ALASKA DEPARTMENT OF FISH AND GAME
JUNEAU, ALASKA

STATE OF ALASKA
Keith H. Miller, Governor

DEPARTMENT OF FISH AND GAME
Wallace H. Noerenberg, Commissioner

DIVISION OF GAME
James A. Harper, Director

REPORT OF SURVEY AND INVENTORY ACTIVITIES
PART III - WATERFOWL AND SMALL GAME

Edited and Compiled By
Donald E. McKnight, Management-Research Coordinator

Volume I
Annual Project Segment Report
Federal Aid in Wildlife Restoration
Project W-17-2, Jobs No. 10 & 11

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MEMORANDUM OF TRANSMITTAL

July 8, 1970

TO: Wallace H. Noerenberg, Commissioner
Alaska Department of Fish and Game

FROM: James A. Harper, Director
Division of Game
Alaska Department of Fish and Game

SUBJECT: Annual Report of Survey-Inventory Activities

Contained herein (in three parts) is the initial attempt to report specifically on game survey and inventory activities carried out by the Game Division staff in Alaska. These activities are reported on the basis of game species by Game Management Units. Because some species are not found in all Game Management Units or because no survey and inventory work was accomplished within certain of these Units for some species, these reports may appear incomplete. As effort is extended to obtain additional information on little-understood species and regions of the State, it is felt that the Annual Survey and Inventory Reports will become more complete and comprehensive.

I feel that these reports eventually will provide information on Alaska's game species which will be easily accessible and extremely useful for management purposes. This initial attempt to report on survey and inventory activities will serve primarily to point out areas and species which will require additional work. In some instances the quality of reports submitted by individual biologists could be greatly improved. I feel that this initial survey and inventory report will provide both incentive and guidelines which will result in better reports in future years.

WATERFOWL

SURVEY-INVENTORY PROGRESS REPORT - 1969

Statewide Seasons and Bag Limits:

Season and Species	Daily Bag Limit	Possession Limit	Explanation
Pribilof, Kodiak (Unit 8) and Aleutian Islands (except Unimak - Oct. 14 - Jan. 26			
Remainder of State and Unimak Island - Sept. 1 - Dec. 14			
Game Ducks	6	18	
Old squaw, Harlequin, Scoters, Eiders, and Mergansers	15	30	Singly or in aggregate
Geese (except Emperor)	6	12	No more than 4 daily or 8 in possession may be Canada's or white-fronts
Emperor Geese	6	12	
Brant	4	8	
Entire State - Sept. 1 - Oct. 31			
Snipe	8	16	
Entire State - Sept. 1 - Oct. 15			
Cranes	2	4	

Game Management Unit 6 - Prince William Sound

Harvest and Hunting Pressure:

On opening day of the waterfowl season (Sept. 1) there were 61 cars parked along the road system of the Copper River Delta. Approximately 100 hunters utilized the area that day.

Bag checks conducted on opening day showed that 24 hunters had taken the following waterfowl:

8 pintails	10 mallards
9 widgeon	1 green-winged teal
2 scaup	12 Canada geese

Composition and Productivity:

No studies were conducted this reporting period.

Management Summary and Conclusions:

The Copper River Delta is under joint management of the State of Alaska (Departments of Fish and Game and Natural Resources), and the U. S. Department of Agriculture, U. S. Forest Service as a Waterfowl Management Area. Habitat problems are limited to results of the general uplift caused by the March, 1964 earthquake. Long-term investigations are still underway to determine the effect of this uplift on the breeding population of the Dusky Canada Goose. In addition, the effects of tracked vehicles on the Delta are being monitored.

A large proportion of the Dusky Canada Goose population is harvested annually by hunters in the Willamette Valley of Oregon. Restrictions may become necessary on Oregon hunters; however, the limited pressure applied by Alaskan hunters apparently does not justify any restrictions on them at this time.

Recommendations:

No changes in hunting seasons or bag limits are recommended.

Submitted by: Phillip D. Havens, Game Biologist II

WATERFOWL

SURVEY-INVENTORY PROGRESS REPORT - 1969

Game Management Unit 7 - Eastern Kenai Peninsula

Harvest and Hunting Pressure:

Limited data were gathered from Unit 7 this reporting period. Five hunters were checked from the Portage area. Their bag included:

6 mallard	2 widgeon
1 green-winged teal	2 Wilson Snipe

Composition and Productivity:

No studies were conducted this reporting period.

Management Summary and Conclusions:

There are three major marshes in Unit 7. Twentymile River, Portage Flats and the eastern portion of the Chickaloon. Surveys will be conducted this reporting period. The Chickaloon will be covered in the Unit 15 report.

Recommendations:

No changes in hunting season or bag limit are recommended.

Submitted by: Phillip D. Havens, Game Biologist II

WATERFOWL

SURVEY-INVENTORY PROGRESS REPORT - 1969

Game Management Unit 8 - Kodiak and Adjacent Islands

Harvest and Hunting Pressure:

Kodiak Island. Twenty-seven hunters were counted along the road system opening day (Oct. 14). Twelve hunters were checked with the following waterfowl:

2 mallards	2 green-winged teal
2 mergansers	2 goldeneye
23 harlequin ducks	1 emperor goose

Composition and Productivity:

No studies were conducted this reporting period.

Management Summary and Conclusions:

Wintering waterfowl are numerous in the bays of the Kodiak Island group. No complete census has been accomplished. Because waterfowl use the saltwater bays extensively, they are vulnerable to pollution of these areas.

Breeding habitat is limited; however, migrating waterfowl do utilize the island in both spring and fall.

No management activities, except the continued liberal season and bag limits and the protection of existing habitat, are planned at this time. If funds are available, surveys will be flown at various times of the year to determine utilization.

Recommendations:

No changes in season and bag limits are recommended.

Submitted by: Phillip D. Havens, Game Biologist II

WATERFOWL

SURVEY-INVENTORY PROGRESS REPORT - 1969

Game Management Unit 9 - Alaska Peninsula

Harvest and Hunting Pressure:

Bag checks at Pilot Point were conducted by Alaska Department of Fish and Game and U. S. Fish and Wildlife Service personnel during this report period. A summary of this information is appended (Appendix I). In addition, contact was made with the two commercial carriers that provide charter service to the area. Their records indicate that 47 hunters from King Salmon and 24 hunters from Kodiak chartered aircraft to Pilot Point to go waterfowl hunting. This, of course, is a minimum figure for hunting pressure.

Hunting pressure is unknown at other areas on the Alaska Peninsula. However, a few generalizations can be made.

The Naknek River and its tributaries are hunted regularly by King Salmon residents. It would be safe to assume that residents of Port Heiden and Port Moller also hunt in their local areas. Big game guides sometimes take clients duck shooting in such places as Nelson Lagoon and Cinder River; however, these efforts appear to be negligible.

Cold Bay and Izembek Lagoon probably receive the greatest hunting pressure on the Alaska Peninsula. The town of Cold Bay is the largest municipality west of King Salmon and supports a military installation and recreation center that is visited by VIP and other military personnel on waterfowl hunting excursions. Once or twice each fall, Reeves Aleutian Airlines has special charter flights to Cold Bay for the purpose of duck and goose hunting. Possession limits of geese are usually brought back by each of the 50-75 hunters making the trip.

Composition and Productivity:

No studies were conducted this reporting period.

Management Summary and Conclusions:

The north side of the Alaska Peninsula harbors the greatest concentration of waterfowl in Alaska. The entire population of black brant gathers at Izembek Lagoon before making its southward migration. In addition, a high percentage of the North American population of emperor geese utilizes the estuaries along the Peninsula. Sea ducks such as eiders, scoters and old squaws are found in vast concentrations in the bays and adjacent offshore areas. Current important considerations are:

Izembek Bay. This is the most important waterfowl habitat in Unit 9, if not the entire region. The entire world population of black brant, numbering in excess of 150,000 birds, most of the world's population of emperor geese

(about 200,000); and 100,000 lesser Canada geese utilize Izembek Lagoon in the fall. In addition, tens of thousands of other waterfowl use the area.

The uplands surrounding Izembek Bay are within the boundaries of the Federally controlled Izembek National Wildlife Refuge; however, the most important portion of this area, the eel grass beds which support the waterfowl, are on tide and submerged lands and are therefore under the jurisdiction of the State. At the present time there is no protection of these eel grass beds. A most important step, if we are to preserve this valuable habitat, is legislation making the tide and submerged lands of Izembek Bay inviolate.

Survey and Inventories. Continuing waterfowl surveys will remain the major management goal in Unit 9. Appended are inventory data to date (Appendices II-VII).

Pollution. The entire estuarine area of the north side of the Alaska Peninsula is vulnerable to oil pollution. A discharge of ballast or an accidental oil spill could have severe and long lasting effects.

The possibility of oil industry development suggests that anti-pollution regulations be strengthened and strictly enforced if we wish to maintain this valuable habitat.

Classification and Protection. The major waterfowl areas on the Alaska Peninsula should be given as much protection from land and/or water abuse as possible. The uplands, if not already under State selection, should be selected. Tide and submerged lands and the uplands should then be classified as waterfowl habitat and be turned over to the Department of Fish and Game for management.

Recommendations:

No changes in season or bag limits are recommended.

Submitted by: Phillip D. Havens, Game Biologist II

Appendix I. Pilot Point 1969
BAG CHECK RESULTS

Species	Adult Male	Adult Female	Immature Male	Immature Female	Total	% of Bag
Pintail		6	7	12	25	51.0
Mallard			1		1	2.0
Widgeon	1		3		4	8.2
G-W Teal		1	2	6	9	18.4
Shoveler				1	1	2.0
Gadwall			7	1	8	16.3
G. Scaup						
L. Scaup						
European Widgeon			1		1	2.0
Subtotal	1	7	21	20		
Total	8		41		49	99.9
Unidentified Ducks					6	
Dusky Canada Geese						
Lesser Canada Geese						
Cackling Canada Geese	6	8	11	10	35	
W-F Geese						
Snow Geese						
Subtotal	6	8	11	10	35	
Total	14		21			
Unidentified Geese					13	

Total Waterfowl	103
Total Hunters	20
Waterfowl/Hunter	5.15
% Immature Ducks	83.7
% Immature Geese	60.0
Number Crippled	24
% Crippling Loss	23.3
No. Hunter under 16	
% Hunter under 16	

Appendix II. Waterfowl survey data, Unit 9 - Egegik Bay.

Species	Oct. 23, 1968	May 13, 1969	Oct. 6, 1969**
Mallard	20	0	0
Pintail	0	0	2,500
Scaup*	0	130	0
Eider*	0	500	0
Scoter*	0	500	40,000
TOTAL DUCKS	20	1,130	42,500
Canada Geese*	0	2	0
Emperor Geese	150	265	1,080
TOTAL GEESE	150	267	1,080
TOTAL WATERFOWL	170	1,397	86,080

* Not identified to species
** Estimates by Don McKnight

Appendix III. Waterfowl survey data, Unit 9 - Pilot Point.

Species	Oct. 23, 1968	May 13, 1969	Oct. 6, 1969**
Unidentified Dabbler	0	-	1,000+
Mixed Mallard, Green-winged Teal	300	0	0
Scaup*	0	60	0
Eider*	2,000	0	0
Scoter*	0	1,000+	6,000
TOTAL DUCKS	2,300	1,060+	6,000+
Cackling Canada Geese	0	0	64,000
Emperor Geese	250	60	0
White-fronted Geese	0	25	0
Snow Geese	0	0	190
TOTAL GEESE	250	85	64,190
TOTAL WATERFOWL	2,550	1,145+	70,190+

* Not identified to species
** Estimates by Don McKnight
\- Numbers not estimated

Appendix IV. Waterfowl survey data, Unit 9 - Cinder River.

Species	Oct. 23, 1968	May 13, 1969	Oct. 6, 1969**	Dec. 15, 1969***
Dabbler (mostly Pintail)	0	0	40,000	0
Mixed Mallard, Pintail	25,000	0	0	0
Old Squaw	0	0	0	300
Eider*	0	0	0	200
Scoter*	0	200	0	0
TOTAL DUCKS	25,000	200	40,000	500
Emperor Geese	25,000	5,000	75,000	750
TOTAL GEESE	25,000	5,000	75,000	750
TOTAL WATERFOWL	50,000	5,200	115,000	1,250

* Not identified to species
** Estimates by Don McKnight
*** Estimates by Jim Faro

Appendix V. Waterfowl survey data, Unit 9 - Port Heiden.

Species	Oct. 23, 1968	May 13, 1969	Oct. 6, 1969**	Dec. 15, 1969***
Mixed Mallard, Pintail	15-20,000	0	20,000	0
Common Eider	0	-	600	0
Eider*	1,000	-	0	330
Scoter*	0	-	32,000	0
TOTAL DUCKS	16-21,000	-	52,600	330
Cackling Canada Geese	-	0	1,500	0
Emperor Geese	15-20,000	4,800	45,250	75
TOTAL GEESE	15-20,000	4,800	46,750	75
TOTAL WATERFOWL	31-41,000	4,800+	99,350	405

* Not identified to species
** Estimates by Don McKnight
*** Estimates by Jim Faro
\- Numbers not estimated

Appendix VI. Waterfowl Survey Data, Unit 9 - Ilnik Lagoon.

Species	Oct. 23, 1968	May 15, 1969	Oct. 6, 1969**	Dec. 15, 1969***
Mixed Mallard, Pintail	19,000	-	0	0
Eider*	-	-	0	150
Scoter*	-	-	0	0
TOTAL DUCKS	19,000	-	-	150
Canada Geese*	500	0	0	0
Emperor Geese	19,000	3,110	16,500	1,000
TOTAL GEESE	19,500	3,110	16,500	1,000
Swan*	0	0	0	6
TOTAL WATERFOWL	38,500	3,110	16,500	1,156

* Not identified to species
** Estimates by Don McKnight
*** Estimates by Jim Faro
\- Numbers not estimated

Appendix VII. Waterfowl survey data, Unit 9 - Port Moller.

Species	Oct. 23, 1968	May 15, 1969	Dec. 15, 1969**
Mallards	1,100	-	-
Eider*	-	-	2,375
TOTAL DUCKS	1,100	-	2,375
Canada Geese*	150	30	0
Emperor Geese	1,925	3,611	4,650
TOTAL GEESE	2,075	3,641	4,650
Swan*	2	0	0
TOTAL WATERFOWL	3,177	3,641	7,025

* Not identified to species
** Estimates by Jim Faro; includes Herendeen Bay-Nelson Lagoon only.
\- Numbers not estimated

WATERFOWL

SURVEY-INVENTORY PROGRESS REPORT - 1969

Game Management Unit 13 - Nelchina Basin

Harvest and Hunting Pressure:

No data were gathered this reporting period.

Composition and Productivity:

The U. S. Fish and Wildlife Service has been flying breeding transects in the area for a number of years. These data are currently being formalized and hopefully will be available soon.

Management Summary and Conclusions:

This large area supports widely scattered but significant numbers of breeding ducks. In addition, trumpeter swans are found in the region.

It has been reported that one of the subspecies of Canada geese nests in the Basin. If this is the case, it has not been reported in the literature. No active work is planned for Unit 13 this period except an attempt to confirm Canada goose nesting in the area if time permits.

Recommendations:

No changes in season or bag limits are recommended.

Submitted by: Phillip D. Havens, Game Biologist II

WATERFOWL

SURVEY-INVENTORY PROGRESS REPORT - 1969

Game Management Unit 14 - Upper Cook Inlet

Harvest and Hunting Pressure:

The following marshes were checked on opening day of the waterfowl season (Sept. 1). The numbers in parenthesis are hunters seen in the field. These figures are, of course, minimal estimates of opening day hunting pressure.

Eagle River Flats	(45)	International Airport Flats	(30)
Klatt Road	(50)	Palmer Slough	(18)
Susitna Flats	(56)		

In addition, the major air taxi operators in Anchorage were contacted and they had taken 656 duck hunters to the Susitna Flats during the 1969 season.

Bag checks were conducted in force opening day by Alaska Department of Fish and Game and U. S. Fish and Wildlife Service personnel. Thereafter they were only done randomly. Many of the bag checks were conducted by inexperienced personnel and therefore the sex and species were lumped together as unknown. A total of 62 hunters was checked on the Potter, Campbell, Klatt Road, Rabbit Creek, and Airport Flats. These hunters had taken 37 ducks and 1 goose for an average of 0.61 bird per hunter. Bag check data for other Upper Cook Inlet marshes are shown in Appendices I-III.

Composition and Productivity:

No studies were conducted this reporting period.

Management Summary and Conclusions:

Because of their close proximity to Alaska's major population center, the waterfowl areas of Unit 14 receive the heaviest hunting pressure in the State.

Upper Cook Inlet marshes, as defined previously, are resting places for many waterfowl on their spring migration flight. Since the 1964 earthquake and subsequent inundation nesting habitat has been reduced. These areas receive tremendous hunting pressure opening day where access is available, and opening day shooting is generally good. After the initial few hours, both numbers of birds and hunters dwindle rapidly. This area now provides waterfowl hunting that is accessible by car but, unfortunately, much of the area between Rabbit Creek and Potter will be lost to hunting within the next few years because of the planned relocation of the Seward Highway.

The Eagle River Flats, located at the mouth of Eagle River on Fort Richardson, is utilized by both resting and nesting waterfowl. Although on a military reservation, it is open to the public (by permit) for waterfowl and small game hunting and provides good shooting until freeze-up.

Waterfowl - GMU 14 - Upper Cook Inlet

Residents of Palmer have good waterfowl shooting available until freeze-up within a few minutes drive from town at the Palmer Hay Flats. This area has been zoned by the Matanuska-Susitna Borough and classified by the State Division of Lands as a recreation area.

The Susitna Flats, lying in both Units 14 and 16, will be covered in this section. It is my opinion that no other city the size of Anchorage has so much quality waterfowl habitat and waterfowl hunting opportunity as is found on the Susitna Flats. In other places, high concentrations of waterfowl are found near metropolitan areas; however, there are many fences and "no hunting" signs. Negotiations are currently underway between the Alaska Department of Natural Resources, the Alaska Department of Fish and Game, and the Matanuska-Susitna Borough to form a joint management agreement so that this area is held in trust for future generations of sportsmen.

Significant numbers of waterfowl nest on the Flats and thousands use it as a resting area in both spring and fall. In addition, the trumpeter swan is found nesting in the Susitna River Valley. Local air taxi operators and guides have hunting camps scattered about the area. Prices range from $20 to $30 apiece for transportation and lodging. There are also many cabins belonging to individuals or groups who utilize them regularly throughout the hunting season. Most of the structures are not on patented ground, but at present they do not seem to pose any great problems. Survey data for the Susitna Flats are attached (Appendix IV).

Two major problems exist in Unit 14 waterfowl areas: pollution and loss of habitat to development.

Pollution is a serious threat to the marshes of Cook Inlet. Waterfowl congregate along the tide line and feed at the water's edge. This is especially noticeable in the fall. The proper combination of tide, winds, and waterfowl concentration could prove disastrous if a major oil spill were to occur. Fortunately so far, these circumstances have not occurred. It has been my observation, despite industry's assurances to the contrary, that the petroleum industry is not able to operate without some degree of pollution. Sooner or later, unless stricter regulations are adopted, we will have a disaster in Upper Cook Inlet.

Loss of habitat by development is inevitable in Unit 14. A firm stand on the Palmer and Susitna Flats must be taken in order to control this use of our wetlands.

Recommendations:

No changes in season or bag limits are recommended.

Submitted by: Phillip D. Havens, Game Biologist II

Appendix I. Eagle River Flats 1969
BAG CHECK RESULTS

Species	Adult Male	Adult Female	Immature Male	Immature Female	Total	% of Bag
Pintail			2	5	7	10.4
Mallard		1	12	6	19	28.4
Widgeon			15	4	19	28.4
G-W Teal		2	1	9	12	17.9
Shoveler			1	6	7	10.4
Gadwall						
G. Scaup				3	3	4.5
L. Scaup						
Subtotal		3	31	33		
Total	3		64		67	100.0
Unidentified Ducks					7	
Dusky Canada Geese						
Lesser Canada Geese						
Cackling Canada Geese						
W-F Geese						
Snow Geese						
Subtotal						
Total						
Unidentified Geese						

Total Waterfowl	74
Total Hunters	23
Waterfowl/Hunter	3.22
% Immature Ducks	96
% Immature Geese	
Number Crippled	22
% Crippling Loss	22.9
No. Hunter under 16	
% Hunter under 16	

In addition, Ft. Richardson Fish and Wildlife reported: 383 Hunters
593 Unidentified Ducks
11 Unidentified Geese

Appendix II. Palmer Hay Flats 1969
BAG CHECK RESULTS

Species	Adult Male	Adult Female	Immature Male	Immature Female	Total	% of Bag
Pintail	1	1	1		3	5.9
Mallard	6	4	4	6	20	39.2
Widgeon		1	8	9	18	35.3
G-W Teal			1	3	4	7.8
Shoveler				1	1	1.9
Gadwall		1			1	1.9
G. Scaup				1	1	1.9
L. Scaup	1				1	1.9
B-W Teal				1	1	1.9
Redhead				1	1	1.9
Subtotal	8	7	14	22		
Total	15		36		51	99.6
Unidentified Ducks					1	
Dusky Canada Geese						
Lesser Canada Geese						
Cackling Canada Geese						
W-F Geese						
Snow Geese						
Subtotal						
Total						
Unidentified Geese						

Total Waterfowl	52
Total Hunters	15
Waterfowl/Hunter	3.47
% Immature Ducks	70.6
% Immature Geese	
Number Crippled	2
% Crippling Loss	3.7
No. Hunter under 16	1
% Hunter under 16	6.7

Appendix III. Susitna Flats 1969
BAG CHECK RESULTS

Species	Adult Male	Adult Female	Immature Male	Immature Female	Total	% of Bag
Pintail	7	1	23	34	65	37.1
Mallard	5	4	4	10	23	13.3
Widgeon	3		17	13	31	18.9
G-W Teal			9	22	31	17.7
Shoveler			7	11	18	10.3
Gadwall						
G. Scaup			1		1	.6
L. Scaup						
Bufflehead				3	3	1.7
B-W Teal				1	1	.6
Subtotal	15	5	61	94		
Total	20		155		175	100.0
Unidentified Ducks					93	
Dusky Canada Geese						
Lesser Canada Geese						
Cackling Canada Geese						
W-F Geese	1			3	4	100.0
Snow Geese						
Subtotal						
Total						
Unidentified Geese					3	

Total Waterfowl	275
Total Hunters	82
Waterfowl/Hunter	3.35
% Immature Ducks	88.6
% Immature Geese	75.0
Number Crippled	51
% Crippling Loss	15.6
No. Hunter under 16	7
% Hunter under 16	8.5

Appendix IV. Waterfowl survey data, Unit 14 - Susitna Flats - 1969.

Species	April 28**	May 6*	Aug. 25	Sept. 9	Oct. 2	Oct. 22
Mallard			300		713	608
Pintail			570		1,187	100
Green-winged Teal			200		6	0
Widgeon			1,175		930	0
Mixed Mallard, Pintail, Widgeon			0		405	0
Scaup*			15		40	0
Goldeneye*			0		50	0
Unidentified	1,000	512	851	4,690	0	288
TOTAL DUCKS	1,000	512	3,111	4,690	3,331	996
Canada Geese*	1,525	670	132	25	780	0
White-fronted Geese	0	218	95	0	0	0
Snow Geese	2,354	90	0	0	0	0
TOTAL GEESE	3,879	978	227	25	780	0
Swan*	1,780	1,048	0	4	94	64
Little Brown Crane	6	2	0	0	0	0
TOTAL WATERFOWL	6,665	2,540	3,338	4,719	4,205	1,060

* Not identified to species
** Estimates by Paul LeRoux

WATERFOWL

SURVEY-INVENTORY PROGRESS REPORT - 1969

Game Management Unit 15 - Kenai Peninsula

Harvest and Hunting Pressure:

No bag checks were made on the Fox River Flats. Five hunters checked on the Chickaloon Flats had taken 3 pintails, 2 widgeon and 1 mallard plus 15 geese (14 lesser Canadas and 1 white-front). Opening day bag checks of 11 hunters on the Kenai River Flats showed that they had taken 4 mallards, 2 green-winged teal and 1 pintail.

Composition and Productivity:

No studies were conducted this reporting period.

Management Summary and Conclusions:

The western Kenai Peninsula contains fair numbers of breeding trumpeter swans; other waterfowl breeding is probably limited. The Fox River flats at the head of Kachemak Bay provides excellent duck and goose shooting late in the season. Part of these flats is on an existing grazing lease, however, no conflicts have arisen to date.

The Kenai River delta, which provides hunting for Kenai residents, is heavily utilized by resting waterfowl on their northward migration. Unfortunately, this area is soon to be bisected by a highway.

The most important waterfowl marsh on the Kenai Peninsula is the Chickaloon River flats. Ownership of this marsh is divided between the U. S. Forest Service in Unit 7, Kenai National Moose Range in Unit 15 and the State of Alaska on the tide and submerged lands. At present, negotiations are underway for a joint management agreement. Appended are survey data from the Chickaloon River Flats (Appendix I).

Recommendations:

No changes in season or bag limits are recommended.

Submitted by: Phillip D. Havens, Game Biologist II

Appendix I. Waterfowl survey data, Unit 15 - Chickaloon Flats - 1969.

Species	September 9	October 2	October 22
Mallard		1,070	1,577
Pintail		1,223	162
Green-winged Teal		220	70
Widgeon		950	0
Unidentified	2,115	600	50
TOTAL DUCKS	2,115	4,063	1,859
Canada Geese*	173	925	5
TOTAL GEESE	173	925	5
Little Brown Crane	4	0	0
TOTAL WATERFOWL	2,292	4,988	1,864

* Not identified to subspecies

WATERFOWL

SURVEY-INVENTORY PROGRESS REPORT - 1969

Game Management Unit 16 - West Side of Cook Inlet

Harvest and Hunting Pressure:

Eight hunters checked at Trading Bay had taken 37 ducks (8 pintail, 7 widgeon, 4 green-winged teal, 3 mallard, 1 shoveler, and 14 unidentified). No information from Redoubt Bay is available and the Susitna Flats have been treated under Unit 14 even though a portion of them is in Unit 16.

Management Summary and Conclusions:

Redoubt Bay and Trading Bay, although as good for hunting as the Susitna Flats, receive very limited hunting pressure. Their greater distance from Anchorage is probably the reason. People from Kenai hunt these areas occasionally.

Survey flights were made periodically during the fall. These data are attached (Appendices I and II).

Problems of pollution and loss of habitat that were covered in the report on Unit 14 are equally as important for the two major marshes in Unit 16. The pollution possibility is probably more acute in this area because of the close proximity of actual drilling and loading operations.

Recommendations:

No changes in hunting season or bag limit are recommended.

Submitted by: Phillip D. Havens, Game Biologist II

Appendix I. Waterfowl survey data, Unit 16 - Trading Bay - 1969.

Species	April 28**	May 6*	Aug. 25	Sept. 9	Oct. 2	Oct. 22
Mallard			115		710	985
Pintail			1,696		705	450
Green-winged Teal			130		40	0
Mixed Mallard, Pintail			0		0	1,110
Mixed Mallard, Pintail, Widgeon			0		2,550	0
Widgeon			130		0	0
Scaup*			0		100	0
Goldeneye*			0		0	0
Scoter*			30		0	0
Unidentified	1,490	190	415	4,000	0	0
TOTAL DUCKS	1,490	190	2,516	4,000	4,105	2,535
Canada Geese*	3,100	5,716	208	0	525	0
White-fronted Geese	0	1	82	18	0	0
Snow Geese	1,250	5,155	0	0	0	0
TOTAL GEESE	4,350	10,872	290	18	525	0
Swan*	0	0	4	-	-	-
Little Brown Crane	0	9	0	7	0	0
TOTAL WATERFOWL	5,840	11,071	2,810	4,025	4,620	2,535

* Not identified to species
** Estimates by Paul LeRoux
\- Numbers not estimated

Appendix II. Waterfowl survey data, Unit 16 - Redoubt Bay - 1969.

Species	August 25	September 9	October 2
Mallard	36		390
Pintail	520		408
Green-winged Teal	69		40
Mixed Mallard, Pintail, Widgeon	0		1,045
Widgeon	150		0
Unidentified	352	2,280	0
TOTAL DUCKS	1,127	2,280	1,883
Canada Geese*	0	345	740
White-fronted Geese	472	0	0
TOTAL GEESE	472	345	740
Swan	24	7	7
Little Brown Crane	3	0	0
TOTAL WATERFOWL	1,626	2,632	2,630

* Not identified to species

SHARP-TAILED GROUSE

SURVEY-INVENTORY PROGRESS REPORT - 1969

Game Management Units 12 and 20 - Upper Tanana-White River and Central Tanana

Seasons and Bag Limits:

Aug. 10 - April 30	15 a day 30 in possession

Harvest and Hunting Pressure:

No information is available on harvest and hunting pressure on grouse in Units 12 and 20.

Abundance and Productivity:

Sharp-tailed grouse counts were conducted in the Tok area, Units 12 and 20, on May 4 and 6 (Jennings, Winslow, and McGowan), and on May 19 and 20 (Jennings). Results are summarized in the following table.

Counts of sharp-tailed grouse near Tok, 1969

	Sharp-tails heard	
Route	May 4 - 6	May 19 - 20
Slana-Tok	0	4
Alaska Highway	0	27
Taylor Highway (Miles 16-26)	0	7
Taylor Highway (Miles 46-56)	3	13

The unusually high grouse count (highest ever recorded on May 19-20 along the Alaska Highway) is difficult to explain in terms of grouse populations. May 4-6 counts were started too early in the day, which probably accounts for their low values. Unfortunately no additional field work has been done over the years to check the validity of the sharp-tailed grouse counts.

Management Summary and Recommendations:

Sharp-tailed grouse counts probably do not yield useful information. Attempts to get more useful census data will be made. This may involve an entirely different census technique. In view of the low utilization of grouse by hunters, and the fact that grouse populations fluctuate widely, it is recommended that seasons and bag limits remain unchanged.

Submitted by: Jerry McGowan, Game Biologist II

SPRUCE GROUSE

SURVEY-INVENTORY PROGRESS REPORT - 1969

Game Management Unit 15 - Kenai Peninsula

Season and Bag Limits:

Aug. 10 - April 30	15 a day 30 in possession

Harvest and Hunting Pressure:

The following comments are based on information obtained through correspondence with Larry Ellison, a student studying spruce grouse on the Kenai Peninsula. Approximately 650 spruce grouse were shot in 1969 along the 10 miles of census route (Swan Lake Road), and similar pressure is being exerted along other roads on the Kenai Peninsula. Hunters are now coming to areas such as that along the Swan Lake Road to hunt grouse, and they often stay several days. The 1969 Swanson River Fire has removed about 80,000 acres of grouse habitat; this coupled with increase in hunting pressure makes it necessary to follow spruce grouse abundance and harvest rather closely over the next few years.

Abundance and Productivity:

Spruce grouse seen on the standard fall road count are listed in the following table:

Spruce grouse seen on standard counts, 1969

Location	Miles	Number of Counts	Range	Average Grouse per Mile Driven	Conf. Interval at 95%
Swanson River Area	10	11	6-43	1.73	1.039-2.415

The 1969 count shows a significant increase in abundance over 1968; this was also suggested by questionnaire responses and discussion with biologists working on the Kenai Peninsula.

Management Summary and Recommendations:

Spruce grouse are the most important game bird on the Kenai Peninsula and interest in hunting them is increasing yearly. In view of the high abundance in 1969 no regulation changes are proposed. However, I would recommend continued collection of both abundance and harvest information.

Submitted by: Jerry McGowan, Game Biologist II

SPRUCE GROUSE

SURVEY-INVENTORY PROGRESS REPORT - 1969

Game Management Unit 19 - McGrath

Seasons and Bag Limits:

Aug. 10 - April 30	15 per day 30 in possession

Harvest and Hunting Pressure:

No estimates of harvest were made.

Abundance and Productivity:

The number of spruce grouse seen in the 1969 standard road count is listed in the following table:

Spruce grouse seen on standard counts, 1969

Location	Miles	Number of Counts	Range	Average Grouse per Mile Driven	Conf. Interval at 95%
McGrath Area	10	10	12-41	2.75	2.191-3.309

The 1969 count in the McGrath area was the first complete count series made in the area. The results of the count indicate a high spruce grouse population. Populations of ruffed grouse and spruce grouse appear to be increasing over much of Unit 19 based on numerous reports of residents and personal observations.

Management Summary and Recommendations:

No changes in the grouse seasons and bag limits are recommended.

Submitted by: Jerry McGowan, Game Biologist II

SPRUCE GROUSE

SURVEY-INVENTORY PROGRESS REPORT - 1969

Game Management Unit 20 - Fairbanks, Central Tanana

Seasons and Bag Limits:

Aug. 10 - Sept. 30	15 a day 30 in possession

Harvest and Hunting Pressure:

There are no systems in effect to gather information on harvest and hunting pressure of grouse in Unit 20. Observations indicate that substantial numbers of hunters are taking advantage of the current high grouse population in the area.

Abundance and Productivity:

Spruce grouse seen in the 1969 standard fall road count are listed in the following table:

Spruce grouse seen on standard counts, 1969

Location	Miles	Number of Counts	Range	Average Grouse per Mile Driven	Conf. Interval at 95%
Steese Highway	19	10	7-27	.77	0.475-1.063
Taylor Highway	20	8	3-9	.28	0.210-0.352

The 1969 standard fall road counts suggest little change in numbers from 1968 along the Taylor and Steese Highways. However, seven questionnaire reports from Tok indicate a high population of spruce grouse in that area, and they also unaminously agree that there were more of the species in 1969 than in 1968. Interference from traffic and failure to inquire about numbers of grouse observed by persons met during the count probably altered the results of the Taylor Highway census data.

Submitted by: Jerry McGowan, Game Biologist II

SNOWSHOE HARE

SURVEY-INVENTORY PROGRESS REPORT - 1969

Game Management Unit 19 - McGrath

Seasons and Bag Limits:

No Closed Season No limit

Harvest and Hunting Pressure:

No quantitative harvest information is available. Interest in hunting and the snowshoe hare harvest is greatly dependent upon the abundance.

Abundance and Productivity:

Quantitative abundance and production information on snowshoe hares is not available. Snowshoe hare populations are increasing and appear higher in the Telida vicinity than in the McGrath area.

Management Summary and Recommendations:

No changes are recommended in the seasons or bag limits.

Submitted by: Richard Bishop, Game Biologist III

SNOWSHOE HARE

SURVEY-INVENTORY PROGRESS REPORT - 1969

Game Management Unit 20 - Upper Tanana-White River

Seasons and Bag Limits:

No Closed Season No limit

Hunting and Harvest Pressure:

Interest in harvesting snowshoe hares is greatly dependent upon the abundance. Following the high in the early 1960's the population has been so low that there has been very little interest or harvest of snowshoe hare in some of Unit 20. In many portions of Unit 20, however, the population has increased and hunter harvests occurred in 1969. The magnitude of the harvest is not known, and considering the nature of hare populations little or no effort will be made to determine the harvest in the future.

Abundance and Productivity:

Hare population in Unit 20 has made an observable increase since 1964-66 when the population was at a noticeable low. A questionnaire of trappers has identified this increase. The detailed results of the questionnaire are reported in the lynx segment report. Within Unit 20 the hare populations seem to be considerably higher in those drainages draining generally north toward the Yukon River. The areas drained into the Tanana on the south side of Unit 20 are expected to show a proportional increase in snowshoe hare populations approximately one season after the Yukon drainages.

Management Summary and Recommendations:

The hare population and the harvest is expected to increase in Unit 20 within the next few years. Much hunting effort can be accommodated by the hare populations throughout Unit 20 without detriment to the populations. No changes are recommended in the seasons or bag limits.

Submitted by: Oliver Burris, Game Biologist IV

PTARMIGAN

SURVEY-INVENTORY PROGRESS REPORT - 1969

Game Management Unit 20 - Fairbanks, Central Tanana

Seasons and Bag Limits:

Aug. 10 - April 30	20 a day 40 in possession

Harvest and Hunting Pressure:

No check station to determine the ptarmigan harvest from the Eagle Summit area, or to collect other biological information was maintained in 1969; therefore, there is no factual base on which to make an estimate of the harvest or hunting pressure. Casual reports by hunters, Protection officers, and others indicate that the hunting pressure was as heavy this year as it has been in previous years. The kill may have been higher.

Abundance, Composition and Productivity:

The annual census at Eagle Creek (May 17-22) yielded a tally of 113 territorial males, a slight decline over last year's count of 120 males. Again, as in 1967, hunting occurred late into the spring despite closure of the area to the taking of ptarmigan. Possibly the count is lower than it would have been if no hunting had occurred, but the effect was not as great as that in 1968.

Counts were made at Ptarmigan Creek on May 13 and 14, and at Golddust Creek on May 22-24. Eighty-one males were seen at Golddust and 98 at Ptarmigan Creek. The spring stocks thus declined 15% (from 95 cocks) from 1968 to 1969 on the unhunted area (Golddust), but stayed the same at Ptarmigan Creek, the area subjected to 40% removal of the estimated late summer population.

Ptarmigan count data are discussed more fully in Game Bird Research Report, 1969 under Jobs 10.1R and 10.3R.

Management Summary and Conclusions:

Research activities at Eagle Creek have shown that spring hunting may affect breeding populations of rock ptarmigan. The Taylor Highway is now being kept open through the winter, and rock ptarmigan are bound to be taken in this area in the spring. A change in the season is not recommended at this time, but plans have been made to obtain information on spring hunting pressure and success.

Submitted by: Jerry McGowan, Game Biologist II

UPLAND GAME ABUNDANCE REPORT AND MANAGEMENT CONCLUSIONS

STATEWIDE

Techniques:

The standard small game abundance questionnaire was mailed early in November 1969 to 931 people throughout the state, and by mid-January 1970, 271 replies had been received. The replies were tabulated and analyzed as in previous years (See Game Bird Report Vol. 5, 1965, p. 2). A summary of responses was mailed to cooperators early in February 1970.

Findings:

Replies to the questionnaire are summarized in Appendix I. Grouse appear to be at moderate densities in the Western, Alaska Peninsula, and Southeastern regions, however cooperators from the Gulf and Interior indicated fairly high numbers of grouse, with a considerable increase over 1968.

Replies indicated that ptarmigan populations were at moderate to high levels in the Gulf, Kodiak, Alaska Peninsula, Western, and Brooks Range regions, and in all but the latter cooperators felt there was a marked increase over 1968. From the Interior, 116 cooperators indicated a moderate density with only a slight increase over 1968.

Hare populations seem to be on the rise in most portions of the state except the Western, Alaska Peninsula, and Kodiak regions where cooperators felt that numbers remained about the same as 1968.

Management Summary and Recommendations:

The standard small game abundance questionnaire indicates that grouse, ptarmigan and hare populations fluctuate considerably throughout the state, and it is felt that hunting seasons and bag limits have little effect on populations for any specific area. No significant changes in length of season or bag limits are recommended.

Appendix I. Summary of replies to questionnaire on grouse, ptarmigan, and hare populations, 1969 (number of replies in parentheses).

Area, Species	Present Abundance				Comparison with 1968			
Brooks Range (7)	High	Mod.	Low	Index	More	Same	Fewer	Index
Grouse (General)	0	2	2	3.00	2	2	0	7.00
Ptarmigan (Gen.)	2	4	1	5.57	2	4	1	5.57
Hare	0	1	2	2.33	1	2	0	6.33
Western (30)								
Grouse (General)	2	3	2	5.00	2	3	2	5.00
Ptarmigan (Gen.)	15	11	4	6.47	19	2	5	7.15
Hare	6	9	7	4.82	8	7	6	5.43
Alaska Peninsula (18)								
Grouse (General)	0	5	0	5.00	2	7	0	5.89
Ptarmigan (Gen.)	8	8	2	6.33	10	4	1	7.40
Hare	3	2	8	3.46	3	4	3	5.00
Kodiak (5)								
Ptarmigan (Gen.)	2	1	1	6.00	3	0	1	7.00
Hare	1	1	1	5.00	1	1	1	5.00
Southeastern (23)								
Blue Grouse	4	9	6	4.58	4	12	4	5.00
Spruce Grouse	0	1	5	2.50	1	4	1	5.00
Ptarmigan (Gen.)	2	5	4	4.27	3	6	2	5.36
Hare	0	0	7	1.00	2	5	0	6.14
Gulf (35)								
Grouse (General)	10	6	3	6.47	20	2	0	8.64
Ruffed	0	1	2	2.33	1	2	0	6.33
Spruce	16	5	4	6.92	18	3	2	7.78
Ptarmigan (Gen.)	8	13	1	6.27	11	9	1	6.90
Rock	2	5	0	6.14	3	4	0	6.71
Willow	2	3	2	5.00	3	3	1	6.14
Hare	7	11	10	4.57	19	6	1	7.77
Interior (153)								
Grouse (General)	41	63	15	5.87	83	25	9	7.53
Ruffed	9	47	26	4.17	44	23	11	6.69
Spruce	46	55	14	6.11	79	22	4	7.86
Sharp-tailed	9	15	22	3.87	16	9	4	6.23
Ptarmigan (Gen.)	22	71	23	4.96	55	50	9	6.61
Rock	10	20	6	5.44	18	14	1	7.06
Willow	11	36	10	5.07	29	23	2	7.00
White-tailed	3	3	4	4.60	6	2	0	8.00
Hare	27	67	44	4.51	108	18	12	7.78