

AERIAL SURVEY OF WINTERING PACIFIC BRANT AND OTHER WATERBIRDS ON AND ADJACENT TO THE IZEMBEEK NWR, ALASKA, 2008-09.

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Abstract: This report presents results of the 2008-09 winter survey for Pacific brant in the Izembek NWR area. The survey was flown on 2 February from Bechevin Bay to Moffet Bay, along the north side of the Alaska Peninsula and included Kinzarof Lagoon and Morzhovoi Bay on the south side of the peninsula. The Izembek NWR PA-18 (N745) was used and both front seat pilot/observer and back seat observer made observations. A total of 21,482 brant were observed. All waterbird and marine mammal species were counted with emperor geese and Steller's eiders totaling 3,528 and 7,003, respectively.

Key words: winter survey, Pacific brant, waterbirds, Izembek NWR, Alaska. February 2009

INTRODUCTION

Aerial surveys have been performed to estimate the size of the wintering population of Pacific brant near the Izembek NWR since 1980. Distribution, abundance, and population trends along with habitat use in relation to ice cover have been documented. Increasing numbers of wintering brant resulted in the inclusion of this over-wintering population in the annual Pacific Flyway mid-winter index beginning in 1986. Data from these surveys are used in conjunction with other winter Pacific brant surveys to provide the concurrent 3-year average used as the mid-winter index by the Pacific Flyway for management and regulatory purposes.

METHODS

The survey was flown using the Izembek NWR PA-18 (N745) at a ground speed of approximately 144 km/hr (80 kts) and an altitude of 45m (150 feet) ASL. The 2008-09 survey was flown on 2 February from Bechevin Bay to Moffet Bay along the north side of the Alaska Peninsula, including Kinzarof Lagoon and Morzhovoi Bay on the south side of the peninsula (Figure 1). Total flight time was 2 hours 43 minutes. Observations were made from both sides of the aircraft and voice recorded into cassette tape recorders.

A systematic meandering flight path was followed covering all open water areas within estuaries. Observations along open coastlines were restricted to within 1 km seaward of the beach. General observations of habitat and survey conditions including ice cover, wind speed and direction, temperature, sky condition, visibility, and tide stage were recorded en route.

SURVEY CONDITIONS

2 February:

Survey conditions were good with visibility >32 km (20 miles). The ceiling was a thin overcast

at approximately 1500 m (5000 ft). The winds were southerly and increased from 5 to 15 knots during the survey and the temperature ranged from 9 to 11° C (15-18° F). Ice cover in Izembek Lagoon survey segments was 85-100 percent while Pacific estuaries averaged approximately 80 percent.

RESULTS/DISCUSSION

Totals for all species observed during the survey are summarized by segment in Table 1.

Pacific Brant

A total of 21,482 Pacific brant was observed during the 2 February survey. Izembek Lagoon was over 95% ice covered and brant were found only in south Alaska Peninsula estuaries influenced by warmer Pacific Ocean water. Most brant were found in large flocks which did not relocate with multiple aircraft over-flights (probably due to extensive ice cover). This allowed for multiple observations of the large flocks resulting in high quality counts. Distribution by estuary was: Kinzarof Lagoon (segment 85) 4,110, Big Lagoon (Morzhovoi Bay, segment 80) 5,370, Hook Bay (Bechevin Bay, segment 67) 9,088, St. Catherine's Cove (Bechevin Bay, segment 68) 2,714. The 2009 count was 24% below the January 2008 estimate of 28,329 which was conducted when ice cover averaged less than 20 percent. The long-term trend in mid-winter index counts from 1980-2009 in the Izembek area (USFWS 2007, Izembek NWR files) indicates a 7.2%/year increase (Table 2 and Figure 2).

Emperor Goose

The total of 3,528 emperor geese observed during the 2 February survey was 22% below the 4,548 peak number observed in January 2008 (Izembek NWR files). As with brant, most emperor geese were observed in south Alaska Peninsula estuaries as follows: Kinzarof Lagoon (segment 85) 165, Big Lagoon (Morzhovoi Bay, segment 80) 1,455, Hook Bay (Bechevin Bay, segment 67) 86, St. Catherine's Cove (Bechevin Bay, segment 68) 1,036. The reduced number of emperor geese observed in 2009 was probably attributable to more severe ice conditions encountered.

Steller's Eider

We observed a total of 7,003 Steller's eiders during the 2 February brant survey, 56% below the 2008 peak count of 16,010 (Izembek NWR files). Ice cover, moderate in 2008 and severe in 2009, probably reduced the numbers of Steller's eiders present this year. The 2009 count was 72% below the 1980-2009 average winter count of 24,947. Long-term averages indicate a slow decline of 1.5%/year (Figure 3, Izembek NWR files).

RECOMMENDATIONS

Winter inventories of brant in the Izembek area should be continued due to concern over diminished numbers of the Pacific population overall and the increasing trend in numbers wintering in Alaska. Replicate Izembek surveys during periods of variable ice conditions are

encouraged to document habitat use as well as population size. Distribution patterns observed during winter surveys suggest birds are concentrated and more sedentary than in the fall. It is unknown to what extent concentrated winter foraging in areas that are also heavily utilized during fall is impacting eelgrass habitats. An additional concern is that south side Alaska Peninsula estuaries, essential to the increasing population of brant and other waterbirds and marine mammals, are state tidelands without special designation or protection. It would be beneficial if the Service would consider encouraging the Alaska Department of Fish and Game to consider State Critical Habitat or State Game Refuge designation for Kinzarof Lagoon, Morzohovoi Bay (Big, Middle, and Little lagoons), and Bechevin Bay (Hook Bay and St. Catherine's Cove).

ACKNOWLEDGMENTS

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REFERENCES

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Figure 1. Map of Pacific brant survey area by segment in the Izembek NWR area, 2 February 2009.

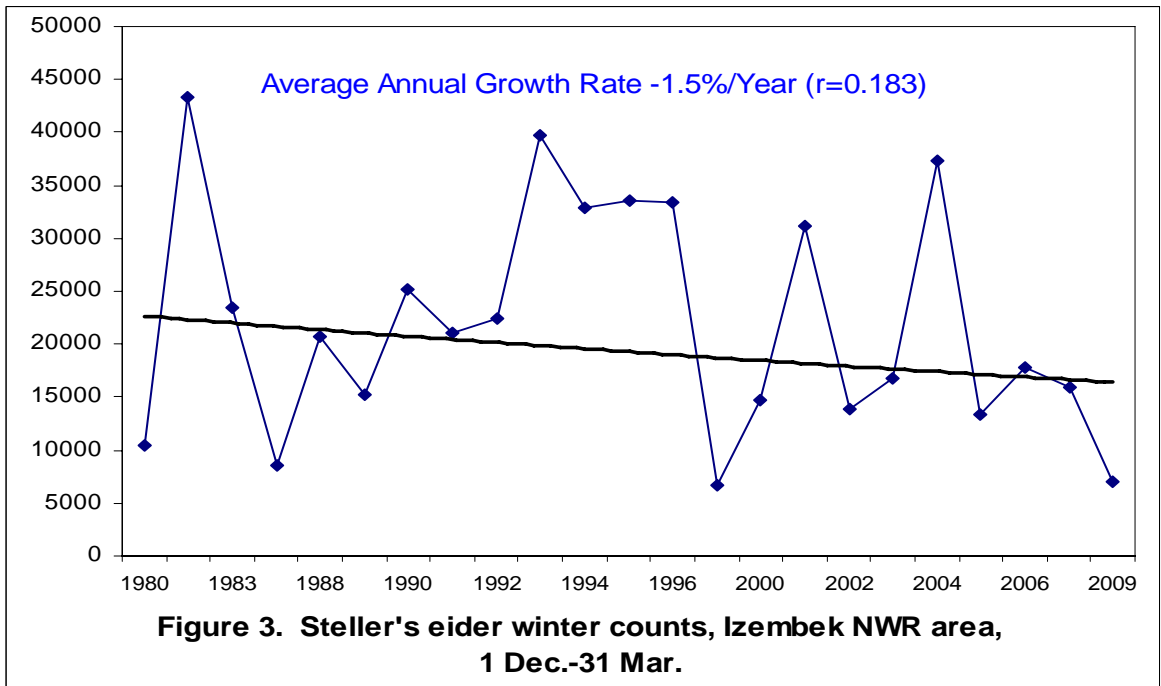
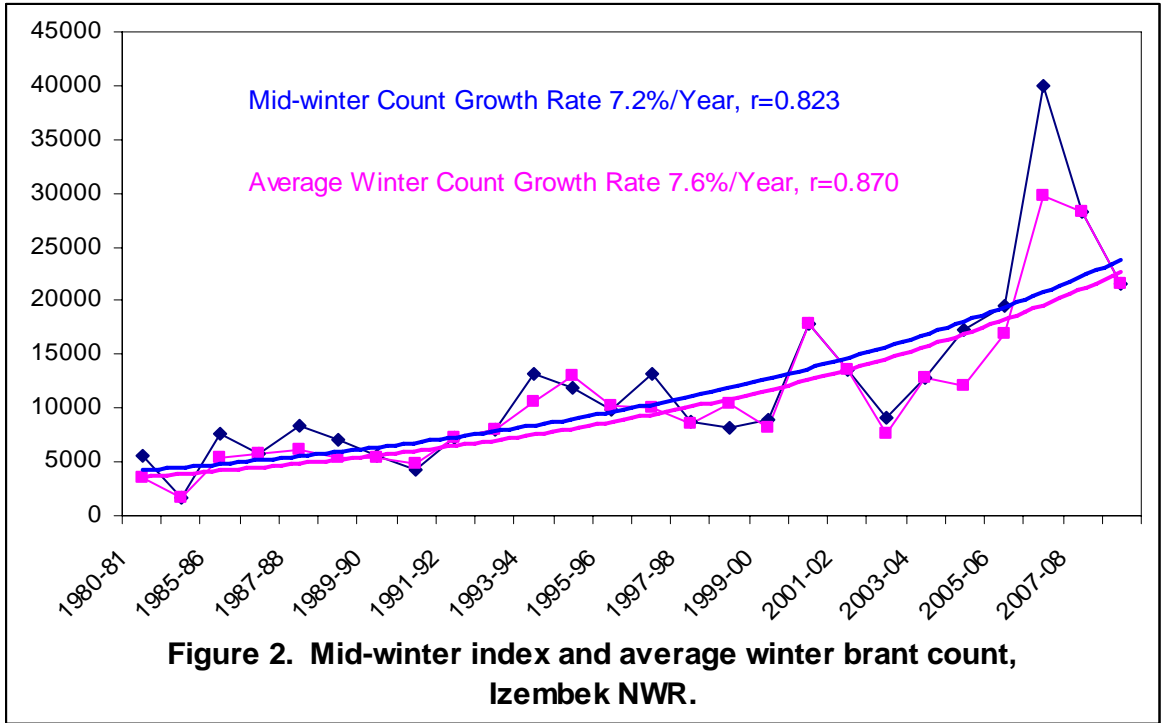


Table 1. Waterbird and mammal observations by segment in the Izembek NWR area, 2 February 2009.

SPECIES	68	67	80	81	65	64	63	62	61	60	85	84	83	82	TOTAL
Pacific Brant	2714	9088	5370								4110			200	21482
Emperor Goose	1036	86	1455	4		20					165			762	3528
Steller's Eider	280	2219	790		80		35	1035	500	338	1605	1		120	7003
Black Scoter	1	39	25	50				20			306	6		10	457
Red-breasted Merganser	20	254	640	51	3	1	2	10	70	19	230	6	1	5	1312
Common Merganser			5												5
Greater Scaup	40	1510					75			40					1665
White-winged Scoter	7			5											12
Common Goldeneye		113	175							25	40				353
Bufflehead		2	40								25				67
Harlequin Duck		135	34	62			3				4	14		21	273
Large Gull	5	51	45				1				6				108
Bald Eagle adult	4	1	13	2			1		2	1				4	28
Bald Eagle juvenile														1	1
Northern Pintail			50												50
Long-tailed Duck	7		20		20		9		85	1011	2		2		1156
Small Gull			10												10
Pacific Loon			1												1
Mallard			95												95
Small Shorebird			150								1500				1650
Common Eider				1245											1245
Harbor Seal							7	30	33				1		71
Sea Otter	103	7			60	30	371		56	3	8	6			644
Pelagic Cormorant		1		3											4

Table 2. Pacific Flyway mid-winter index (MWI) and average winter counts for Pacific brant in the Izembek NWR area.

Year	MWI Count	Average Count	N
1980-81	5540	3474	3
1983-84	1611	1611	1
1985-86	7665	5338	2
1986-87	5755	5745	1
1987-88	8385	6180	2
1988-89	7050	5480	2
1989-90	5595	5303	3
1990-91	4350	4742	3
1991-92	7200	7329	5
1992-93	8008	7937	5
1993-94	13221	10647	6
1994-95	11978	13050	4
1995-96	9795	10278	6
1996-97	13147	10049	3
1997-98	8773	8562	2
1998-99	8255	10354	3
1999-00	8833	8120	3
2000-01	17790	17790	1
2001-02	13576	13576	1
2002-03	9168	7677	2
2003-04	12756	12756	1
2004-05	17240	12029	5
2005-06	19616	16972	3
2006-07	40041	29793	4
2007-08	28329	28329	1
2008-09	21482	21482	1