

BASELINE WATER BIRD SURVEYS

Section 1 of the Report for:

Alaska Coastal Grant No. 701815G340
Wetlands Inventory and Damage Assessment of
The Jim-Swan Wetlands in the Knik River Watershed

Submitted to:

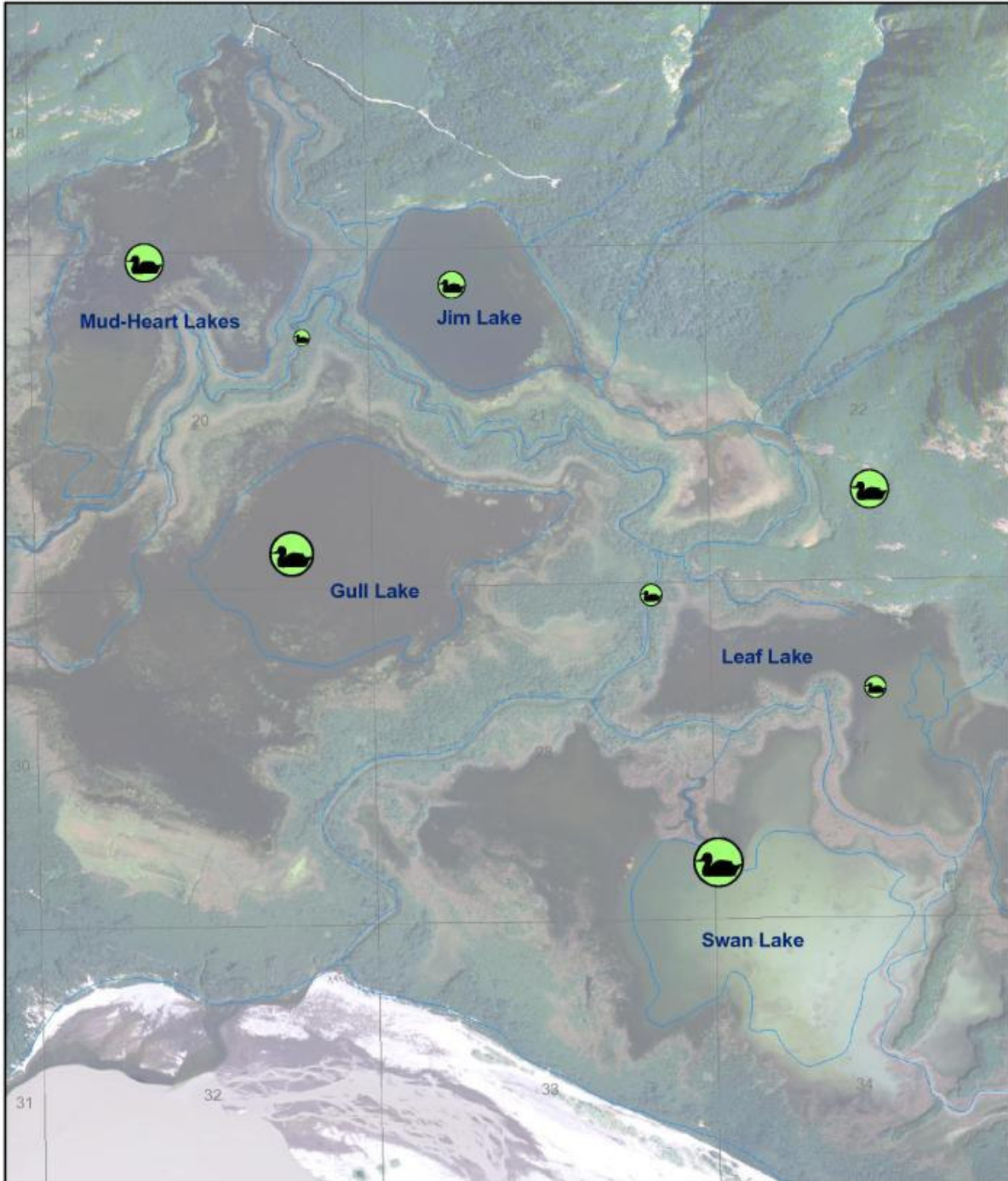
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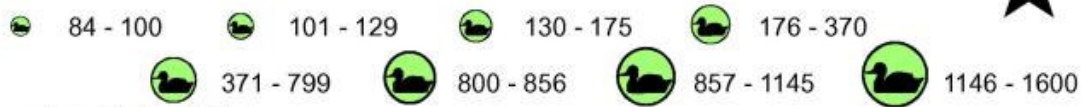
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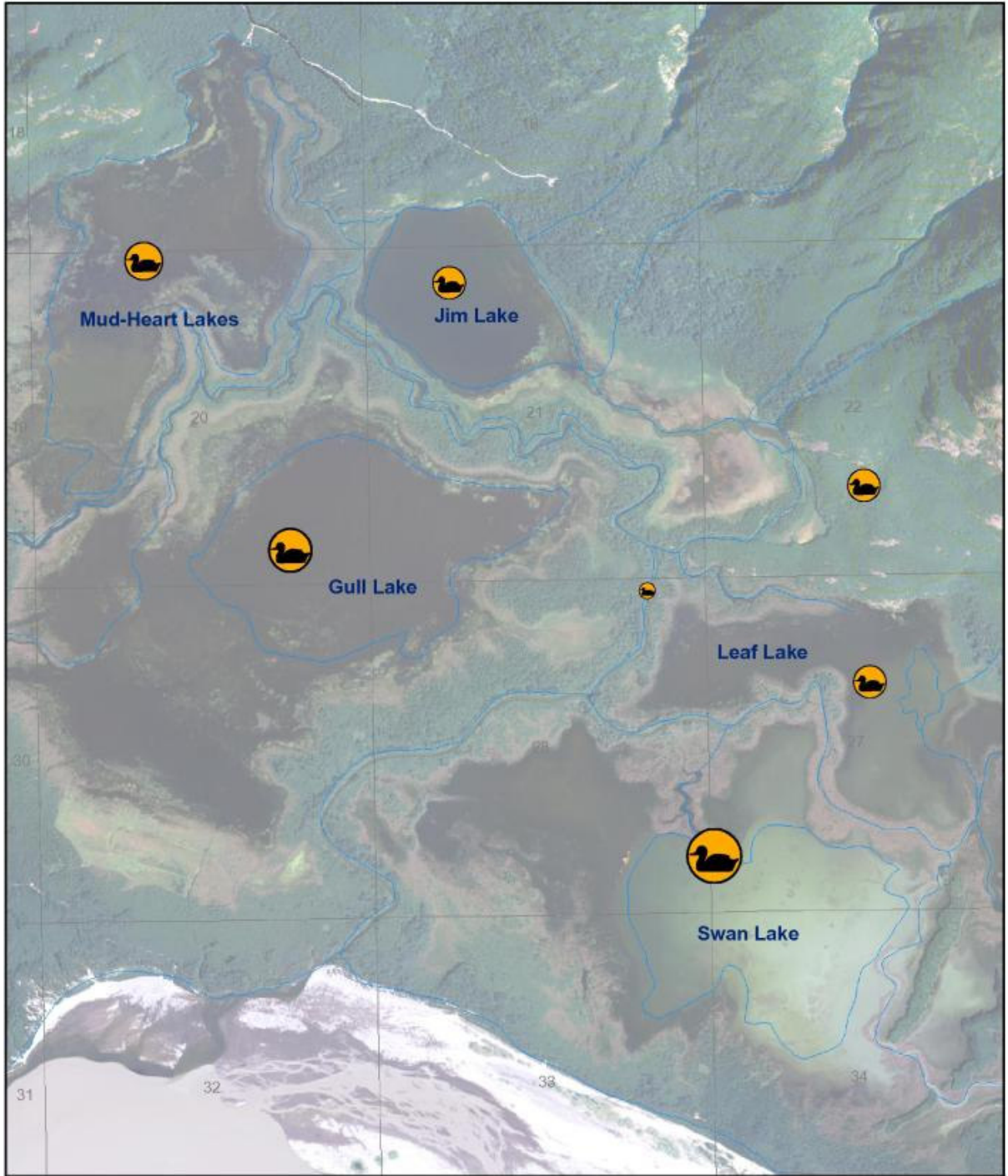


OBSERVED WATERFOWL (2005)

1 Miles

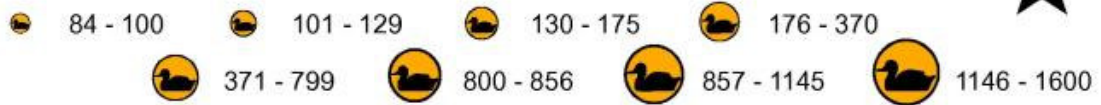


Mapmakers Alaska 2007



OBSERVED WATERFOWL (2006)

1 Miles



Mapmakers Alaska 2007

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INTRODUCTION

This report presents water bird survey data collected during the spring of 2005 and 2006 in the Jim-Swan wetland complex (also called the Jim Creek Basin) in South Central Alaska. The wetlands cover 7,600 acres between the Knik River to the south, the Chugach Mountains to the north and Knik Glacier and Lake George to the east. The survey area covered approximately 2,173 acres of the total wetland complex.

The Knik River Watershed Group (KRWG) wanted to obtain current baseline data to provide a general picture of water bird use in the wetlands complex. Existing data was limited and showed varying results. A survey in early June 1975 reported 1,980 ducks (Timm 1975). The 1981 Knik Arm Wetlands Study reported two aerial surveys of Jim-Swan Lakes with 136 waterfowl noted in mid April and 212 birds noted in mid October (Ritchie et.al., 1981)

William A. Quirk III, a pilot and biologist has flown the Jim-Swan area from 1998 to present, counting and recording swans from April to October each year. His data, showing counts of swans as high as 528 birds helped to establish the designation of the Jim Creek Basin as an Important Bird Area by the National Audubon Society in 2006. The lack of recent comprehensive survey data of all water bird populations in the area provided the impetus for these studies.

The grant proposal stated that migratory, breeding and brood surveys would be conducted in 2005. This original outline was modified after talking with Tom Rothe, waterfowl coordinator, from Alaska Department of Fish and Game (ADF&G). Migratory and breeding surveys were considered to be the most useful surveys. Brood surveys would require invasive travel into waterfowl 'nurseries' and could result in flushing birds off nests or sending broods into the open thus increasing the risk of family separation, predation or death from exposure (Korschgen, Dahlgren 1992). The grant was extended for a year resulting in a second survey season in 2006.

METHODS

Tom Rothe provided guidance to develop survey protocols, identify survey routes and prepare survey record sheets. Tom Rothe and Mike Petrula, also with ADF&G, participated on the first survey and instructed volunteer survey teams on data collection and use of the data form. Tom participated in two, and Mike participated in four of the 2005 surveys. The 2006 survey was an all volunteer effort.

Surveys were conducted weekly beginning at 7:30 a.m. on Tuesdays. A mid-week day was selected because there was a reduced chance of disturbance by other users. If disturbed, the birds were likely to fly from one survey area to another or within the survey area making accurate surveying difficult. In 2005, the first survey occurred on May 3; four surveys occurred in May and an additional survey was conducted on June 10. In 2006, the first survey occurred on May 9 and a total of four surveys were conducted. Not all survey routes were covered each survey date in 2006 due to a lack of volunteers.

Each volunteer survey team consisted of at least one person experienced in identifying water birds and a recorder/paddler. Many of the volunteers were birders, members of Mat-Su Birders and/or waterfowl hunters. Teams received a map, an aerial photo of their survey route, and field data forms (Figure 1). Each team had at least one pair of binoculars, a spotting scope and a hand-held radio to communicate with other teams, primarily to report birds in flight to reduce the risk of double-counting. In 2006, teams were equipped with less effective cell phones instead of radios.

The primary goal of the survey was to identify water bird species and record species as they occurred in pairs, singles (male or female) and groups as shown on the field data form. Other observations such as raptors, seabirds, small birds and wildlife were noted but were not part of the official survey. Each team canoed or hiked their designated survey route, identifying birds and recording data, being careful to avoid disturbing birds when possible. Specific survey points from shoreline were also utilized to minimize disturbance and to improve survey consistency.

The following four survey routes were identified to maximize the area that could be surveyed in a 6-8 hour day. They included the large permanent lakes easily accessible by canoe and one ground survey route. The resulting total survey area covered included approximately 2,173 acres or about one third of the wetland complex.

One route traveled from Mud Lake to Heart Lake to the western edge of Gull Lake by the duck blinds and then into Jim Creek to the Jim Lake Portage.

A second route surveyed Jim Lake. After surveying the lake, the team crossed the portage into Jim Creek, canoed a short distance across the creek to a foot trail, landed and walked to a survey point at the eastern edge of Gull Lake where they surveyed the lake.

A third team crossed Jim Lake and portaged to Jim Creek. The team surveyed the creek from the portage to Swan Lake, and Swan Lake. If there was time, and sufficient water levels, the crew also surveyed Leaf Lake.

A fourth crew hiked 2.5 miles on the Rippy Trail to Lower Chain Lake (also known as Flint Lake), a small productive lake directly at the base of the mountains. Access to Lower Chain Lake by canoe would have flushed the birds. The crew also recorded data on water birds observed en route to the lake, primarily from two viewpoints of small unnamed water bodies not covered by other survey routes.

The Swan Lake and Rippy Trail teams had the longest routes and generally returned to the starting point by 3:30-4:00 p.m. Survey forms were turned into the survey coordinator and entered into a computer.

RESULTS AND DISCUSSION

The following results represent data collected on a specific date and do not indicate a high or low number of birds. Complete data are stored and available in ArcGIS. An ArcGIS DVD with user guide has been submitted to the US Fish and Wildlife Service and Alaska Department of Natural Resources.

Table 1 illustrates survey areas and dates, and variations that occurred with some surveys. The relatively small numbers of water birds observed in the creek sections of a survey route were often included with the data for the primary lake on the survey route. On five days, low water levels or time limitations prevented the Swan Lake team from surveying Leaf Lake. Lack of volunteers and time constraints prevented surveys from being conducted on the Creek from Mud to Portage, Mud and heart Lakes and the Rippy Trail routes.

DATE	Creek (Mud to Portage)	Creek (Portage to Swan)	Gull	Jim	Leaf	Mud-Heart	Rippy (Chain)	Swan
05/03/05	x ¹	x ²	x	x ¹	—	x	x	x
05/10/05	x	x	x	x	-	x	x	x
05/17/05	x	x	x	x	x	x	x	x
05/24/05	x ³	x	x	x	-	x	x	x
06/10/05	x	x	x	x	x	x	x	x
05/09/06	x ¹	x ²	x	x	x	x	x	x
05/16/06	-	x ²	x	x	x	x	x	x
05/23/06	x ¹	x ²	x	x	-	x	-	x
5/31/2006	-	x ²	x	x ⁴	—	—	—	x
COMMENTS	1) Data included with Mud-Heart Lakes. 2) Data included with Swan Lake. 3) Data included with Jim Lake. 4) Data included with Gull Lake.							

The totals for each species observed on each survey date and the percentage of total birds each species represents are found in Table 2. In 2005, the high count inclusive of all water birds except cranes occurred on May 17 with 1,238 total birds. In 2006; the high count occurred on May 9 with 1,507 total birds.

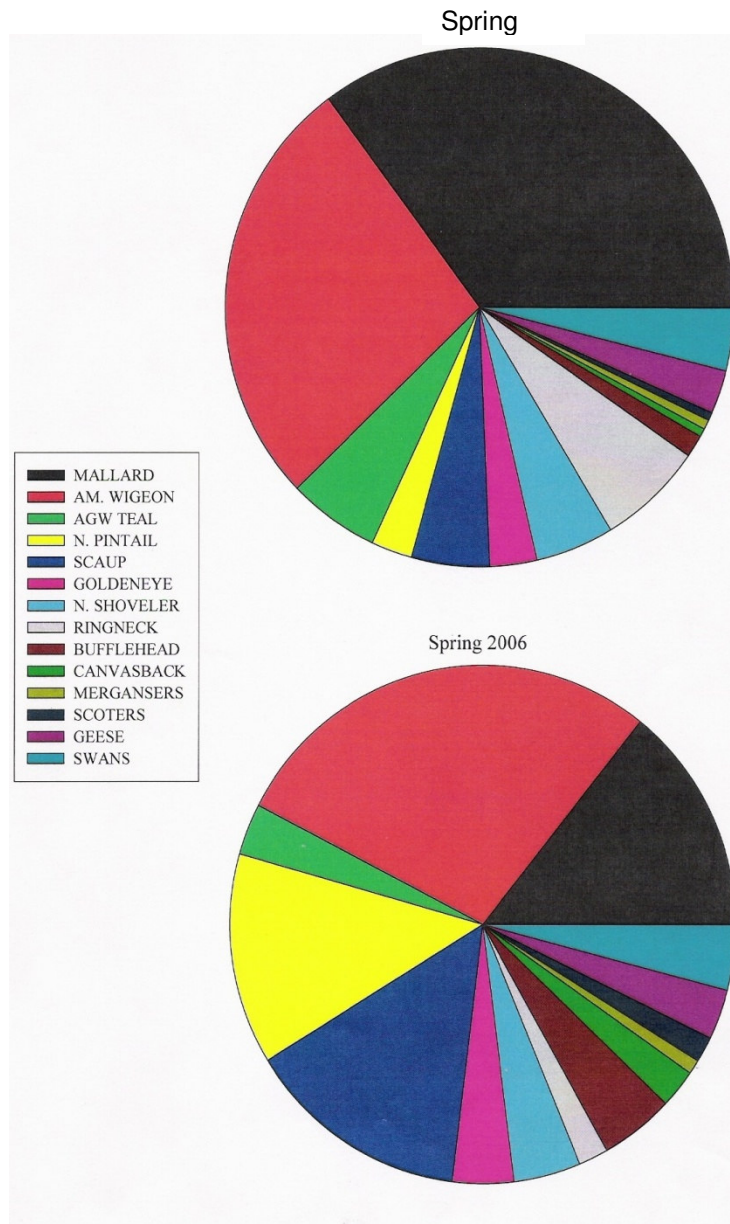
Table 2: Total Species By Survey Date and Percent of Total

SPECIES	2005							2006					
	5/3	5/10	5/17	5/24	6/10	Total	%	5/9	5/16	5/23	5/31	Total	%
C Loon	2	3	3	2	4	14	0.4%	3	2	1	2	8	0.2%
Pacific Loon	0	0	0	2	3	5	0.1%	0	3	2	2	7	0.2%
Horned Grebe	0	10	10	0	0	20	0.5%	47	18	9	0	74	2.0%
RN Grebe	91	76	165	59	71	462	11.7%	41	162	89	60	352	9.4%
Tundra Swan	26	0	0	0	0	26	0.7%	0	5	0	0	5	0.1%
Trumpeter Swan	19	38	18	10	21	106	2.7%	57	60	6	6	129	3.5%
G WF Goose	5	0	2	0	0	7	0.2%	0	19	0	0	19	0.5%
Canada Goose	15	16	41	2	11	85	2.2%	47	9	22	6	84	2.2%
N Pintail	29	19	34	6	1	89	2.3%	335	66	23	8	432	11.6%
Mallard	264	245	396	205	90	1200	30.5%	114	155	135	67	471	12.6%
Am Wigeon	156	206	249	243	71	925	23.5%	316	307	205	95	923	24.7%
Eu Wigeon	0	0	0	1	0	1	0.0%	0	0	0	0	0	0.0%
N Shoveler	35	57	63	15	2	172	4.4%	32	65	22	23	142	3.8%
BW Teal	0	0	0	1	0	1	0.0%	0	0	0	0	0	0.0%
GW Teal	42	18	74	55	10	199	5.1%	13	33	37	22	105	2.8%
Canvasback	9	4	1	2	0	16	0.4%	44	6	15	14	79	2.1%
Redhead	1	1	0	15	0	17	0.4%	0	0	0	0	0	0.0%
Ring-necked	7	32	50	70	71	230	5.8%	10	10	19	25	64	1.7%
Scaup	8	32	86	38	6	170	4.3%	81	279	44	65	469	12.6%
Long-tailed Duck	0	0	0	0	0	0	0.0%	0	9	0	0	9	0.2%
Bufflehead	6	18	23	1	0	48	1.2%	73	58	14	9	154	4.1%
S Scoter	0	0	0	0	0	0	0.0%	0	50	2	0	52	1.4%
B Scoter	0	0	0	1	0	1	0.0%	0	0	0	0	0	0.0%
WW Scoter	0	0	0	15	0	15	0.4%	0	0	0	0	0	0.0%
B Goldeneye	38	40	12	4	0	94	2.4%	73	21	11	6	111	3.0%
C Goldeneye	7	0	2	0	1	10	0.3%	13	2	0	2	17	0.5%
C Merganser	6	2	7	2	0	17	0.4%	21	3	4	0	28	0.7%
RB Merganser	4	0	0	0	0	4	0.1%	0	0	0	0	0	0.0%
TOTAL	770	817	1236	749	362	3934	100.0%	1320	1342	660	412	3734	100.0%
Unidentified Ducks	0	22	2	9	58	91	2.3%	187	64	189	0	440	10.5%

Unidentified ducks represent birds that observers saw but were unable to identify because birds were backlit by sun, birds were too far away, or vision was distorted from mirage. Unidentified ducks are included in figures and tables used in this report unless noted otherwise.

Total species composition for each year is shown in Figure 2.

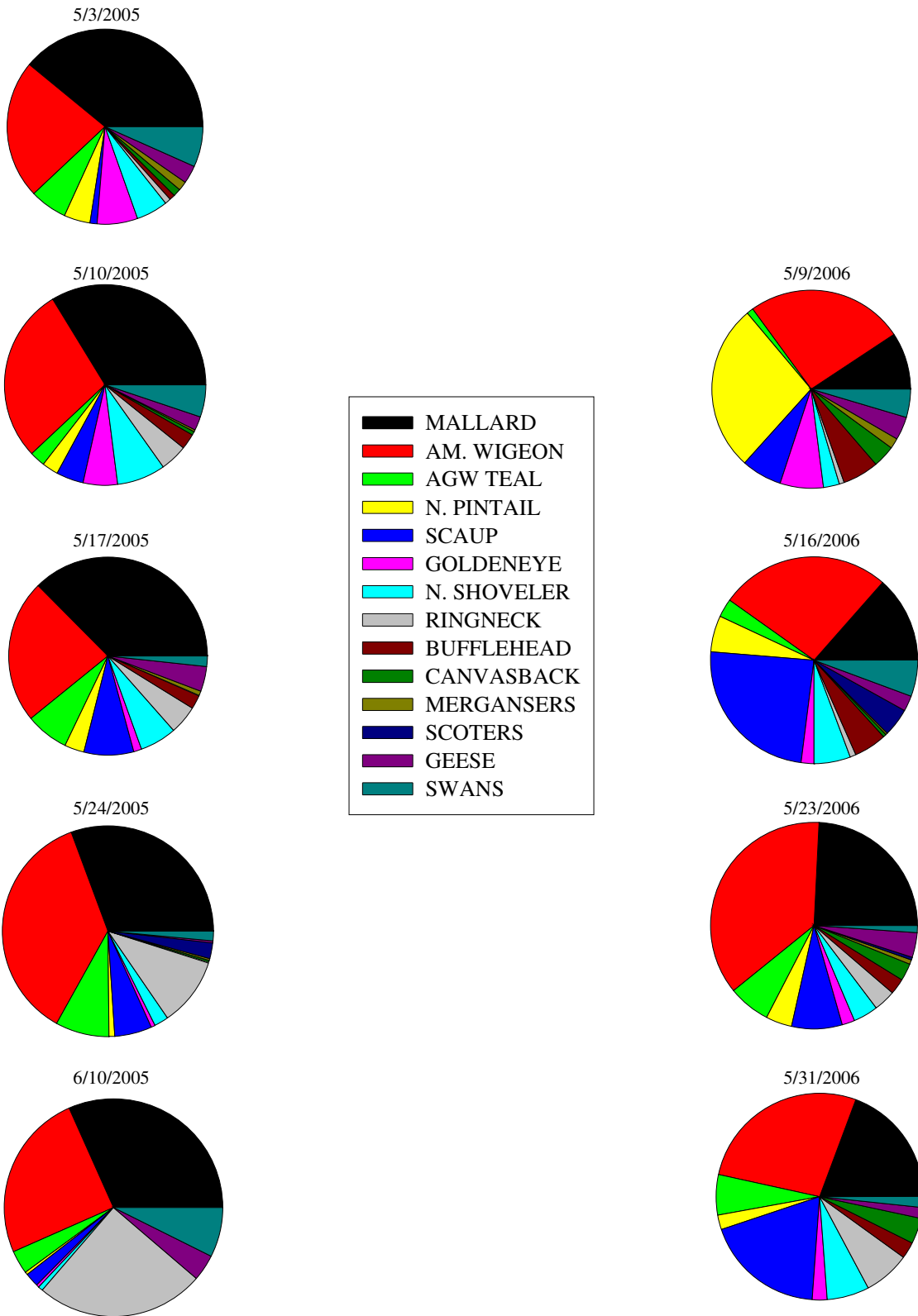
Figure 2: Total Species Composition



American widgeon and mallards were common species both years. In 2006, pintails and scaup occurred in greater proportion than in 2005.

Overall species composition varied by survey date each season as shown in Figure 3. Higher northern pintail numbers occurred early in 2006 which suggests pintails used the area primarily for migratory staging. Ring-necked duck numbers increased as the seasons progressed.

Figure 3: Species Composition by Survey Date



Water birds were also recorded as occurring in pairs, single birds or grouped birds. A pair indicates a clearly paired male and female. Single ducks observed during nesting season were almost always males and their presence is considered an 'indicated pair'. Grouped birds were multiples not distinguishable as being part of a pair. Table 3 shows totals by pairs, singles and groups. Cranes and unidentified ducks are not included.

Date	Pairs	Singles	Grouped
5/3/05	242	138	151
5/10/05	289	197	47
5/17/05	383	445	26
5/24/05	186	304	73
6/10/05	66	199	35
5/9/06	370	475	107
5/16/06	278	753	34
5/23/06	197	236	34
5/31/06	123	149	17

Another way to look at the data is to consider types of water birds that generally have similar feeding strategies, food requirements or general habitat preferences. For example, dabbling ducks, also known as puddle ducks, typically feed at or near the water's surface and divers typically dive and often feed well below the water's surface. For this report, species included in each type, and the relative frequency that species were observed, are shown in Table 4. Unidentified ducks and red-necked phalarope are not included in this table and subsequent type discussions.

Table 4: Water Bird Types and Frequency of Occurrence

<u>Regularly observed</u>	<u>Infrequently observed and in very low numbers</u>
SECTION A: DABBLING DUCKS	
American Wigeon	Blue-winged Teal
Green-winged Teal	Eurasian Wigeon
Mallard	
Northern Pintail	
Northern Shoveler	
SECTION B: DIVING DUCKS	
Barrow's Goldeneye	Long-tailed Duck
Bufflehead	Red-breasted Merganser
Canvasback	Redhead
Common Goldeneye	
Ring-necked Scaup	
Common Merganser	
Black Scoter	
Surf Scooter	
White-winged Scooter	
SECTION C: LOONS, GREBES, & CRANES	
Common Loon	
Pacific Loon	
Horned Grebe	
Red-necked Grebe	
Sandhill Crane	
SECTION D: SWANS & GEESE	
Trumpeter Swan	White-fronted Goose
Tundra Swan	
Canada Goose	

Distribution of birds by type in individual survey areas for each survey year is shown in Table 5.

Table 5: Type Composition by Area (Percentage)

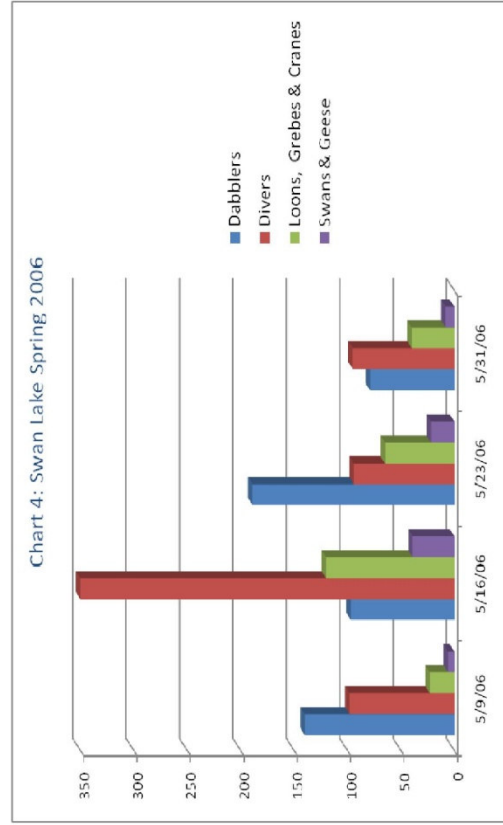
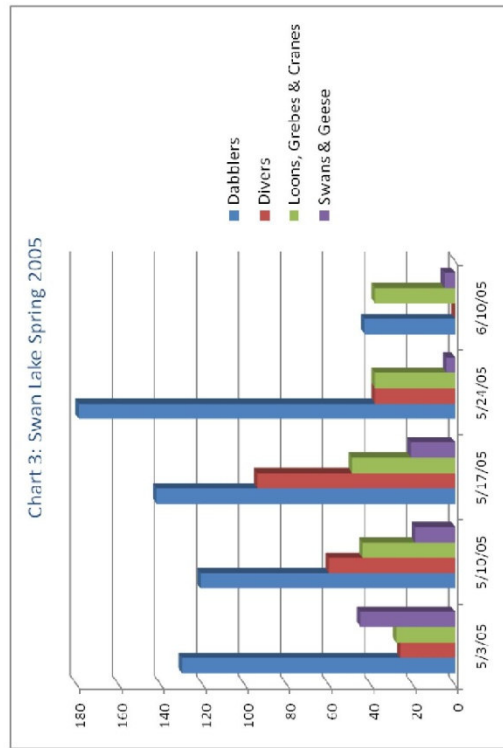
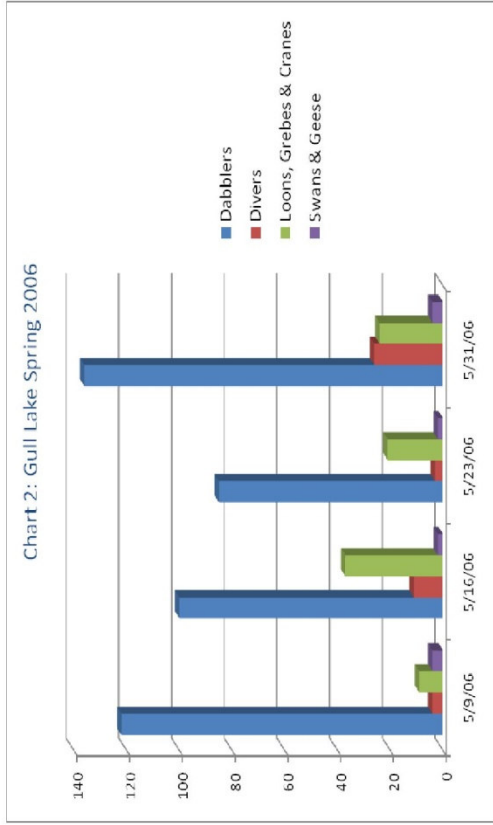
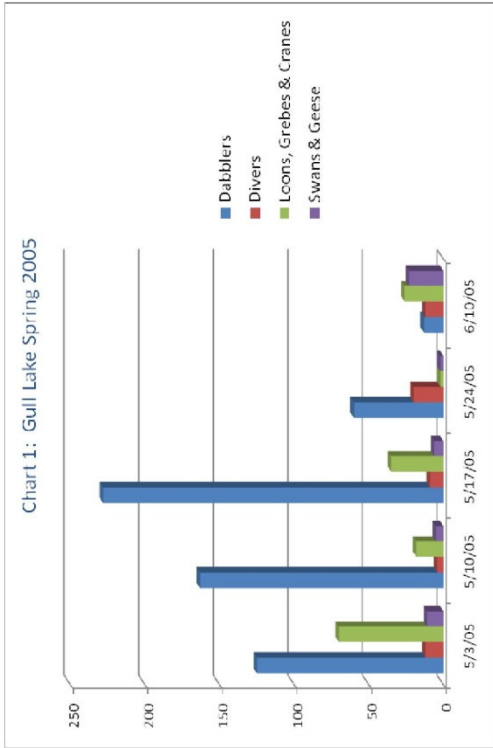
TYPE	GULL		SWAN		MUD		JIM		RIPPY		LEAF	
	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006
Dabblers	70%	75	55	34	64	72	45	35	80	70	50	79
Divers	7	7	19	43	26	20	21	30	12	4	5	15
Loons, Grebes, Cranes	18	15	18	17	5	4	33	30	4	0	29	2
Swans, Geese	6	2	8	5	4	3	1	6	4	26	16	4

Of the total area surveyed in 2005, the combined water bird population, excluding unidentified ducks consisted of 65% dabblers, 15% divers, 14% loons, grebes and cranes, and 6% swans and geese. In 2006, the population consisted of 56% dabblers, 26% divers, 12% loons, grebes and cranes and 6% swans and geese.

The following 12 charts also show the composition of waterfowl types by survey area. Note the scales used in the charts vary depending upon the number of birds in the area. The charts may suggest lake preferences by different types, however, more data is needed to confirm preferences. Variables such as lake size, water level, preferred food availability, cover, predation, and disturbance could affect water bird site preferences.

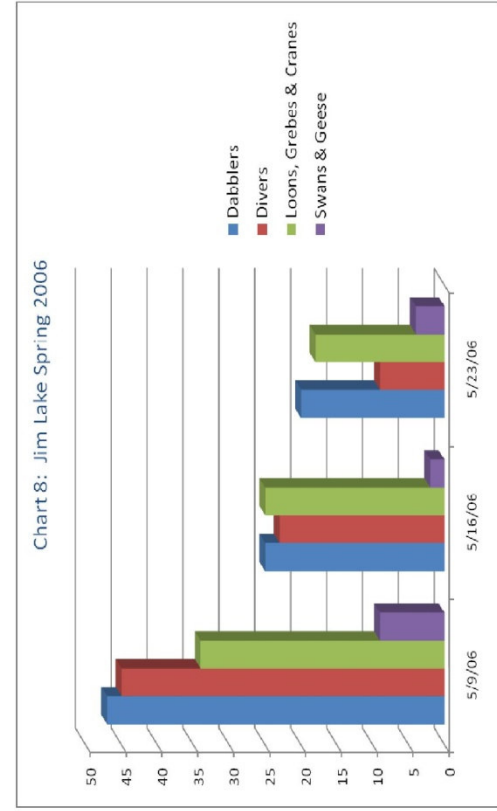
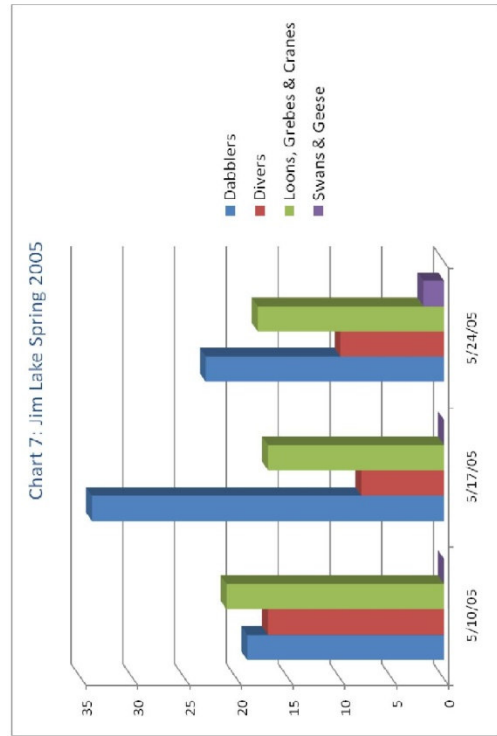
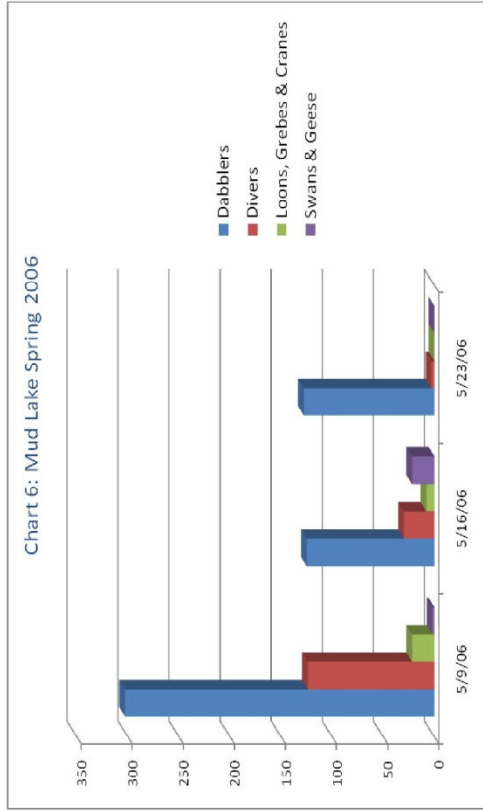
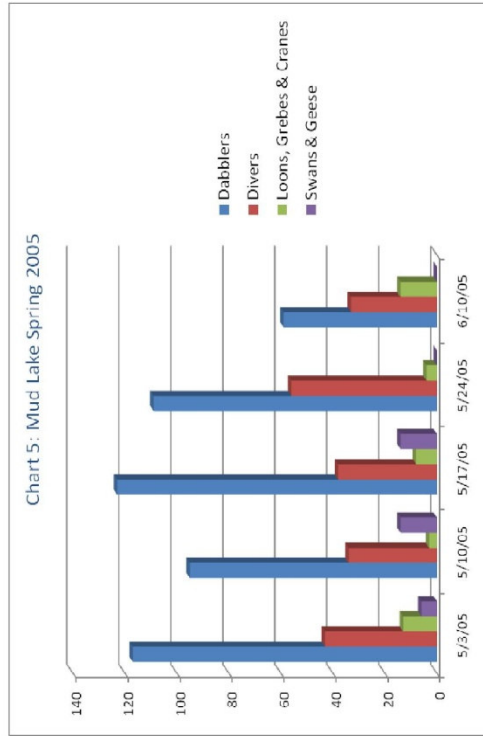
Lake levels in the Jim-Swan wetland complex fluctuate annually depending upon weather events within the Knik River Watershed. Rainfall, snowfall, and temperatures that influence the melting of the glaciers affect water levels. In 2006 it was generally noted that the water levels increased nearly 2 feet over the course of the summer.

COMPOSITION OF WATERFOWL GROUPS BY SURVEY AREA



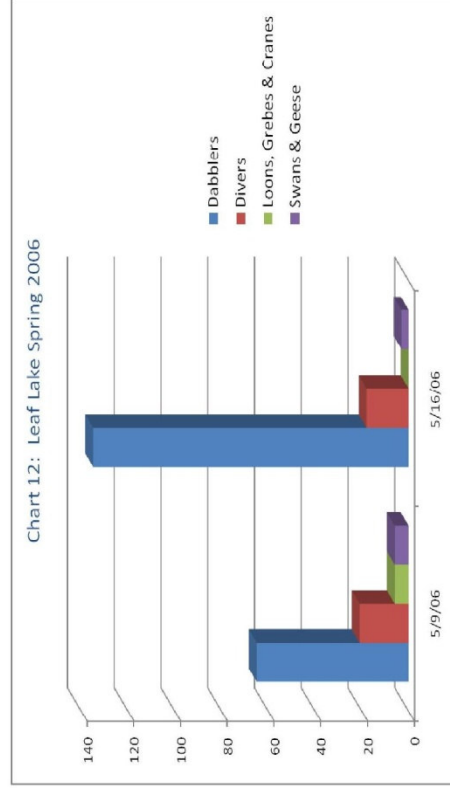
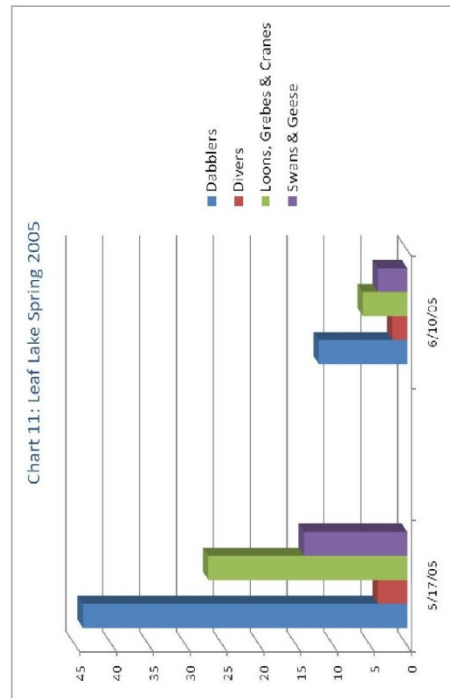
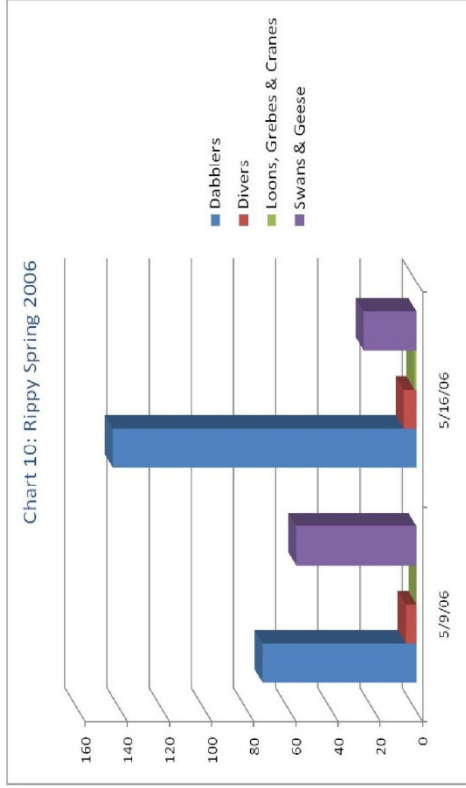
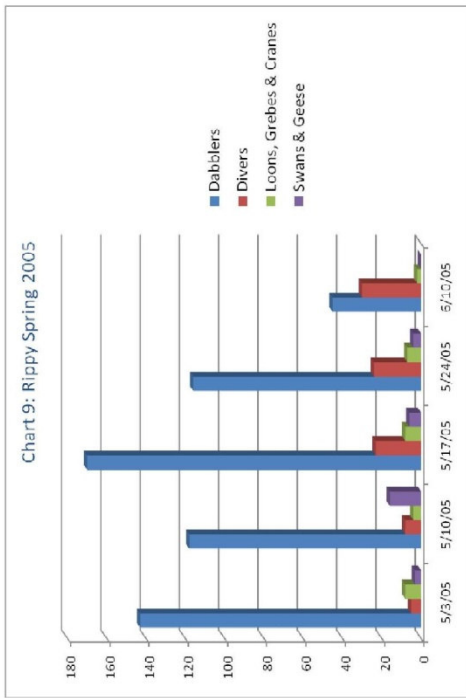
Note changes in scale between charts

COMPOSITION OF WATERFOWL GROUPS BY SURVEY AREA (2)



Note changes in scale between charts

COMPOSITION OF WATERFOWL GROUPS BY SURVEY AREA (3)



Note changes in scale between charts

Dabbling Ducks

Dabbling ducks are the most common type of water bird in the Jim-Swan wetlands complex. The heaviest concentrations of dabblers occurred in Gull, Lower Chain and Leaf Lakes. Dabbler counts through mid May averaged 629 in 2005 and 718 in 2006. Dabbler species composition for the two years combined was American wigeon 39%, mallard 36%, northern pintail 11%, and green-winged teal and northern shoveler at 7% each. The northern pintail is declining in North America and it is a species of conservation interest. (CWS and USFWS 2004).

On 5/17/05, there were an estimated 524 dabbling duck nesting pairs (includes indicated pairs) and on 5/16/06 an estimated 452 nesting pairs.

Comparisons of the KRWG data to other survey data requires careful interpretation due to varying survey methods, scope of survey, and the timing of surveys. Regional comparisons generally covered much larger areas including prime habitat and less valuable habitat, whereas the 2005-2006 surveys focused on what were generally considered to be prime habitat. Density evaluations provide an overall picture of the occurrence of water birds in the Jim-Swan wetland ecosystem and a general assessment of the habitat value for breeding water birds.

The average density of dabbling ducks in the May 2005 KRWG surveys was 177 ducks/mi² with a peak of 240 ducks/mi² on May 17. The estimated total survey area is 3.4 mi².

Aerial ADF&G surveys of a 14 square mile area of the Knik River basin (Timm 6/2/1975, 5/25/1976) indicated dabbling ducks densities of 124.4 ducks/mi² and 78.4 ducks/mi² respectively. The ADF&G Cook Inlet 1975 and 1976 surveys including eight other large coastal marshes of Cook Inlet indicated a dabbling duck density of 69.3/mi². USFWS annual Alaska-Yukon Waterfowl Breeding Population surveys of the Kenai-Susitna region covering 2200 mi² (Conant and Mallek 2006) showed average dabbling duck densities of 27/mi². Density comparisons indicate that Jim-Swan dabbling duck densities are higher than the regional average.

Diving Ducks

Diving ducks comprised 16 percent of the water birds in 2005 and 26 percent in 2006 with the highest densities occurring in Swan, Jim and Mud Lakes. Diver counts through May averaged 135 birds in 2005 and 246 birds in 2006. On 5/16/06 divers outnumbered dabblers on Swan Lake constituting 58% of total waterfowl including: 232 Scaup; 50 Surf Scoter; 48 Bufflehead; 9 Long-tailed Duck; 6 Canvasback; 3 Common Merganser; and 2 Barrow's Goldeneye. Of the total survey area on that date, divers represented 33% (415), dabblers 47% (601), loons, grebes and cranes 13% (166) and swans and geese were 7% (91). Species composition for 2005-2006 combined was scaup 41%, ring-necked duck 18%, Goldeneye 14%, bufflehead 13%,

canvasback 6% with scoters, mergansers, redheads and long-tailed ducks comprised the remaining 8%. Scaup are a species in decline and are of conservation interest (NAWMP 2004).

Diving ducks breed and nest later than dabbling ducks; the May surveys and one early June survey may not be good indicators of resident nesting pairs. By the end of the survey periods there were an estimated 54 diving duck nesting pairs on 6/10/05 and an estimated 88 nesting pairs on 5/31/06.

The average density of diving ducks in 2005, including only scaup, ring-neck and canvasback, in 2005 was 30 divers/mi², with the peak occurring on May 17 (40 divers/mi².) The ADF&G surveys in 1975 and 1976 indicated diving ducks densities of 17 ducks/mi² and 50 ducks/mi² respectively. The ADF&G Cook Inlet 1975 and 1976 surveys of other coastal marshes of Cook Inlet show an indicated average diving duck density of 10/mi². USFWS Kenai-Susitna region surveys show average diving duck densities of 7.4/mi².

Diving duck density comparisons indicate that Jim-Swan had higher densities than the Kenai-Susitna region and other coastal areas of Cook Inlet and are similar to the averages for the 1975 and 1976 ADF&G surveys of the Knik River basin.

Scaup and canvasbacks were the only species of diving ducks observed during the ADF&G surveys in 1975 and 1976. Long-tailed ducks and all three species of scoters (generally considered sea ducks) are also in decline. Their historic occurrence in the Jim-Swan system is unknown and they were observed infrequently and in low numbers during the 2005 and 2006 KRWG surveys. Regionally, sea ducks occur in small numbers.

Grebes and Loons and Cranes

Common loons have previously nested on Jim Lake and continue to do so. Observers and survey crews observed a nesting pair in 2005 and 2006 but did not see loon chicks either year.

In 2006, Pacific loons were noted on Swan Lake: three on May 16, and a pair were seen on May 23 and 31, suggesting that a pair may be nesting on Swan Lake. The only other Pacific loons recorded were a pair on Gull Lake on 5/24/05 and three on 6/10/05 at Mud-Heart Lake. Alaska population trends for Common and Pacific Loons are approximately stable. (Groves et al. 1996)

Red-necked grebes were the prominent grebe species observed throughout the survey period in all areas. Horned grebes were observed occasionally in relatively small numbers.

Red-necked grebes represented 12% of water birds in 2005 and 9% in 2006 with the highest counts occurring on 5/17/05 of 165 and 5/16/06 of 162. A survey crew noted eight red-necked grebe nests at Gull Lake on 6/10/05. Annual aerial surveys from 1988 to 1998 in the coastal Yukon Delta National Wildlife Refuge indicate a decline in breeding red-necked grebes (R. Platte, USFWS pers. Comm/ADF&G 2006).

Conservation issues for grebes and loons include but are not limited to: vulnerability to direct human disturbance at nest and brood sites; vulnerability to contaminants and/or lead poisoning; and invasive and introduced fish (ADF&G 2006).

Sandhill Cranes occurred in relatively low numbers throughout the survey period. This is consistent with anecdotal reports from bird watchers of small numbers of cranes present throughout the summer months.

Swans and Geese

Trumpeter swans were present throughout the survey period and present every survey day on Gull, Swan and Lower Chain Lakes as shown on Table 6. The distribution of swans suggests preferences for different lakes at different times. Quirk’s aerial survey data, (1998-2006) showed similar patterns. The 2005 and 2006 Jim-Swan surveys occurred after the peak of spring swan migration. The Knik River is a swan migration corridor and spring-fed water bodies in the Jim-Swan system often offer the only open water areas in early spring and late fall for migrants.

AREA	5/3/06	5/10/05	5/17/05	5/24/05	6/10/05	5/9/06	5/16/06	5/23/06	5/31/06
Mud-Heart	6	11	4	0	0	2	10	0	-
Gull	3	2	2	2	12	4	2	2	4
Jim	-	0	0	0	-	9	2	2	-
Swan	8	11	2	4	5	0	25	2	2
Rippy	2	14	3	4	0	42	21	-	-
Leaf	-	-	7	-	-	0	0	-	-
Total	19	38	18	10	17	57	60	6	6

In 2005, survey crews reported that a pair of trumpeters nested at Gull Lake and produced eight cygnets. The family of ten was reported throughout the season. In 2006, survey crews observed a pair of trumpeter swans at the Gull Lake nest. Three cygnets hatched but were not seen in subsequent visits.

Aerial surveys reported five pairs of swans in 2002 and 10 cygnets; in 2003 four pairs of swans and 7 cygnets; in 2004 five pairs of swans and 8 cygnets (Quirk 1998-2006). The Alaska trumpeter swan population has increased 38% since 2000 (USFWS 2005). As the trumpeter population increases, they require new nesting areas. Large lakes such as several found in the Jim-Swan ecosystem offer suitable habitat for trumpeters to nest and raise broods.

Factors known to contribute to swan nesting failure and population decline include mortality from lead poisoning and disturbance from human recreation. The Trumpeter Swan Society

reports that 400 swans died in winter 2004-2005 from lead poisoning along the Washington State and British Columbia border. Skeet shooting and target shooting using lead shot is a popular activity in the Jim-Swan area. Clay pigeons and shells are frequently found along the shores and in the waters of Mud and Jim Lakes.

Boating is also a popular recreation in the Jim-Swan wetland complex including airboats, motorboats and canoes. A companion report to this bird survey report, *Wetlands Damage Assessment* documents numerous recreational trails across all the water bodies and wetlands. Numerous studies have examined the effects and type of human disturbance on water birds species. Disturbance often causes birds to take flight resulting in reduced foraging time increased energy expenditure and increased exposure to predation. Disturbance has also resulted in abandoned nests, reduced number of breeding pairs and decreased clutch size. Disturbance when chicks are present has resulted in permanent separation of families and decreased duckling survival. (Rodgers, J.A., Schwikert S.T. 2003) (Mathews, G.V.T. 1982). Swans are especially sensitive. "Swans are very sensitive to disturbance and may have an unsuccessful breeding season if high levels of human activity occur near their chosen nesting site" (Rosenberg and Rothe 1994).

Few tundra swans, white-fronted and Canada geese have been observed in the Jim Swan wetlands. Tundra swans were observed on only two survey days with 26 seen on 5/5/05 and 5 on 5/16/06. Canada geese were observed on all survey days in low numbers with yearly high counts occurring on 5/17/05 (41) and 5/9/06 (47). White-fronted geese were observed on only three survey days with a two year high count occurring on 5/16/06 (19). Previously the Knik River basin has not attracted large numbers of staging geese.

Non Water Bird Observations

Other notable species observed during the surveys included:

<u>Raptors</u>	<u>Shorebirds/Waders</u>	<u>Seabirds</u>	<u>Other</u>
Bald Eagle	Lesser & Greater Yellowlegs	Gull (sp)	Belted Kingfisher
N Harrier	Semi-palmated Plover	Arctic Tern	Northern Shrike
Red-tailed Hawk	Spotted Sandpiper		Hairy Woodpecker
N Goshawk	Hudsonian Godwit		Gray Jay
Sharp-shinned Hawk	Dowitcher (sp)		Rusty Blackbird
Osprey	Wilson's Snipe		Lincoln's Sparrow
Merlin			Song Sparrow
Great Horned Owl			

Based on anecdotal reports from visitors to the area, local bird watchers, and members of Mat-Su Birders, a wild bird club, over 120 bird species occur in the Jim-Swan Wetland Complex. A companion document to this report is *The Birds of Jim-Swan, a checklist*. Birders have reported that a few Species of Special Concern occur in Jim-Swan area including nesting rusty blackbirds, olive-sided flycatcher, and Townsend's warbler (ADF&G 1998). Jim-Swan wetlands are the northern most song sparrow nesting area on the continent (Arcese et.al).

CONCLUSIONS

The limited scope of these surveys, the inexact nature and timing of wild bird habits, migration and breeding, and the difficulties of finding and identifying the maximum number of birds with minimal disturbance, limit the conclusions that can be made regarding long term trends of water birds in the survey area. Ongoing monitoring is the only means of determining long term trends.

In 1976, Timm observed that the high density of ducks in the Jim-Swan Lakes area “exceeds duck densities on some of the best prairie pothole habitat in Canada and the Midwest”. The 2005-2006 KRWG survey data indicate high density use by dabbling and diving ducks.

The success of loon and trumpeter swan nesting and brood-rearing in Jim-Swan is unknown. Recent data indicates reason for concern. Also, there are regional and national declines in populations of a few species that occur in the area.

The Jim-Swan wetland complex is a unique area with exceptional habitat that supports high density water bird populations. Jim-Swan is within the Upper Cook Inlet, an Area of Continental Significance for waterfowl. (CWS, USFWS 2004). Surveys and anecdotal reports also indicate a wide diversity of land birds use the area.

RECOMMENDATIONS

A key consideration for management of the Jim-Swan wetland complex is to maintain and enhance the habitat and conditions that support healthy productive populations of migrating and nesting water birds. Numerous resources are available to assist responsible area managers in developing reasonable and strategic goals to achieve this management objective.

An excellent source describing the effects and types of activities that cause disturbance and suggested management considerations is U.S. Fish and Wildlife Leaflet 13.2.1.5. Human Disturbances of Waterfowl: Causes, Effects, and Management.

The ADF&G Alaska Comprehensive Wildlife Conservation Strategy contains detailed, species specific information on population trends, issues of concern and targeted conservation actions.

Suggested Management Strategies:

- Reduce human disturbance on lakes especially during staging, nesting and brood rearing.
- Eliminate the use of lead shot near water bodies.
- Conduct education and outreach.
- Partner with user and community organizations, bird conservation organizations and agencies to achieve conservation goals.
- Reduce/eliminate activities that lead to the degradation of habitat.

Monitoring and survey strategies in consultation with ADF&G and USF&WS may include:

- Monitoring of breeding and nesting water bird populations including trumpeter swans and loons.
- Water bird brood surveys.
- Land bird surveys focusing on Breeding Bird Surveys and/or species of conservation concern.

“Because outdoor enthusiasts rarely view themselves as having a degrading effect on the environment, special management activities are needed to ensure that avian biodiversity is maintained” (Hamann et.al. 1999)

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