S U S I T N A F L A T S R E F U G E
M A N A G E M E N T P L A N

Alaska Department of Fish and Game

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CONTENTS

December 1, 1981

SUSITNA FLATS REFUGE MANAGEMENT PLAN

I. STRATEGIC PLAN

A. LOCATION

In Game Management Subunits 14A and 16B, the Susitna Flats State Game Refuge, as described in Alaska Statutes 16.20.060, located on the northwest side of Cook Inlet.

B. OBJECTIVES

To protect, maintain, and enhance the Susitna Flats Refuge fish and wildlife populations in concert with other components of the ecosystem and thereby assure their capability of providing sustained opportunities for public recreational uses under aesthetically pleasing conditions and, secondarily, for such commercial uses of the Refuge that do not adversely affect fish and wildlife or their use.

C. MANAGEMENT GUIDELINES

1. Consider the ecological relationships and the human benefits derived from fish and wildlife on the Refuge in the formulation and implementation of Refuge management programs.

This area supports many interacting plant and animal species which are dependent upon each other and on nonliving components of their environment for their life requirements. These interrelationships are complex and incompletely understood.

All human use of the area has some effect upon the biotic components of the Refuge. However, to a considerable degree the biotic components of ecosystems are dynamic and adaptable to change. This inherent resiliency allows for the temporary alterations of ecosystems that most human use of wildlife represents, without causing permanent changes. Nevertheless, management of the Refuge should be designed to minimize disruptive effects on Refuge ecosystems while providing for optimum human benefits from all resources.

Because many species of wildlife in the area provide benefits to man, and because management of any species may affect other species, management programs must consider probable effects on all species and their use by man and should be designed to yield the optimum mix of uses which constitutes the greatest public benefit.

2. Maintain opportunities to hunt waterfowl, moose, bear, and small game on the Refuge.

Susitna Flats is the most intensively used duck hunting area in the state, both in terms of harvest and hunter days. Hunting pressure will greatly increase when road access is eventually extended to the Refuge. Big game hunting is currently limited by hunting conditions, poor access, and moderate game populations. Some northern portions of the Refuge with boat access provide good moose hunting.

In general, hunting regulations for the Refuge should conform to the regulations for Game Management Subunits 14A and 16B. Special regulations for the Refuge may be adopted when necessary to conform with Refuge management objectives and guidelines. Emergency orders should be limited to circumstances requiring closure of seasons to protect fish or wildlife populations or habitat.

3. Establish and maintain optimum salmon escapement levels and other fishery resources that provide for sustained subsistence, recreational and commercial fishing opportunities.

All six river systems within the Refuge are of some importance for salmon production. Despite limited access, the Lewis and Theodore Rivers and Pretty Creek receive noncommercial fishing use. Outside the Refuge boundaries the Susitna and Little Susitna Rivers are among the most important recreational fisheries in the state. Currently

there are about 10 set net sites fished along the coast of the Refuge.

In general, sport fishing regulations for the Refuge should conform to the regulations as set forth for Area 5 - Cook Inlet and Lower Susitna River Drainage, and commercial fishing regulations should conform to those established within the Northern District of the Upper Cook Inlet Management Area. Noncommercial and commercial fishing regulations are established to protect fishery stocks from overexploitation. Special regulations for the Refuge may be adopted when necessary to conform with Refuge management objectives and guidelines. Emergency orders should be limited to circumstances requiring closure of seasons to protect fish or wildlife populations or habitat.

4. Maintain furbearer trapping opportunities on the Refuge that are compatible with other Refuge management guidelines and objectives.

Trapping for several species (beaver, muskrat, coyotes, wolves) remains open after spring arrival of waterfowl on Susitna Flats, but, because of limited trapping activities, disturbance of waterfowl has been and probably will continue to be minimal. Trapping regulations should, in general, conform to the regulations for Game Management Subunits 14A and 16B. Special trapping regulations pertaining to the

Refuge may be adopted when necessary to conform with Refuge management objectives and guidelines. Emergency orders should be limited to circumstances requiring closure of seasons to protect fish or wildlife populations or habitat.

5. Maintain and encourage nonconsumptive uses of fish and wildlife and recreational uses of other Refuge resources in concert with other Refuge management guidelines and objectives.

Viewing and photography are recognized as uses of the Refuge, although most viewing and photography are conducted in conjunction with other activities. Scientific research and educational instruction on the Refuge will be encouraged.

Susitna Flats at present has limited attractiveness for non-wildlife oriented recreation, both in terms of access and opportunities. Occasional winter recreation, including snowmobiling, cross country skiing, and mushing occurs on the Refuge and will be encouraged. Non-wildlife oriented recreation which adversely affects wildlife, fish, their habitat, or the primary public uses of the Refuge should be prohibited.

6. Public access to the Refuge should be regulated to minimize conflicts between users or disturbance of wildlife or their habitats.

Egress and ingress to and from private inholdings shall be allowed via access corridors established when needed, through agreement between the Departments of Fish and Game and Natural Resources and private landowners. Access to and travel upon the Refuge by the public in conjunction with primary recreational uses of the Refuge shall be allowed pursuant to any regulations which may be adopted governing use of mechanized vehicles. Disturbance to waterfowl caused by low flying aircraft has been documented. More vigorous enforcement of FAA regulations on minimum safe flight altitudes and State and Federal regulations prohibiting harassment of wildlife will be undertaken before additional aircraft use regulations are considered. Unlike aircraft and boats, offroad vehicles are not used to reach the Refuge except in winter. Because of the potential for habitat destruction by ORV's through damage to vegetation and accelerated erosion, and evidence that ORV use conflicts with other uses of the Refuge, use of ORV's on the Refuge should be seasonally restricted except as provided by permit for reason of physical impairment or for access to private inholdings. The public may use established roads on the Refuge provided that such use does not obstruct clear passage.

7. Use of cabins on the Refuge by the public should be continued as long as such use does not conflict with other public uses of the Refuge, or adversely impact wildlife use of the Refuge.

Recreational and fishing cabins currently promote public use of fish and wildlife on the Refuge. Without overnight shelters, the amount and quality of recreational use, especially waterfowl hunting, and the ability to participate in set net fishing would be severely curtailed. However, private and commercial cabins on public land may eventually contribute to conflicts between users or with programs implemented to meet management needs.

A cabin management program should be instituted which would regulate use of existing cabins, allow limited construction of new cabins on designated sites, and minimize conflicts with other uses and resource values. As the population of southcentral Alaska grows and road access is extended to the Refuge, public use of the refuge will increase. The cabin program should be periodically reviewed to meet management and public needs.

8. Selected habitats on the Refuge may be enhanced to increase their productivity and use by fish and wildlife.

At present the most important threat to wildlife habitat on the Refuge is drainage of wetlands by natural tidal erosion. When possible through mitigation measures for commercial developments on the Refuge, tide guts will be blocked from draining wetlands. Other habitat enhancement projects may be implemented on an experimental basis. No fisheries

enhancement projects are planned within the Refuge boundaries.

Prescribed burning is recognized as an effective habitat management tool and may be applied within the Refuge, after consultation with other State and Federal agencies. Uncontrolled fires will be actively suppressed when necessary to prevent damage to productive habitats or to protect life and property. A fire management plan should be developed in cooperation with the Alaska Division of Forest, Land and Water Management which will identify Refuge areas requiring protection from fire and the equipment, chemicals, and strategies to be employed in controlling wildfires.

9. Commercial or other uses of Refuge resources may be allowed when compatible with Refuge management objectives and guidelines and will be closely regulated to minimize adverse impacts on fish and wildlife populations and their use by man.

There are numerous possible commercial uses of the Refuge with potentials for serious conflicts with fish and wildlife values and primary public uses. These include, but are not limited to, hydrocarbon exploration and development, mineral extraction, timber harvest, agricultural enterprises, water resources development and transportation and utilities corridors. These activities should be allowed only when

conducted under a permit issued by the Departments of Natural Resources and Fish and Game. Permit provisions should stipulate areas and times of activity, allowable structures, equipment and procedures of operation, mitigation measures, and other special requirements that may be needed to assure the protection of Refuge resource values. The Habitat Protection Section will administer and enforce Refuge Permits issued under authority of AS 16.20.060.

In general, dredge and fill operations for the purpose of converting wetlands or shorelines to building sites, residential or commercial development involving construction of permanent facilities, channelization or obstruction of natural waterflows when such action would adversely affect wildlife or fish habitat, waste disposal, dumping, littering, or abandonment of property should be prohibited.

10. Maintain informed public involvement in Susitna Refuge management issues.

Commercial interests in Refuge resources will promote alternative management strategies which could change the nature of public benefits derived from the Refuge. The public should be apprised of potential conflicts between fish and wildlife management objectives and the development or use of other Refuge resources.

The Department has advocated public involvement in Refuge management decisions through the public review of management plans, through the annual regulatory process, and by conducting public meetings regarding Refuge management issues. It is important that such efforts be continued in order that divergent public interests are represented in management decisions.

11. Maintain inventory and assessment programs which provide the information necessary to manage Refuge fish and wildlife populations, their habitats, and the various public uses of the Refuge.

A variety of fish and wildlife population surveys are periodically conducted on the Refuge. These include, for example, waterfowl breeding pairs and brood production surveys, nesting eagle counts, sonar enumeration of Susitna salmon escapements, and fall moose composition counts. Such surveys and inventories produce valuable information on wildlife habitat use and population trends which in turn provide baseline data useful in assessing impacts of human activities on the Refuge. It is anticipated that more intensive survey efforts will be required as management needs for information increase.

Additional assessment efforts will be directed toward habitat use capabilities and improvement potentials.

Habitat assessments will be useful in programs to enhance habitats for selected species or in mitigation programs conducted in connection with commercial development of Refuge resources.

Assessments of human use of the Refuge will continue and may be increased. Such assessments are important in evaluating the impacts of use on fish and wildlife as well as on other components of the ecosystem, in determining the nature and adequacy of current use opportunities, and in recommending improvements to existing use patterns.

II. 5-YEAR OPERATIONAL PLAN

A. Objectives, Actions and FY Workplans

1. Population Assessment Program

a. Objectives

(1) To determine seasonal levels and long term trends of use of the Refuge by fish and wildlife.

(2) To estimate annual production and mortality of key wildlife species on the Refuge and the extent to which natural factors regulate these parameters.

(3) To determine the effects of recreational and commercial uses of Refuge resources on Refuge fish and wildlife populations.

b. Actions

(1) The Game Division will conduct the spring breeding waterfowl survey in 1982 and approximately every third year thereafter to monitor the resident waterfowl population.

(2) The Cook Inlet goose production survey will be continued periodically to monitor both Canada and Tule goose populations.

(3) The Game Division will initiate surveys of fall waterfowl use of the Refuge in 1982. These surveys will involve 8 weekly aerial counts repeated for 2 or 3 years to establish an adequate data base for comparisons in subsequent years.

(4) A Department biologist may participate as an observer on the U.S. Fish and Wildlife Service statewide trumpeter swan survey to be conducted in 1985. Department participation would occur during coverage of Cook Inlet.

(5) Mallards and pintails from Sustina Flats will be collected and examined for symptoms of lead poisoning in September 1982 and approximately every fourth year thereafter if use of lead shot remains common. A study to assess lead levels in ducks in spring and to document food and habitat requirements of ducks during early spring will be undertaken in 1983.

(6) Management activities eventually implemented to increase and expand the breeding population of Tule geese on the Refuge will depend on investigations at

Redoubt Bay and Susitna Flats and agreement with other managing agencies in the Pacific Flyway. Tule geese summering on Susitna Flats will be neck collared and banded in 1981 to gather additional information needed for management.

(7) The Game Division will initiate studies to assess the impact of increased human activity on wildlife populations, particularly waterfowl, if oil/gas leasing and subsequent development occurs within the "primary waterfowl areas" of Susitna Flats, or if the Refuge is connected by road to Anchorage.

(8) Eagle nests near proposed developments requiring a Refuge permit (AS 16.20.060) will be checked prior to issuance of permits in order to determine current status of nests and the need for stipulations on use.

(9) Moose surveys including composition counts and use assessment of key habitats will be conducted periodically or in response to specific management needs that may arise. Trend count areas will be established in areas destined to be impacted by developments

(e.g. adjacent to the Pt. McKenzie Ag. project, along the Little Susitna River and adjacent to the Beluga Coal Field). Moose surveys will also define important calving and wintering areas.

(10) The Sport Fish Division will monitor king salmon escapement by annual aerial surveys of refuge streams.

(11) The Commercial Fisheries Division will continue sonar enumeration of salmon in the Susitna River and may eventually begin sonar enumeration of Beluga River salmon escapement.

2. Population Management Program

a. Objectives

(1) To maintain Refuge fish and wildlife populations at 1980 levels.

(2) To enhance selected species populations.

(3) To maintain a moose sex ratio of at least 15 bulls per 100 cows.

(4) To achieve salmon escapements in the Susitna River at the following levels:

Sockeye	200,000	
Chum	200,000	
Pink	1,000,000	(even numbered years)
	75,000	(odd numbered years)
Coho	100,000	
King	60,000	

(5) To enhance the Little Susitna River salmon fisheries to provide an additional harvest of 10,000 late run coho and 6,000 chinook salmon.

(6) To maintain salmon and other sport fish stocks in other Refuge streams at 1980 levels. Escapement goals for the Beluga River may be established when sonar emumeration is implemented.

b. Actions

(1) Habitat protection and regulation of harvests will continue to be the primary means by which the Department will maintain fish and wildlife populations on the Refuge.

(2) Waterfowl population growth will be encouraged where it can occur within constraints of existing

breeding, migration and winter habitats and under current flyway management objectives. For example, an expansion in the trumpeter swan population will be encouraged by extending special habitat protection to any new swan production areas discovered within the Refuge.

(3) Coho and Chinook salmon stocks will be enhanced in the Little Susitna River through release of smolt in upper portionso of the system outside the Refuge.

3. Habitat Assessment Program

a. Objectives

(1) To maintain an accurate inventory of Refuge fish and wildlife habitats according to vegetation, soils or water quality.

(2) To determine use of Refuge habitats by fish and wildlife.

(3) To identify potential habitat improvement areas.

(4) To determine fish and wildlife use of improved habitats.

b. Actions

(1) Periodic aerial surveys will be continued to assess waterfowl and shorebird use of Refuge habitats.

(2) Tule goose use of the Refuge and other Cook Inlet coastal marshes will be evaluated through observation of neck collared geese during 1981-1983.

(3) Waterfowl use of fields at Point Mackenzie will be monitored in 1984 and the desirability and feasibility of agricultural development within the Refuge will be examined in 1985. Assessment of impacts of other development projects on fish and wildlife use of habitats will be conducted when such projects are initiated.

(4) Delineation of vital habitats on the Refuge will be refined as information is acquired. Maps of Refuge fish and wildlife habitats will be updated annually.

4. Habitat Management Program

a. Objectives

(1) To protect and maintain fish and wildlife habitats on the Refuge.

(2) To increase the capability of selected habitats on the Refuge and to support populations of fish and wildlife.

b. Actions

(1) Habitat improvements may be accomplished as mitigation for economic developments on the Refuge. Two priorities for mitigation efforts in coastal wetlands include blocking tide gut erosion to prevent drainage of marshes, and creating more nesting habitat for waterfowl and shorebirds.

(2) The Department will conduct experimental habitat enhancement projects to establish the feasibility and benefits of large scale wildlife habitat improvements.

(3) No fisheries enhancement projects are planned within the Refuge, although coho and chinook salmon enhancement is planned for upper portions of the Little Susitna River.

5. Use Assessment Program

a. Objectives

(1) To assess annual harvests of Refuge fish and wildlife resources.

(2) To determine public needs and attitudes regarding recreational use of Refuge resources.

(3) To determine subsistence requirements of local residents for Refuge resources.

(4) To determine public needs for and adequacy of public use facilities.

b. Actions

(1) Data from the annual Federal waterfowl harvest survey will be used to estimate waterfowl harvests on the Refuge. Intensive

site harvest surveys may be conducted by the State to obtain more accurate harvest estimates of areas, including the Refuge, and for purposes of comparison with, and adjustment to, Federal survey results. The State waterfowl mail survey will be conducted in 1982-83.

(2) Harvests of big game on the Refuge will continue to be estimated from existing Game Management Unit harvest report systems.

(3) Harvests of selected furbearer species will continue to be monitored through the existing furbearer sealing program.

(4) Commercial harvests of Refuge fish resources will continue to be assessed by existing fish purchase reporting systems, and aerial net checks during each open period.

(5) Assessments of subsistence use of Refuge resources will be continued and expanded, and if subsistence fishing sites are established within the Refuge, harvest will be monitored by on site inspections.

(6) Assessment of public use of and demand for State-owned cabins in the Refuge will be continued.

(7) Assessment of sport fish effort and catch will continue to be made through the Statewide mail questionnaire.

6. Use Management Program

a. Objectives

(1) To support and recommend regulations that ensure continued recreational use while maintaining fish and wildlife populations and their habitats.

(2) To maintain and enhance aesthetic recreational use opportunities.

(3) To provide for commercial uses of the Refuge that do not adversely affect fish and wildlife or their use.

b. Actions

(1) The Department will develop and propose regulations that will provide for continuing public uses of the Refuge in conformance with the objectives of this plan.

(2) A limited number of new cabin sites on the Refuge will be designated for lottery distribution and administration under the cabin program.

(3) Two State-owned tent platforms will be built before September 1982 for public use under a reservation system. Additional platforms may be built if demand warrants, however a seasonal occupancy rate of 50% or higher for the period of September 1 through October 20 should be reached before more public facilities are added.

(4) More vigorous enforcement of FAA regulations and existing State and Federal regulations prohibiting harassment of wildlife will be pursued before additional regulations (such as aircraft access permits) are considered.

(5) Specific Refuge regulations adopted by the Boards of Fisheries and Game for public use of the Refuge will be published in the hunting, trapping, sport fishing, and commercial fishing regulation booklets.

(6) Regulations will be recommended to the Alaska Boards of Fisheries and Game to establish provisions of permits required for commercial uses of Refuge lands or resources deemed compatible with Refuge management objectives. Provisions will include application procedures, permit fees, permit issuance, penalties for violation of permit provisions, general guidelines, and stipulations specific to hydrocarbon exploration and development, water management and transportation and utilities facilities. In addition, regulations will be recommended that prohibit incompatible uses.

(7) Scientific research and educational programs on the Refuge will be encouraged. Individuals or groups not associated with the Department of Fish and Game can obtain written permission from the Department's Anchorage Regional Office to carry out projects.

7. Public Information Program

a. Objectives

(1) To inform the public about the issues affecting Refuge resources and public uses of the Refuge.

(2) To inform the public about public use opportunities on the Refuge.

(3) To provide interested members of the public opportunity to participate in decisions affecting management of the Refuge.

(4) To provide information on the status of Refuge fish and wildlife populations.

(5) To provide potential commercial users with information relating to permit regulations and guidelines for land uses.

b. Actions

(1) Department reports on Refuge resources (eg. Lead poisoning study, Waterfowl Use Report, Population Survey and Inventory Reports) will

be made available to the interested public. Papers or articles will be published in scientific journals and popular magazines.

(2) Brochures describing public and commercial uses of the Refuge will be produced for public distribution.

(3) News releases on items of general interest or for purposes of public service announcements will be printed in newspapers of general circulation in affected areas.

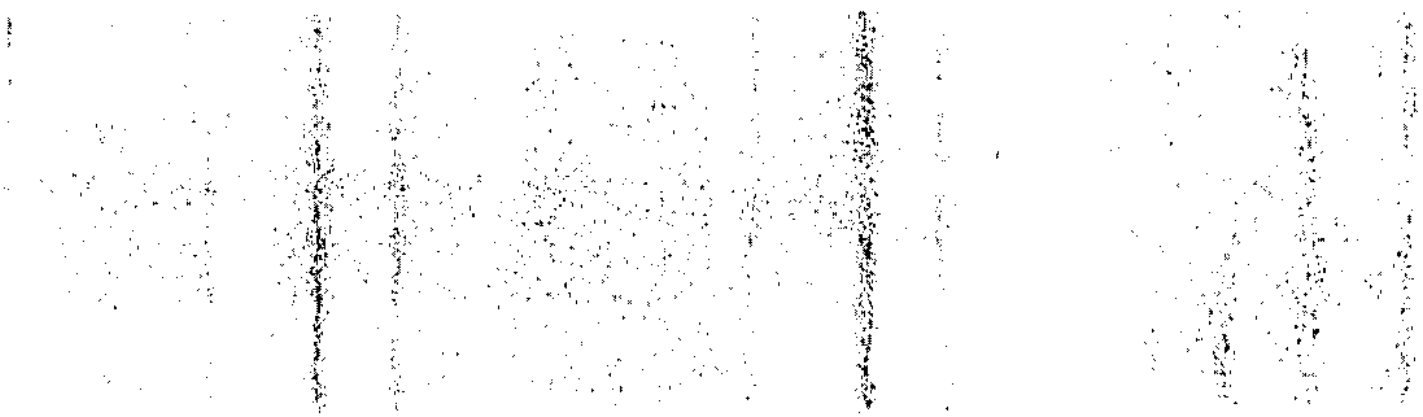
(4) Continued coordination with interest groups such as the Alaska Waterfowl Association and the Ad Hoc citizens committee on Refuge cabins will be maintained.

(5) The public meeting forum will be used for future the past public Refuge meetings have not been associated directly with local Fish and Game advisory committees, although committees have been invited to participate. Depending on the degree of activity of local advisory committees, future public meetings may require their more direct involvement.

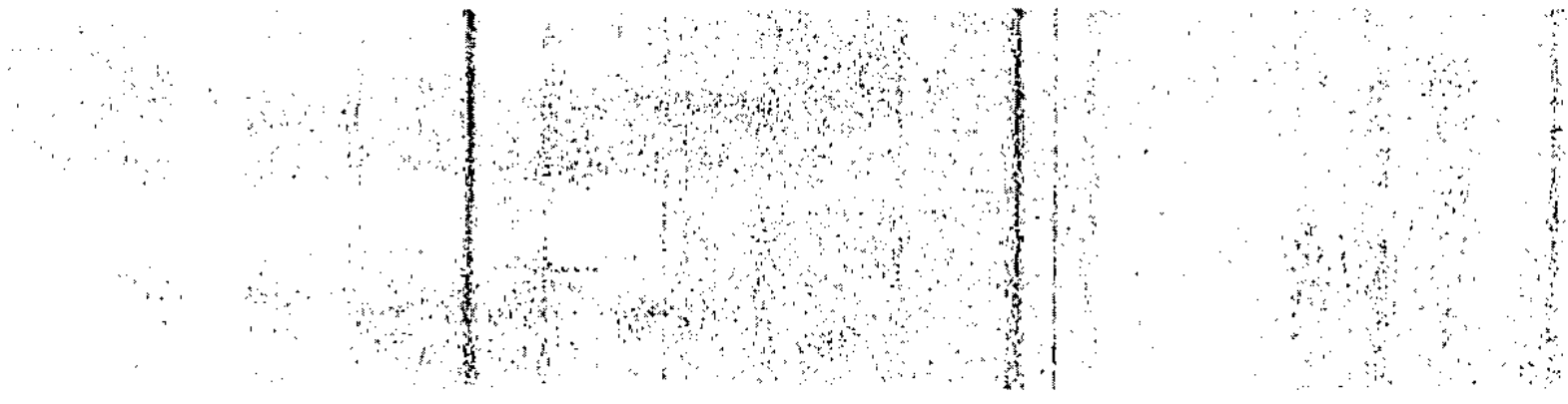
(6) A list of Refuge users will be maintained and used to important issues affecting the Refuge.

Actions	Responsibility	Other Participating Agencies	Begin	Complete	FY82	FY83	FY84	FY85	Comments
Population Assessment Program									
Spring Waterfowl Survey	Region II		1982	Every 3rd year	0.5	0	0	0.5	Part of Cook Inlet Survey
Goose Production Survey	Region II	USFWS	1980	Ongoing	0	0	0	0	Part of Tule goose study
Fall Waterfowl Survey	Region II		1983	1985	0	4.0	4.0	4.0	
Trumpeter Swan Survey	Statewide, Region II	USFWS	1980	Survey every 5th year	0	0	0	0	Part of USFWS statewide survey
Monitor Lead Shot Ingestion	Region II	USFWS	1983	Every 3-4 years	0	1.5	0	0	Samples collected Fall 1982, Spring 1983
Tule Goose Studies	Statewide, Region II	USFWS	1980	Ongoing	0	0	0	0	Funded as part of statewide study
Assess Impact of Development	Region II	NPS	1980	Ongoing	1.5	2.0	2.0	2.0	Includes monitoring swans, eagles, etc.
Eagle Nest Status Checks	Region II		1981	Ongoing	0.2	0.2	0.2	0.2	Activity dependent on submission of permit applications
Moose Surveys	Area Office		1981	Ongoing	0.2	0.2	0.2	0.2	
SUBTOTAL*					2.4	7.9	6.4	6.9	

Actions	Responsibility	Other Participating Agencies	Begin	Complete	FY82	FY83	FY84	FY85	Comments
Habitat Assessment Program									
Waterfowl and Shorebird Habitat Use	Region II		1983	1985	0	0	0	0	To be accomplished under Population Assessment Program
Tule Goose Habitat Use	Region II		1981	Ongoing	0	0	0	0	To be accomplished under Population Assessment Program
Ft. MacKenzie Agricultural Development Assessment	Region II	HPD	1981		0.8	0.8	3.0	3.0	
Habitat Mapping	Region II	HPD	1981	Ongoing	0.5	0.5	0.5	0.5	
SUBTOTAL					1.3	1.3	3.5	3.5	
Habitat Management Program									
Mitigation Projects	Region II	HPD	1981	Ongoing	1.0	1.0	1.0	1.0	
Experimental Enhancement Projects	Region II	HPD	1982	1985	0.5	0.5	0.5	0.5	Ducks Unlimited may assist
SUBTOTAL*					1.5	1.5	1.5	1.5	

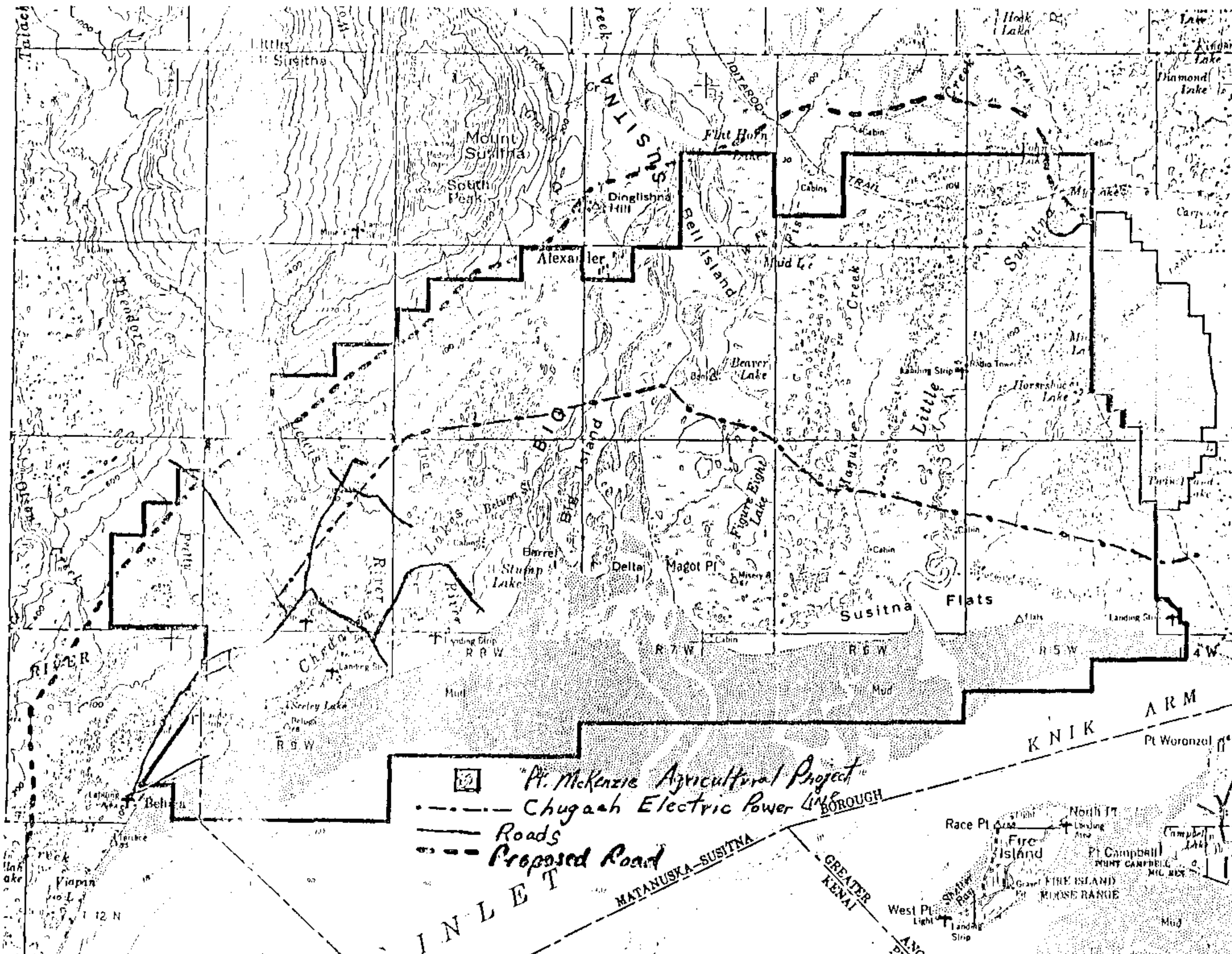


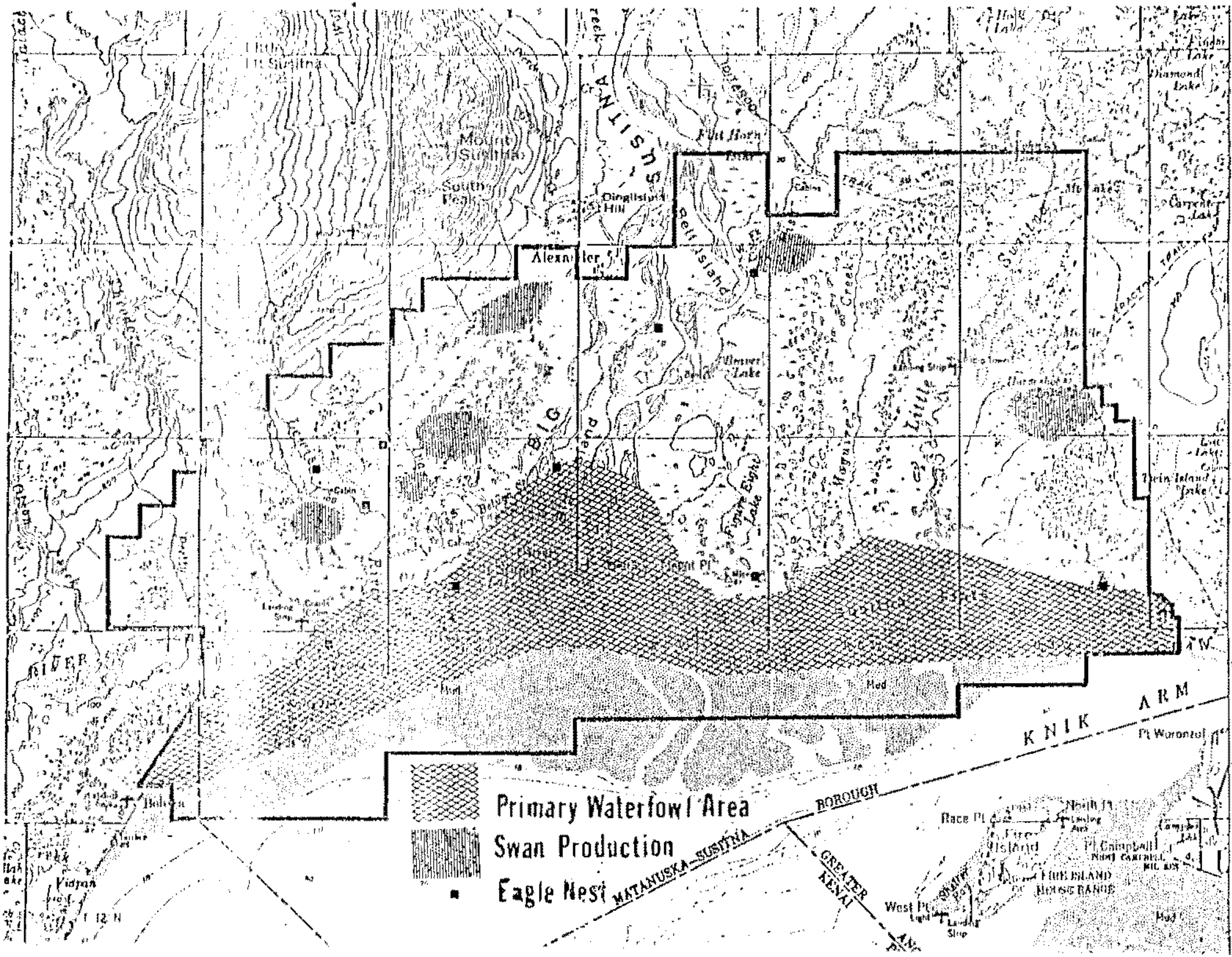
Actions	Responsibility	Other Participating Agencies	Begin	Complete	FY82	FY83	FY84	FY85	Comments
Use Assessment Program									
Waterfowl Harvest Survey	Statewide		Ongoing	Ongoing	0	0	0	0	Part of a statewide hunter survey
Big Game Harvest	Area Office		Ongoing	Ongoing	0	0	0	0	Part of a statewide hunter survey
Furbearer Harvest	Statewide		Ongoing	Ongoing	0	0	0	0	No planned surveys other than existing statewide sealing survey
Cabin Use Assessment	Region II	DNR	Ongoing	Ongoing	1.5	1.5	1.5	1.5	
SUBTOTAL*					1.5	1.5	1.5	1.5	
Use Management Program									
Cabin Program	Region II	DNR, HPD	19827	1985	1.5	1.5	1.5	1.5	
Tent-platform Construction	Region II	DNR, HPD	1981	Ongoing	0	1.0	1.0	1.0	
Game Division Regulations	Region II, Area Office		Ongoing	Ongoing	0	0	0	0	Part of statewide and region functions



Actions	Responsibility	Other Participating Agencies	Begin	Complete	FY82	FY83	FY84	FY85	Comments
Enforcement	Region 11	MPD, DNR	Ongoing	Ongoing	1.0	1.0	1.0	1.0	
Promotion of Scientific and Educational Programs	Region 11		1982	Ongoing	2.0	2.0	2.0	2.0	
SUBTOTAL*					4.5	7.0	5.5	5.5	
Public Information Program									
Printing and Distribution of Reports and Brochures			1982	Ongoing	1.0	1.0	1.0	1.0	
Public Meetings			1982	Ongoing	0.3	0.3	0.3	0.3	As refuge management issues require
Refuge User List			1982	Ongoing	0.5	0.5	0.3	0.3	
SUBTOTAL*					1.8	1.8	1.6	1.6	
TOTAL*					13.0	21.0	20.0	20.5	

*Cost projections in 1981 dollars do not include salaries.


"Pt. McKenzie Agricultural Project"
Chugach Electric Power Line
Roads
Proposed Road
Mount Susitna
South Peak
Dinglishna Hill
Alexander
Bell Island
Big Island
Beaver Lake
Figure Eight Lake
Little Susitna
Susitna Flats
Magot Pt
Delta
Barrel
Stump Lake
Horseshoe Lake
Flat Horn Lake
Diamond Lake
IDITAROD
TRAIL
Theodore
Pretty
Olson
RIVER
Chuitt
Beluga
Belugo
Seeley Lake
Mud
R 9 W
R 8 W
R 7 W
R 6 W
R 5 W
4 W
T. 16 N.
T. 15 N.
T. 14 N.
T. 13 N.
T. 12 N
2 700 000 FEET (ZONE 5)
30'
15'
KNIK ARM
INLET
Pt Woronzof
Race Pt
North Pt
Fire Island
Pt Campbell
West Pt
MATANUSKA–SUSITNA
BOROUGH
GREATER KENAI
ANCHORAGE 5 MI
Little Susitna
Talachulitna



Primary Waterfowl Area
Swan Production
Eagle Nest
KNIK ARM
MATANUSKA-SUSITNA BOROUGH
GREATER KENAI
SUSITNA
BIG
Little Susitna
Alexander
Mount Susitna
South Peak
Figure Eight Lake
Bell Island
Pt Woronzof
Fire Island
Race Pt
West Pt
Pt Campbell
North Pt
Diamond Lake
Twin Island Lake
Carpenter Lake
Dinglishna Hill
Lewis
RIVER
Mud
ANCHORAGE 5 MI.
2 700 000 FEET (ZONE 5)
T. 15
T. 14
T. 13
T. 12 N
T. 16
30'
15'

APPENDIX B. BACKGROUND INFORMATION

1. Establishment of the Refuge

Recognition of the importance of Sustina Flats to waterfowl and sportsmen dates back to the earliest days of statehood. An Alaska Department of Fish and Game (ADF&G) report (Branson 1959) recommended:

a. that the Susitna Flats be classified and held in trust as a waterfowl recreation management unit.

b. that the area be administered under a multiple use concept.

The first action to implement these recommendations was classification of Susitna Flats as a resource management area in 1971 under a cooperative agreement between ADF&G, the Alaska Department of Natural Resources (DNR) and the Matunuska-Susitna Borough. A management plan written in 1973 outlined cooperative management objectives as:

To maintain and/or improve wildlife habitat.

To provide for the orderly growth of resource utilization, public utilities, access, habitations and other development.

To provide quality recreational use of the management area.

To utilize the surface and subsurface resources in ways that will minimize adverse effects on wildlife or their habitat.

Although the management plan was adopted by participating parties, a practical management program was not implemented.

In 1976, with the support of the Alaska Waterfowl Association and ADF&G, the State Legislature created the Susitna Flats State Game Refuge (AS 16.20.036, Appendix C). The Refuge was established to protect fish and wildlife habitats and populations, particularly waterfowl nesting, feeding and migration areas; moose calving areas, spring and fall bear feeding areas; salmon spawning and rearing habitats; and public uses of fish and wildlife and their habitats, particularly waterfowl, moose and bear hunting, viewing, photography; and general public recreation in a high quality environment.

2. General Description

The Susitna Flats is an expansive coastal lowland on the northwest side of Cook Inlet extending approximately 35 miles from Point McKenzie westerly past Beluga River. The mouth of the Susitna River, 24 miles west of Anchorage, divides the Refuge in half. The east side of Sustina Flats is bisected by the Little Sustina River; the west side is transected by the Ivan, Lewis, Theodore and Beluga Rivers. The Refuge encompasses some 301,947 acres of which about 22 percent is subtidal, 11 percent is occasionally flooded salt marsh and meadow and 67 percent a combination of lakes, bogs, low shrub and mixed lowland forest.

Physical and biological descriptions of the area appear in several unpublished reports (Branson 1959, Cramer and Bergstrand 1963, Havens 1973, Sellers 1979 and Vince and Snow 1979). Several other investigators (Hanson 1951, Nieland 1971, Quimby 1972, McCormick and Pichon 1978 and Batten et al. 1978) have described the distribution and composition of plant communities on other Cook Inlet coastal marshes which are similar to the pattern on Susitna Flats.

3. Fish and Wildlife Resources

a. Waterfowl and Shorebirds

Perhaps the most spectacular feature of the Sustina Flats, and certainly the prime reason for its refuge status, is the spring and fall concentration of migrating waterfowl and shorebirds. First arrival of early migrants is dependent on spring weather, but usually by mid-April mallards, pintails and Canada geese are present in large numbers. Numbers continue to build on the marshes, meadows and mud flats until peak densities are reached in early May. Total spring use by migrants is difficult to measure because of continuous turnover. However, at the height of migration as many as 100,000 waterfowl have been seen, including several thousand lesser sandhill cranes and up to 8,000 swans. Dabbling ducks and geese (Canadas, whitefronts and snows) constitute the vast majority of waterfowl on the Refuge. Because of the difficulty in identifying and counting substantial numbers of shorebirds from an airplane, little documentation of spring shorebird use is available.

Most transients depart by late May, leaving a sizable contingent of breeders. Between 1975 and 1978 an average of about 10,000 ducks, nearly all dabblers, bred on the Refuge. The resident population of Canada geese has grown from less than 200 in 1959 to 1175 in 1980. While waterfowl are the most obvious and recreationally important nesters on the Refuge, other species of waterbirds (shorebirds, gulls, arctic terns and sandhill cranes) use the same

habitat for rearing young. This important breeding habitat, consisting of marsh ponds interspersed with sedge meadows, exists in a relatively narrow strip varying from 1/2 to 1 mile wide between the shrub-bog community and the *Puccinellia-Triglochin* mud flats. During summer this complex of marshes and meadows consistently has the highest densities of waterbirds. Unlike Canada geese on some other Cook Inlet coastal marshes that use the *Puccinellia-Triglochin* mud flats for brood rearing, Canada geese on Susitna Flats concentrate on short sedge (*Carex ramenski*) meadows interspersed with shallow ponds.

Trumpeter swans prefer wetlands inland from the salt marsh. Survey data of the U.S.F.W.S. and A.D.F.& G. indicated the following summer populations of trumpeters on the Refuge: 1968 - 8 adults; 1975 - 28 adults and 3 broods totaling 7 young; 1978 - 11 adults and 3 broods totaling 11 young.

By early August there is an influx of dabblers, Canada geese and white-fronted geese. Most whitefronts depart by the first week of September, but other species of waterfowl continue to pass through until freeze-up (mid-October to early November). Habitats used in fall are the same as used by spring migrants and include intertidal mud flats, *Puccinellia-Triglochin* flats, sedge meadows and marshes near the shrub-bog zone.

Ponds within the shrub-bog community receive more use during fall than during spring or summer. Peak fall populations are up to 10,000 swans, 15,000 - 20,000 geese and 25,000+ ducks.

b. Big Game

Moose inhabit the Refuge throughout the year in moderate densities. Probably the most important moose habitat is patches of thick cover within the shrub-bog areas which are used during the calving season. Brushy areas inland from the salt marsh also provide winter browse while wooded strips along streams and bluffs provide cover.

Both brown and black bears use the Refuge, although there are no known areas of concentrated feeding or denning sites within the Refuge. Some observations suggest that bears, particularly black bears, make use of early vegatation near the salt marsh and sedge meadows in spring.

c. Fish

All the rivers within the Refuge serve as migratory corridors for salmon and some provide spawning areas within the Refuge.

(1) The Susitna River and its tributaries comprise the second largest salmon producing system within Cook Inlet. It has healthy production of all five species and the largest populations of king, pink, and chum salmon in Cook Inlet. Its sockeye and coho salmon stocks are second only to those of the Kenai River. The river also supports trout, grayling and hooligan.

(2) Little Sustina River support runs of all species of salmon plus rainbow trout and Dolly Varden char.

(3) Ivan River is the least significant system within the Refuge with only a run of pink salmon.

(4) Lewis River has king, silver and pink salmon, rainbow trout, and Dolly Varden char.

(5) Theodore River has all salmon except reds, plus rainbow trout and Dolly Varden char.

(6) Beluga River has runs of all salmon except chum. Pretty Creek, entering Beluga near the western edge of the Refuge, has significant runs of pink and silver salmon and a small run of king salmon.

d. Other Wildlife

The abundance of various mammals found on the Refuge was indexed by Cramer and Bergstrand (1968) and apparently has changed little except for short term fluctuation due to weather or the cyclic nature of some species. Belukha whales enter the Beluga River in late summer for a short period, and more information on their use is being assembled.

The coastal marsh supports abundant bird life in addition to the waterfowl and shorebirds previously mentioned. Four species of gulls and arctic terns are common nesters. A variety of raptors, including nesting bald eagles, use the Refuge.

4. Economic Resources

Oil/gas interests in the Refuge are important and extensive. Recent exploration and development have resulted in a number of test wells and an allweather road system west of the Susitna River (Appendix A) Unleased portions of the Refuge may be offered for lease in the near future, and increased exploration and development can be expected as a result.

Much of Lewis and Theodore Rivers are within valid gold mining claims. Sampling for gold was active on both rivers in 1980.

Timber resources within the Refuge are not extensive, but two proposed state forest reserves (Mt. Susitna and Horseshoe Lake) are adjacent to the Refuge. Commercial timber sales on the Refuge will be administered by DNR under ADF&G stipulations to protect resource values.

Several other proposed developments are expected near the Refuge. The Beluga coal field and possibly a methanol plant and small city may be linked to Anchorage by a road (Appendix A). The upland area east of Horseshoe Lake is being developed as an Agricultural Project (Appendix A). The proposed Pt. McKenzie port facility, industrial complex and associated residential development would be located near the eastern boundary of the Refuge. The impact of all these proposed developments are somewhat dependent upon vehicular access across Knik Arm.

5. Public Uses

a. Hunting

The Susitna Flats is the most intensively used duck hunting area in the state, both in terms of duck harvest (over 10,000 per year) and hunter days (now exceeding 5,000 per year). Several hundred Canada geese and a few white-fronted geese, sandhill cranes and snipe are taken in conjunction with duck hunting. Both hunting pressure and harvest on

Susitna Flats has increased with the growth of Anchorage, and undoubtedly will continue to do so. When road access to the Refuge is developed, a substantial jump in human use will result. There is presently no recognized subsistence hunting occuring on the Refuge.

The Legislature acknowledged big game hunting as one of the primary uses of the Refuge. However, both hunting effort and harvest of moose, black bears and brown bears are limited by hunting conditions, poor access and moderate game populations. Most big game hunting occurs on the islands north of Big Island, mainland river bars and adjoining wooded areas along the Susitna River. Hunting also occurs adjacent to the Little Susitna River north of Gay's airstrip and in the vicinity of Horseshoe Lake. The expanding road system north and east of Beluga recently has received some hunter use. Additional road access will provide more big game hunting opportunities within the Refuge.

b. Trapping

Although a variety of furbearers frequent the refuge, trapping is relatively light and primarily of a recreational nature. Species presently being trapped include beaver, mink, otter, muskrat, coyote and wolf. Access is by plane or snowmobile.

c. Fishing

The Little Susitna River and tributaries of the Sustina River are among the most important recreational fisheries in the state, however, most of the fishing pressure is upstream of the Refuge boundary. The Little Susitna River provides a popular float trip from the Parks Highway down to a landing at Berma Road within the Refuge. The Sport Fish Division plans to have the Berma Road improved to provide better access for fishing and boating. With better road access and eventual enhancement of coho and chinook stocks, much more fishing activity will occur within the Refuge.

Sport fishing for salmon and trout on the Lewis River, Theodore River and Pretty Creek, on the west half of the Refuge is described as light to medium. The existing road system provides limited access to the Lewis and Theodore Rivers while leaving the upper reaches of these streams for backpack fishing trips. When Anchorage is eventually connected by road to the Beluga road network, heavier fishing pressure will result.

The Refuge borders the general subdistrict of the Northern District within the upper Cook Inlet Management Area. The subdistrict is open to commercial fishing by set gill net from June 25 to August 15 annually. Normally two 12 hour fishing periods per week are fished during this season.

Currently there are approximately 10 set net sites being fished on an annual basis within the boundaries of the Refuge.

d. Viewing and Photography

Because of access limitations most viewing and photography is done in connection with other activities such as hunting and fishing. A few cabin owners plan spring or summer visits to combine wildlife viewing with cabin maintenance. A significant amount of "aerial sightseeing" is done over Susitna Flats.

e. Other Recreation

Susitna Flats at present has limited attractiveness for non-wildlife oriented recreation, both in terms of access and opportunities. Occasional recreational snowmobiling occurs.

6. Assessment Programs

a. Habitat Assessment

(1) Habitat Inventory and Vegetative Analysis

The Game Division has excellent aerial photography of the Refuge, including complete coverage flown in 1977 (4":1 mile true color) and 1978 high altitude infra red color. Black and white photos from 1951 are also available for long-term comparison of plant communities and drainage patterns.

Landsat imagery is available and was used in 1978 to produce a general vegetation map of Southcentral Alaska. The U.S. Soil Conservation Service is currently making a vegetation type map of the Susitna Basin, including all of the refuge, with final ground truthing completed in 1980.

Two researchers from outside Universities have been studying the ecology of several important coastal plant communities on Susitna Flats since 1978 (Vince and Snow 1979). Their studies may continue and may expand to include comparisons of other Cook Inlet coastal marshes if independent funding is acquired.

(2) Habitat Use Assessment

Seasonal habitat preferences and population densities for common waterbird species was studied in 1978 (Sellers 1979).

No detailed assessment of big game habitat use has been made on the Refuge; however, ongoing studies of riparian moose habitat along the Susitna River north of the Refuge should be applicable to that type of habitat within the Refuge.

Available information has been used to produce a map showing vital habitats requiring special protection within the refuge (Appendix A).

b. Population Assessment

(1) Waterfowl

Assessments of waterfowl population levels have been made periodically. Surveys of breeding waterfowl on Susitna Flats and other Cook Inlet marshes were conducted annually from 1975 to 1978 using standard procedures (Timm 1978). In addition, the Department surveyed Canada goose production in 1974 and 1978-1980 on Susitna Flats and other Cook Inlet coastal marshes to count the total resident goose population and estimate yearly production.

Trumpeter swan surveys, including Susitna Flats, were made by the U.S. Fish and Wildlife Service (USFWS) in 1968, 1975 and 1980. The Department made a count of swans in the Susitna Basin in 1978 to assess the impacts of development, particularly recreational cabins, on swan use of lakes. These four surveys have provided valuable information on total trumpeter swan population trends, production and site specific habitat use. The USFWS is planning to continue the statewide trumpeter survey every fifth year.

The USFWS also conducts an annual statewide waterfowl breeding pairs survey. One of the permanent transects in use for that survey crosses the Refuge; however, this samples an upper portion of the Refuge having a much lower density of ducks and geese than found within the coastal marsh habitat. Consequently, the Federal survey has limited use for detecting waterfowl population changes within the Refuge.

Opportunistic counts of spring and fall waterfowl concentrations on Susitna Flats have been made periodically as funds and available personnel have allowed. These opportunistic surveys have provided information on the magnitude of peak migration use, timing of peak use and habitat preferences. However, these counts of transient waterfowl have not been comprehensive enough to provide a reliable estimate of total waterfowl use in terms of "waterfowl days" during either spring or fall migration. Because of the recreational importance of Susitna Flats, this data gap could prove serious if need arises to document a change in migrational use to verify or refute the need for management programs to improve hunting conditions. Acquiring baseline estimates of migrational use, particularly during fall, would be complicated because use varies considerably from year to year, depending on weather conditions, fluctuations in waterfowl populations, and possibly other factors.

During 1974-78 the Department assessed lead shot ingestion rates for ducks on the Susitna Flats as part of efforts to determine the significance of mortality of waterfowl due to lead poisoning in Cook Inlet (Sellers and Timm, 1980). Results of those studies indicated no significant lead-induced mortality was occurring at that time. However, mortality caused by ingested lead in other areas of the country indicate the need to remain alert for evidence of similar mortality in Alaska.

(2) Raptors

Bald eagle nests on the Refuge have been mapped from an April, 1980 aerial survey by the USFWS and from observations by Department personnel and others. The current eagle nest inventory is recognized as somewhat incomplete because some nests were undoubtedly missed and annual occupancy of known nest sites varies. Periodic updating will be needed to assure adequate assessment of the resident eagle population.

(3) Big Game

Surveys of big game have not been conducted on the Refuge other than as part of Unit-wide moose productivity and composition counts for Game Management Units 14A and 16B. Coverage of the Refuge during such counts has been incomplete. There have not been specific management needs requiring more intensive inventories.

(4) Fish

Fisheries stock assessments within the Refuge are limited to sonar monitoring of salmon escapement in the Susitna River, and king salmon escapement surveys in additional streams.

c. Use Assessment

The USFWS conducts an annual mail questionnaire survey and waterfowl parts collection which provides estimates of waterfowl harvests statewide and from which estimates of harvest on Susitna Flats Refuge are derived.

The Game Division conducted its own waterfowl hunter mail survey from 1971 to 1976. This survey sampled 10 percent of the licensed hunters in the state and provided information on hunting pressure and harvest. Several factors, including larger sample size and a more detailed questionnaire, suggest that the state mail survey was a more accurate estimate of waterfowl hunter activity, particularly as related to specific areas such as Susitna Flats.

Big game hunting activity is monitored through moose harvest reports, cow permits and bear sealing requirements. However, assessment of big game hunting within the Refuge is presently not possible because many kill locations provided by hunters are not specific enough to accurately plot the site.

Records of limited entry set net permits and fish tickets provide the current assessment of commercial fishing activity within the Refuge.

Sport fishing effort and catch are estimated from mail survey questionnaires.

A cabin inventory on the Refuge was completed in 1977. This inventory plus registration and permitting of cabin users on Refuge lands provides an indirect measure of use by waterfowl hunters and commercial fishermen. In 1979-80 the Subsistence Section surveyed residents of Tyonek to assess their participation in subsistence activities, some of which was attributed to the Refuge.

Limited efforts have been made to assess Refuge user attitudes on Refuge management programs. The Department maintains a list of Refuge users from which user opinions are solicited. In addition, questionnaires have provided some information on attitudes regarding use of steel shot for waterfowl hunting, the cabin permit program, use of motorized vehicles, and oil/gas development. Informal conversations with Refuge users in the office and in the field also provide opportunities for biologists to gain a feeling for user attitudes on many Refuge issues.

7. Management Programs

a. Habitat Protection and Improvement

All habitats within the Refuge are provided protection, through provisions of Refuge permits (AS 16.20.060) administered by the Department's Habitat Protection Section. Special stipulations and mitigating measures are required to ensure adequate protection of vital habitats (Appendix A).

To date, the only active habitat manipulation project on the Refuge has involved the installation of a water control gate for a culvert in the Lewis River-Stump Lake Road. In addition to water level manipulations, prescribed burning has been considered as a potentially effective habitat management tool which may be applied within the Refuge. Should prescribed burning be used it would be in accordance with State and local laws and after consultation with affected State agencies.

Natural fires that do not accomplish management objectives are actively supressed when necessary to prevent damage to productive habitats or to protect life and property. The Division of Forests, Lands and Water Management, the lead agency in supression of wild fires, consults with ADF&G in planning any fire fighting effort within the Refuge. Decisions on the type of equipment, chemicals and strategy

to be employed consider both the urgency in gaining control over a wild fire and possible after-effects resulting from the suppression operation.

b. Population Management

Fish and wildlife populations on the Refuge have been maintained through habitat protection and regulated harvests. There have been no programs to actively manipulate fish or wildlife populations on the Refuge.

All species of waterfowl using the Refuge winter within the Pacific Flyway. Responsibility for proper management of these populations are shared with other states, British Columbia, and both Federal governments.

Recent studies have established the identity of a small population of white-fronted geese which nest on Susitna Flats and Redoubt Bay as being Tule geese. These geese also use Susitna Flats during spring and early fall. Preliminary studies initiated in 1980 are aimed at determining ways to expand the present population in terms of numbers and breeding range. The Susitna Flats Refuge may grow in importance as part of range expansion efforts.

c. Public Use Management

(1) Hunting, Trapping and Fishing

Hunting, trapping and commercial and noncommercial fishing are allowed on the Refuge under applicable statutes and regulations in Title 16, Alaska Statutes, and the Alaska Administrative Code. The Alaska Boards of Game and Fisheries establish regulations governing the taking of game or fish, respectively, on state game refuges they consider advisable for conservation and protection purposes. Therefore special regulations for the Refuge may be adopted by the Boards according to the Administrative Procedure Act, when necessary, to conform with Refuge management policy. There have been no special regulations established by the Boards governing hunting, trapping, or fishing on the Refuge. Emergency orders, having the force and effect of law after field announcements by the Commissioner or his authorized designee, are limited to circumstances requiring opening or closure of seasons or areas to protect fish or wildlife populations or habitat or to provide for their use by people. Participation in the commercial fishery is also subject to regulations developed by the Alaska Commercial Fisheries Entry Commission.

(2) Other Recreational Uses

Viewing and photography activities and other recreational uses are not regulated on the Refuge. Some people use aircraft to "sightsee" in the Refuge.

(3) Scientific Research and Educational Instruction

Scientific research and educational programs conducted by non-Department personnel require written authorization by the Commissioner.

(4) Archeological Studies

Archeological exploration or removal of objects of antiquity from the Refuge is prohibited except as provided under a permit issued by the Commissioner. The permit may contain terms to minimize disturbance of fish and wildlife, their habitats and conflicts with primary public uses of the Refuge. Sites of historic importance discovered within the Refuge will be identified for study by the appropriate State or local agency or qualified research institution.

(5) Public Access

Access to and travel upon the Refuge by the public is allowed pursuant to any regulations governing use of

mechanized vehicles adopted by the Boards to protect fish and wildlife populations or habitats or to minimize conflicts between users.

(a) Aircraft

Recent documentation of disturbance to waterfowl caused by low flying aircraft has prompted the Department to ask pilots for voluntary compliance in maintaining a minimum altitude of 500 ft. when overflying coastal marshes. Federal Aviation Administration regulations (Title 14, Part 91.79) governing minimum safe altitudes require a minimum 500 ft. spacing of aircraft from any person, vessel, vehicle or structure.

(b) Boats

Boat access to and use on the Refuge is allowed subject to applicable boat safety regulations.

(c) Off-road Vehicles

Unlike aircraft and boats, off road vehicles are not used to reach the Refuge, except in winter. However, several ORV are used for travel within the Refuge. Because of potential for habitat destruction and expressed public opposition to ORV use on the coastal

marsh, regulations may be proposed to restrict use to winter months.

d. Highway Vehicles

Public use of roads within the Refuge is not regulated. Roads within the Refuge primarily function as access to gas facilities for routine or emergency maintenance. Companies using and maintaining roads under conditions of a valid lease or permit have the right to clear passage at all times. Public use of these roads within the Refuge is at the user's risk.

(6) Cabin Use

Use of existing cabins on the Refuge and limited construction of new cabins on designated sites is allowed under regulations administered by DNR (11 AAC 65.305, Appendix D), so long as such private exclusive use does not adversely impact wildlife use of the Refuge or conflict with other public uses of the Refuge.

d. Commercial, Industrial and Other Non-recreational Land Use Management

A permit issued under AS 16.20.060 is required for all land uses of a commercial or industrial nature within the Refuge. Draft regulations pertaining to "habitat protection permits" will be submitted to the Boards of Fisheries and Game in 1981. At present, conditions of permits include provisions to protect fish and wildlife populations, their habitats, and public uses of the Refuge.

8. Literature Cited

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Sec. 16.20.036. Susitna Flats State Game Refuge. (a) The following state-owned land, including tide and submerged land, and all land, including tide and submerged land, acquired in the future by the state lying within the parcels described in this subsection is established as the Susitna Flats State Game Refuge:

(1) Township 13 North, Range 4 West, Seward Meridian
Section: 6

(2) Township 13 North, Range 5 West, Seward Meridian
Sections: 1—10

(3) Township 13 North, Range 6 West, Seward Meridian
Sections: 1—18

(4) Township 13 North, Range 7 West, Seward Meridian
Sections: 1—18

(5) Township 13 North, Range 8 West, Seward Meridian
Sections: 1—24

(6) Township 13 North, Range 9 West, Seward Meridian
Sections: 1—36

(7) Township 13 North, Range 10 West, Seward Meridian
Sections: 13, 23 — 26, 36 (excluding uplands above the toe of the bluff)

(8) Township 14 North, Range 4 West, Seward Meridian
Sections: Lots 1—6, SE ¼ NW ¼, W ½ NE ¼ NW ¼, SE ¼ NE ¼ NW¼, NE ¼ SW ¼, NW ¼ SE ¼, SE ¼ SE ¼, W ½ SW ¼ NE ¼, SE ¼ SW ¼ NE ¼, S ½ NE ¼ SW ¼ NE ¼ of Section 6

(9) Township 14 North, Range 5 West, Seward Meridian
Sections: W ½ 1, 2 — 11, W ½ 12, 13 — 36

(10) Township 14 North, Ranges 6 — 9 West, Seward Meridian
Sections: All

(11) Township 14 North, Range 10 West, Seward Meridian
Sections: 12 — 14, 22 — 27, 34 — 36

(12) Township 15 North, Range 5 West, Seward Meridian
Sections: 3 — 10, 15 — 22, SW ¼ 26, 27 — 35, SW ¼ 36

(13) Township 15 North, Range 6 West, Seward Meridian
Sections: All

(14) Township 15 North, Range 7 West, Seward Meridian
Sections: 1 — 4, E ½ 5, 7 — 36

(15) Township 15 North, Range 8 West, Seward Meridian
Sections: 1, 2, 8 — 36

(16) Township 15 North, Range 9 West, Seward Meridian
Sections: 23 — 28, 32 — 36

(17) Township 16 North, Range 5 West, Seward Meridian
Sections: 19 — 22, 27 — 34

(18) Township 16 North, Range 6 West, Seward Meridian
Sections: 21 — 28, 31 — 36

(19) Township 16 North, Range 7 West, Seward Meridian
Sections: 22 — 27, 34 — 36

(b) The Susitna Flats State Game Refuge is established to protect the following:

(1) fish and wildlife habitat and populations, particularly waterfowl nesting, feeding and migration areas; moose calving areas; spring and fall bear feeding areas; salmon spawning and rearing habitats;

(2) public uses of fish and wildlife and their habitat, particularly waterfowl, moose and bear hunting; viewing; photography; and general public recreation in a high quality environment.

(c) Entry upon the Susitna Flats State Game Refuge for purposes of exploration and development of oil and gas resources shall be permitted when compatible with the purposes specified in (b) of this section; however, all existing leases shall be valid and continue in full force and effect according to their terms.

(d) Land selected by the Matanuska-Susitna Borough within the area described in (a) of this section shall be included in the Susitna Flats State Game Refuge, subject to borough approval. If the borough relinquishes the selection of these lands, the selected lands become part of the Susitna Flats State Game Refuge.

(e) The state may not acquire by eminent domain privately-owned land within state-owned land specified in (a) of this section for inclusion in the Susitna Flats State Game Refuge. The Department of Natural Resources may adopt, in accordance with the Administrative Procedure Act (AS 44.62), zoning regulations governing privately-owned land within the Susitna Flats State Game Refuge, only to the extent that these regulations may insure compatability with the intended use of the refuge.

(f) Egress and ingress to and from private property within the parcels described in (a) of this section shall be allowed through access corridors established through agreement between the Department of Natural Resources, the Department of Fish and Game, and the private property owners involved. The establishment of a refuge under this section does not impair or alter existing rights of access to set net site leases.

(g) The establishment of a refuge under this section does not impair or alter existing rights of a borough or city to select state land under AS 29.18.190 — 29.18.200. (§ 1 ch 140 SLA 1976)

Sec. 16.20.040. Regulations. The board shall, under ch. 5 of this title, establish regulations governing the taking of game on state game refuges it considers advisable for conservation and protection purposes. (§ 4 ch 114 SLA 1960)

Sec. 16.20.050. Multiple land use. Where the use, lease or disposal of real property in state game refuges created by §§ 10 — 80 of this chapter is under the control or jurisdiction of the state, whether through federal permit or state ownership, the responsible state department or agency shall notify the commissioner of fish and game before initiating any use, lease or disposal of real property. The commissioner shall acknowledge receipt of notice by return mail. (§ 5 ch 114 SLA 1960)

Sec. 16.20.060. Submission of plans and specifications. If the commissioner so determines, he shall, in the letter of acknowledgment, require the person or governmental agency to submit full plans for the anticipated use, full plans and specifications of proposed construction work, complete plans and specifications for the proper protection of fish and game, and the approximate date when the construction or work is to commence, and shall require the person or governmental agency to obtain the written approval of the commissioner as to the sufficiency of the plans or specifications before construction is commenced. The commissioner shall abide by the principle which recognizes preferences among beneficial uses as more particularly set forth in art. VIII of the state constitution. (§ 5 ch 114 SLA 1960)