historical channels that no longer have perennial water (ADF&G 1998).

Vitus Lake's eastern edge that extends to the northeast and then curls west past the outflow from Hanna Lake is locally named the Lost River. During 1998 surveys, the flow was tracked until it reached the edge of the Bering Glacier, where it emerges from under the ice as a great upwelling. There is speculation by some biologists that fish spawning occurs in this area where upwelling water moves through moraine deposits. A limited amount of fish surveys have been conducted in this area and further work is needed. It appears that the Lost River historically flowed into the Kaliakh, Tsivat, and Tsiu River basins before the glacier receded. Now, a large moraine deposit blocks surface flow and the Lost River flows southwest into the main body of Vitus Lake and its outlet of Seal River.

The interface area between Vitus Lake and the moraine deposits on its southernmost boundary is a fascinating place. This upper area is heavily pockmarked with small ponds and lakes that contain surface water with little or almost no flow. Debris marks indicate that high water may be as much as three feet higher than the levels that were seen during the 1998 surveys. Higher water levels would allow a surface connection to numerous small streams that originate in this area and appear to be fed by groundwater (noted by significant water temperature differences). Because this area is heavily covered with alder growth, there are also numerous beaver dams that contribute to water level fluctuations and diversions. The surveys found that some of the shallower lakes had significantly higher water temperatures (+13°C) than deeper lakes and streams around them. Three-spine stickleback, western toad tadpoles, fresh water clams (bivalves), and macro-invertebrates were abundant in many of these shallow ponds. A number of the lakes and beaver ponds immediately downstream of Vitus Lake contained multi-age class juvenile coho salmon. More research and surveys are needed to understand how this ecological niche functions.

The Tashalich River in Tract A-148 is documented as containing coho salmon habitat. This stream's outlet is also subject to blockage by sand from storms in the Gulf during the late fall and winter months. In 1998, the outlet of the stream had moved westward approximately two miles from where it is shown on USGS quads. The westward movement of a stream's mouth is a common phenomenon of streams from Yakutat to Cape Suckling and is caused by a combination of the prevailing water current in the Gulf of Alaska, storm action, and sand substrates.

The Kiklukh River in Tract A-148 is documented as containing pink and coho salmon. It has a number of productive tributaries that flow from the Suckling Hills. There are a number of pond and lakes of various sizes scattered throughout this watershed. The

upper areas of the Kiklukh reach into the interface area between Vitus Lake and the moraine deposits. As a result, this upper area is heavily pockmarked with small ponds and lakes. These have been supplemented by numerous beaver dams. 1998 surveys found that some of the shallower lakes had significantly higher water temperatures (+13°C) than deeper lakes and streams around them. Three-spine stickleback, western toad tadpoles, fresh water clams (bivalves) and macro-invertebrates were abundant in these shallow ponds. A number of the lakes and beaver ponds immediately downstream contained multi-age class juvenile coho salmon.

BIRDS

Unfortunately, knowledge of birds using the Refuge, or even the greater Yakataga Planning Area (ADNR 1995), is very incomplete.⁵ Because of the remoteness of the region between Prince William Sound and Yakutat Bay, efforts to document bird presence, distribution, and status have, with few exceptions, focused on adjacent areas to the east and west of the Refuge. Nevertheless, due to the migratory nature of most species found in the general area, it is possible to state with some degree of confidence that birds known to be present at some time in the Yakutat area will also be present in the Refuge.

The level of confidence in such extrapolations can also be improved by comparison of preferred habitats in the Yakutat area with those of the Refuge. In an USDA Forest Service internal memorandum (June 3, 1975), P.G. Mickelson presents a report entitled "Birds and Their Habitat at Yakutat." Results are based on a May 8-10, 1975 survey with M. Perensovich and on conversations with D. Powers of Yakutat and Dan Timm of ADF&G, as well as on observations of T.M. Short during May 12 thru August 24, 1936. Table 1 below is taken from Mickelson's memorandum of June 3, 1975 referred to henceforth as Mickelson 1975.

Seventy-six of the 124 bird species recorded near Yakutat are closely associated with water. Most use marshes and tidal flats. Rivers and tidal flats with muddy, gentle gradients appear most valuable for foraging shorebirds and waterfowl (Mickelson 1975). Because habitat of this type is found within the Refuge (e.g. lower Tsiu and Tsiwat Rivers), we assume that many of the 76 species documented at Yakutat also occur in suitable habitat within the Refuge.

The Yakutat Forelands are not replete with sedge-covered marshes, small ponds or sloughs, habitats preferred by many breeding geese, ducks, and shorebirds. Where such habitats do occur, they are used by, red-throated loons, horned grebes, Canada geese, mallards, American widgeons, green-winged teal, common mergansers, common snipes, greater yellowlegs, arctic terns, and some songbirds (Mickelson 1975). This is the case for the Refuge where east of the Tsiu and west of Midtimber Lake there are large muskegs/sedge meadows oriented primarily in an east-west direction separated by bands of coniferous forest on better drained sites. These meadows are dotted with small ponds favored by many waterfowl species for nesting.

⁵ See Table 1 for a listing of bird species.

On coastal rocky shores, the following species may breed: double-crested cormorants, pelagic cormorants, black oystercatchers, semi-palmated plovers, spotted sandpipers, glaucous-winged gulls, black-legged kittiwakes, arctic terns, pigeon guillemots, tufted puffins, northwestern crows, and a few passerines (Mickelson 1975).

Less is known about fall use of the Refuge and adjacent areas. In general, shorebirds and passerines migrate south from July through October, and waterfowl from August through November. Because much local habitat is free of ice and snow in fall, use appears less concentrated than during spring migrations.

Overall, the Refuge and surrounding areas appear to be most valuable to spring and fall migrants. Observations of Short in 1936, Mickelson in 1975, as well as those of more recent surveys, indicate that heaviest spring use by waterfowl occurs from April 15 thru May 10, and by passerines from April 25 thru May 20 (Mickelson 1975).

Waterfowl: Most waterfowl migrating north along the coast rest and feed in the coastal lowlands of the Refuge and surrounding areas as they make their way north to summer nesting grounds. In fall, the area is used heavily once again by migrating waterfowl stopping to rest and feed on their way south to wintering grounds. The density of trumpeter swans nesting in this area have been recorded to be some of the highest in the state. The Refuge area also provides overwintering habitat as well. In fact, the Yakutat Forelands is one of the first major areas of coastal wetland and shallow estuarine habitat available to water birds migrating along the coast off Alaska in spring, and one of the last used in fall. There have been 23 species of water birds documented using the forelands area (ADNR 1993).

An estimated 90% of geese, sandhill cranes and migratory waterfowl migrate within the beach fringe and uplifted beach terrace. The sand hills offer food species that attract many of the geese. The mouths of the major rivers attract and congregate cranes and geese by the thousands (Griese 1989).

Important waterfowl nesting habitat occurs on the Tsiu and Tsivat Rivers. The Refuge provides important wintering areas for scoters, goldeneyes, buffleheads, harlequin ducks, old squaws, mallards, scaups, gulls, and eiders (Nowlin 1996).

Trumpeter swans: The North Pacific coast population of trumpeter swans (*Cygnus buccinator*) is the largest in North America. It comprises about 80 percent of the continent's approximately 12,000 trumpeter swans (Bailey et. al 1987; ADNR 1993). Trumpeter swans are joined by more numerous and slightly smaller tundra swans (*Cygnus columbianus*) during spring and fall migration periods.

Areas with open water, shelter, and a food source are high-value migration and molting areas. Within and near the Refuge swans stop at Cape Suckling, Vitus Lake, Tsiu/Tsivat/Chiuki Rivers, Icy Bay, Malaspina Glacier, Yakutat, and Dangerous River. In winter 1991, the USDA Forest Service conducted a trumpeter swan survey on the Yakutat Forelands from Yakutat Bay to the Doame River. Areas where concentrations of birds were observed generally included the upper tidal zones of rivers and streams. One

hundred and twenty-nine swans (129) were observed during this survey (USFS field report, 1991).

A minimum of 295 trumpeter swans were counted in the proposed Refuge area in 1985, with nests concentrated in the Kiklukh and Tashalich River drainages, the Kaliakh and Chiuki River drainages, and the numerous beaver ponds of the Tsiu and Tsivat Rivers floodplains. Another survey in April 1997 from the Yana River (Malaspina Glacier area) to Cape Yakataga observed 119 swans (ADF&G field report, 1997). The Chiuki River, a tributary of the Kaliakh River, has one of the highest swan nesting densities in the state. In early May 1999, an aerial survey from the Priest River to the Tsiu/Tsivat basin area counted 129 swans with 44 birds observed sitting on nests; 14 of those nests were located in the Chiuki River drainage (ADF&G field report, 1999).

Migration of trumpeter swans through the Yakataga area occurs from mid-March through April and from early October until freeze-up. A minimum of 62 trumpeter swans have been observed wintering in the Tashalich and Tsiu/Tsivat River lower drainages (ADF&G, 1990).

Bald eagles: Within the Refuge, hundreds of bald eagles (*Haliaeetus leucocephalus*) winter in high densities along lower stream reaches. As winter progresses, eagles concentrate along major river systems, especially the Tsiu/Tsivat Rivers (USFWS memo dated 9/30/91).

Waters where fish school attract large concentrations of bald eagles; the habitat needs of fall and winter eagle concentrations may be addressed through conservation of salmon stocks and large timber adjacent to anadromous waters. Concentration of eagles is dependent on the strength of salmon runs, as well as of eulachon runs, which are even more unpredictable (Bernatowicz 1992). Clearly, a sound conservation plan for eagles within, and adjacent to, the Refuge is contingent upon additional information.

By all standards, the Kaliakh River can be considered an area of extremely dense bald eagle nesting (USFWS memo dated 9/30/91).

American peregrine falcons: These falcons are listed as endangered and may migrate through the Refuge area. American peregrine falcons (*Falco peregrinus*) nest in forested areas of interior Alaska and migrate through central, southcentral, and southeastern Alaska during the spring and fall. There is no designated critical habitat for American peregrine falcons in Alaska.

Hawks and owls: Kestrels (*Falco sparverius*), red-tailed hawks (*Buteo jamaicensis*) and Northern harriers (*Circus cyaneus*) [also known as marsh hawks] are commonly seen in the Refuge. Their numbers surged in 1997-98, likely due in part to high microtene populations. Sightings of short-eared owls (*Asio flammeus*) were common during this period, probably due to an abundance of prey. Great horned owls (*Bubo virginianus*) have been seen at times in the area, while a sighting of a northern hawk owl (*Surnia ulula*) in the spring of 1997 and ospreys (*Pandion haliaetus*) in the fall of 1998 were likely brief visitors during migration periods.

TERRESTRIAL MAMMALS⁶

Moose are year-round residents within the Refuge and on adjacent coastal lowlands. Brown and black bears are also present, feeding on spring grass flats, while strawberry patches and fireweed are favored later on. Both species of bears can be found along anadromous fish streams in summer. Wolves occur within the Refuge boundary, as well as wolverines, coyotes, lynx, marten, mink, land otters, and beavers. Although mountain goats are present in adjacent uplands that have been recommended for addition to the Refuge, the existing Refuge does not support goats (R. Nowlin, pers. comm). With the exception of several high-profile game species, there is a lack of documentation concerning presence or abundance of mammals within the Refuge. However, because of the mobility of all but the smaller mammals and habitat similarities between areas within the Refuge and those of adjacent lands, it is possible to infer a list of mammals present, seasonally or permanently, within the Refuge from range maps for the larger adjacent areas. Habitat information provided below by species (Table 2) will assist the reader in assessing the probability of occurrence of questionable species within the Refuge proper.

Moose: Several hundred moose (*Alces alces*) live year-round within the Refuge and on adjacent coastal lowlands. Aerial surveys were conducted January 24 - 25 of 1993, to assess the moose population between Cape Suckling and the Duktoth River. Results indicated a population of 416 moose in the area (Nowlin 1996). Evidence of winter range overuse led Wildlife Conservation Division biologists to believe the population exceeded carrying capacity at that time. Heavy harvests were encouraged between 1990 and 1994 in order to affect a population reduction.

An aerial census of the same area during January 1996 resulted in a moose population estimate of 282 animals, 29 (10%) of which were calves, a very low recruitment rate for this population (R. Nowlin, pers. comm.). Although it is unclear whether winter range damage, winter weather and/or predation are responsible for low calf recruitment, conservative harvest regulations were implemented in 1995 to stabilize the population at 300-400 animals. It is also possible that the liberal regulations of the early 1990's were a factor.

Critical winter range for moose within the Refuge is found within five miles of the beach along the Tsiu and Tsivat Rivers, where winter densities may reach from two to five moose per square mile (Nowlin 1996).

Wolves: Observation of tracks, hunter reports, limited telemetry data, and sealing records indicate that a single pack of about seven wolves (*Canis lupus*) frequents the Refuge, as do several solitary individuals. The total local population of wolves appears to be five to ten animals. However, wolves are highly mobile, productive and known to occupy vacant suitable territories. Other packs and/or solitary individuals may inhabit the Refuge at any particular time.

⁶ General information is taken from ADF&G's Wildlife Notebook Series with specific relationship to what has been observed in the Refuge area. Little research documentation has been accomplished in the Refuge.

Brown bears: Brown bears (*Ursus arctos*) are common and the largest predator in the Refuge and adjacent lands. Division of Wildlife Conservation biologists believe that about 165 brown bears inhabit the area between Icy Bay and Cape Suckling (Nowlin 1996). This estimate is based on casual aerial sightings, assessment of habitat quality, and extrapolation from other similar areas where bear densities are better known. The bear population of this area, as well as within the Refuge, appears to be slowly increasing.

An important area of habitat for brown bears is the fringe of beach and beach terrace within one to two miles of saltwater. These beach uplands and rolling sand hills offer a variety of grass and forb species that bears find attractive. The early emergence of grass is sought out as bears emerge from their dens and begin to scavenge for food. They seek out carrion along the beach (winter-killed terrestrial and marine animals), as well as a variety of other prey, including small rodents living in this zone. Strawberries, nagoonberries, fireweed, and vetch are abundant later on in the early summer when the beach uplands are frequented by brown bears. An aerial observation in July 1998 along the beach terrace west of the Tsiu River to the mouth of the Kaliakh River, a distance of approximately six miles, noted seventeen brown bears feeding in the fireweed and strawberries (ADF&G field report, 1998). Many of these bears were sows with cubs. When anadromous fish begin returning to the streams in mid-summer, brown bears are quick to add them to their diet.

Brown bears spend the winter months generally in a state of hibernation. Bears enter this dormancy period in the fall after most food items become hard to find. They emerge in the spring when food is again available. Occasionally, bears will emerge from their dens during winter where late runs of salmon occur. Dens that have been located in the Refuge occur in patches of coniferous forests on well-drained moraine deposits. Because this type of habitat is limited in the Refuge, it is likely that many den sites occur on adjacent lands where more suitable sites are available.

Black bears: Black bears (*Ursus americanus*) are another common resident of the Refuge and adjacent areas. They are most often associated with forests, but depending on the season of the year, they may be found from sea level to alpine areas. Black bears are most easily distinguished from brown bears by their straight facial profile and their claws, which are sharply curved and seldom over 1½ inches in length. Mating can take place anytime from June through July. Apart from that time, black bears are usually solitary, except for sows with cubs. The cubs are born blind, nearly hairless, and weigh under a pound (.4 kg). Upon emerging from the den in May, they may weigh about 5 pounds (2.3 kg) and are able to follow their mothers quite well.

Black bears are creatures of opportunity when it comes to food. There are, however, certain patterns of food seeking which they follow. Like brown bears, upon emergence in the spring, freshly sprouted green vegetation is their main food item and the beach fringe area is a favorite area for foraging. Intercompetition for similar habitat between brown and black bears usually results in the black bears being chased out of the area by the dominant browns. As summer progresses, feeding may shift to salmon, but black bears may again be displaced by brown bears. However, black bears can rely primarily on

vegetation throughout the year. Berries, especially blueberries, are an important late summer/fall food item.

Black bears spend the winter months in a state of hibernation. Bears enter this dormancy period in the fall, after most food items become hard to find. They emerge in the spring when food is again available.

Wolverines: These larger relatives of the mink and weasel occur in small numbers throughout the Refuge. Stream surveys have noted their distinctive tracks (long and curved non-retractile claws) in many portions of the Refuge watersheds (ADF&G 1988 and 1998). The wolverine (*Gulo gulo*) is primarily a scavenger, having tremendous physical endurance that allows it to travel up to 40 miles a day in search of food. Wolverines are opportunistic, eating about anything they can find or kill. In the winter, wolverines primarily rely on remains of moose killed by wolves or animals that have died of natural causes. Throughout the year, wolverines feed on small and medium-sized animals such as voles, squirrels, snowshoe hares, and birds. Wolverines are active at any time of day, year round, although they are solitary creatures throughout most of the year.

Mountain Goats: Mountain goats (*Oreamnos americanus*) are present in the Refuge and in adjacent uplands and mountains in the area between Cape Suckling and Icy Bay, including areas that have been recommended for addition to the Refuge. They are currently found in the eastern section of the Refuge boundary on the Kulthieth Mountain. The adjacent areas containing goat habitat include the Grindle Hills, Suckling Hills, Robinson Mountains, and Brower Ridge. The Suckling Hills are available for addition to the Refuge, subject to future legislative action.

Mountain goats are a valuable resource for hunters, and considerable attention has been paid to maintenance of harvestable populations, both statewide and in the area under discussion. Five factors generally assumed to potentially limit goat populations are: 1) excessive harvest (legal and illegal); 2) predation; 3) deep snow or extremely icy winters; 4) disturbances during critical life stages (winter and spring); and 5) habitat loss.

Although specific adverse influences of logging on goat populations are not well understood, logging activities in the Pacific Northwest have repeatedly been associated with declines in adjacent goat populations (Griese 1989). Goat populations will heavily use old-growth forest adjacent to steep slopes and escape terrain during months when snow and/or ice limit goat movement and access to higher-elevation forage. During these extremes of weather, the closed canopy of old-growth forest may be the only habitat available for goat populations.

Mink: A member of the weasel family, mink (*Mustela vison*) are a chocolate brown with some irregular white patches on the chin, throat, and belly. They may weigh from three to almost five pounds. Mink will eat virtually anything they can catch and kill, including fish, birds, bird eggs, insects, crabs, clams, and small mammals. There are both seasonal and annual differences in the diet depending on what is available. Mink prefer streams,

ponds, beaches, or marshes. The relationship between otters and mink is unclear. If there are otters along a stream, usually they will not tolerate the presence of mink within their territory.

Marten: Marten (*Martes americana*) are substantially larger than most mink and other weasel-like relatives. The marten's coat is characterized by soft, dense fur which varies in color from pale yellow to dark brown, shading to black on the feet and legs. The marten's throat and upper chest are usually pale or buff or deep orange. The ears are erect and rounded and they have sharp, non-retractable claws which they use for climbing as well as for holding their prey. Large furry paws allow the marten to travel easily over deep snow.

Marten are rather solitary creatures except during the mating season. Home ranges of the marten vary in size in response to population levels and food availability. One square mile may be sufficient when food is abundant; 15 square miles may be required when food is scarce. While hunting for food, marten follow the fringes of spruce thickets along streams or the edges of bog meadows.

Marten depend heavily on meadow voles and red-backed voles or mice. The second most critical food source is berries, especially blueberries, followed by small birds, eggs, and vegetation. The marten is a voracious and opportunistic feeder. Carrion such as the remains of wolf kills or salmon carcasses are eaten in many areas.

Coyote: The population of coyotes (*Canis latrans*) in the Refuge is not large. Although the wolf population is also small, competition with them may contribute to fewer numbers. Distinctive features of the coyote are its sharp pointed ears that never droop, a sharp pointed nose, and long bushy tail. The legs of the coyote are generally slimmer and the feet smaller than those of a dog of comparable size. Coyotes average 22 to 33 pounds (10-15 kg) or about one-third the size of wolves. The summer coat is predominantly gray, washing into tan along the belly, lower legs, muzzle, and ears. The intensity and amount of coloring varies, and individuals are usually lighter in winter. The coyote is best described as an opportunistic feeder. In the Refuge snowshoe hares, microtine rodents, and carrion comprise the bulk of the coyote's diet while fish and insects are also taken.

River otter: The river otter (*Lutra canadensis*) is an amphibious member of the family Mustelidae. They have a muscular body that is broadest at the hips combined with a powerful tail. The hind feet are webbed and adults can weigh more than twenty pounds. Graceful and strong swimmers, otters can propel themselves in the water by paddling or vertically flexing their hindquarters and thick tails.

Signs of river otter activity are common throughout the Refuge. They have well defined trails and may travel several miles overland between bodies of water. Scat, twisted tufts of grass, and small piles of dirt and vegetation are commonly found piled up and marked with urine and scent. These piles serve as "scent posts" that are used for communication and territorial marking.

River otters in the Refuge hunt on land and in fresh and salt water. They eat snails, mussels, clams, sea urchins, insects, crabs, shrimp, octopi, a variety of fish, and occasionally birds, mammals, and vegetable matter. If a fish or other animal is too big to be eaten at one meal, the remains are abandoned and become available to other flesh-eating mammals and birds. Scraps left out of the water may be a significant source of food available to some scavengers when snow and ice are present.

Weasel: The short-tailed weasel (*Mustela erminea*), or ermine, is the smallest member of the family Mustelidae found in the Refuge. In summer, weasels are medium to dark brown above, with yellowish white underparts. In the winter, their fur is white. During all seasons the tip of short-tailed weasel's tail is black. Weasels are primarily solitary animals except during the mating and whelping seasons. They usually nest in small rodent burrows, stumps, rock outcroppings, or under old buildings.

The presence of weasels is almost always indicative of substantial rodent populations. They prefer mice, but when mice are not abundant, weasels will prey on shrews, birds, fish, and insects. Weasels are also known to kill young snowshoe hares. Weasels in the Refuge use the forested areas and adjacent open country of the beach terrace where rodents are plentiful. As with most predators, fluctuations in prey numbers create corresponding variations in weasel numbers.

Beavers: Many areas of the Refuge exhibit evidence of beavers (*Castor canadensis*). An aerial flight over the stream systems show ponds backed-up behind beaver dams nearly everywhere you look.

Alder and willow make up most of the material used for construction of the dams, although use of cottonwood is common. Dens can be of two types depending on water level fluctuations. Bank dens are simply dug into the stream bank with a mass of sticks, mud, and rocks constructed over the top of the den. Lodges are constructed of the same materials as bank dens, but are located where the water level is more stable and slower moving, like in a pond or lake.

The life of a beaver colony is governed largely by food supply. Beavers eat not only bark, but also aquatic plants of all kinds, roots, and grasses. As they exhaust the food supply in the area, the beavers must forage farther from their homes. This increases the danger of predators. When an area is cleared of food, the family migrates to a new home. In the Refuge, wolves and bears are the most significant predators of beavers.

As beavers cut down small trees and clear away brush, they create new habitats that are ideal food patches for other animals. Waterfowl use these areas as feeding and nesting grounds. In the Refuge, ponds created by beavers often serve as fish habitat. There is evidence that at one time the beaver population was much higher than it appears currently. In a few areas only old dams are found and little new beaver activity is seen. This may be because of habitat change or additional predation.

Snowshoe hare: The snowshoe hare (*Lepus americanus*) population is scattered in the Refuge. In summer, their coat is grayish brown with white underparts, and the tail is brown on top. This coat is shed and replaced by white pelage in winter, but the hairs are dusky at the base and the underfur is gray. Snowshoe hares are found in mixed spruce forests and the edge of brushy areas found on the moraine deposits. They feed on a wide variety of plant material—grasses, buds, twigs, and leaves in the summer and spruce twigs and needles, bark, and buds of hardwood such as willow and alder in the winter. Populations of snowshoe hares are subject to cycles of abundance and scarcity. However, populations in the Refuge have never reached what would normally be called abundant. This is probably due to limiting habitat more than to predation or other causes.

Lynx: Although secretive and unobtrusive, and therefore hard to observe, the Refuge does not appear to support many lynx (*Lynx canadensis*). The lynx is a large, short-tailed cat, similar to the bobcat, but distinguished by its long legs, furry feet, the long tufts on the tip of each ear, and a completely black-tipped tail. Lynx likely inhabit much of the adjacent areas to the Refuge and wander through occasionally. They use forested terrain and a variety of habitats, including spruce and hardwood forests with a mixture of vegetation types and an abundance of early successional growth. This provides the best habitat for snowshoe hares and other small prey of lynx.

Although snowshoe hares are an important prey for lynx, when they are scarce (such as in many parts of the Refuge) lynx use other food sources more extensively. Other small prey, such as birds, squirrels, and microtine rodents, are regularly taken. Most of the lynx sightings in the areas adjacent to the Refuge have observed red squirrels as their prey.

Shrews: Shrews (*Sorex* sp.) are the smallest of the mammals. They are often mistaken for mice but are insectivores, not rodents. There are ten species of shrews in Alaska and they are difficult to tell apart. Most are a grayish-brown coloration with a paler colored belly. Shrews are short-legged and have a long pointed nose with long whiskers. Their teeth are tiny, white with reddish-brown tips, but sharp for attacking and eating prey. Their tails are hairy in young shrews but usually naked in old adults. Shrews have musk glands that give off a strong odor, especially when handled. Their eyes are tiny and vision is poor, but they have acute senses of smell and hearing.

Shrew species have not been studied in the Refuge, but skull fragments have been found in several locations in the Refuge. Shrews are solitary except when breeding, mainly terrestrial, and live under the grass and leaf litter. They are active throughout the year and burrow through the snow during the winter. Most shrews prefer moist habitats, and the water shrew is often found in streams, ponds, and marshes.

Shrews eat insects, spiders and other small invertebrates. Some species are dependent upon plant matter, but most will eat any kind of meat. Shrews are taken by a variety of weasels, marten, owls and other shrews. Because of their odor they may be left and not eaten after they are killed.

Voles: Voles are mice that have fuzzy coats and short tails. They mainly live in and eat grass. The red-backed voles (*Clethrionomys* sp.) have red-colored backs and live in more forested habitats. The other voles, belonging to the genus *Microtus*, are colored brown or gray and are mainly found in habitats with grass. The distribution of voles is not well-known in the Refuge, but based on collections from various parts of the state, we can generalize where they live.

The *Microtus* voles live in small colonies of a few to 300 individuals in grass meadows where they build distinctive runways that crisscross the area. Often, grass cuttings can be found in these runways. They also dig underground burrows where they construct food and nesting chambers. Voles do not hibernate and are active throughout the winter. During the winter in snow covered areas, the voles make runways beneath the snow and feed on the snow-flattened grasses. They also burrow up through the snow to reach grass seed heads using various levels within the snow pack. Immediately after the snow melts, their runways often become visible on the ground.

The red-backed voles are mostly solitary or live in small family groups. They live in a variety of habitats from upland forests to grass meadows. They do not build runways but will use those built by *Microtus* voles, if they live in the same area. Meadow voles may inhibit red-backed voles from colonizing grassland habitats during the breeding season.

Microtus voles eat mainly grasses and seeds, while the red-backed voles are omnivorous and will eat grass, seeds, fruit, lichens, fungi, insects and meat. Both the *Microtus* and red-backed voles form the base of the food chain for many animals in Alaska. This is probably the case in the Refuge. They are the staple foods of weasels, marten, coyotes, all owls, most hawks, inland breeding gulls, jaegers, and occasionally great blue herons.

Western toad: The western toad (*Bufo boreas*) is the only toad found in Alaska. It is an amphibian characterized by a rough, warty skin. Granular glands in the skin do secrete a toxic fluid which discourages predation by many enemies. This chunky toad exhibits a variety of color variations from brown to green or gray and usually has a light colored vertebral stripe down the back. A key to identification is the white undersurface, mottled with black spots. Adults may reach a length of 3½ inches (9 cm).

Toads are common in the Refuge where they are terrestrial. They are generally found in open non-forested areas near fresh water. Adult toads are diurnal and feed heavily on insects and other small animals. They are often seen walking instead of hopping. Western toads hibernate through the cold winter months and awaken in the spring. After mating, the female deposits eggs resembling a long string of beads that later hatch into black tadpoles. Thousands of transforming tadpoles and tiny toadlets can be seen at breeding ponds during summer. Mortality of young toads is high, due primarily to adverse environmental conditions and predation.

TERRESTRIAL INVERTEBRATES

Insects and other invertebrates have not been scientifically surveyed in the Refuge but the following orders of invertebrates have been noted:

Dragonflies:	<i>Odonata</i>
Butterflies:	<i>Lepidoptera</i>
Beetles:	<i>Coleoptera</i>
Moths:	<i>Lepidoptera</i>
Flies:	<i>Diptera</i>
Wasps & Bees:	<i>Hymenoptera</i>
Caddisflies:	<i>Trichoptera</i>
Chewing lice bird lice	<i>Mallophaga</i>
Water bugs	<i>Hemiptera</i>
Fleas (parasites on bears)	<i>Siphonaptera</i>

HUMAN USE

HISTORICAL AND CULTURAL RESOURCES

Although the Refuge does not have any known cultural and historical sites within its boundaries, there are numerous cultural and historical sites in the Yakutat and Cordova areas. These have directly and indirectly influenced the Refuge area. During World War II and the Cold War era afterwards, military influence extended into Alaska. Some of these influences such as construction the airports at Yakutat, Cape Yakataga, and Cordova remain highly visible and are still in use now for domestic purposes. Other remnants of those times include the naval gun emplacements at Cannon Beach in Yakutat and the White Alice System, including the Ocean Cape Radio Relay Station (Yakutat) and Cape Yakataga Relay Station. The White Alice System is in the National Register of Historic Places. However, the antennas in Yakutat were removed in the mid 1980s, while those at Cape Yakataga still remain. The activities of those years helped to provide an access link across a remote landscape and brought more people into the area who carved out niches as hunters, trappers, fishermen, loggers, and miners.

SUBSISTENCE ACTIVITIES

Subsistence harvest is an important activity to Yakutat, Cape Yakataga, and Cordova residents. In 1987, 96.5 percent of area households participated in subsistence activities. One of the most important subsistence activities of area residents is salmon fishing. Subsistence set netting has been done at the Duktotoh, Kaliakh, Tsiu/Tsivat, Seal, Tashalich, and Kiklukh Rivers. Some residents also harvest eulachon during their run in February and March.

ACCESS

Currently, no developed public access or public use facilities serve the Refuge. Most people access the Refuge after flying to and landing on nearby non-Refuge lands. One permitted landing strip is associated with the only commercial sport hunting/fishing lodge located within the Refuge. This aircraft strip is completely within the operator's lease area and is not available for general public use. There are several unpermitted small aircraft landing strips within the Refuge. The basin area where the Tsiu and Tsivat Rivers converge has been used for floatplane landings. Helicopters, all terrain vehicles (ATVs), motorboats, and airboats also access various portions of the Refuge. Presently there are no restrictions or methods for monitoring aircraft landings in the Refuge. ATV and airboat use in the Refuge is regulated by a Special Area Permit.

COMMERCIAL FISHING

The Tsiu and Kaliakh Rivers have been commercially fished since the 1930s. In the early days, large tender boats could enter the Kaliakh River, so effort was concentrated in this area. Since the 1960s, the sandbar near the mouth of the Kaliakh River has prevented large boats from entering the river. Since then, it has become feasible to transport fish by aircraft from this area after landing on the sand flats near the Tsiu River (G. Woods pers. comm.). Beginning in the 1970s, fishing effort shifted to the Tsiu River, which has become one of the largest coho producers for its size in the state. In the 1980s, two or more fish buyers would aggressively compete for the large catches of coho salmon from the Tsiu/Tsivat Rivers. Recently, low fish prices have greatly reduced the effort in this area, due to the expense of getting fish to market.

Lesser commercial fishing effort has been expended on the Kiklukh, Tashalich, and Seal Rivers. These rivers contain smaller runs of salmon and have greater access difficulties. There has been no commercial fishing effort on the Midtimber Lake system.

The Refuge area has served primarily a Yakutat-based fishery, though Cordova fishers also participate. This area is the only location in the state that allows two limited entry permits to overlap one fishing district. The Yakutat setnet and Eshami setnet permits both have access to the Yakataga commercial fishing district between Icy Cape and Cape Suckling.

SPORT FISHING

Sportfishing activities for coho salmon have been recorded for the Tsiu/Tsivat Rivers since at least the 1960s, but interest in sport fishing has exploded since about 1980. Prior to 1980, sport fishing was confined mostly to fly-in day trips from Anchorage and Cordova. Fly-in day trips still make up a significant portion of the fishery, but use from commercially operated lodges has increased tremendously. In 1999, there are nine lodges in various stages of construction and operation in the Yakataga area. Seven operations are located in the immediate vicinity of the Tsiu/Tsivat Rivers, one is located on the Kiklukh River at the base of the Suckling Hills, and another operation is being constructed near the Duktoth River. Coho salmon are still the primary target, though a

fishery on a small steelhead run in the Tsiu and Tsivat Rivers is also occurring. Fly-fishing for cutthroat trout, steelhead, and Dolly Varden is also gaining in popularity. All but one lodge is located outside of the Refuge boundary, and most of the sport fishing takes place outside of the Refuge on the mouths of rivers that run through the Refuge.

SPORT HUNTING

Brown bears, black bears, and moose are the three big game species most actively sought by non-local hunters within the Refuge. Mountain goats are pursued on adjacent lands. Local residents from Cordova and Yakutat also target these species. Some of the nine commercial operations offer guided sport hunting packages as well as sport fishing. Waterfowl hunting currently is minimal and usually incidental to other fishing and hunting activities.

FURBEARER TRAPPING

The remoteness of the area precludes much concentrated effort by many people interested in trapping furbearers, such as beaver, mink, marten, river otters, wolverines, wolves, and lynx. There are and have been a few individuals that have run trap lines through the Refuge and adjacent lands. A few old trapper cabins, in varying stages of deteriorating conditions, can still be located and serve as a historical reminder of their use. Caretakers at some of the commercial lodges also spend their off-season running traplines.

OIL AND MINERAL EXPLORATION

Oil drilling was first conducted in the 1950s in what was to become the Refuge. The deteriorating access road from Cape Yakataga through a portion of the Refuge is the legacy from this era. Formal close-outs of the drilling sites was initiated in 1995 and completed in 1997. In 1992 and 1993, Special Area Permits were issued for helicopter-assisted geological exploratory work in the Refuge. Airgun seismic studies were also conducted in the Cape Yakataga area in 1993, but apparently outside of the Refuge. There have never been any serious proposals to develop either of these resources.

The Yakataga Area Plan recommended mineral leasehold location to new mineral entry on the Tsiu, Tsivat, and Kaliakh Rivers within the Refuge.

CONSERVATION ISSUES

The Refuge was set aside for protection and public use of fish and wildlife habitat and populations in response to increased human use in the Yakataga area. Several conservation issues have been identified related to the trend in increased in use. These are not listed in any priority order.

1. Conservation of high-quality goat winter habitat in the area adjacent to the Refuge.
2. Airboat disturbance of nesting and resting waterfowl.

3. Habitat damage from all-terrain vehicle use on sensitive habitats.
4. Impact of a growing sport fishery on habitat and fish stocks, particularly steelhead and cutthroat trout.
5. Lack of sufficient law enforcement presence to deal with:
 - a) damage to habitat by all-terrain vehicles;
 - b) chronic reports of same-day airborne hunting;
 - c) wanton waste; and
 - d) illegal commercial sport fish and hunting operations (Nowlin 1996).

LAND STATUS

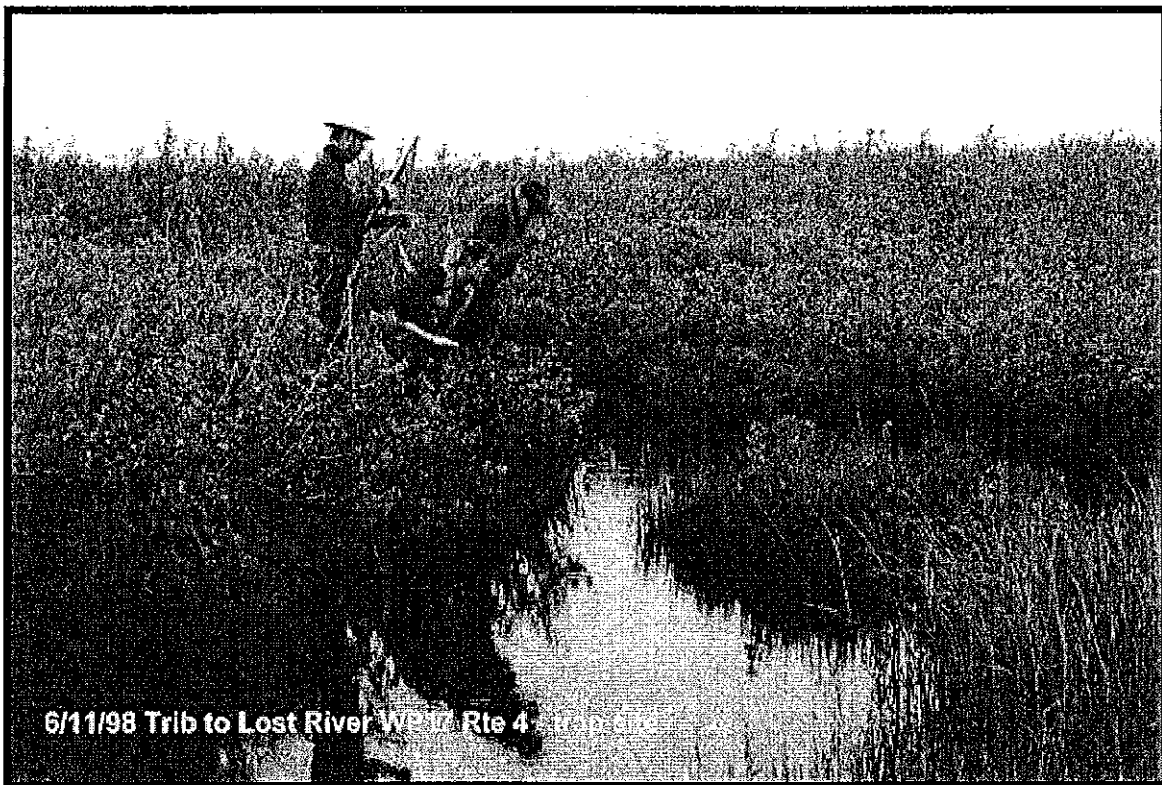
All of the land in the existing Refuge and the adjacent areas that are available for addition to the Refuge is state-patented or tentatively approved state land (Kugel 1995). Several native allotments were originally located within the Refuge and areas considered for addition to the Refuge. These allotments have subsequently moved outside of the Refuge. There are no federal mining claim interests in the area or Mental Health Trust Land.

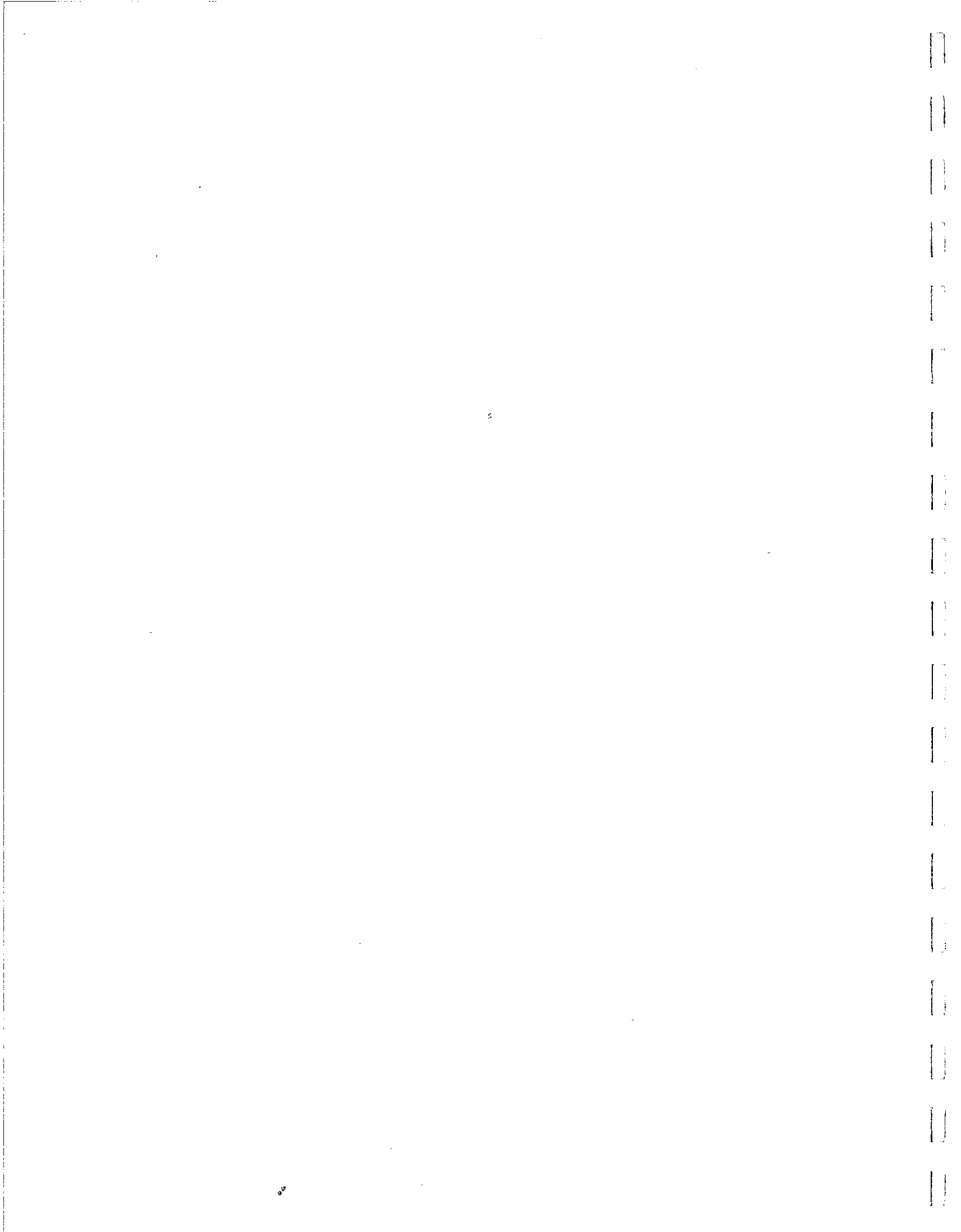
INFORMATION NEEDS

- Conduct a comprehensive inventory and status of Refuge fish, birds, mammals, amphibians, invertebrates, and plants.
- Collect additional field data to further delineate, maintain, and protect the following types of habitat:⁷
 - a. moose winter habitat
 - b. movement corridors between goat winter concentration areas
 - c. bear denning areas
 - d. marten populations and habitat requirements
 - e. trumpeter swan wintering areas
 - f. bald eagle roosting areas, nest sites, and perch trees
 - g. staging areas for neotropical migratory birds flying along the Pacific coast

⁷ From the Yakataga Area Plan, Chapter 4-6.

- h. ducks, geese, swan, and shorebird nesting, feeding, molting, and staging areas
 - i. anadromous and high-value resident fish streams
- Conduct additional fish surveys and update the *Catalog of Waters Important for Spawning, Rearing or Migration of Anadromous Fishes*.
 - Develop and print bird, terrestrial wildlife, and plant checklists.
 - Conduct surveys to determine the least disruptive, yet feasible, access route to resource development areas north of the Refuge.
 - Conduct a mountain goat study in the Refuge vicinity to better understand habitat use and interactions, if any, among local populations.
 - Monitor effects of various access modes on fish and wildlife habitat and populations.
 - Collect and compile annual use data from the commercial sport fish and hunting operations to help determine resource use.





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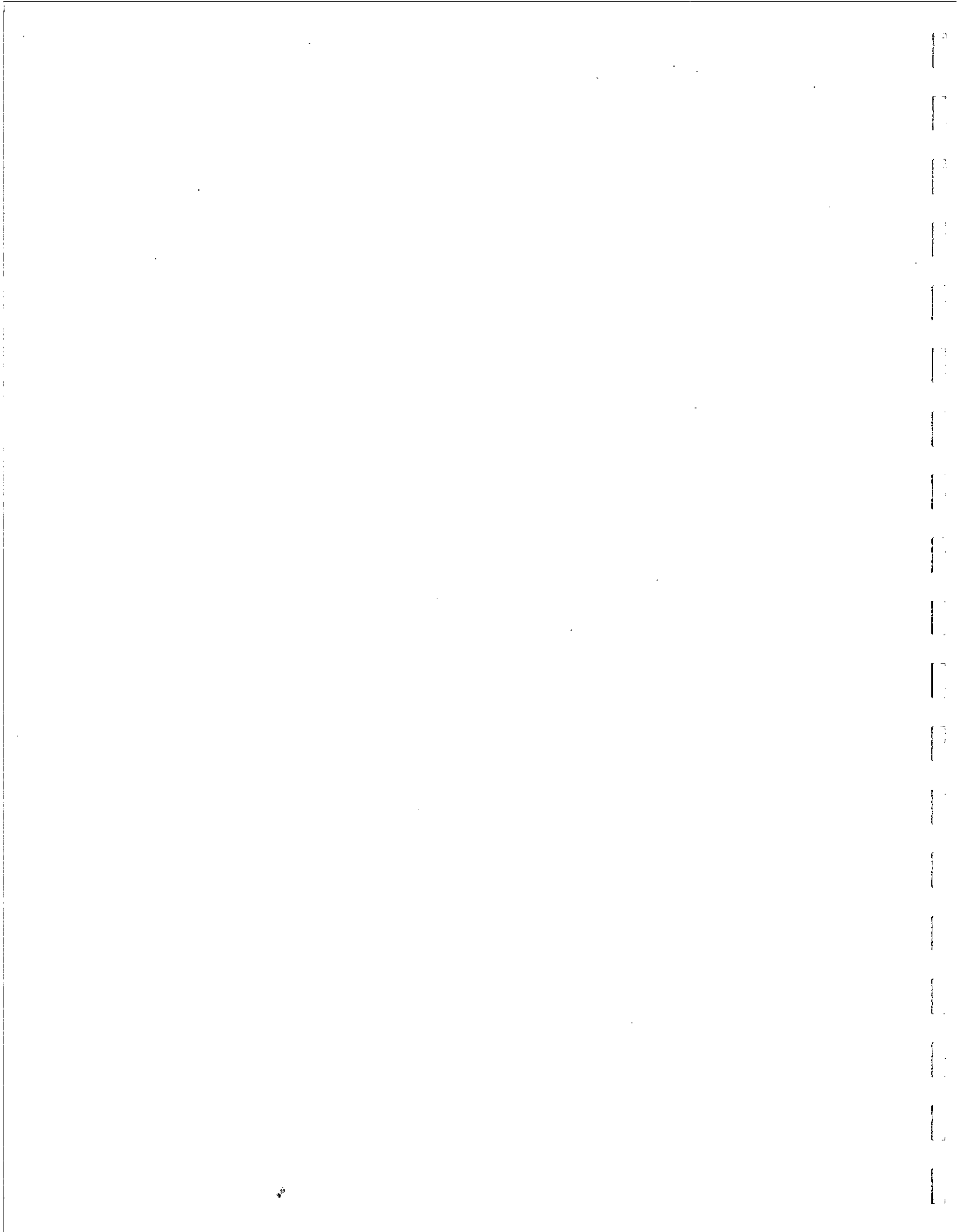


TABLE 1 – Birds in the Yakutat Area

(Mickelson 1975)

Species	Status ¹	Habitat ²	Observed By Shortt	Observed by Mickelson
Common Loon	RB	CMw	X	X
Yellow-billed Loon	M(W)	C	X	
Arctic Loon	R	C	X	
Red-throated Loon	RB	CM	X	
Red-necked Grebe	M(W)	C	X	
Horned Grebe	M(B)	Cm	X	
Black-footed Albatross	S	Oc	X	
Northern Fulmar	S	Oc	X	
Sooty Shearwater	S	Oc	X	
Fork-tailed Storm Petrel	S	Oc	X	
Double-crested Cormorant	RM	Ct	X	X
Pelagic Cormorant	RB	Ct	X	X
Great Blue Heron	(RB)	MWt	X	
Canada Goose	M(B)	TM		X
White-fronted Goose	M	TM		X
Mallard	RB	TMw	X	X
Pintail	B	TM	X	X
Green-Winged Teal	B	TMw	X	X
American Wigeon	B	TMw	X	X
Canvasback	M	TM	X	
Greater Scaup	M(W)	TM		X
Barrow's Goldeneye	RB	TMw	X	X
Bufflehead	M(RB)	TmW		X
Oldsquaw	M(W)	Cm	X	
Harlequin Duck	RB	CW	X	
White-winged Scoter	RB	Cm	X	X
Surf Scoter	RB	Cm	X	
Black Scoter	MS	C	X	X
Common Merganser	RB	Mtw	X	X
Red-breasted Merganser	R(B)	Mtw	X	X
Goshawk	RB	W	X	
Sharp-shinned Hawk	RB	W	X	
Red-tailed Hawk	M	W	X	
Rough-legged Hawk	M	W	X	
Golden Eagle	B	W	X	

¹ Status: R-resident, M-migrant; S-summer inhabitant; B-breeder; W-winter inhabitant; (probable).

² Habitat: O-offshore waters, C-coastal waters, T-tidelands; M-marsh; W-woodlands; Capitalized – primary habitat; small case – secondary habitat. (124 species; 81 breeding or likely breeding.)

Species	Status ¹	Habitat ²	Observed By Shortt	Observed by Mickelson
Bald Eagle	RB	TMW	X	X
Osprey	B	WM	X	
Peregrine Falcon	S(B)	CM	X	
Merlin	S(B)	W	X	
Willow Ptarmigan	RB	M	X	
Rock Ptarmigan	RB	unknown	X	
Black Oystercatcher	B	T	X	
Semipalmated Plover	SB	TM	X	
Killdeer	M	T	X	
Black-bellied Plover	M	TM	X	X
Surfbird	M	T	X	
Ruddy Turnstone	M	T	X	
Black Turnstone	M	T	X	
Common Snipe	B	M	X	X
Spotted Sandpiper	B	M	X	X
Solitary Sandpiper	M	M	X	
Wandering Tattler	M	T	X	
Greater Yellowlegs	B	Mw	X	X
Lesser Yellowlegs	B	Mw	X	X
Rock Sandpiper	M(W)	T	X	
Least Sandpiper	B	TM	X	X
Dunlin	M	TM	X	X
Long-billed Dowitcher	M	TM	X	X
Short-billed Dowitcher	B	TM	X	X
Western Sandpiper	M	TM	X	X
Northern Phalarope	B	TM	X	X
Parasitic Jaeger	B	M	X	X
Long-tailed Jaeger	M	C	X	
Glaucous-winged Gull	RB	TM	X	X
Herring Gull	S	TM	X	
Mew Gull	RB	TM	X	X
Bonaparte's Gull	B	TMw	X	X
Black-legged Kittiwake	B	C	X	X
Arctic Tern	B	TM	X	X
Aleutian Tern	(B)	TM	X	X
Pigeon Guillemot	RB	C	X	
Marbled Murrelet	RB	OC	X	
Kittlitz's Murrelet	RB	OC	X	
Rhinoceros Auklet	S	OC	X	

¹ Status: R-resident, M-migrant; S-summer inhabitant; B-breeder; W-winter inhabitant; (probable).

² Habitat: O-offshore waters, C-coastal waters, T-tidelands; M-marsh; W-woodlands; Capitalized – primary habitat; small case – secondary habitat. (124 species; 81 breeding or likely breeding.)

Species	Status ¹	Habitat ²	Observed By Shortt	Observed by Mickelson
Tufted Puffin	(R)	OC	X	
Screech Owl	RB	W	X	
Great Horned Owl	RB	WM	X	
Pygmy Owl	RB	W	X	
Great Gray Owl	RB	W	X	
Short-eared Owl	B	M	X	X
Nighthawk	M	m	X	
Rufous Hummingbird	B	W	X	
Belted Kingfisher	RB	TMW	X	X
Common Flicker	M	W		
Hairy Woodpecker	RB	W	X	X
Western Flycatcher	B	W	X	
Violet-green Swallow	B	MW	X	
Tree Swallow	B	MW	X	X
Barn Swallow	B	W	X	X
Steller's Jay	RB	W	X	X
Black-billed Magpie	RB	MW	X	
Common Raven	RB	TMW	X	X
Northwestern Crow	RB	TW	X	X
Black-capped Chickadee	W	Wm	X	
Chestnut-backed Chickadee	RB	W	X	X
Dipper	RB	W	X	
Winter Wren	RB	W	X	
American Robin	B	Wm	X	X
Varied Thrush	B	Wm	X	X
Hermit Thrush	B	Wm	X	X
Gray-cheeked Thrush	B	W	X	
Golden-crowned Kinglet	B	W	X	
Ruby-crowned Kinglet	B	W	X	
Water Pipit	M(B)	TM	X	X
Orange-crowned Warbler	B	W	X	
Yellow Warbler	B	W	X	
Wilson's Warbler	B	W	X	
Pine Grosbeak	RB	W	X	
Common Redpoll	M(W)	WM	X	
Pine Siskin	PB	W	X	X
White-winged Crossbill	M	W	X	
Savannah Sparrow	B	M	X	X
Dark-eyed Junco	M	W		X

¹ Status: R-resident, M-migrant; S-summer inhabitant; B-breeder; W-winter inhabitant; (probable).

² Habitat: O-offshore waters, C-coastal waters, T-tidelands; M-marsh; W-woodlands; Capitalized – primary habitat; small case – secondary habitat. (124 species; 81 breeding or likely breeding.)

Species	Status ¹	Habitat ²	Observed By Shortt	Observed by Mickelson
White-crowned Sparrow	M	W		X
Golden-crowned Sparrow	B	WM	X	X
Fox Sparrow	B	MW	X	X
Lincoln's Sparrow	B	Wm	X	
Song Sparrow	B(R)	TM	X	X
Lapland Longspur	M	m	X	X
Peregrine Falcon	S(B)M			
Merlin	S(B)M			

¹Status: R-resident, M-migrant; S-summer inhabitant; B-breeder; W-winter inhabitant; (probable).

²Habitat: O-offshore waters, C-coastal waters, T-tidelands; M-marsh; W-woodlands; Capitalized – primary habitat; small case – secondary habitat. (124 species; 81 breeding or likely breeding.)

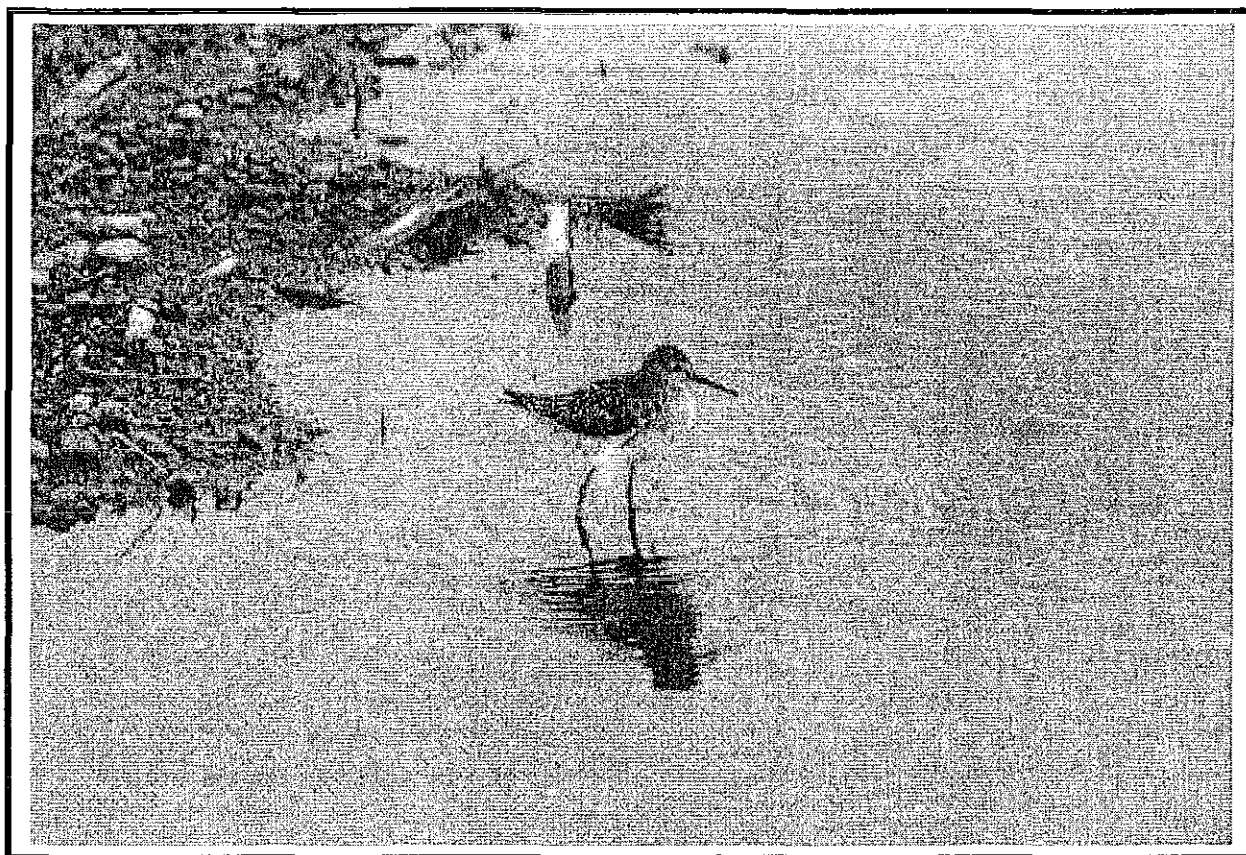


TABLE 2 - Mammals of the Yakataga Area
(Manville and Young 1965)

ORDER INSECTIVORA

- Masked shrew (*Sorex cinereus*)

Habitat: forest, marshes, and rocky areas; inhabits coastal strip from Dixon Entrance to Seward

- Dusky shrew (*Sorex obscurus*)

Habitat: moist shaded areas; occupies the coastal strip from Seward to Juneau.

ORDER LAGOMORPHA

- Snowshoe hare (*Lepus americanus*)

Habitat: mixed forests, wooded swamps, and brushy areas from sea level to 2,000 feet.

ORDER RODENTIA

Family Sciuridae

- Hoary marmot (*Marmota caligata*)

Habitat: rocky outcrops and talus slopes near vegetation, generally above timberline. Presence in Refuge is questionable, although known to occur directly east and west of Refuge boundaries.

- Red squirrel (*Tamiasciurus hudsonicus*)

Habitat: principally in coniferous forests. Presence within the Refuge is confirmed and it is known to occur in nearly all adjacent areas.

Family Castoridae

- Beaver (*Castor canadensis*)

Habitat: along streams and lakes, particularly in proximity to stands of poplar, birch and willow; common throughout most of the Refuge.

Family Cricetidae

- Brown lemming (*Lemmus trimucronatus*)

Habitat: prefers damp tundra or arctic coastal plain. Occurs throughout most of Alaska, but presence in Refuge is not confirmed.

- Red-backed vole (*Clethrionomys rutilus*)

Habitat: ground-dweller preferring cool, moist situations, with some overhead cover; occupies tundra and forested regions; perhaps the most common small mammal in Alaska. Presence in Refuge documented.

- Tundra vole (*Microtus oeconomus*)

Habitat: tundra, grassy or sedge areas, damp or dry; throughout most of Alaska.

- Muskrat (*Ondatra zibethicus*)

Habitat: fresh-water and salt-water marshes and near rivers and stream: occasionally several miles from water; occurs throughout most of North America north of Mexico.

Family Muridae (Introduced old-world rats and mice)

- Norway rat (*Rattus norvegicus*)

Habitat: omnipresent along south gulf coast near settlements; presence in Refuge likely but uncertain.

- House rat (*Mus musculus*)

Habitat: see Norway rat above.

Family Zapodidae

- Meadow jumping mouse (*Zapus hudsonicus*)

Habitat: grassy or marshy areas or in open woodlands at low elevations.

Family Erethizontidae

- Porcupine (*Erethizon dorsatum*)

Habitat: chiefly forested areas, particularly of conifer and aspen but also frequents tundra well beyond treeline.

ORDER CETACEA

Family Monodontidae

- Beluga whale (*Delphinapterus leucus*)

ORDER PINNIPEDIA

Family Otariidae

- Alaska fur seal (*Callorhinus ursinus*)

Habitat: marine waters of North Pacific Ocean and adjacent seas; breeds on shore islands.

- Stellar sea lion (*Eumetopias jubata*)

Habitat: marine, usually along open seacoasts; breeds on shore throughout most of its range.

Family Phocidae

- Harbor seal (*Phoca vitulina*)

Habitat: along coasts, usually protected bays or offshore islands; widespread in Northern American waters of Atlantic and Pacific Oceans.

Family Delphinidae

- Dall's porpoise (*Phocoenoides dalli*)
- Pacific killer whale (*Orcinus orca*)

Family Eschrichtidae

- Gray whale (*Eschrichtius robustus*)

Family Balaenopteridae

- Humpback whale (*Megaptera novaeangliae*)

ORDER CARNIVORA

Family Canidae

- Coyote (*Canis latrans*)

Habitat: forests to plains, preferring open areas from sea level to mountains.
Range in Alaska is extending; first documented in early 20th century.

- Gray wolf (*Canis lupus*)

Habitat: forests and open areas at all elevations

- Red fox (*Vulpes fulva*)

Habitat: all elevations, particularly broken areas having open patches interspersed with cover; occurs both in dense forests and open tundra.

Family Ursidae

- Black bear (*Ursus americanus*)

Habitat: woodlands or swamps, from sea level to coniferous forests and lower tundra; occurs throughout most of forested North America. No data is available for estimating population size, trend, or distribution between Icy Bay and Cape Suckling.

- Brown bear (*Ursus arctos*)

Habitat: swamps, streams, forests, and open tundra; from sea level to snow fields at high elevations; occurs throughout nearly all of mainland Alaska, and on many islands.

Family Mustelidae

- Short-tailed weasel (*Mustela erminea*)

Habitat: occurs throughout most of North America in woodlands, open savannahs and tundra, and many terrestrial environments.

- Marten (*Martes americana*)

- Mink (*Mustela vison*)

Habitat: margins of streams, lakes, marshes, and marine islands; may occur in dense cover away from water in winter.

- Wolverine (*Gulo gulo*)

Habitat: forests and tundra from sea level to high elevations, and from Alaska to Labrador.

- River otter (*Lutra canadensis*)

Habitat: shallow marine waters along coast and islands, usually among kelp beds, or on rocky shores and reefs; forages to depths of 150 feet.

Family Felidae

- Lynx (*Lynx canadensis*)

Habitat: forest and open terrain, wherever snowshoe hares are found. (Occurrence within the Refuge boundaries is questionable).

ORDER ARTIODACTYLA

Family Cervidae

- Sitka black-tailed deer (*Odocoileus hemionus sitkensis*)

Habitat: open woodlands, humid forests, sea level to higher elevations. Deer were successfully transplanted to the Khantaak Islands of Yakutat Bay; and have spread to the adjacent mainland around Yakutat Bay. However, their presence in the Refuge is doubtful.

- Moose (*Alces alces*)

Habitat: forests, along water-courses, with a preference for areas supporting willows; also present in open tundra.

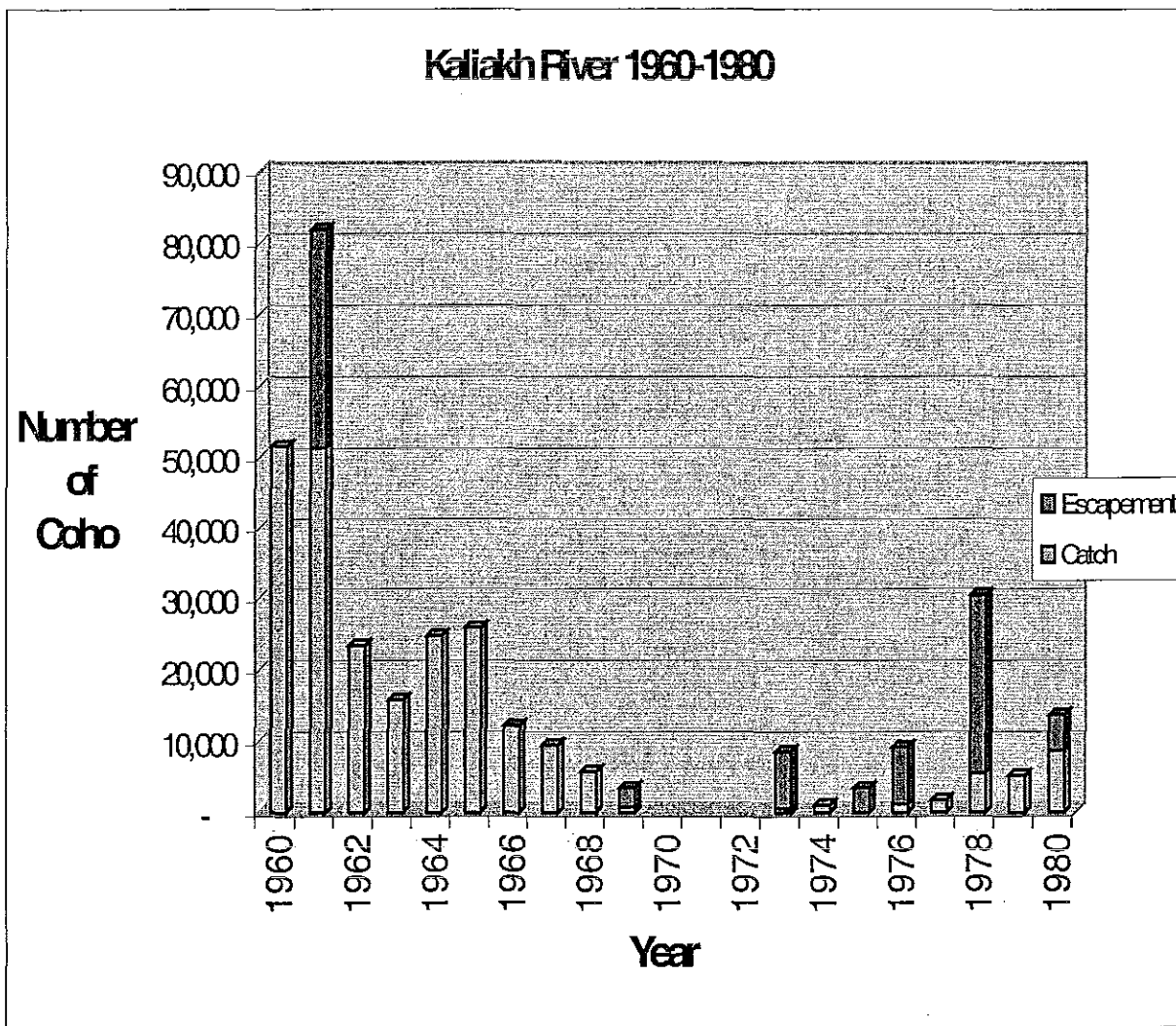
Family Bovidae

- Mountain goat (*Oreamnos americanus*)

Habitat: Cliffs and rocky slopes, usually above timberline in summer, but in winter occasionally to sea level in timber.

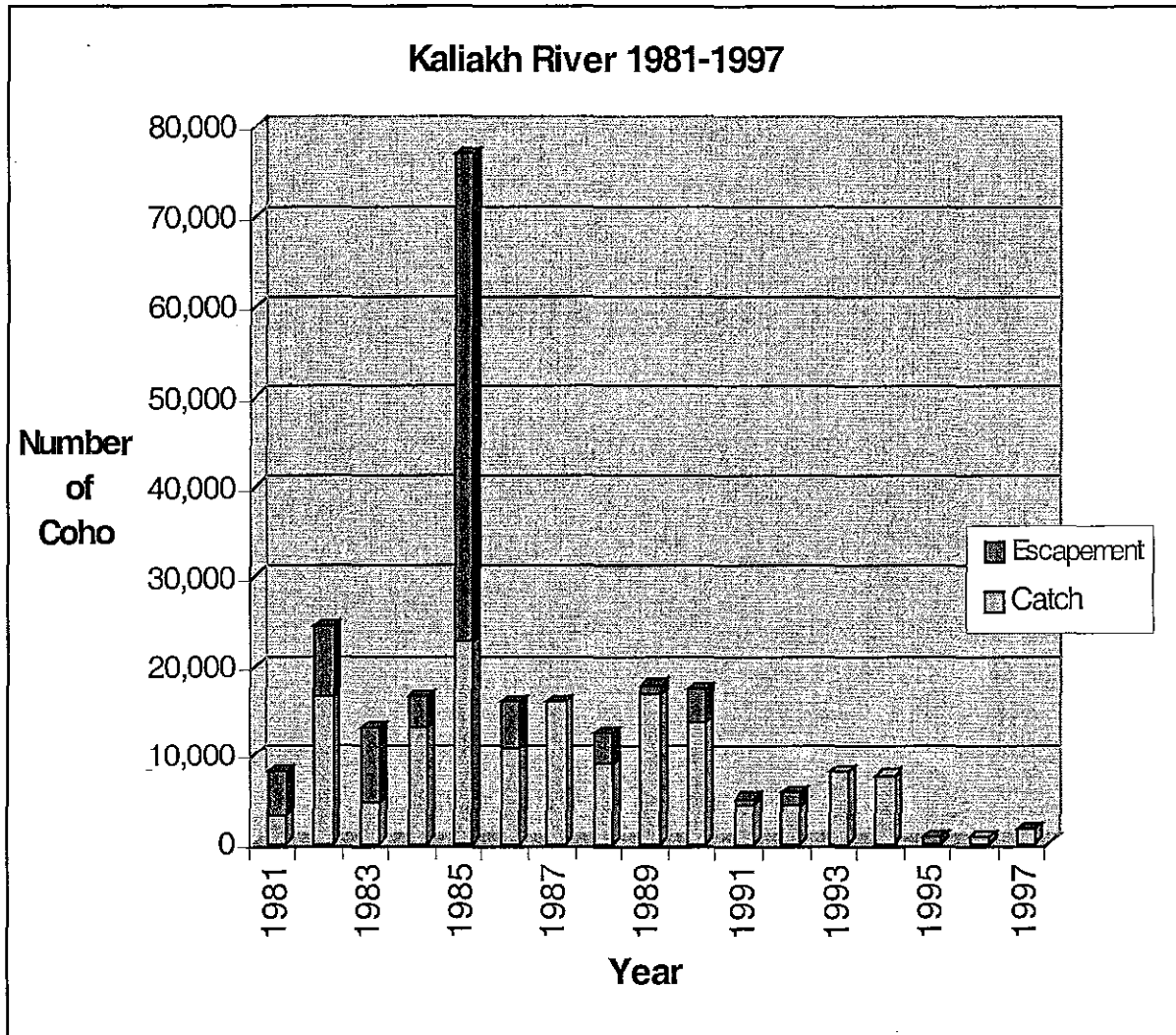


Figure 1 - Kaliakh River Coho Catch & Escapement 1960 - 80 ³



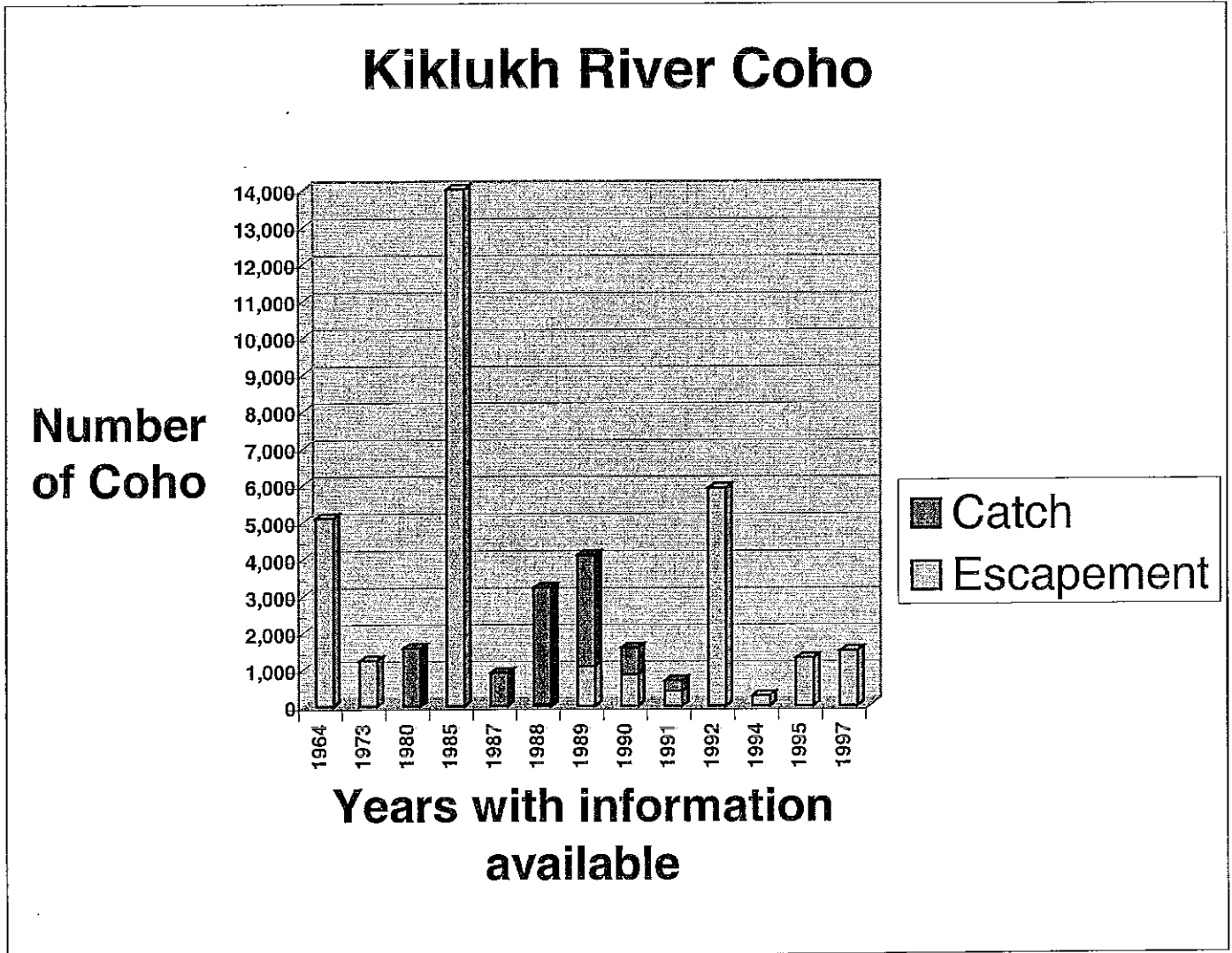
³ Information compiled from the ADF&G's Integrated Fisheries Database

Figure 2 - Kaliakh River Coho Catch & Escapement 1981 - 97⁴



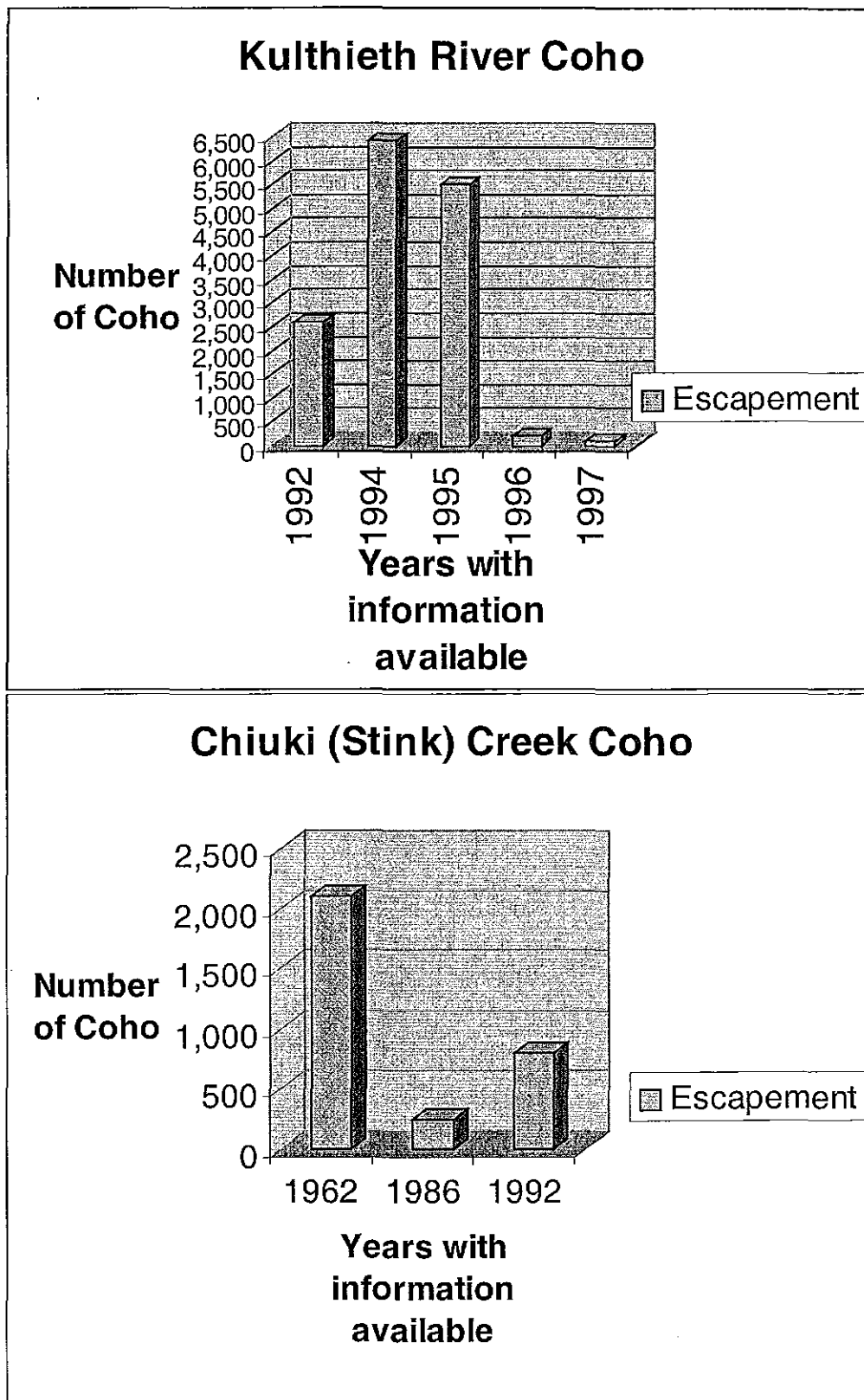
⁴ Information compiled from the ADF&G's Integrated Fisheries Database

Figure 3 – Kikluh River Coho Catch & Escapement ⁵



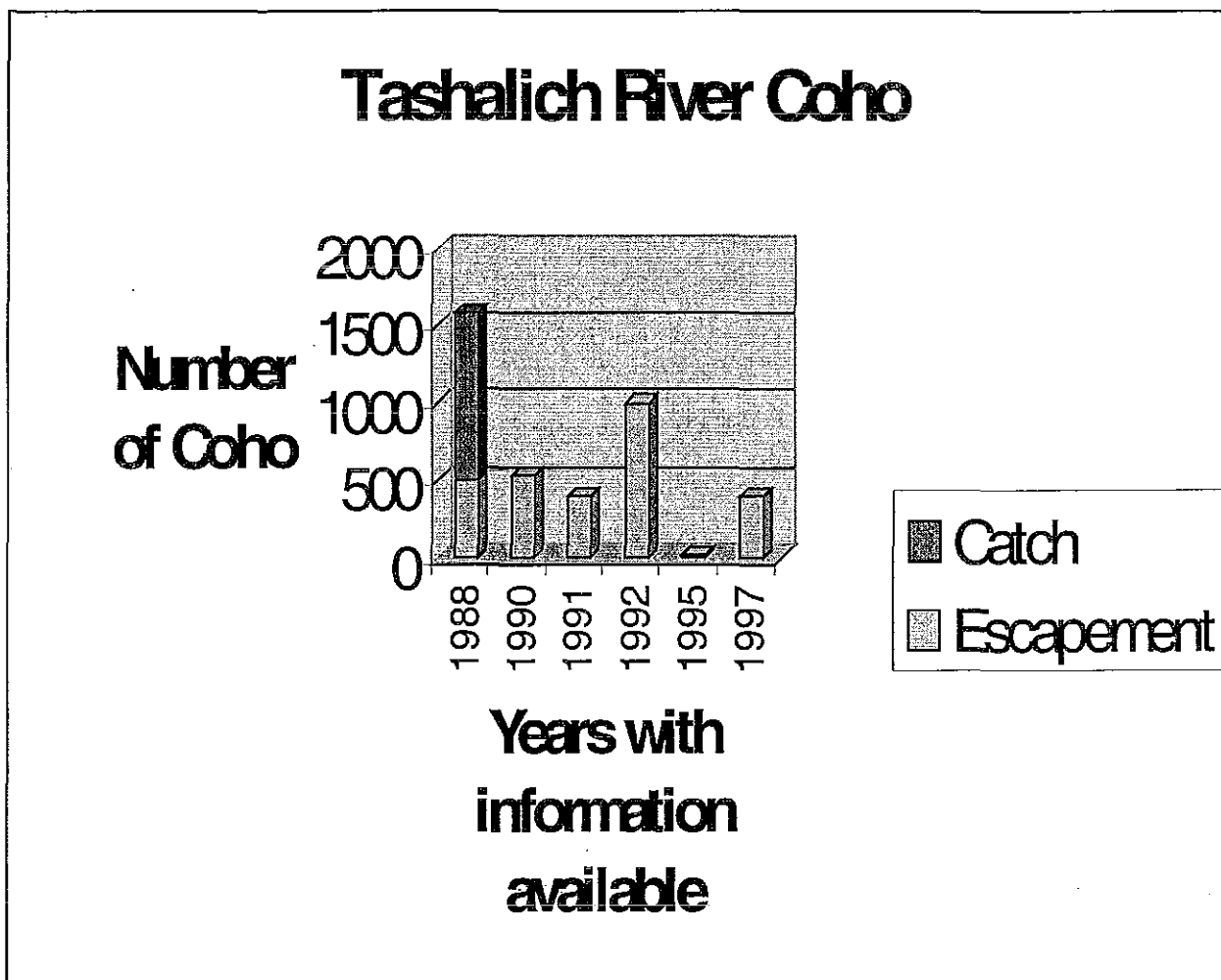
⁵ Information compiled from the ADF&G's Integrated Fisheries Database

Figure 4 – Kulthieth River & Chiuki River Coho Escapement ⁶



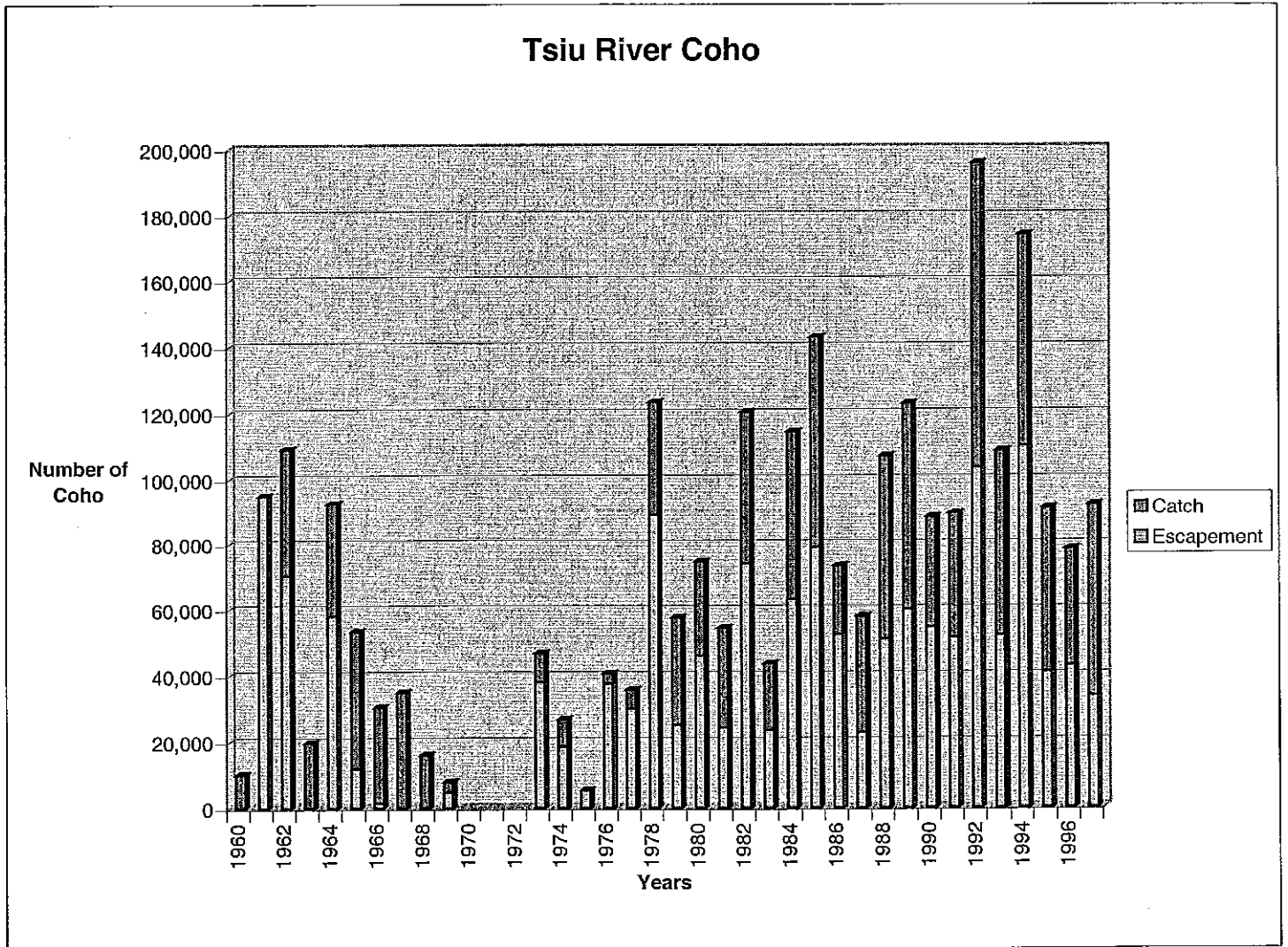
⁶ Information compiled from the ADF&G's Integrated Fisheries Database

Figure 5 – Tashalich River Coho Catch & Escapement ⁷



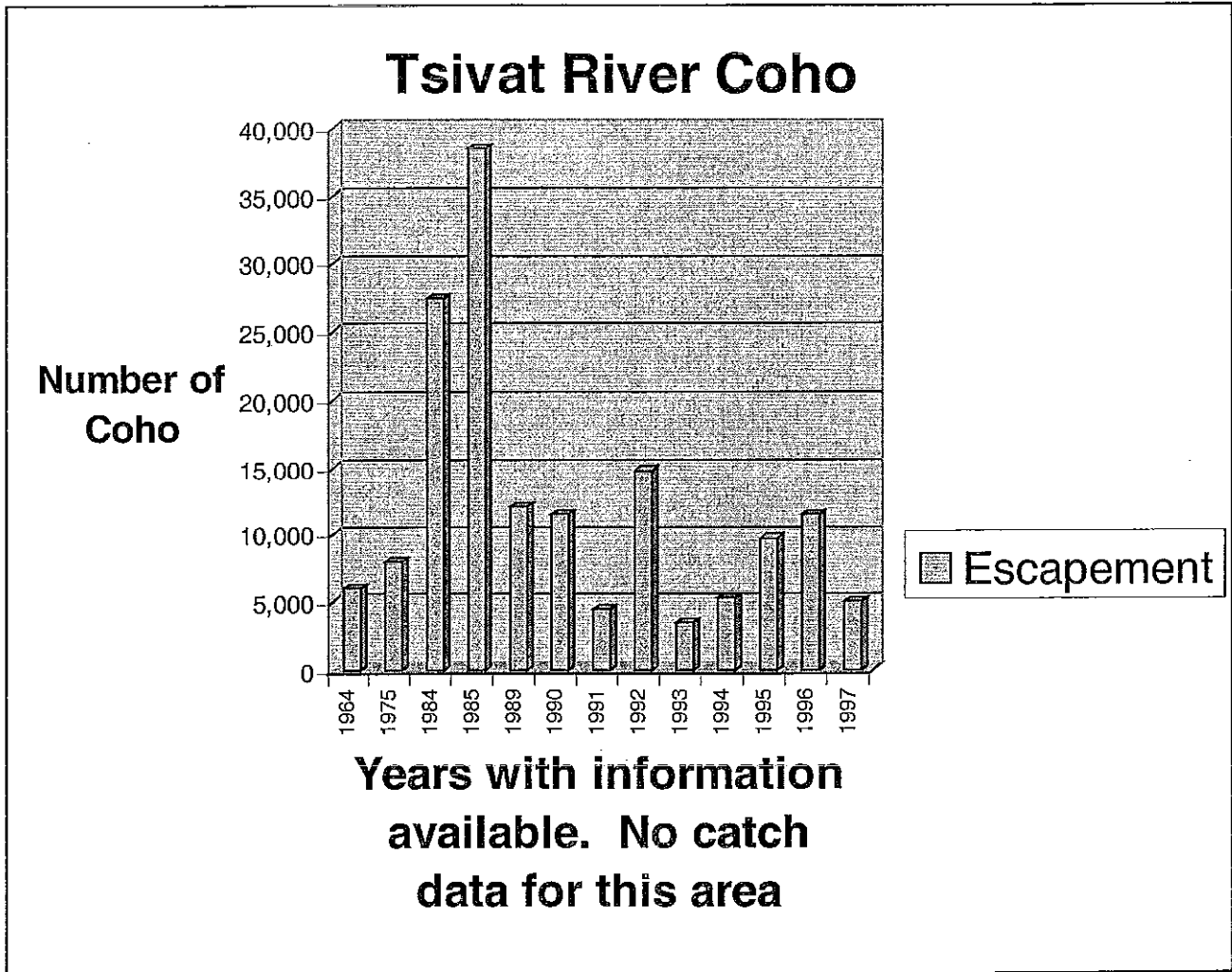
⁷ Information compiled from the ADF&G's Integrated Fisheries Database

Figure 6 – Tsiu River Coho Catch & Escapement ⁸



⁸ Information compiled from the ADF&G's Integrated Fisheries Database

Figure 7 – Tsivat River Coho Escapement⁹

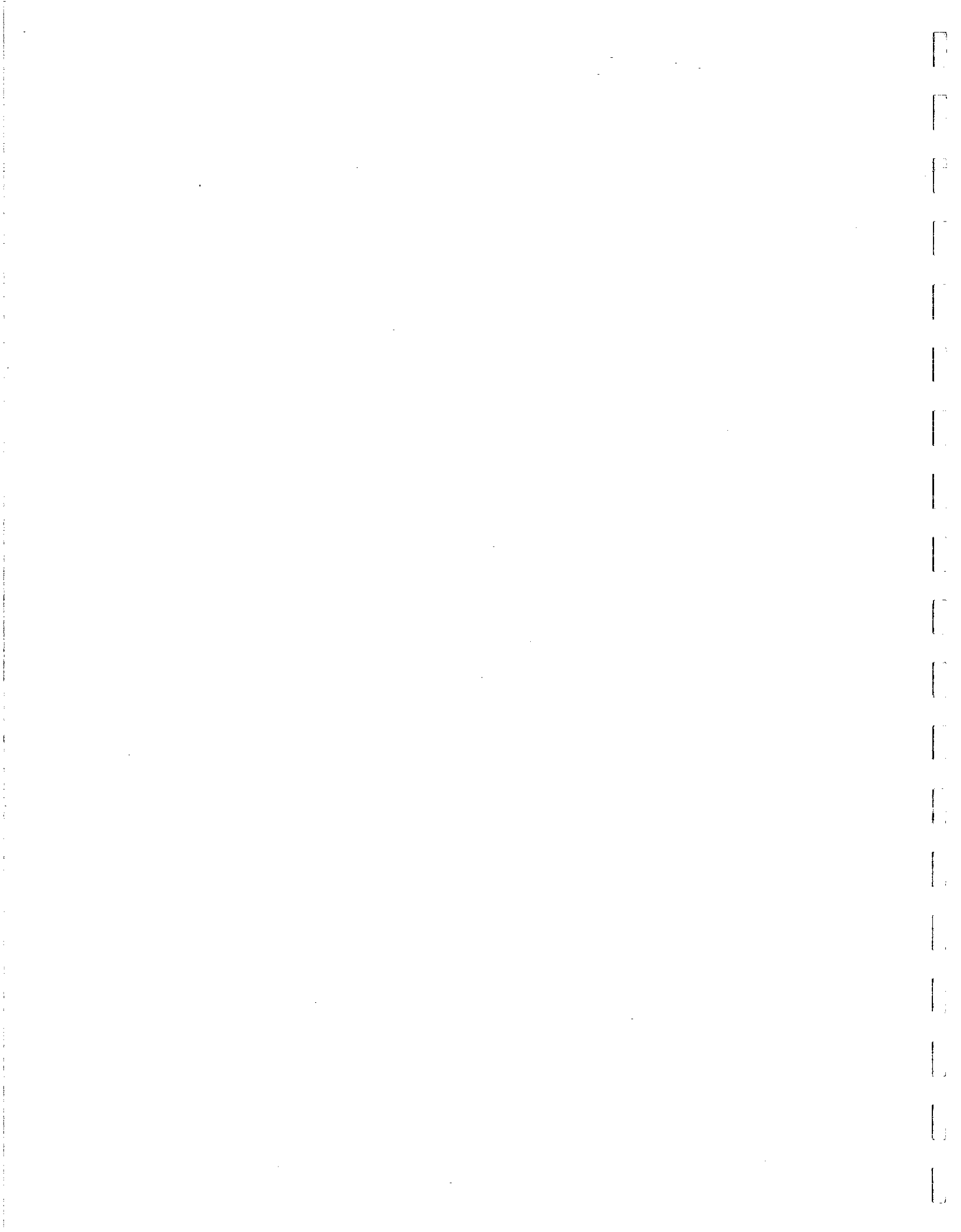


⁹ Information compiled from the ADF&G's Integrated Fisheries Database

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GLOSSARY

AAC. Alaska Administrative Code.

ACMP. Alaska Coastal Management Plan.

ADF&G. Alaska Department of Fish and Game.

Access. A way or means of approach. Includes transportation, trail, easements, rights of way, and public use sites.

ADL 223456. The Alaska Division of Land's (ADL) Final Finding and Decision that conveyed to the University various lands at sites across Alaska, and one-time timber harvest rights in the Yakataga area. This ADL finding was signed by DNR Commissioner Judith M. Brady on December 4, 1988. The conveyance replaced original University trust lands which the state had allowed the Municipality of Anchorage to select as part of its municipal entitlement. The conveyance sparked several lawsuits against DNR regarding the conveyances of timber rights (in the Yakataga planning area). On December 2, 1994, litigants reached a settlement agreement. This settlement constituted Amendment #3 to the original ADL 223456. See also *settlement agreement*.

Alevin. The newly hatched salmon when still attached to the egg yolk mass.

Allow, allow(ed), allow(able) use. A use that may be authorized in a unit or subunit as long as the use is consistent with: the definitions of the designation(s) that apply to the unit or subunit; management intent for the unit or subunit; plan guidelines; and statutes and regulations. The use of this term does not in itself mandate ADF&G to approve an application, or to approve an existing use that requires prior authorization. The decision to authorize uses is made during the application review process.

Alluvial deposit; fan. Sand, clay, etc. gradually deposited by moving water.

Amendment. 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 location 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. [11 AAC 55.030(f)(1)(A)].

Anadromous fish stream. Anadromous fish streams are shown in *The Atlas to the Catalog of Waters Important for Spawning, Rearing, or Migration of Salmon*" (referred to as the AWC) compiled by ADF&G. For the purposes of this plan, the term anadromous fish stream applies to 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 stream bed or lake bed covered by ordinary high water.

Authorized use. A use allowed by ADF&G by permit or lease.

AS. Alaska Statute.

ATV. All-terrain vehicle.

Avoid. To keep from happening or to keep away from.

AWC. *The Atlas to the Catalog of Waters Important for Spawning, Rearing, or Migration of Salmon* prepared by the ADF&G.

BLM. The federal Bureau of Land Management within the U.S. Department of the Interior. Nearest field office to the planning area is at Glennallen.

C°. Abbreviation for the temperature measurement Celsius, where 0° is the freezing point and 100° is the boiling point of water. The formula for converting a Celsius temperature to Fahrenheit is $C^{\circ} = 5/9(F^{\circ} - 32)$.

cm. Abbreviation for the measurement of a centimeter, equal to 1/100 meter.

CBY. City and Borough of Yakutat.

Classification. Land classification is a formal record on DNR's land status plats of the purposes for which state land will be managed. Classifications are defined by statute and regulation [AS 38.05.300 and 11 AAC 55.020 to .277]. All classification categories allow multiple use, but the classified uses may be considered primary. Land may be given a total of three classifications in combination. Alaska statutes require DNR to classify lands before most types of leasing or disposal. Classification decisions are made through a DNR area plan or a site-specific land use plan.

Closed to mineral location. Areas where the staking of new mineral locations is prohibited because DNR or the state legislature has determined mining to conflict with significant surface uses. Existing mineral locations that are valid at the time the mineral orders are signed are not affected by mineral closures.

Coastal area. All land and water within the boundaries of the Coastal Zone as defined by the Alaska Coastal Management Program.

Commercial fishing. The taking, fishing for, or possession of fish, shellfish, or other fishery resources with the intent of disposing of them for profit, or by sale, barter, trade, or in commercial channels [AS 16.05.940 (5)].

Commissioner. The Commissioner of the Alaska Department of Fish and Game. [Sec. 44.39.010 and AS 16.05.010].

Consultation. Process followed to inform other groups of the intent to take some action, and seek their advice or assistance in deciding what to do. Consultation is not intended to bind ADF&G to a decision. It is a means of informing affected organizations and individuals about forthcoming decisions and getting the benefit of their expertise.

DEC. Alaska Department of Environmental Conservation.

December 1994 settlement agreement. See *settlement agreement*.

DNR. Alaska Department of Natural Resources.

Enhance. To convey an increased value, however caused or arising.

Emigration. To move out of. In this case anadromous fish smolts move out of fresh water and into salt water as part of their life cycle.

Estuary. A semi-closed coastal body of water which 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)].

FAA. Federal Aviation Administration, within the U.S. Department of Transportation.

Fathom. Used as a unit of measure for a depth of water; 6 feet.

Generally allowed use. An activity conducted on state land managed by the Division of Land, that does not fall into any special management category or status. For the most part these uses are allowed for 14 days or less, and a permit is not required. Examples of generally allowed uses are: picking berries for personal, non-commercial use; hiking, skiing, climbing and other foot travel; and camping for less than 14 days for personal, non-commercial recreation.

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 that must be followed by resource managers or which is required of land users when the manager permits, leases, or otherwise authorizes the use of state land or resources. Guidelines 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.

Haulouts. Locations where concentrations of seals or sea lions have been observed hauled out on shore, during more than one year, to breed, pup, rest, or molt.

Immigration. To go or remove into. In this case, adult anadromous fish return to fresh water from saltwater to complete their life cycle.

Lacustrine. Of, relating to, or formed in lakes.

Land. See *state land*.

Lease. A Department of Natural Resources authorization for the use of state land according to terms set forth in AS 38.05.070-105.

Legislative designation. An action by the state legislature that sets aside a specific area for special management actions and ensures the area is kept in public ownership.

Locatable mineral. Locatable minerals include both metallic (gold, silver, lead, etc.) and non-metallic (fluorspar, asbestos, mica, etc.) minerals.

Maintain. Minimize significant adverse impacts to, or keep in a condition of, good repair and good order.

Mean low water. (MLW) The tidal datum plane of the average of all 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)].

Mineral leasehold location. In the YAP, the commissioner of DNR determined mining to be incompatible with the following significant surface uses: spawning and rearing of anadromous fish in waterbodies with relatively high fish productivity, and; commercial, sport, and community harvest of fish that is concentrated in the most productive waterbodies. Some areas were closed to new mineral entry. Mineral entry on leasehold locations may occur only on valid existing claims and new leases are withheld.

Minimize. To reduce to the smallest possible amount, size, extent, or degree.

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 necessary for 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 subject to AS 38.05.185 - 38.05.275 lying within the boundaries of the claim (AS 38.05.185).

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]

Moraine. An accumulation of earth and stones carried and finally deposited by a glacier.

Multiple use. Management of state land and its various resource values so that the land 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. Multiple use may include:

a) the use of some land for less than all of the resources, and

b) 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].

Navigable. Waterbodies that are capable of transporting people or goods. "Navigable water" means any waters of the state forming a river, stream, or lake. The land beneath these waters is owned by the state. These waterbodies extend to the ordinary high water mark (usually the vegetation line). The adjacent uplands may be in private ownership and not available for use without permission. Federally determined navigable waterbodies are those administratively determined navigable by the federal Bureau of Land Management (BLM). State determined navigable waterbodies are those determined navigable by the state (usually these are waterbodies BLM has not yet determined navigable, or are waterbodies previously determined non-navigable, but where the state disagreed with BLM criteria).

NMFS. National Marine Fisheries Service, within the U.S. Department of Commerce.

Ordinary high water mark. (OHW) 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 and indicated by erosion, shelving, changes in soil characteristics, destruction of terrestrial vegetation, or other distinctive physical characteristics [11 AAC 53.900(23)].

Palustrine. Referring to a wetland channel type for stream classification. Water movement is slow and sediment transport is low. Channel banks are generally stable and flood plain depositional features, such as gravel bars, are absent. Riparian area size is highly variable, but may encompass very large wetlands.

Passerine. Pertaining to an order (*Passeriformes*) of small or medium-sized, chiefly perching songbirds having grasping feet with the first toe directed backward.

Permanent fuel storage. Fuel storage for longer than one field season; or for non-seasonal activities, fuel storage longer than three months.

Personal use. The harvest of fish and wildlife for general consumption, including but not limited to subsistence and recreational harvest. Commercial harvest is not included.

Personal use timber harvest. Timber harvest for use by the harvester. Wood harvested for personal use may not be sold, bartered, or used for commercial purposes (11 AAC 71.050). Personal use wood may not be used to build lodges or other commercial facilities, or to heat these facilities during the period of commercial operation.

Prohibited use. A use not allowed in the Refuge because of conflicts with the management intent, policy, or management guidelines.

Promote. To contribute toward or further the progress or growth of an activity or resource.

Protect. Avoid significant adverse impacts.

Public use. Any human use of state land, including commercial and non-commercial uses.

Public trust. A common law doctrine that requires the state to manage tidelands, shorelands, and submerged lands for the benefit of the people so that they can engage in beneficial uses such as navigation, commerce, fishing, and other uses.

Recreation. Any activity or structure for recreational purposes, including but not limited to, hiking, camping, boating, anchorage, access points to hunting and fishing areas, and sightseeing. In this plan, recreation does not refer to subsistence or sport hunting and fishing.

Riparian. An area associated of, adjacent to, or within the banks of a river, stream, lake, pond, etc. Usually there are vegetation species and diverse wildlife species that are specific to this zone or form a significant portion of their habitat requirements.

ROW or right-of-way. The legal right to cross the land of another.

Settlement agreement (December 1994). The Memorandum of Agreement to settle litigation regarding the university timber rights under ADL 223456. This agreement was signed December 2, 1994 by litigants in Yakutat Fishermen's Association V. Brady 1 JU-88-271 Civil. The agreement substituted timber cutting rights east of the Duktoth River for the University's previous timber rights at Cape Suckling. The agreement also set annual allowable cut and sustained yield for Yakataga area. It results in amendment #3 of ADL 223456 and certain provisions in the Yakataga Area Plan.

Shall. Same as will.

Shorelands. Land belonging to the state which is covered by nontidal water that is navigable under the laws of the United States up to the ordinary high water mark as modified by accretion, erosion, or reliction [AS 38.05.965]

Should. Statement of 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 deviation from the intended action or set of conditions. A guideline may include criteria for deciding if such a deviation is justified.

SMA, Special management area. The Alaska Legislature in 1990 designated a temporary special management area east of the Kaliakh River known as the Yakataga Special Management Area.

Sport fishing. The taking of or attempting to take for personal use and not for sale or barter any fresh water, marine, or anadromous fish. [AS 16.05.940 (5)].

State land. All land including shorelands, tidelands and submerged lands or resources belonging to or acquired by the state. Also includes land selected by the state and any interest owned by the state in land. From AS 38.05.965(19) and AS 38.05.230(9)(A)(B)(C).

State-owned land. See State Land.

Submerged land. Land covered by tidal water between the line of mean lower low water and seaward to a distance of three geographical miles or further as may hereafter be properly claimed by the state and lands under inland waters landward of the closing line below mean lower low water.

Suitable. Land that is physically capable of supporting a particular type of resource development.

Temporary facilities. Temporary facilities are easily removable within 48 hours of notice because they are constructed in such a fashion that they can be disassembled and transported from the site, or destroyed and the site restored, without appreciable loss to the owner.

Temporary fuel storage. Fuel storage for shorter than one field season; or for non-seasonal activities, fuel storage shorter than three months.

Tideland. Land that is periodically covered by the ebb and flow of tidal water between the elevation of mean high water and mean lower low water [AS 38.05.9651.

University. University of Alaska. The university's land trust is managed by their Statewide Office of Land Management.

Unsuitable. Land that is physically incapable of supporting a particular type of resource development. Also land that is not appropriate for a particular type of development because of conflicts with resources or uses with higher priorities at that site.

Upland. Land above the mean high water line or the ordinary high water mark.

USFWS. United States Fish and Wildlife Service, within the U.S. Department of the Interior. Nearest field office to the planning area is located in Juneau.

USGS. United States Geologic Survey within the U.S. Department of the Interior. Offices located in Anchorage.

Wetlands. Includes both fresh water and salt water wetlands. Fresh water wetlands means those environments characterized by rooted vegetation which is partially submerged either continuously or periodically by surface fresh water with less than 0.5 parts per thousand salt content and not exceeding three meters in depth. Salt water wetlands means those coastal areas along sheltered shorelines characterized by salt tolerant, marshy plants and large algae extending from extreme low tide to an area above extreme high tide which is influenced by sea spray or tidally induced water table changes.

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 Chapter 4, Procedures for Plan Review, Modification, and Amendment: Special Exceptions).

YAP. Yakataga Area Plan , adopted by DNR April 3, 1995.

SPECIAL AREA REGULATIONS

Title 5 Alaska Administrative Code

ARTICLE 4. SPECIAL AREAS

Section

- 400. Implementation of authority
- 410. Notice requirements
- 420. Activities requiring a Special Area Permit
- 430. Conditioning, approval, or denial of Special Area Permits
- 440. Limitations on Special Area Permits

5 AAC 95.400 IMPLEMENTATION OF AUTHORITY. The commissioner will implement the authorities vested in AS 16.20.050, 16.20.060, 16.20.120, 16.20.170, 16.20.250, and 16.20.260, excluding hunting, trapping, and fishing, in accordance with procedures established in this chapter. (Eff. 6/5/86, Register 98)

Authority: AS 16.05.020 AS 16.05.050
 AS 16.05.251 AS 16.05.255
 AS 16.05.270 AS 16.20.050
 AS 16.20.060 AS 16.20.120
 AS 16.20.170 AS 16.20.250
 AS 16.20.260

5 AAC 95.410. NOTICE REQUIREMENTS. (a) Before a lease or other disposal of land under state jurisdiction and control in a special area, or private land in a critical habitat area, the responsible state department or agency or private landowner shall notify the commissioner.

(b) No person or governmental agency may undertake an activity listed in 5 AAC 95.420 (a) within a special area unless the commissioner has been notified and a permit for the activity has been issued by the commissioner under 5 AAC 95.700 - 5 AAC 95.760. (Eff. 6/5/86, Register 98).

Authority: AS 16.05.020 AS 16.05.050
 AS 16.05.251 AS 16.05.255
 AS 16.20.050 AS 16.20.120
 AS 16.20.130 AS 16.20.170
 AS 16.20.250

5 AAC 95.420. ACTIVITIES REQUIRING A SPECIAL AREA PERMIT. (a) No person or governmental agency may engage in the following uses or activities within a special area without first obtaining a special area permit following the procedures of 5 AAC 95.700 - 5 AAC 95.760:

- (1) construction, placement, or continuing use of any improvement, structure, or real property within a special area;
- (2) destruction of vegetation;
- (3) detonation of an explosive other than a firearm;
- (4) excavation, surface or shoreline altering activity, dredging, filling, draining, or flooding;
- (5) natural resource or energy exploration, development, production, or associated activities;
- (6) water diversion or withdrawal;
- (7) off-road use of wheeled or tracked equipment unless the commissioner has issued a general permit under 5 AAC 95.770 ;
- (8) waste disposal, placement, or use of a toxic substance;
- (9) grazing or animal husbandry; and
- (10) any other activity that is likely to have a significant effect on vegetation, drainage, water quality, soil stability, fish, wildlife, or their habitat, or which disturbs fish or wildlife other than lawful hunting, trapping, fishing, viewing, and photography.

(b) The commissioner makes the final determination as to whether a specific activity is subject to the provisions of this chapter. (Eff. 6/5/86, Register 98)

Authority:	<u>AS 16.05.020</u>	<u>AS 16.05.050</u>
	<u>AS 16.05.251</u>	<u>AS 16.05.255</u>
	<u>AS 16.20.050</u>	<u>AS 16.20.120</u>
	<u>AS 16.20.130</u>	<u>AS 16.20.170</u>
	<u>AS 16.20.250</u>	

5 AAC 95.430. CONDITIONING, APPROVAL, OR DENIAL OF SPECIAL AREA PERMITS. If the procedural requirements of 5 AAC 95.700 - 5 AAC 95.760 are met, the commissioner will permit a use or activity listed in 5 AAC 95.420 that meets or can be conditioned to meet the following standards:

- (1) the use or activity is consistent with the protection of fish and wildlife and their use, protection of fish and wildlife habitat, and the purpose for which the special area was established; and
- (2) the use or activity does not unduly restrict or interfere with the public use and enjoyment of the resource values for which the special area was established; and

(3) any adverse effect upon fish and wildlife, and their habitats, and any restriction or interference with public use, is mitigated in accordance with 5 AAC 95.900. (Eff. 6/5/86, Register 98)

Authority: AS 16.05.020 AS 16.05.050
 AS 16.05.251 AS 16.05.255
 AS 16.20.050 AS 16.20.120
 AS 16.20.130 AS 16.20.170
 AS 16.20.250

5 AAC 95.440. LIMITATIONS ON SPECIAL AREA PERMITS. A permit issued under 5 AAC 95.700 - 5 AAC 95.760

(1) does not convey an interest in state land or grant any preference right for the lease or purchase of state land; and

(2) does not allow the permittee to restrict or interfere with public access across or public use of a special area unless specified in the permit. (Eff. 6/5/86, Register 98)

Authority: AS 16.05.020 AS 16.05.050
 AS 16.05.251 AS 16.05.255
 AS 16.20.050 AS 16.20.120
 AS 16.20.130 AS 16.20.170
 AS 16.20.250

ARTICLE 7. PERMIT PROCEDURES

Section

- 700. Application procedures
- 710. Permit decision
- 720. Permit conditions and assignment
- 730. Permit term
- 740. Amendments to the permit
- 750. Retention of permit: inspection of permit sites
- 760. Renewal of permit
- 770. General permits

5 AAC 95.700. APPLICATION PROCEDURES. (a) An applicant for a permit shall submit a completed application on a form or in a manner approved by the commissioner. The application must be correct and complete to the best of the applicant's knowledge and be signed and dated by the applicant or the applicant's designee. The submission completed application satisfies any related notification required by AS 16 and this chapter. An application form is available from the department's offices.

(b) The completed application must include the anticipated commencement date, duration, and area of proposed activity including a scaled map, identification of waterbodies at the site, description of type of activity, description of any proposed

facility, the description of proposed access route and means and time of travel, and other information necessary for the commissioner to determine whether the activity will comply with the applicable provisions of this chapter.

(c) A completed application must be submitted to the department's habitat division office representing the region or area in which the proposed activity will occur. (Eff. 6/5/86, Register 98)

Authority: AS 16.05.020 AS 16.05.050
 AS 16.05.251 AS 16.05.255
 AS 16.20.050 AS 16.20.060
 AS 16.20.120 AS 16.20.130
 AS 16.20.170 AS 16.20.250
 AS 16.20.260

5 AAC 95.710. PERMIT DECISION. (a) The commissioner will issue a permit if he or she determines that the requirements of this chapter are met.

(b) The commissioner will notify an applicant in writing of any denial. The notice will include:

(1) the reason for the denial; and

(2) a statement that the applicant may appeal under 5 AAC 95.920 or submit new or additional information and ask for reconsideration under (c) of this section.

(c) The commissioner will, in his or her discretion, reconsider a denial of an application if the applicant submits, to the appropriate habitat division office, factual information which is new or additional to that supplied with the original application. An applicant may submit the new or additional information as an amendment to the original application, or the applicant may submit a new application. The procedures of 5 AAC 95.700 - 5 AAC 95.760 apply to reconsideration. (Eff. 6/5/86, Register 98)

Authority:

5 AAC 95.720. PERMIT CONDITIONS AND ASSIGNMENT. (a) To provide for the proper protection and management of fish and wildlife, and their habitats, the commissioner will consider and will, in his or her discretion, include as conditions of the permit

(1) the duration of the proposed activity, including any provision for changing the time period during which the permit is valid and any provision for changing the effective time period of the permit;

- (2) any other seasonal use restrictions on a specific activity;
- (3) limitation of the a real extent of the activity;
- (4) any provision for the mitigation of damage to fish or wildlife, or their habitats;
- (5) any provision to facilitate periodic monitoring of the proposed land or water use or activity by an authorized representative of the state, including inspection and sampling;
- (6) reporting requirements;
- (7) any provision for the posting of a performance bond or other surety as authorized in 5 AAC 95.950 , necessary to insure compliance with the provisions of this chapter or conditions of the permit; and
- (8) any other necessary condition:

(b) A permit may not be transferred but may be assigned upon written consent by the commissioner.

(c) The commissioner will, in his or her discretion, require a permit applicant to sign and date the permit before its validation as acknowledgement of the permittee's agreement to, and full understanding of, all conditions of the permit. (Eff. 6/5/86, Register 98)

Authority:	<u>AS 16.05.020</u>	<u>AS 16.05.050</u>
	<u>AS 16.05.251</u>	<u>AS 16.05.255</u>
	<u>AS 16.20.060</u>	<u>AS 16.20.120</u>
	<u>AS 16.20.130</u>	<u>AS 16.20.170</u>
	<u>AS 16.20.260</u>	

5 AAC 95.730. PERMIT TERM. (a) Except as provided in (b) and (c) of this section a permit will in the commissioner's discretion be issued for a fixed term not to exceed two years, subject to the provisions of this chapter.

(b) A permit for a personal use cabin issued concurrent with 11 AAC 65 will, in the commissioner's discretion, be issued for up to six years.

(c) A permit will, in the commissioner's discretion, be issued for a fixed term exceeding two years if the commissioner determines that the activity meets the purposes and requirements of this chapter and the activity is permanent in nature. (Eff. 6/5/86, Register 98)

Authority:	<u>AS 16.05.020</u>	<u>AS 16.05.050</u>
	<u>AS 16.05.251</u>	<u>AS 16.05.255</u>
	<u>AS 16.20.060</u>	<u>AS 16.20.120</u>
	<u>AS 16.20.130</u>	<u>AS 16.20.170</u>
	<u>AS 16.20.260</u>	

5 AAC 95.740. AMENDMENTS TO THE PERMIT. (a) The commissioner will, in his or her discretion, initiate action to amend a permit to correct any condition or change any method authorized by the permit which was reasonably unforeseeable at the time of permit approval and which threatens to cause a substantially adverse effect upon

(1) fish or wildlife, or their habitat; or

(2) if the permit is a special area permit, the purpose for which the special area was established.

(b) Any action a permittee desires to take which increases the overall scope of the project or which negates, alters, or minimizes the intent or effectiveness of any condition contained in a permit, is a deviation from the approved plan and requires an amendment before initiation of the action.

(c) A permittee may request amendment of a permit by submitting, to the department's habitat division office where the permit was issued, a written statement explaining why the amendment is necessary, including the amended plan, the location, commencement time, duration, and type of activity requiring amendment.

(d) The commissioner will issue an amendment to the permit if he or she determines that the requirements of this chapter will be met. Review of a request for amendment after receipt of the written statement in the appropriate habitat division office will not exceed 30 days. The procedures of 5 AAC 95.700 - 5 AAC 95.760 apply to a request for amendment.

(e) An amendment approved by the commissioner becomes effective upon receipt by the permittee, or at a later date specified by the amendment. An amendment is valid for the duration of the permit or for a shorter specified period. (Eff. 6/5/86, Register 98)

Authority: AS 16.05.020 AS 16.05.050
 AS 16.05.251 AS 16.05.255
 AS 16.20.060 AS 16.20.120
 AS 16.20.130 AS 16.20.170
 AS 16.20.260

5 AAC 95.750. RETENTION OF PERMIT; INSPECTION OF PERMIT SITES. (a) A permittee shall keep a copy of the permit, including any amendments, at the work site until completion of the project, and shall make it available for inspection upon request by an authorized representative of the state.

(b) For the purpose of inspecting or monitoring compliance with any condition of the permit or the requirements of this chapter, a permittee shall give an authorized representative of the state free and unobstructed access, at safe and reasonable times, to the permit site. A permittee shall furnish whatever assistance and information as the authorized representative reasonably requires for monitoring and inspection purposes. (Eff. 6/5/86, Register 98)

Authority: AS 16.05.020 AS 16.05.050
 AS 16.05.251 AS 16.05.255
 AS 16.20.060 AS 16.20.120
 AS 16.20.130 AS 16.20.170
 AS 16.20.260

5 AAC 95.760. RENEWAL OF PERMIT. (a) A permittee may request renewal of an existing permit before the expiration of the current term of the permit. Procedures in this chapter apply to renewal, except that the filing of a new application under 5 AAC 95.700 is not required.

(b) If an existing permit expires or is revoked, a permittee may obtain a new permit only by filing a new completed application in accordance with 5 AAC 95.700. (Eff. 6/5/86, Register 98)

Authority: AS 16.05.020 AS 16.05.050
 AS 16.05.251 AS 16.05.255
 AS 16.20.060 AS 16.20.120
 AS 16.20.130 AS 16.20.170
 AS 16.20.260

5 AAC 95.770. GENERAL PERMITS. Notwithstanding 5 AAC 95.700 and 5 AAC 95.750 - 5 AAC 95.760, the commissioner will, in his or her discretion, issue a permit to the public at large for a specific activity in a specific area. (Eff. 6/5/86, Register 98)

Authority: AS 16.05.020 AS 16.05.050
 AS 16.05.251 AS 16.05.255
 AS 16.20.060 AS 16.20.120
 AS 16.20.130 AS 16.20.170
 AS 16.20.260

ARTICLE 8 GENERAL PROVISIONS

Section

- 900. Mitigation of damages
- 910. Failure to adhere to standards
- 920. Appeals
- 930. Exclusion periods
- 940. Exemption for emergency and police power activities
- 950. Bonding or security
- 960. Definitions

5 AAC 95.900. MITIGATION OF DAMAGES. (a) Each permittee shall mitigate any adverse effect upon fish or wildlife, or their habitat, which the commissioner determines may be expected to result from, or which actually results from, the permittee's activity, or which was a direct result of the permittee's failure to

- (1) comply with a permit condition or a provision of this chapter; or
- (2) correct a condition or change a method foreseeably detrimental to fish or wildlife, or their habitat.

(b) Mitigation techniques must be employed in the following order of priority:

- (1) avoid an impact altogether by not taking a certain action or parts of an action;
- (2) minimize an impact by limiting the degree of magnitude of the action;
- (3) rectify the impact by repairing, rehabilitating, or restoring the affected environment;
- (4) reduce or eliminate the impact over time by preservation and maintenance operations during the life of the action;
- (5) compensate for the impact by replacing or providing substitute resources or environments.

(c) The duty to mitigate in (a) of this section does not apply to unavoidable adverse effects upon fish or wildlife populations, or their habitat, arising from an overwhelming force of nature with consequences not preventable by due and reasonable precautions.

(d) The commissioner will, in his or her discretion, specify, by permit amendment, additional provisions for mitigating damage to fish and wildlife populations, and their habitat.

(e) Notwithstanding the expiration or revocation of a permit, a permittee is responsible for the obligations arising under the terms and conditions of the permit, and under the provisions of this chapter. (Eff. 6/5/86, Register 98)

Authority:	<u>AS 16.05.020</u>	<u>AS 16.05.050</u>
	<u>AS 16.05.251</u>	<u>AS 16.05.255</u>
	<u>AS 16.20.060</u>	<u>AS 16.20.120</u>
	<u>AS 16.20.130</u>	<u>AS 16.20.170</u>
	<u>AS 16.20.260</u>	

5 AAC 95.910. FAILURE TO ADHERE TO STANDARDS. The commissioner will in his or her discretion require in writing that a permittee correct a condition or remove a structure or installation constructed under permit by the permittee, which is not in accordance with a provision of the permit. (Eff. 6/5/86, Register 98)

Authority:	<u>AS 16.05.020</u>	<u>AS 16.05.050</u>
	<u>AS 16.05.251</u>	<u>AS 16.05.255</u>
	<u>AS 16.20.060</u>	<u>AS 16.20.120</u>
	<u>AS 16.20.130</u>	<u>AS 16.20.170</u>
	<u>AS 16.20.260</u>	

5 AAC 95.920. APPEALS. An interested person may initiate an appeal of a decision made under this chapter in accordance with the provisions of AS 44.62.330 - 44.62.630 by requesting a hearing under AS 44.62.370. (Eff. 6/5/86, Register 98)

Authority: AS 16.05.020 AS 16.05.050
 AS 16.05.251 AS 16.05.255
 AS 16.20.060 AS 16.20.120
 AS 16.20.130 AS 16.20.170
 AS 16.20.260

5 AAC 95.930. EXCLUSION PERIODS. (a) The commissioner will notify a permittee that the term of the permit is, or will be, interrupted for a period of time if the commissioner determines that

(1) a temporary environmental condition exists which was reasonably unforeseeable at the time of permit approval and the permitted activity, if allowed to continue, threatens to cause a substantial adverse impact;

(2) the permittee has failed to implement a required mitigating or preventative measure; or

(3) the permittee has failed to comply with a provision of this chapter, or a condition of the permit.

(b) The exclusion period established under (a) of this section will be as long as necessary for abatement of the temporary condition, completion of the required mitigating or preventive measure, or compliance with the permit condition or the provisions of this chapter, and will not exceed a total of 30 days in any calendar year, without the consent of the permittee.

(c) The commissioner will, by notice to the permittee, terminate an exclusion period after the permittee demonstrates abatement, compliance, or implementation of the required mitigating measures.

(d) If the commissioner finds, before or during an exclusion period, that corrective action is unlikely to be completed within any available exclusion period, the commissioner will, in his or her discretion, initiate a revocation proceeding under AS 44.62.330 - AS 44.62.630. (Eff. 6/5/86, Register 98)

Authority: AS 16.05.020 AS 16.05.050
 AS 16.05.251 AS 16.05.255
 AS 16.20.060 AS 16.20.120
 AS 16.20.130 AS 16.20.170
 AS 16.20.260

5 AAC 95.940. EXEMPTION FOR EMERGENCY AND POLICE POWER ACTIVITIES. In an emergency, the commissioner will, in his or her discretion, issue an oral permit for emergency or police power activities before receiving the completed

application required in 5 AAC 95.800 . A completed application must be submitted within the time specified by the commissioner, whether before or after the emergency or police power activity takes place. (Eff. 6/5/86, Register 98)

Authority: AS 16.05.020 AS 16.05.050
 AS 16.05.251 AS 16.05.255
 AS 16.20.060 AS 16.20.120
 AS 16.20.130 AS 16.20.170
 AS 16.20.260

5 AAC 95.950. BONDING OR SECURITY. (a) The commissioner will, in his or her discretion, require a performance bond with a surety company authorized to transact business in Alaska, or other specified security to secure the performance of the terms and conditions of a permit issued under this chapter.

(b) A performance bond or security required under (a) of this section is limited to an amount reasonably necessary to ensure compliance with the provisions of this chapter or the terms and conditions of a permit issued under this chapter.

(c) The commissioner will inspect or review actions taken under each applicable term or condition of a permit issued under this chapter, and will make a written finding that each applicable term and condition of the permit has been completed, before the permittee's performance bond or security is released.

(d) The posting of a performance bond or the taking of other security under (a) of this section does not limit the department's right, under applicable law, to seek further compensation from the permittee for actual damages to fish or wildlife, or their habitats, or for a violation of the permit. (Eff. 6/5/86, Register 98)

Authority: AS 16.05.020 AS 16.05.050
 AS 16.05.251 AS 16.05.255
 AS 16.20.050 AS 16.20.060
 AS 16.20.120 AS 16.20.130
 AS 16.20.170 AS 16.20.250
 AS 16.20.260

5 AAC 95.990. DEFINITIONS. In addition to the definitions set out in AS 16.05.940 , as used in this chapter:

(1) "authorized representative of the state" means one who is legally empowered to enforce a statute under which regulations in this chapter are promulgated;

(2) "completed application" means the submission of full plans, specifications and notifications required by AS 16.20, and includes a form, series of forms, letter or other documents that provide all of the information necessary for the commissioner to issue, condition or deny a permit;

(3) "emergency" means an unforeseeable situation that presents an imminent threat to life or property;

(4) "mitigate" means to compensate fully for damage to fish and wildlife populations and their habitat by employing the most appropriate techniques;

(5) "permittee" means the holder of a permit and includes anyone employed, contracted, or assigned by the person or the organization to whom the permit was issued to conduct a land or water use operation;

(6) "permit" means the approval of plans and specifications required by AS 16.20.060 or 16.20.260, and any authorization made under AS 16.20.120 , 16.20.130, or 16.20.170;

(7) "special area" means a state game refuge, a state game sanctuary, or a state fish and game critical habitat area, established under AS 16.20;

(8) "wildlife" means any species of bird or mammal as described in AS 16.05.940
(14). (Eff. 6/5/86, Register 98)

Authority:	<u>AS 16.05.020</u>	<u>AS 16.05.050</u>
	<u>AS 16.05.251</u>	<u>AS 16.05.255</u>
	<u>AS 16.20.060</u>	<u>AS 16.20.120</u>
	<u>AS 16.20.130</u>	<u>AS 16.20.170</u>
	<u>AS 16.20.260</u>	

Settlement Agreement History

Following is a history of events leading to the settlement. December 1994 Settlement Agreement.

In December 1987, the DNR Director of the Division of Land made a best interest finding and decision to convey to the University of Alaska one-time timber rights to three parcels in the Yakataga area: at Cape Yakataga (approximately 2,065 acres), Cape Suckling (approximately 32,300 acres), and White River (approximately 3,411 acres).¹ See DNR map enclosed in this Plan. The timber rights were part of a settlement to compensate the University for trust lands that the state had conveyed to the Municipality of Anchorage under the Municipal Entitlement Act. The timber rights, valued at \$3 million in 1987, were a part of the \$25 million settlement.

University timber rights were limited to cut up to a specific volume of timber within a defined area. The state retained ownership of the land and reserved the authority to approve the University's harvest plans and to hold the University to existing and subsequent laws and regulations applicable to timber harvest and operations on state-owned land [ADL 223456, Sec VI(C)]. All risk of loss to the timber rights conveyed due to any cause was to be borne by the University [ADL 223456].

ADF&G and DNR worked together to establish appropriate habitat mitigation for these parcels. Additional review by ADF&G and the DEC will occur when the harvest plans are submitted to DNR for approval. The harvest plans must comply with the Alaska Forest Resources and Practices Act, the Alaska Coastal Management Program and the Yakataga Area Plan.

The decision to convey the timber rights precipitated two lawsuits against the State and the University. Both lawsuits sought to overturn the decision to convey the timber. The two cases were combined under the heading of Yakutat Fishermen's Association v. Brady 1 JU-88-271 Civil (consolidated).

In 1989, the case was remanded to DNR to consider additional information provided by the appellants and the University. DNR added some additional mitigation requirements (e.g. harvest plans would be approved annually, and newly discovered anadromous fish streams would have 100-foot-set-backs). In June 1990, the Superior Court found in favor of the University and the state on several issues, but returned the case to DNR to make additional findings on two issues: 1) sustained yield for this area, and 2) classification of the Yakataga parcel.

The court required additional findings on sustained yield for the Yakataga forest because there was not enough information in the record to determine the basis for the annual allowable cut used in the decision. A proposed decision on the annual allowable cut was made by Commissioner Harold C. Heinze on April 10, 1992.

¹ The University of Alaska also owns fee simple title to approximately 500 acres located near Cape Yakataga. This land is not subject to the Yakataga Area Plan.

Commissioner Heinze also decided that Yakataga Tract 20 would be classified through the area plan. If Yakataga Tract 20 were classified Forestry, the Commissioner would subsequently decide anew whether or not to convey this parcel to the University.

The legislature in Chapter 143 SLA 1990 directed DNR to “make every reasonable effort to achieve settlement” of the timber litigation, and to “make every reasonable effort to reach agreement (with the University) on the fair market value” of the Cape Suckling and Yakataga timber tracts, with the intent that the timber rights to these tracts be reacquired by the next legislature.

In 1991, DNR and the University agreed to the current fair-market-value of the Yakataga timber cutting rights (\$6.4 million), but declared an impasse with respect to the value of the Cape Suckling timber cutting rights. In 1991, the legislature was informed of the agreement on the value for the Yakataga parcel and the impasse on the value of the Cape Suckling parcel. During the 1992 legislative session, the legislature appropriated \$6 million from the Exxon Valdez criminal funds towards the purchase of timber cutting rights at Cape Suckling. This appropriation was vetoed by the Governor Walter Hickel, and the legislature has not taken any further action. During the 1993 -1997 legislative sessions, there was little discussion of this issue.

Litigants agreed to release the White River tract from the litigation. The University began harvest of the White River tract in 1994.

The timber rights litigation did not directly affect the area plan. The court gave no direction with respect to the area plan. However, the legislature did give DNR directions for preparation of the area plan. The legislature directed DNR to “consider the full range of management options for the timber rights in each tract of land under litigation, including and excluding timber harvest.” The alternatives DNR prepared for public review in 1992 presented options other than timber harvest for these parcels. When planning among the alternatives, it considered the litigation, DNR’s obligation to reimburse the university, resource information, public comments, and other factors before assigning land use designations.

Before the Yakataga Area Plan was adopted, most state lands in the planning area were classified Resource Management, which doesn’t identify priority uses. This plan classified approximately 90 percent of the commercial timber in the planning area as Forestry Land, in part to maintain a commercially-profitable timber base. The tracts with University timber rights were classified largely for forestry, except for small nonforestry areas that were either already excluded from timber harvest under ADL 223456, or have no commercially harvestable timber, or have no operable commercial timber under current conditions.

On December 2, 1994, the parties in *Yakutat v. Brady* No. 1 JU-88-271 Civil (consolidated) signed the December 1994 settlement agreement. The parties agreed to amend ADL 223456 to convey to the University of Alaska limited timber cutting rights

on state land east of the Duktoth River in substitution for equivalent limited timber cutting rights the University held at Cape Suckling.

The agreement required changes to the Draft Yakataga Area Plan. The agreement required specific land use designations, classifications, and management intent for several subunits of the area plan. The agreement also changed guidelines for mountain goat habitat, riparian buffers, and bear and moose habitat on the university's substitute tract and Yakataga tract. The agreement commits DNR to allow a cabin and trail system funded by the University on state lands west of the Duktoth River

See Chapter 4 of the Yakataga Area Plan for a checklist of the area plan policies that result from the December 4 settlement agreement. For more information, see the Final Finding and Decision of the Commissioner of the DNR regarding the conveyance of substitute timber cutting rights, annual allowable cut and sustained yield for Yakataga area; amendment #3 of ADL 223456, February 8, 1995.

The parties also agreed to three main issues dealing with annual allowable cut and sustained yield:

1. The University will have an annual allowable cut of 17.24 million board feet per year.
2. Timber harvest will be prohibited on state land in the Yakataga area between Cape Suckling and Dry Bay for a least 20 years (until 2014), other than the University harvest and harvest incidental to the cabin and trail system. DNR must amend the Yakataga Area Plan and re-calculate the annual allowable cut using updated area plan land use designations, and a re-examination of land classifications before additional harvesting can occur. Future state timber offerings may be delayed later than 2014 if the University's stipulated annual allowable cut of 17.24 MMBF, measured on a ten-year average, is found to have exceeded the annual allowable cut needed for even flow of timber on a sustained yield basis, from one decade to the next.
3. The agreement limits timber harvesting by the University to specific units east of the Duktoth River unless DNR does not make sufficient timber available from that area. If DNR does not make sufficient timber available, the University will have rights to the first state timber offered outside the substitute area, after 2014.

Finally, the December 1994 settlement agreement (Agreement) has several provisions between the University and various litigants, and DNR and various litigants. These include local hire preference for Yakutat residents for University timber harvest operations, and a land conveyance of 138 acres from DNR to the borough.

Following adoption of the Area Plan, DNR issued a Final Finding and Decision to convey the timber on Yakataga Tract 20 to the University (amendment #4 to ADL 223456), June 6, 1995.

If the University withdraws from the Agreement pursuant to paragraph 16 of the Agreement, the University shall have whatever rights it possessed prior to the Agreement, without the need for further modification of the area plan, to harvest timber on the Yakataga tract and the Cape Suckling tract, minus whatever volume has been harvested under the Agreement; provided that, if the University withdraws from the Agreement, litigants can reinstate their legal challenges to the conveyance of limited timber cutting rights to the University under ADL 223456, as set forth in paragraph 16(c).

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME HABITAT AND RESTORATION DIVISION

TONY KNOWLES, GOVERNOR

304 LAKE STREET, RM. 103
SITKA, AK 99835-7563
PHONE: (907) 747-2683
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YAKATAGA STATE GAME REFUGE SPECIAL AREA PERMIT -- FG99-I(S)-40

ISSUED: May 14, 1999
EXPIRES: December 31, 1999

To: The General Public

RE: Use of airboats or off-road use of any wheeled, tracked or other ground effect motorized vehicle less than 1000 pounds gross vehicle weight is allowed pursuant to 5AAC 95 as follows:

1. Use of airboats is restricted to flowing channels in water depths greater than 6 inches from May 1 to August 10; and
2. Off road use of wheeled, tracked, or other ground effect motorized vehicles is permitted only on established trails (as shown on the attached map). Specifically, these trails are the Tsiu River Trail, Mid-Timber Lake Trail, the West Fork Tsiuat River Trail, and a short trail in the vicinity of the Alaska Department of Fish and Game's cabin.

Uses other than those specified above are not allowed, except by individual Special Area Permits. Applications for those uses should be submitted to the Sitka Area Office address listed above.

In response to public need for access to and through the Yakataga State Game Refuge (Refuge), the Alaska Department of Fish and Game (ADF&G) has determined that both the public interest and the protection of fish and wildlife and their habitats would be served by issuance of a general permit (5AAC 95.770) authorizing certain off-road motorized vehicle use in the Refuge.

The Refuge was established to protect fish and wildlife habitats and populations and public uses of fish and wildlife and their habitats, in a high quality environment.

In accordance with 5 AAC 95, a general use permit is hereby issued for use of airboats and off-road use of motorized vehicles, in the areas and under the terms indicated above.

The permittees (general public) are responsible for the actions of contractors, agents, or other persons who operate on their behalf under conditions of this general permit. For any activity that significantly deviates from those hereby permitted, the permittee shall notify the ADF&G and obtain written approval in the form of a permit amendment **prior** to beginning the activity. Any action taken by the permittee, or an agent of the permittee, that increases the overall scope of activities or that negates, alters, or minimizes the intent or effectiveness of any stipulation contained in this permit will be deemed a significant deviation from the general permit. The final determination as to the significance of any deviation and the need for a permit amendment is the responsibility of the ADF&G. Therefore, it is recommended that the ADF&G, Habitat and Restoration Division be consulted immediately when a deviation from the approved plan is being considered.

This letter constitutes a permit issued under the authority of 5 AAC 95. Please be advised that this approval does not relieve you of the responsibility for securing other permits; state, federal, or local.

Pursuant to 6 AAC 80.010 (b), the conditions of this permit are consistent with the Standards of the Alaska Coastal Management Program.

In addition to the penalties provided by law, this permit may be terminated or revoked for failure to comply with its provisions or with applicable statutes and regulations. The permittee shall mitigate any adverse effect upon fish or wildlife, their habitat, or any restriction or interference with public use, which the Commissioner determines may be expected to result from, or which was a direct result of the permittee's failure to: 1) comply with a permit condition or a provision of 5 AAC 95; or 2) correct a condition or change a method foreseeably detrimental to fish and wildlife, or their habitat.

Pursuant to 5 AAC 95.920, an interested person may initiate an appeal of a decision made under this chapter in accordance with provisions of AS 44.62.330 – 44.62.630 by requesting a hearing under AS 44. 62.370.

Sincerely,

Robert Bosworth, Deputy Commissioner

By: Phil Mooney, Area Habitat Biologist
Sitka Area

