

Aerial Surveys of Birds and Mammals in Potential Development
Areas in Upper Cook Inlet, Alaska, 13-14 July 1993

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INTRODUCTION

Distribution and abundance of waterbirds, marine mammals, and other wildlife were surveyed by helicopter in coastal areas of upper Cook Inlet 13-14 July 1993, in areas where there is development potential (Figure 1). Numerous surveys of wildlife use of upper Cook Inlet have been conducted during spring (e.g., Handel and Gill 1983, Handel 1985, Kertell et al. undated, Butler undated, Butler and Gill 1985, 1987a, 1987b, 1987c, 1987d, Loranger and Eldridge 1986, Nysewander et al. 1986, Slater and Sharpe 1986, Butler and Gerhardt 1990, Butler and Hupp 1990, Gill and Tibbitts 1993), however, few have been conducted during summer when waterfowl are rearing young or molting, and when shorebirds have commenced their southward migrations. Upper Cook Inlet contains important habitat resources for many species of migratory birds, marine mammals, and other wildlife. Upper Cook Inlet is also an area of extensive onshore and offshore oil and gas production, commercial and sport fishing, ocean-going transportation, and military activities; and it is a potential area for coal and hardrock mining, hydroelectric power generation, and timber harvest. New infrastructures may be proposed at any time for new oil and gas finds, and for developing and exporting coal, minerals and timber. New infrastructures may be proposed to be located in valuable wildlife habitats. These surveys were conducted to identify and gather preliminary data on valuable wildlife habitats.

METHODS

Surveys were conducted using Bell 206-B and 206-L Jet Ranger helicopters. The 206-L model was used because of its extended range which minimized return trips to Anchorage and the Drift River facilities for refueling. The survey was conducted at altitudes of 100-175 m and an average ground speed of 60 knots. Two staff (M. North, S. Tucker) made observations and a third (L. Dugan) recorded and mapped the observations on 1:63,360 U.S. Geological Survey topographic maps. The location and concave shape of the helicopters' windows made species-specific identification of waterfowl almost impossible with binoculars.

RESULTS AND DISCUSSION

The township, range, and sections surveyed are listed in bold print on the following pages. Indented below the surveyed areas are lists of sections where birds or mammals were observed, along with the numbers observed. Over 11,500 birds were counted (Table 1), including 2549 adult waterfowl, 5872 shorebirds, and 3006 larids. The largest numbers of birds observed were at Redoubt Bay and the Susitna Flats (Table 2).

A total of 85 beluga whales were observed during the survey. These were located at the mouths and in the channels of the Beluga, Lewis, and Little Susitna Rivers, and in Chickaloon Bay. All harbor seals (169 plus one large uncountable pod) were observed along the west side of Cook Inlet south of McArthur River.

Key

- A - Point Harriet
- B - Redoubt Bay
- C - Trading Bay
- D - Tyonek
- E - Susitna Flats
- F - Susitna River
- G - Goose Bay
- H - Chickaloon Flats
- I - Kenai River Flats
- J - Kasilof River Flats

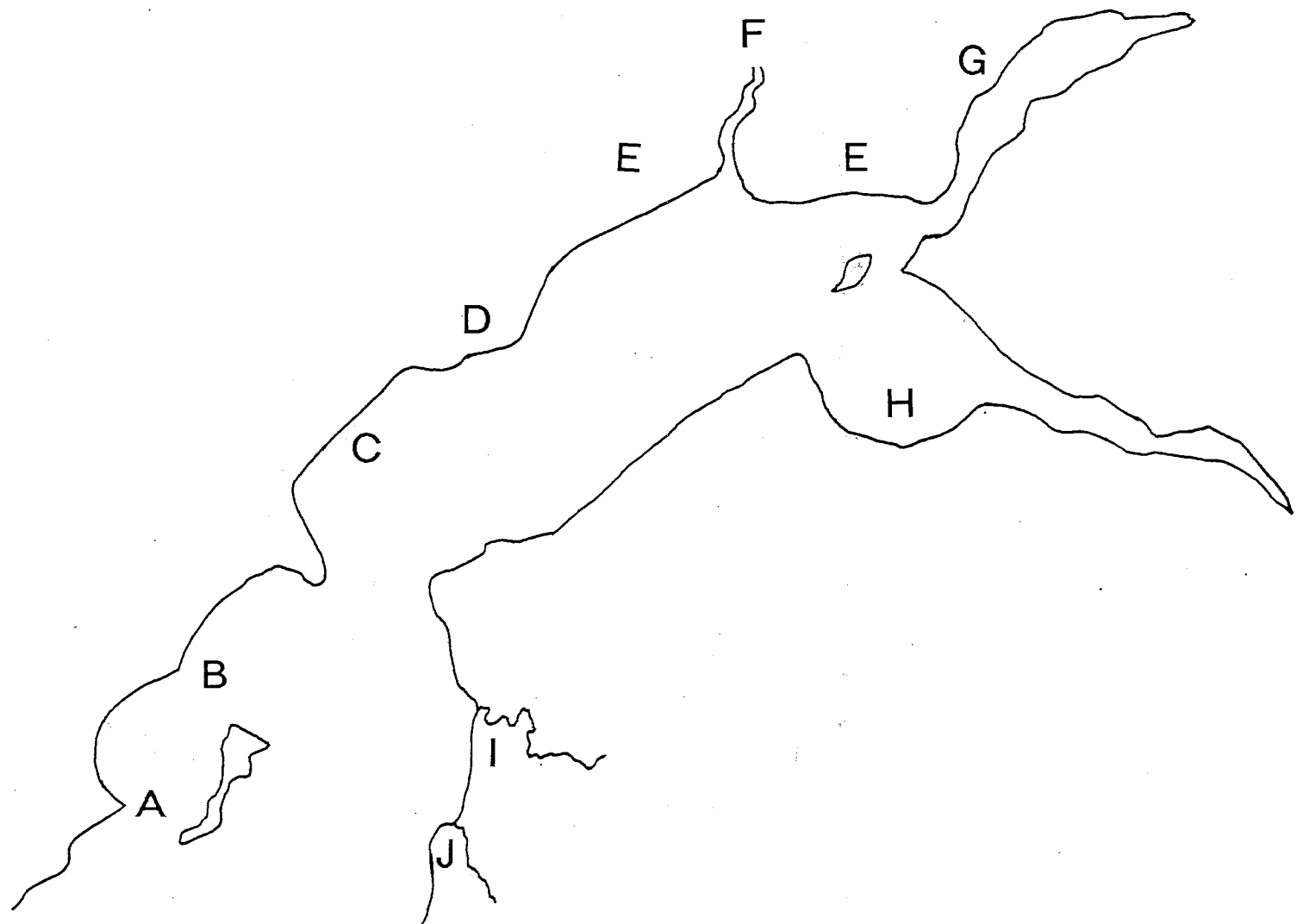


Figure 1. Survey area, upper Cook Inlet, Alaska.

Table 1. Total numbers of birds, broods, and young observed along Cook Inlet, 13-14 July 1993.

Species	Total Adults ^{1/}	No. Broods/ Gang Broods	No. Young
Common loon	1		
Unidentified loon	1		
Red-necked grebe	1		
Double-crested cormorant	10		
Trumpeter swan	7	1	6
Canada goose	69	4	67
White-fronted goose	27		
Mallard	41	2	14
Northern pintail	59	5	23
American wigeon	27		
Unidentified <i>Anas</i> spp.	<u>2121</u>	<u>2</u>	<u>13</u>
Total <i>Anas</i> spp.	2248	9	50
Unidentified <i>Aythya</i> spp.	29		
Mixed <i>Anas</i> and <i>Aythya</i> spp.	80		
Common eider	70		
White-winged scoter	1		
Black scoter	17		
Common merganser	1		
Bald eagle	14 ad., 6 imm.	1	1
Northern harrier	3		
Sandhill crane	54	2	2
Semipalmated plover	1		
Black-bellied plover	1		
Unidentified <i>Calidris</i> spp.	1812		
Dunlin	30		
Unidentified small shorebirds	244		
Unidentified medium shorebirds	55		
Unidentified large shorebirds	32		
Unidentified shorebirds	755		
Hudsonian godwit	17		
Dowitcher spp.	627		
Mixed dowitcher/Hudsonian godwit	2000		
Yellowlegs spp.	<u>298</u>		
Total shorebirds	5872		
Arctic tern	350	2 colonies	
Unidentified <i>Larus</i> spp.	2655 ^{2/}		
Parasitic jaeger	1		
Common raven	6		
Unidentified swallows	<u>15</u>		
Total birds	11561	17	126

^{1/} Includes after-hatch-year immatures birds (e.g., bald eagles, gulls).

^{2/} Does not include 100's of gulls observed at mouths of Kenai and Kasilof Rivers.

Table 2. Total numbers of adults (and young) observed by major geographic area, 13-14 July 1993.

Species	Redoubt Bay	Trading Bay	Tyonek	Susitna Flats	Knik Arm	Kenai Penin.
Total <i>Gavia</i> spp.		2				
Red-necked grebe					1	
Double-crested cormorant	10					
Trumpeter swan	4 (6)	2		1		
Canada goose				65 (62)	4 (5)	
White-fronted goose	27					
Total <i>Anas</i> spp.	1285 (8)	309 (9)		329 (8)	270 (18)	55 (7)
Unidentified <i>Aythya</i> spp.	29					
Mixed <i>Anas</i> and <i>Aythya</i> spp.	80					
Common eider	70					
White-winged scoter	1					
Black scoter	17					
Common merganser				1		
Bald eagle	5	2 (1)	1	7		5
Northern harrier				1	1	1
Sandhill crane		26			24 (2)	4
Semipalmated plover					1	
Black-bellied plover				1		
Dunlin				30		
Unidentified <i>Calidris</i> spp.	30			1697		85
Other unidentified shorebirds	25	356		491		214
Hudsonian godwit				6	2	9
Dowitcher spp.	500			20	97	10
Mixed dowitcher/Hudsonian godwit				2000		
Yellowlegs spp.					29	269
[Total shorebirds]	[555]	[356]		[4245]	[129]	[587]
Arctic tern		1 colony		165	30	155
Total <i>Larus</i> spp.	2405	230		20		abundant
Parasitic jaeger						1
Common raven	4		2			
Unidentified swallows						15
Total birds	4492 (14)	936 (10)	3	4834 (70)	459 (25)	823 (7)

Only one brood of trumpeter swans was observed: a pair with six young near Katchin Creek (Section 31, T. 5 N., R. 17 W.), southern Redoubt Bay. White-fronted geese were observed only along Big River, in the Redoubt Bay Critical Habitat Area. Canada geese with broods were observed at Goose Bay Flats, and the mouths of the Susitna and Little Susitna Rivers. Large concentrations of dabbling ducks were found at the mouths of Big River, Johnson Slough, Kustatan River, and Middle River. Seaducks (i.e., eiders, scoters) were observed only south of West Foreland.

Sandhill cranes concentrated at Goose Bay flats and between McArthur and Middle Rivers. Concentrations of >200 shorebirds were observed at Middle River, Chickaloon flats, the mouth of the Little Susitna River, the Susitna flats from the Little Susitna River to the uplands of Point Mackenzie, and in Redoubt Bay 5 miles north of Point Harriet. Concentrations of yellowlegs spp. were observed only at Chickaloon Flats and Goose Bay Flats. A flock of 500 dowitchers was observed at Redoubt Bay north of Point Harriet, a flock of 97 dowitchers was observed near the mouth of Fish Creek in Anchorage, and a mixed concentration of 2000 dowitchers and Hudsonian godwits was observed between the Little Susitna River and Point Mackenzie. Concentrations (>20) of arctic terns were observed at the mouths of the Beluga and Chickaloon Rivers, along Nikolai Creek, and on the Kasilof River Flats.

Most of the *Anas* spp. observed were mallards, American wigeon, northern pintails, and green-winged teal. A few gadwalls and northern shovelers may have been present. The *Aythya* spp. were probably mostly greater scaup but a few lesser scaup may have been present also.

Although we did not identify dowitchers to species, we believe all or most were short-billed dowitchers. The *Calidris* spp. were probably least, western, and/or semipalmated sandpipers; the "unidentified small shorebirds" were probably *Calidris* spp. and semipalmated plovers.

Locations of staging and/or molting waterfowl, migrating shorebirds, and marine mammals are dynamic, and strong conclusions should not be based on one survey. Additional surveys may show populations shifted locations year-to-year, season-to-season, or day-to-day. Additional surveys should also show which sites provide important habitat that birds and mammals concentrate at annually. Conversely, trumpeter swan, white-fronted and Canada goose, bald eagle, sandhill crane, and arctic tern breeding locations are probably occupied more-or-less annually.

Maps containing field data are available for public viewing at the Anchorage Field Office.

REDOUBT BAY

Point Harriet to Redoubt Bay N Base

T 4 N., R 17 W., Sections 19, 29-30, and 33

Section 19 - 10 double-crested cormorants, 5 black scoters,
125 *Larus* spp.

T 4 N., R 18 W., Sections 1, 12-13, and 24

Section 1 - 1 adult bald eagle (flying), 150 *Larus* spp.
Section 13 - 12 black scoters

T 5 N., R 17 W., Sections 17, 19-20, and 30-31

Section 30 - 27 *Anas* spp.
Section 31 - 2 trumpeter swans with 6 cygnets (in a pond 1 mile inland
from the beach), 500 dowitchers, 800 *Larus* spp.

Redoubt Bay N Base to Drift River

T 5 N., R 17 W., Sections 2-3, 9-10, and 16

Section 2 - 85 *Anas* spp., 22 *Calidris* spp.
Section 3 - 50 harbor seals

T 6 N., R 17 W., Sections 25, and 35-36

Section 35 - 8 *Calidris* spp., 1 adult bald eagle

T 6 N., R 16 W., Sections 16, 19-21, and 29-30

Section 20 - 300 *Larus* spp.
Section 30 - 215 *Anas* spp., 300 *Larus* spp., 2 trumpeter swans, 1 common
raven

Big River

T 6 N., R 16 W., Sections 3-4, and 9-10

Section 3 - 30 northern pintails, 2 female northern pintails with
5 young, 161 *Anas* spp., 7 *Aythya* spp., 2 adult bald eagles
(roosting on log), 200 *Larus* spp., 50 harbor seals.
Section 9 - 2 American wigeon, 315 *Anas* spp..

T 7 N., R 15 W., Sections 18-19 - no wildlife

T 7 N., R 16 W., Sections 13-14, 22-27, and 34-35

Section 24 - 47 *Anas* spp., 12 harbor seals
Section 25 - 28 *Anas* spp., 3 mallards, 12 *Aythya* spp., 300 *Larus* spp.,
50 harbor seals

Section 27 - 27 white-fronted geese, 2 *Anas* spp., 25 unidentified shorebirds, 3 common ravens
Section 34 - 1 adult bald eagle (flying), 200 *Larus* spp.
Section 35 - 85 *Anas* spp., 10 *Aythya* spp.

Kustantan River/Johnson Slough

T 7 N., R 15 W., Sections 1-5, 7-9, 11-14, and 16-17

Section 1 - 25 *Anas* spp.
Sections 3 and 4 - 2 mallards, 170 *Anas* spp.
Section 12 - 25 *Anas* spp., 1 female northern pintail with 3 young, 30 *Larus* spp.
Section 14 - 70 common eider, 1 white-winged scoter

T 7 N., R 14 W., Sections 4-9

Section 6 - 60 *Anas* spp., 80 mixed *Anas* spp. and *Aythya* spp.

T 8 N., R 15 W., Sections 25-26, and 32-36 - no wildlife

TRADING BAY

West Forelands

T 7 N., R 14 W., Sections 3 and 10 - no wildlife

T 8 N., R 14 W., Sections 5, 8-9, 16, 21-22, 27, and 34

Section 27 - 1 hatch-year bald eagle in nest in cottonwood tree

T 9 N., R 14 W., Section 32 - no wildlife

Mc Arthur River

T 9 N., R 14 W., Sections 2-4, 9-10, 16-17, 20, and 29

Section 3 - 5 *Anas* spp., 1 adult bald eagle (roosting), 7 harbor seals
Section 4 - 30 *Larus* spp.
Section 9 - 1 *Gavia* spp., 25 small unidentified shorebirds, 30 *Larus* spp.
Section 10 - 6 unidentified large shorebirds
Section 16 - 25 unidentified small shorebirds
Section 29 - 1 adult bald eagle (flying)

T 10 N., R 14 W., Sections 24-28, and 33-36

Section 24 - 26 sandhill cranes, 60 *Larus* spp., 2 coyotes
Section 34 - 1 common loon

T 10 N., R 13 W., Sections 19 and 30 - no wildlife

Middle River/Nikolai Creek

T 10 N., R 13 W., Sections 2-10, and 16-18

- Section 3 - 180 unidentified shorebirds, 50 *Larus* spp.
- Section 5 - 48 *Anas* spp.,
- Section 9 - 130 *Anas* spp., 120 unidentified shorebirds
- Section 18 - 27 *Anas* spp., 60 *Larus* spp.

T 11 N., R 13 W., Sections 24-26, and 34-36

- Section 24 - arctic tern colony (size unknown)
- Section 25 - 1 female northern pintail with 3 young, 20 northern pintails
- Section 36 - 74 *Anas* spp., 2 northern pintails, 1 female northern pintail with 4 young, 1 female mallard with 2 young

T 11 N., R 12 W., Sections 28-30

- Section 29 - 2 trumpeter swans (1/2 mile west of landing strip)

TYONEK AREA

T 11 N., R 12 W., Section 24-27

- Section 26 - 1 adult bald eagle (roosting near Granite Point)

T 11 N., R 11 W., Sections 1, and 12-19 - no wildlife

T 11 N., R 10 W., Section 6 - 2 common ravens

T 12 N., R 10 W., Sections 3-4, 9, 17, 20, and 29-31 - no wildlife

T 13 N., R 10 W., Sections 34-35 - no wildlife

SUSITNA FLATS

Beluga River - Theodore River

T 13 N., R 10 W., Sections 24-26

- Section 25 - 30 *Anas* spp., 12 unidentified shorebirds

T 13 N., R 9 W., Sections 2-11, 14-20, 22-23, and 30

- Section 19 - 1 immature bald eagle (flying), 2 adult bald eagles, 6 unidentified shorebirds, 20 arctic terns
- Section 20 - 8 *Anas* spp., 30 beluga whales
- Section 21 - 9 *Anas* spp.
- Section 22 - 91 *Anas* spp.
- Section 23 - 1 northern pintail, 1 common merganser, 135 *Calidris* spp.,

Lewis River

T 13 N., R 8 W., Sections 6-7

Section 6 - 1 female northern pintail with 8 young, 8 unidentified shorebirds,

Section 7 - 25 American wigeon, pod of harbor seals (no number given)

T 13 N., R 9 W., Sections 1 and 12

Section 1 - 33 *Anas* spp.

Section 12 - 17 *Anas* spp., 3 Hudsonian godwits, 10 beluga whales

Ivan River

T 13 N., R 8 W., Sections 4-5

Section 4 - 33 *Anas* spp., 3 Hudsonian godwits, 20 unidentified medium shorebirds, 15 arctic terns

T 14 N., R 8 W., Sections 32-34

Section 32 - 30 beluga whales

Susitna River

T 14 N., R 8 W., Sections 1-2, 11-14, and 23-27

Section 2 - 3 *Anas* spp., 95 arctic terns

Section 23 - 1 immature bald eagle, 11 arctic terns

Section 26 - 1 immature bald eagle

T 15 N., R 8 W., Section 36 - no wildlife

T 14 N., R 7 W., Sections 4-9, 16-22, 27-30, and 34-35

Section 9 - 1 trumpeter swan, 1 adult bald eagle, 1 arctic tern

Section 16 - 3 moose

Section 22 - 2 moose

Section 27 - 8 adult Canada geese with 12 young

Section 30 - 10 *Larus* spp.

Section 35 - 2 *Calidris* spp., 23 arctic terns

T 15 N., R 7 W., Sections 31-33 - no wildlife

T 13 N., R 7 W., Sections 1-3 - no wildlife

T 13 N., R 6 W., Sections 5-6

Section 6 - 1 northern harrier, 20 *Calidris* spp.

Little Susitna River

T 13 N., R 6 W., Sections 1-4

Section 3 - 20 *Calidris* spp.

Section 4 - 10 adult Canada geese with 30 young

T 14 N., R 6 W., Sections 13-14, 22-27, and 33-36

Section 26 - 1 unidentified large shorebird, 1 coyote

Section 27 - 40 adult Canada geese with 20 young

Section 33 - 7 Canada geese, 470 *Calidris* spp., 20 dowitchers,
400 unidentified shorebirds

Section 35 - 1 adult bald eagle, 5 beluga whales

Section 36 - 25 dunlin

T 14 N., R 5 W., Sections 31-36

Sections 32 and 33 - 40 *Anas* spp., 35 mallards, 5 dunlin, 50 *Calidris*
spp., 10 *Larus* spp.

Sections 34, 35, and 36 - 3 *Anas* spp., 2000 dowitchers and Hudsonian
godwits (mixed flock), 24 unidentified small shorebirds,
400 *Calidris* spp., 1 black-bellied plover, 20 unidentified
medium shorebirds

T 13 N., R 4 W., Sections 6 and 31

Section 6 - 500 *Calidris* spp.

Section 31 - 100 *Calidris* spp.

T 14 N., R 4 W., Section 31 - no wildlife

KNIK ARM

Point MacKenzie Area

T 13 N., R 4 W., Sections 2-5 - no wildlife

T 14 N., R 4 W., Section 35 - no wildlife

Goose Bay

T 15 N., R 4 W., Section 2-4, 9-16, 18-19, and 21-24

Section 12 - 2 yellowlegs

Section 13 - 36 *Anas* spp.

Section 14 - 4 Canada geese with 5 young, 4 sandhill cranes with
2 young

Section 15 - 12 mallard young (1 brood), 1 sandhill crane

Section 24 - 10 *Anas* spp., 2 sandhill cranes, 25 yellowlegs

T 15 N., R 3 W., Sections 7, and 17-19

Section 18 - 2 *Anas* spp., 15 sandhill cranes

Section 19 - 1 red-necked grebe, 1 northern harrier, 2 sandhill cranes,
30 arctic terns

Anchorage Coastal Wetlands - Ship Creek to Earthquake Park

T 13 N., R 4 W., Sections 13, 22-23

Section 13 - 166 *Anas* spp., 2 yellowlegs

Section 22 - 55 *Anas* spp., 97 dowitchers

Section 23 - 1 female *Anas* spp. with 6 young, 2 Hudsonian godwits,
1 semipalmated plover

KENAI PENINSULA

Chickaloon Flats

T 11 N., R 6 W., Sections 17, 20-21, 27-28, and 34

Section 21 - 1 immature bald eagle (roosting), 10 beluga whales

T 10 N., R 6 W., Sections 1-2, 11-14, 18, and 24

Section 1 - 8 arctic terns

T 10 N., R 5 W., Sections 18-23, 25-30, and 32-36

Section 18 - 6 *Anas* spp.

Section 20 - 12 *Anas* spp., 60 yellowlegs

Section 21 - 2 *Anas* spp., 200 yellowlegs, 8 Hudsonian godwits

Section 22 - 1 adult bald eagle

Section 25 - 170 unidentified small shorebirds, 20 arctic terns

Section 26 - 15 unidentified medium shorebirds, 1 Hudsonian godwit,
1 arctic tern

Section 28 - 25 unidentified large shorebirds

Section 29 - 10 *Anas* spp., 1 arctic tern

T 10 N., R 4 W., Sections 12-35

Section 14 - 1 arctic tern

T 9 N., R 5 W., Sections 1-5, and 10-12

Section 2 - 3 yellowlegs

Section 3 - 2 sandhill cranes

Section 4 - 2 sandhill cranes

T 9 N., R 4 W., Sections 2-10, and 15-21

Section 5 - 18 *Anas* spp., 1 female *Anas* spp. with 7 young

Section 7 - 1 northern harrier

Point Possession to Kenai River Only 1 adult and 1 immature bald eagle (both in T 10 N., R 8 W., Section 21) and a few *Larus* spp. were observed.

Kenai River Area

T 5 N., R 12 W., Sections 1, 4-9, 18, and 30-31

Section 7 - 1 parasitic jaeger

Section 8 - 10 dowitchers, 100's of *Larus* spp. on peninsula near mouth of river.

Kasilof River Area

T 4 N., R 12 W., Sections 1, 12-13, 24-25, and 35-36

Section 24 - 3 *Anas* spp., 25 *Calidris* spp., 3 yellowlegs, 4 unidentified shorebirds, 8 arctic terns

T 3 N., R 12 W., Sections 1-2, 11-13, and 24

Section 1 - 3 *Anas* spp., 1 immature bald eagle, 3 yellowlegs, 60 *Calidris* spp., a nesting colony of 116 arctic terns and 10's of *Larus* spp., 15 unidentified swallows

Section 24 - inactive bald eagle nest in cottonwood tree on island in Kasilof River.

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