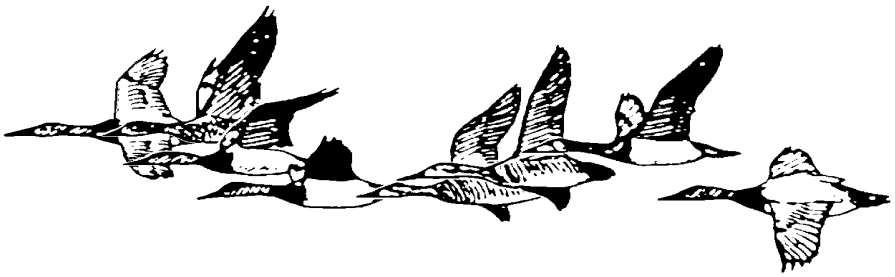
2004 Pacific Flyway Data Book



Waterfowl Harvests and Status, Hunter Participation and Success, and Certain Hunting Regulations in the Pacific Flyway and United States

Compiled by:

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September 30, 2004

United States Department of the Interior

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September 30, 2004

TO: Pacific Flyway Council and
Pacific Flyway Study Committee & Cooperators

FROM: Pacific Flyway Representative

SUBJECT: 2004 Pacific Flyway Data Book

The following briefing material has been assembled for use by you and by U. S. Fish and Wildlife Service personnel in formulating recommendations for the 2004-2005 waterfowl hunting seasons. This collection of harvest, population, and hunter data can also serve as a desk-top reference for providing responses to inquiries from agency personnel, the media, and public. The timing of Flyway meetings to accommodate the framework changes imposed a few years ago is presenting serious challenges in producing this book. Thus we caution that the information in this edition is accurate to the best of our ability to make it so, but may be subject to future revision. If substantial changes occur, we will distribute a revised edition in September.

This is the second year that harvest estimates are derived entirely from the Harvest Information Program (HIP), as the old survey based on post office duck stamp sales has been discontinued. Therefore, this years data is not strictly comparable to the estimates derived from the old survey process. Thus we urge caution in comparing historical harvest estimates with those obtained from the new HIP process.

We continue this year to recognize only mergansers spp., goldeneye spp., and scoter spp., in this year's breeding population tables. Earlier editions of the data book had provided tables on a species specific basis. This change was made to address species identification concerns within these species groups. This years edition continues the practice of incorporating information provided by Study Committee members for specific populations and/or survey activities in the Pacific Flyway. The following Study Committee members have provided tables that are included in this years edition: Tom Aldrich (Western Tundra Swans), Don Kraege (Pacific Flyway breeding waterfowl surveys). Russ Oates, Bill Eldridge, and Cynthia Wentworth have provided information on Alaskan breeding populations of geese, swans, and cranes as well as estimates of subsistence harvest in Alaska.

Harvest and hunter participation estimates for 2003/2004 are preliminary and will be adjusted, usually upwards, when final. Final estimates for the 2003/2004 harvest will not be available until July, 2005.

Finally, Marty Drut has assumed the role of major author of this report. Marty completed his tenth year with the Service this year and his contributions to Flyway endeavors continue to be an important component to the overall operation of many of our cooperative programs.

Sincerely,

Robert E. Trost

Robert E. Trost
Pacific Flyway Representative

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Group/Mgt. Plan	Appr'vd/Revised	Keeper of the Plan	Meeting	2003 2004	2004 2005	2005 2006	2006 2007	2007 2008	2008 2009	2009 2010	2010 2011	2011 2012	2012 2013	2013 2014	2014 2015
PF Council			Mar & Jul	UT	NV	ID	WA	AZ	OR	CA	MT	AK	WY	CO	UT
Natl. Flyway Council			???												
Consultants to SRC:															
Coastal			Jan, Jun & Aug	CA	CA	WA	WA	OR	OR	AK	AK	CA	CA	WA	WA
Inland			Jan, Jun & Aug	ID	NV	NV	WY	WY	CO	CO	AZ	AZ	MT	MT	UT
PF Study Comm.			Mar & Jul	UT	NV	ID	WA	AZ	OR	CA	MT	AK	WY	CO	UT
Geese:															
Cackling Canada	Jul 86; Jul 99	R-7	Mar & Jul	WA	WA	R-1	R-1	AK	AK	CA	CA	OR	OR	WA	WA
Dusky Canada	Jul 85; Jul 92; Aug 97	R-1	Mar & Jul	WA	WA	AK	AK	R-1	R-1	OR	OR	WA	WA	AK	AK
Lesser(Tav/Parv)	Drafts: 1980, Jul 94	WA	Mar & Jul	OR	WA	WA	R-7	R-7	AK	AK	NV	NV	R-1	R-1	CA
Pacific Canada	Jun 89; Jul 00	NV	Jul	ID	ID	MT	MT	NV	NV	WA	WA	OR	OR	CA	CA
Rky Mt. Canada	Mar 83; Mar 92; Jul 01	NV	Jul	WY	WY	AZ	AZ	CA	CA	CO	CO	NV	NV	UT	UT
Vancouver Canada	Draft: Sep 79	AK	No Comm.	-	-	-	-	-	-	-	-	-	-	-	-
Aleutian Canada	Rec'vy Plan 82; Jul 99	CA	Mar & Jul	AK	WA	WA	OR	OR	R-7	R-7	CA	CA	R-1	R-1	AK
PF W-fronted	Mar 87; Jul 03	OR	Mar & Jul	R-7	R-7	CA	CA	AK	AK	OR	OR	WA	WA	R-7	R-7
Tule W-fronted	Sep 91	R-1													
Pacific Brant	Jul 81; Jul 92; Jul 02	CA	Mar & Jul	AK	AK	OR	OR	WA	WA	R-7	R-7	CA	CA	AK	AK
Wrangel Is. Snow	Mar 92	WA													
W.Can.Arct. Snow	Jul 92	AK	Mar & Jul	AZ	AZ	CA	CA	AK	AK	OR	OR	WA	WA	R-1	R-1
Ross'	Jul 92	AK													
Emperor	Mar 88; Jul 94	R-7	X	AK	AK	R-7	R-7	AK	AK	R-7	R-7	AK	AK	R-7	R-7
Swans:															
Pac. Cst Trumpeter	Jul 84, Mar 93	OR	Jul	R-7	OR	OR	AK	AK	WA	WA	R-7	R-7	OR	OR	AK
Rky Mt. Trumpeter	Jul 84; Jul 92; Jul 98	ID	Mar & Jul	UT	MT	MT	NV	NV	R-6	R-6	ID	ID	WY	WY	UT
Western Tundra	Mar 83; Apr 89; Jul 01	UT	Jul	NV	NV	OR	OR	UT	UT	R-6	R-6	ID	ID	MT	MT
Eastern Tundra	Jun 82; May 88; Jul 98	--	4 Flyways	AK	AK	AK	AK	AK	AK	AK	AK	NV	NV	AK	AK
Sandhill Cranes:															
Pac. Flyway Lesser	Mar 83	CO	Mar	AK	AK	CA	CA	WA	WA	OR	OR	R-1	R-1	R-7	R-7
Central Val. Grtr	Mar 83; Jul 95; Jul 97	R-1													
Rocky Mt. Greater	Jul 87; Jul 91; Sep 97	WY	Mar	NM	NM	UT	UT	MT	MT	WY	WY	ID	ID	AZ	AZ
L. Colo. R.V. Grtr	Mar 83; Aug 89; Mar 95	AZ	Mar	NV	AZ	AZ	NV	NV	AZ	AZ	NV	NV	AZ	AZ	NV
Doves & Pigeons															
Pac. Cst B-t Pigeon	Mar 83; Mar 94	DMBM	Mar	R-1	CA	CA	OR	OR	WA	WA	R-1	R-1	CA	CA	OR
4-corners B-t Pig.	Mar 01	CO	Mar	CO	CO	AZ	AZ	FWS	FWS	UT	UT	R-2	R-2	CO	CO
WMU Mourning Dove	Mar 92	MT	Mar	UT	UT	FWS	FWS	AZ	AZ	CA	CA	NV	NV	WA	WA
W-winged Dove	Jul 93	AZ	Mar	AZ	NV	NV	FWS	FWS	CA	CA	AZ	AZ	NV	NV	FWS

Abbreviations: USFWS: R-1, Portland; R-2, Albuquerque; R-6, Denver; R-7, Anchorage, and DMBM is the Division of Migratory Bird Management.

Revised 7/04

Pacific Flyway Calendar of Events July 2004 to July 2005[a]

Month	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M
July					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
																							PFSC & Council							Late Season SRC							
August	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						
September				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30				
October						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
																									WF Sur												
November		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30						
				Dark G. Surv.																																	
December				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
				White G. Surv.														Dusky NB Survey (1)																			
January							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
									Midwint.		Dusky NB Survey (2)		Surv.			Jan. Study Comm.																	Jan. SRC				
February			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28							
																							PF Wingbee							March Stud. Comm						
March			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
			March Study Comm.													N. Am. Wildl. & Nat. Resour. Conf.																					
April						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
May	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						
June				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30				
																							Early Season SRC														
July						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
																							PFSC & Council							Late Season SRC							

[a] **Dates are tentative and will likely be confirmed at the January, 2005 meeting.**

Duck Stamp Sales in the Pacific Flyway, Alaska, the Central, Mississippi, and Atlantic Flyways, and U.S., 1934-2002 (1)

						2	3				3		3						4
Year		Cost	WA	OR	ID	MT	WY	CA	NV	UT	CO	AZ	NM	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1934		$1.00	29,033	13,199	9,840			39,525	2,513	7,133		2,332		103,575	2,000	157,843	266,649	104,797	635,001
1935		"	1,890	9,709	6,610			33,297	2,272	3,672		1,760		59,210	2,380	109,697	205,967	53,763	448,204
1936		"	28,396	13,772	10,526			44,570	3,398	8,123		1,736		110,521	1,708	122,934	303,737	64,627	603,623
1937		"	40,606	19,540	10,138			52,577	3,921	9,185		2,363		138,330	2,094	168,502	383,433	90,525	783,039
1938		"	46,151	22,435	15,608			63,394	4,899	12,685		2,919		168,091	2,227	213,121	493,302	125,800	1,002,715
1939		"	50,796	26,774	19,064			74,644	5,608	14,520		3,555		194,961	2,761	223,903	536,951	152,926	1,111,561
1940		"	62,720	32,239	20,516			86,953	6,403	16,886		3,951		229,668	2,520	264,874	566,894	193,129	1,260,810
1941		"	70,185	39,484	23,104			111,389	6,656	18,886		4,348		274,052	3,911	308,240	632,227	218,767	1,439,967
1942		"	59,683	32,806	25,265			91,619	5,881	18,046		3,535		236,835	3,308	302,098	622,497	215,302	1,383,629
1943		"	63,050	32,750	19,921			92,056	5,288	15,679		4,145		232,889	4,143	236,247	510,339	180,320	1,169,352
1944		"	77,740	42,203	25,484			117,507	6,239	20,868		5,535		295,576	4,430	349,709	593,079	236,352	1,487,029
1945		"	76,007	47,511	34,590			131,009	7,808	24,883		6,203		328,011	4,186	413,589	692,573	275,819	1,725,505
1946		"	81,596	56,411	39,098			154,652	9,402	29,537		7,525		378,221	3,758	496,882	824,751	301,914	2,016,841
1947		"	74,937	60,390	39,470			137,279	8,586	25,522		7,427		353,611	4,113	420,404	719,566	213,884	1,722,677
1948		"	74,555	65,947	47,575			171,388	10,574	34,558		8,562		413,159	4,881	552,148	874,552	271,377	2,127,603
1949		$2.00	81,404	59,853	40,159			168,950	9,553	34,527		7,443		401,889	3,349	485,580	824,693	231,314	1,954,734
1950		"	82,378	64,239	38,405			150,661	9,405	32,233		7,083		384,404	5,703	480,919	786,547	239,732	1,903,644
1951		"	84,000	68,524	40,124			173,136	10,532	33,177		8,645		418,138	7,909	557,051	919,239	259,316	2,167,767
1952		"	83,813	73,327	38,927			214,456	11,867	34,972		11,982		469,344	8,302	505,174	989,059	311,526	2,296,628
1953		"	86,031	73,268	39,224			193,126	11,888	36,298		9,938		449,773	10,009	511,910	945,857	340,806	2,268,446
1954		"	80,680	70,741	37,425			176,881	9,669	32,289		9,125		416,810	10,766	478,374	922,082	343,477	2,184,550
1955		"	80,830	69,876	35,614			180,173	11,081	32,976		10,247		420,797	9,797	523,630	1,019,145	386,866	2,369,940
1956		"	85,997	65,264	34,945			180,300	11,288	32,011		9,251		419,056	9,428	491,272	1,022,695	378,549	2,332,014
1957		"	80,394	68,285	32,776			183,011	11,233	32,145		10,145		417,989	9,796	555,525	1,004,478	356,502	2,355,353
1958		"	80,192	59,413	33,569			160,949	11,175	32,534		9,256		387,088	9,135	501,452	935,938	325,760	2,165,562
1959		$3.00	66,122	51,228	27,150			114,240	9,284	24,979		7,077		300,080	9,081	367,275	703,744	239,872	1,628,365
1960		"	66,416	49,536	25,633			135,809	7,736	23,709		7,039		315,878	10,895	383,394	746,640	261,137	1,727,534
1961		"	63,374	42,446	25,295	7,960		123,302	5,427	19,086		7,288		294,178	10,157	271,865	527,145	232,578	1,335,923
1962		"	62,091	39,102	22,389	7,085	1,330	125,199	7,983	21,907	2,298	6,040	496	295,920	10,371	185,633	411,981	236,311	1,140,216
1963		"	66,335	43,981	23,669	8,151	1,348	136,833	8,749	25,114	2,860	7,418	669	325,127	10,456	262,470	571,667	270,382	1,440,102
1964		"	64,262	43,741	25,266	7,813	1,435	135,419	9,639	25,621	2,822	8,432	669	325,119	9,244	280,810	663,791	284,756	1,563,720
1965		"	65,534	44,558	24,217	18,307	1,354	141,664	10,673	25,488	2,606	7,859	796	343,056	9,406	260,027	636,470	301,088	1,550,047
1966		"	69,235	48,884	27,400	21,156	1,430	153,308	11,928	32,877	3,605	8,773	955	379,551	10,640	311,216	758,768	336,472	1,796,647
1967		"	70,974	48,332	28,595	19,715	1,467	153,053	12,713	32,128	3,238	10,281	868	381,364	10,358	360,157	813,797	360,937	1,926,613
1968		"	72,290	48,261	29,350	19,349	1,576	162,622	12,491	33,864	3,362	10,196	847	394,208	12,411	323,885	711,745	384,762	1,827,011
1969		"	80,565	55,122	30,929	19,912	1,554	175,628	13,220	33,928	3,584	12,745	833	428,020	13,281	373,751	810,588	438,372	2,064,012
1970		"	84,112	61,343	31,768	20,600	1,635	188,861	14,361	35,946	3,913	14,199	807	457,545	12,936	437,120	1,005,265	496,387	2,409,253
1971		"	77,067	58,730	33,640	19,896	1,781	173,474	15,029	37,588	4,514	15,465	962	438,146	14,423	454,635	1,003,218	501,289	2,411,711
1972		$5.00	69,743	52,203	31,378	19,674	1,744	152,409	12,701	33,042	3,812	11,952	928	389,586	14,918	425,003	892,774	438,264	2,160,545
1973		"	72,502	50,986	32,810	19,013	1,715	144,582	13,732	35,665	4,167	11,059	925	387,156	17,068	412,320	826,911	434,851	2,078,306
1974		"	70,353	51,290	34,377	19,892	2,053	149,548	11,714	38,575	4,562	13,474	1,022	396,860	16,018	426,135	892,017	448,849	2,179,879
1975		"	72,189	55,569	35,589	20,991	2,152	143,289	13,856	39,652	4,633	11,924	1,020	400,864	16,310	430,618	916,734	441,838	2,206,364
1976		"	68,573	53,108	35,158	21,366	2,378	135,268	13,146	40,658	5,024	12,642	1,019	388,340	18,455	429,661	854,924	435,933	2,127,313
1977		"	70,261	56,224	35,484	21,966	2,479	128,280	11,145	40,319	5,423	10,566	1,048	383,195	19,253	423,871	872,064	434,558	2,132,941
1978		"	69,210	54,847	38,051	21,813	2,700	126,091	12,154	38,091	5,598	11,735	1,012	381,302	19,689	430,590	848,856	451,321	2,131,758
1979		$7.50	69,668	55,079	34,503	20,620	2,725	121,027	11,370	35,255	6,397	11,211	995	368,850	19,046	414,970	808,051	416,574	2,027,491
1980		"	70,388	54,814	35,055	19,688	2,830	114,825	11,705	34,369	6,489	11,580	947	362,690	20,110	388,865	787,236	409,281	1,968,182
1981		"	66,783	48,809	33,459	13,617	2,285	108,367	10,496	32,135	6,499	9,166	839	332,455	15,814	339,358	724,334	407,905	1,819,866
1982		"	62,470	47,981	33,671	16,642	2,806	109,654	11,969	35,250	7,174	11,711	1,011	340,339	18,000	358,908	709,923	402,927	1,830,097
1983		"	61,832	47,904	34,397	16,987	2,981	110,546	12,925	33,622	6,617	10,800	1,029	339,640	18,388	338,735	686,016	390,894	1,773,673
1984		"	60,894	40,635	33,638	17,353	2,935	107,736	12,950	31,893	6,506	10,877	1,044	326,461	18,475	354,306	703,159	412,865	1,815,266
1985		"	52,881	35,256	31,012	16,330	2,920	101,442	12,421	30,627	6,259	10,250	1,114	300,512	15,592	329,010	651,194	382,422	1,678,730
1986		"	43,181	34,813	27,922	13,432	2,792	95,541	11,749	25,033	6,767	10,607	1,098	272,935	19,424	335,076	673,764	387,742	1,689,173
1987		$10.00	39,770	30,111	19,832	12,091	2,563	91,785	9,907	20,112	5,964	8,688	861	241,684	14,274	302,909	623,596	385,660	1,568,123
1988		"	36,249	25,431	16,733	7,496	1,800	79,901	6,703	15,144	5,195	6,521	525	201,698	12,945	246,745	534,007	331,345	1,326,740
1989		$12.50	36,249	25,431	16,894	7,501	1,784	77,563	6,703	15,144	5,148	6,521	525	199,302	12,945	245,309	528,299	331,578	1,317,433
1990		"	35,448	27,656	17,036	9,719	1,677	70,353	6,647	16,215	4,362	6,220	676	196,009	13,872	238,921	557,549	326,404	1,332,755
1991		$15.00	33,475	25,039	17,151	8,151	1,550	68,342	6,034	15,110	3,962	5,390	688	184,892	12,508	232,259	550,688	316,468	1,296,815
1992		"	33,683	23,354	17,717	9,758	1,501	67,498	6,303	14,793	4,512	6,087	538	185,744	11,041	234,489	554,396	300,332	1,286,002
1993		"	33,620	31,748	21,761	10,411	1,436	76,962	7,245	16,619	4,603	5,469	821	210,695	11,214	248,347	570,538	292,600	1,333,395
1994		"	36,127	25,632	21,229	10,456	1,678	74,711	7,704	18,740	4,952	7,099	768	209,096	11,340	264,170	635,327	296,841	1,416,774
1995		"	35,599	28,979	22,275	11,924	1,644	83,872	8,347	21,714	5,694	4,959	974	225,982	12,035	295,505	684,671	271,439	1,489,632
1996		"	37,106	30,975	24,066	12,084	1,566	76,466	7,702	23,641	5,867	6,014	804	226,292	12,856	298,751	695,871	291,829	1,525,599
1997		"	38,584	33,036	25,939	13,335	1,624	77,255	7,874	26,456	6,607	6,745	870	238,326	13,114	338,937	752,280	305,696	1,648,353
1998		"	37,592	33,024	26,195	13,961	1,534	79,867	8,237	27,668	6,810	6,892	902	242,681	11,590	337,878	733,840	298,932	1,624,921
1999		"	38,034	35,108	25,802	14,706	1,915	78,886	8,777	27,577	8,708	7,273	630	247,416	9,807	342,182	746,624	300,847	1,646,876
2000		"	37,084	34,354	27,408	13,067	1,108	79,288	7,997	27,885	6,289	7,085	1,038	242,604	10,134	356,095	747,094	306,740	1,662,667
2001		"	35,952	33,057	24,278	14,089	999	77,563	7,293	30,401	5,250	6,487	1,120	236,490	10,068	354,873	743,157	307,537	1,652,125
2002	5	"	33,002	31,158	21,971	13,598	760	72,093	6,688	33,294	4,762	5,576	1,051	223,953	10,253	325,168	719,204	310,368	1,588,946
% Change from																			
1965-2001			-40.0%	-21.3%	-14.0%	-11.1%	-50.3%	-31.1%	-31.0%	4.6%	-1.6%	-31.6%	26.7%	-24.1%	-30.9%	2.8%	0.6%	-18.3%	-7.5%
2001			-39.5%	-25.0%	-21.9%	-13.1%	-61.9%	-34.7%	-35.9%	14.8%	-11.6%	-40.8%	18.2%	-27.1%	-29.6%	-6.1%	-2.6%	-17.3%	-10.9%
% Flyway Sales														% U.S. Sales:					
1965-2002			17.8%	13.5%	9.0%	5.1%	0.6%	36.1%	3.4%	9.5%	1.7%	3.0%	0.3%	17.4%	0.8%	19.3%	41.5%	20.9%	100.0%
2002			14.7%	13.9%	9.8%	6.1%	0.3%	32.2%	3.0%	14.9%	2.1%	2.5%	0.5%	14.1%	0.6%	20.5%	45.3%	19.5%	100.0%

1: Sales adjusted for "consolidated accounting" begining in 1994.
2: In 1965, the Pacific Flyway portion of Montana was expanded.
3: In 1962, the State was divided into Pacific and Central Flyway portions.
4: Total does not include Philatelic Unit, Duck Stamp office, Guam, Hawaii, Puerto Rico, or Virgin Island Sales (~ 40,000/year since 1994).
5: Preliminary data

SALES OF MIGRATORY GAME BIRD HUNTING PERMITS IN CANADA

YEAR	NFL	PEI	NS	NB	QUE	ONT	MAN	SAS	ALB	BC	NWT	YUK	NU	CAN TOTAL
1966	13,269	3,271	7,220	8,535	35,868	144,063	37,784	44,744	52,911	32,394				380,059
1967	14,863	3,094	7,883	7,739	32,491	146,493	35,620	44,651	55,892	33,195				381,921
1968	17,645	3,649	9,022	9,558	37,110	139,182	38,712	43,596	53,623	33,301				385,398
1969	19,089	3,794	8,848	10,110	39,477	134,037	41,611	45,347	53,602	32,764				388,679
1970	21,347	3,926	9,926	10,293	46,009	135,231	39,230	47,722	59,986	31,350				405,020
1971	23,460	4,513	11,381	11,146	50,276	133,563	40,960	49,448	62,902	30,225				417,874
1972	23,682	4,492	12,158	11,336	53,082	131,427	41,133	50,004	63,309	31,032				421,655
1973	27,919	4,972	15,071	12,869	57,247	141,277	41,711	51,307	67,012	33,456				452,841
1974	25,127	5,038	13,791	11,916	58,345	136,469	37,167	51,504	66,127	27,764	591	323		434,162
1975	30,115	4,963	13,990	12,930	63,768	148,670	42,846	57,723	69,191	25,918	721	485		471,320
1976	29,621	5,756	13,326	13,743	66,453	143,816	46,816	61,669	75,739	26,561	893	513		484,906
1977	36,188	6,158	15,744	14,209	72,828	156,895	46,438	60,029	82,175	28,357	902	607		520,530
1978	37,297	6,396	16,297	15,249	74,745	159,698	50,169	57,958	77,117	28,561	821	638		524,946
1979	35,490	5,888	14,098	13,409	73,209	150,224	49,344	56,174	77,021	28,263	755	584		504,459
1980	31,362	5,802	14,257	12,471	76,133	147,952	48,340	54,081	79,318	27,943	732	525		498,916
1981	31,406	5,611	14,130	12,287	75,178	141,677	46,528	42,856	66,163	28,243	764	514		465,357
1982	31,215	5,461	13,728	12,759	72,850	144,436	45,273	47,236	64,968	26,522	800	572		465,820
1983	30,977	5,898	13,468	12,758	67,700	139,569	40,443	45,383	61,742	24,170	750	474		443,332
1984	31,309	5,525	12,896	11,486	65,308	140,521	35,238	37,720	51,717	21,892	850	496		414,958
1985	25,652	5,171	10,749	10,354	60,823	130,089	31,753	36,445	44,880	18,753	713	361		375,743
1986	25,498	5,300	11,047	11,083	59,685	131,930	33,570	37,692	45,042	17,924	692	358		379,821
1987	21,080	4,959	10,299	9,897	55,124	122,472	30,207	29,930	40,122	16,259	523	391		341,263
1988	23,655	4,906	10,264	10,646	57,206	117,310	25,108	23,258	34,513	15,595	496	367		323,324
1989	24,707	4,838	10,092	9,971	54,605	114,292	23,898	22,916	34,559	14,694	420	308		315,300
1990	24,831	4,625	10,115	9,974	54,700	115,130	22,641	22,964	32,212	13,851	431	240		311,714
1991	20,738	4,209	10,104	9,997	53,739	108,802	22,122	22,414	29,399	13,601	352	300		295,777
1992	20,310	3,753	9,192	9,337	49,262	103,395	20,048	20,620	28,056	12,429	348	256		277,006
1993	20,585	3,609	8,988	9,008	47,675	95,824	19,199	19,771	26,787	11,818	327	287		263,878
1994	20,399	3,380	9,314	9,468	46,537	92,344	18,838	20,254	26,211	11,037	320	294		258,396
1995	20,231	3,479	9,176	8,674	38,955	83,720	19,630	20,554	25,747	9,855	342	318		240,681
1996	16,312	3,303	8,652	8,536	36,004	80,194	19,702	20,475	27,299	10,069	318	306		231,170
1997	14,289	3,051	7,731	7,546	31,435	72,521	18,918	20,109	26,847	10,185	278	268		213,178
1998	13,101	2,946	7,681	7,095	30,113	70,407	18,445	21,822	22,238	9,816	286	231		204,181
1999	13,111	2,671	7,410	6,821	30,124	67,077	17,433	21,685	21,415	9,314	292	231		197,584
2000	12,217	2,805	7,072	6,399	30,271	63,672	15,810	21,908	21,792	9,007	267	224	0	191,444
2001	16,988	2,416	6,645	5,975	29,138	58,458	15,038	18,387	19,527	8,185	223	251	20	181,251
2002	16,056	2,341	6,316	5,942	28,702	56,645	14,832	16,958	17,814	7,464	244	217	24	173,555
2003	15,626	2,316	5,926	6,065	29,376	56,911	15,124	18,155	18,372	6,509	243	159	12	174,794
AVG:														
66-70	17,243	3,971	9,794	10,277	43,218	135,503	40,128	46,528	57,528	31,910				399,243
71-75	26,061	4,866	13,753	12,263	58,111	139,461	40,714	52,635	66,410	29,543	656	404		444,995
76-80	33,992	6,000	14,744	13,816	72,674	151,717	48,221	57,982	78,274	27,937	821	573		506,751
81-85	30,112	5,533	12,994	11,929	68,372	139,258	39,847	41,928	57,894	23,916	775	483		433,042
86-90	23,954	4,926	10,363	10,314	56,264	120,227	27,085	27,352	37,290	15,665	512	333		334,284
91-95	20,453	3,686	9,355	9,297	47,234	96,817	19,967	20,723	27,240	11,748	338	291		267,148
96-00	13,806	2,955	7,709	7,279	31,589	70,774	18,062	21,200	23,918	9,678	288	252	0	207,511
01-05	16,223	2,358	6,296	5,994	29,072	57,338	14,998	17,833	18,571	7,386	237	209	19	176,533

Estimated ACTIVE ADULT HUNTERS by State and Flyway, 1999-2003 (as Harvest Information Program Estimates).

Year	AZ	CA	CO[a]	ID	MT[a]	NV	NM[a]	OR	UT	WA	WY[a]	PF Tot.[b]	AK	CF Tot.[b]	MF Tot.[b]	AF Tot.[b]	U.S. Tot.[b]
1999	4,400	48,000	13,800	14,900	10,400	5,500	2,200	26,200	24,200	30,600	4,800		5,600				
2000	4,100	44,700	14,000	12,500	9,000	4,800	3,100	25,900	19,700	29,400	4,300		6,000				
2001	3,700	50,400	17,500	12,000	10,900	3,800	5,000	22,300	15,600	25,600	4,200		5,600				
2002	4,200	46,200	12,200	14,500	14,900	3,900	4,800	21,200	17,300	23,300	4,400		6,000				
2003	3,400	43,100	13,400	18,200	14,200	4,200	3,900	19,200	15,900	24,700	4,300		5,700				
% Change from:																	
1999-2002	-17.1%	-8.9%	-6.8%	35.1%	25.7%	-6.7%	3.3%	-19.7%	-17.2%	-9.3%	-2.8%		-1.7%				
2002	-19.0%	-6.7%	9.8%	25.5%	-4.7%	7.7%	-18.8%	-9.4%	-8.1%	6.0%	-2.3%		-5.0%				

[a] Estimates for split flyway states, CO, MT, NM, and WY are presented as state totals and are not separated by flyway.

[b] Flyway and U.S. totals are not available at this time due to the state by state sampling method utilized in HIP.

Estimated Number of Hunter Days for Active Adult Hunters (x1000) by State and Flyway, 1999-2003 (as Harvest Information Program Estimates).

Year	AZ	CA	CO[a]	ID	MT[a]	NV	NM[a]	OR	UT	WA	WY[a]	PF Tot.[b]	AK	CF Tot.[b]	MF Tot.	AF Tot.	U.S. Tot.
1999	22.9	463.6	79.7	118.3	59.3	34.9	13.9	212.2	163.2	293.9	18.3	1,368.4	29.1	1,418.5	4,151.0	1,131.3	8,098.3
2000	19.2	416.6	80.5	90.6	56.8	30.8	24.7	188.2	130.4	238.7	26.5	1,171.4	33.9	1,418.3	4,184.6	1,109.1	7,917.2
2001	26.9	492.8	113.7	71.2	70.7	25.0	30.1	166.9	111.4	194.2	26.5	1,159.1	28.5	1,529.2	4,265.1	1,187.4	8,168.9
2002	26.3	439.4	68.7	88.6	80.6	29.4	33.5	171.9	111.5	182.0	26.2	1,129.7	33.9	1,290.3	4,004.6	1,162.3	7,616.6
2003	20.9	406.9	86.0	125.3	70.6	24.4	30.9	135.4	135.2	173.0	23.0	1,091.7	26.8	1,322.1	4,033.4	1,106.9	7,580.9
Averages:																	
1999-2000	21.1	440.1	80.1	104.5	58.1	32.9	19.3	200.2	146.8	266.3	22.4	1,269.9	31.5	1,418.4	4,167.8	1,120.2	8,007.8
2001-2010	24.7	446.4	89.5	95.0	74.0	26.3	31.5	158.1	119.4	183.1	25.2	1,126.8	29.7	1,380.5	4,101.0	1,152.2	7,788.8
All years	23.2	443.9	85.7	98.8	67.6	28.9	26.6	174.9	130.3	216.4	24.1	1,184.1	30.4	1,395.7	4,127.7	1,139.4	7,876.4
% Change from:																	
1999-2001	-12.3%	-10.2%	0.4%	35.9%	5.6%	-18.7%	20.9%	-26.7%	4.7%	-23.9%	-5.6%	-9.6%	-14.5%	-6.5%	-2.8%	-3.5%	-4.6%
2001	-20.5%	-7.4%	25.2%	41.4%	-12.4%	-17.0%	-7.8%	-21.2%	21.3%	-4.9%	-12.2%	-3.4%	-20.9%	2.5%	0.7%	-4.8%	-0.5%

[a] Estimates for split flyway states, CO, MT, NM, and WY are presented as state totals and are not separated by flyway.

[b] Totals for the Pacific Flyway include all full PF states and MT, and, for the Central Flyway include all full CF states and CO, NM, and WY.

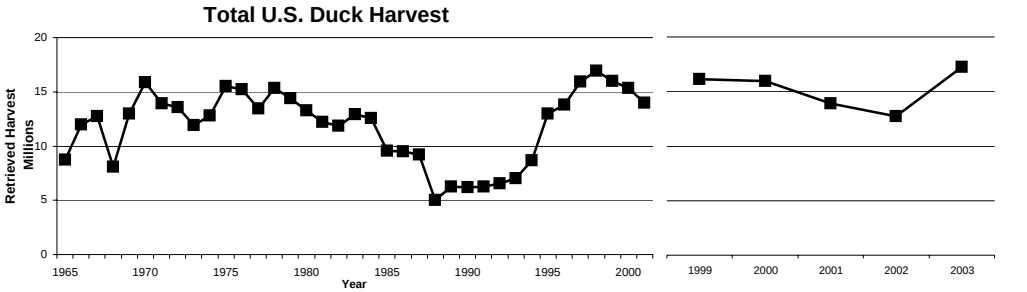
Estimated Days of Hunting Per Active Adult Hunter by State and Flyway, 1999-2003 (as Harvest Information Program Estimates

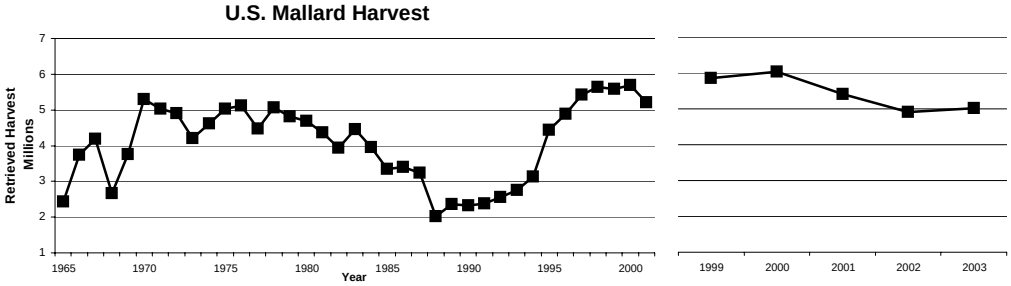
Year	AZ	CA	CO[a]	ID	MT[a]	NV	NM[a]	OR	UT	WA	WY[a]	PF Tot.[b]	AK	CF Tot.[b]	MF Tot.[b]	AF Tot.[b]	U.S. Tot.[b]
1999	5.2	9.7	5.8	7.9	5.7	6.3	6.3	8.1	6.7	9.6	3.8		5.2				
2000	4.7	9.3	5.8	7.2	6.3	6.4	8.0	7.3	6.6	8.1	6.2		5.7				
2001	7.3	9.8	6.5	5.9	6.5	6.6	6.0	7.5	7.1	7.6	6.3		5.1				
2002	6.3	9.5	5.6	6.1	5.4	7.5	7.0	8.1	6.4	7.8	6.0		5.7				
2003	6.1	9.4	6.4	6.9	5.0	5.8	7.9	7.1	8.5	7.0	5.3		4.7				
Averages:																	
1999-2000	4.9	9.5	5.8	7.6	6.0	6.4	7.1	7.7	6.7	8.9	5.0		5.4				
2001-2010	6.5	9.6	6.1	6.0	5.9	7.1	6.5	7.8	6.8	7.7	6.1		5.4				
All years	6.2	9.5	6.0	6.5	5.2	6.7	7.4	7.6	7.5	7.4	5.6		5.2				
% Change from:																	
1999-2002	4.2%	-0.8%	-6.3%	-13.2%	-12.3%	16.9%	3.1%	6.5%	-5.7%	-7.4%	9.7%		6.4%				
2002	-100.0%	-1.4%	7.4%	7.3%	-17.6%	-15.3%	13.0%	-6.8%	26.2%	-10.7%	-13.7%		-14.0%				

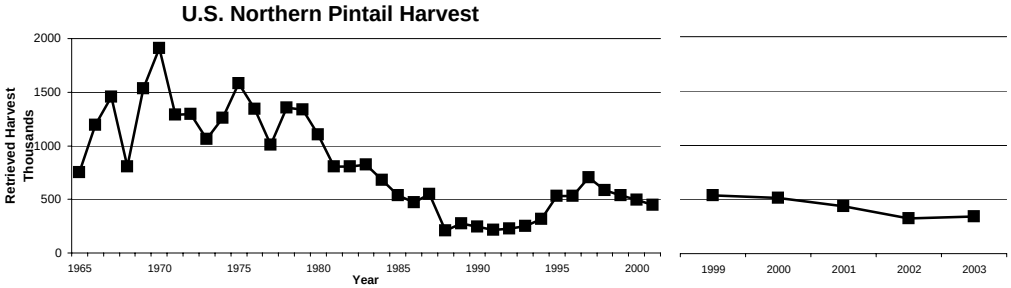
[a] Estimates for split flyway states, CO, MT, NM, and WY are presented as state totals and are not separated by flyway.

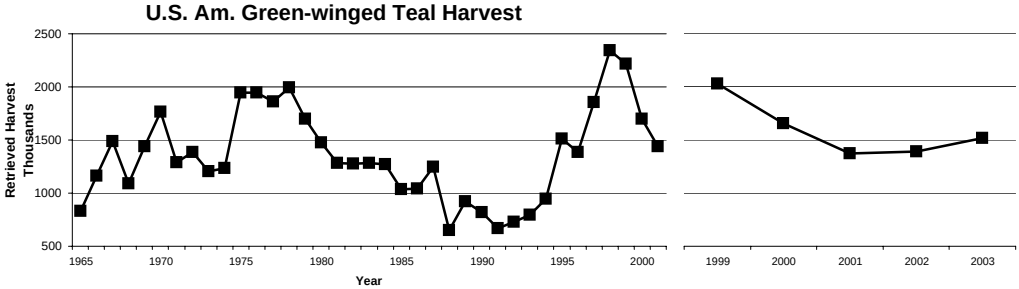
[b] Flyway and U.S. totals are not available at this time due to the state by state sampling method utilized in HIP.

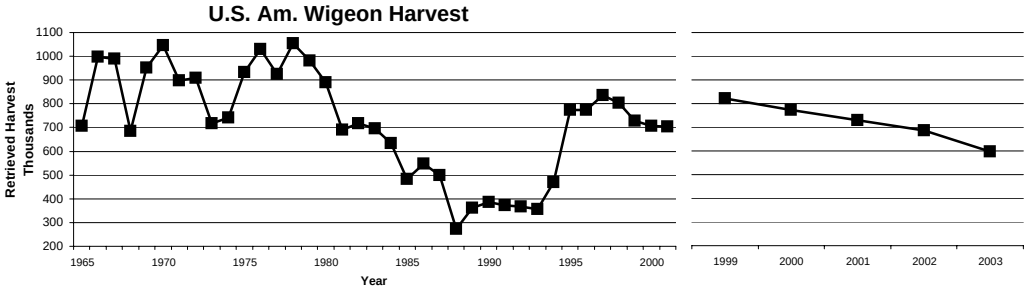
Mail Questionnaire Survey, 1965-2001 **Harvest Information Program, 1999-2003**



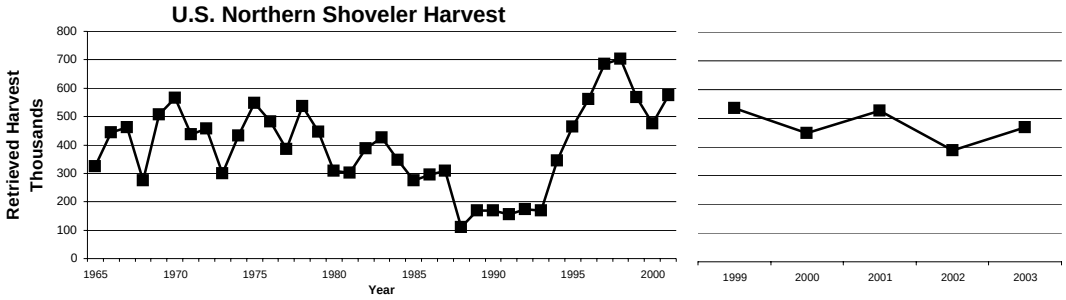


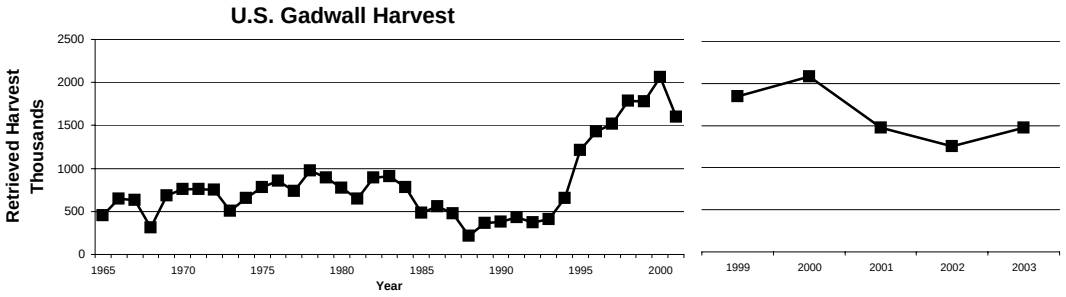


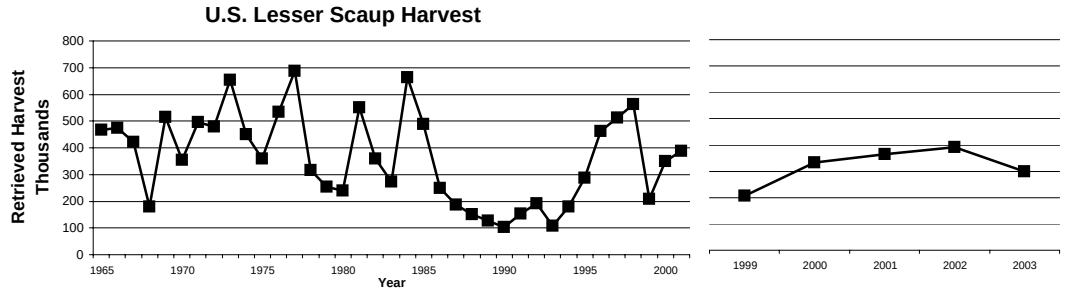


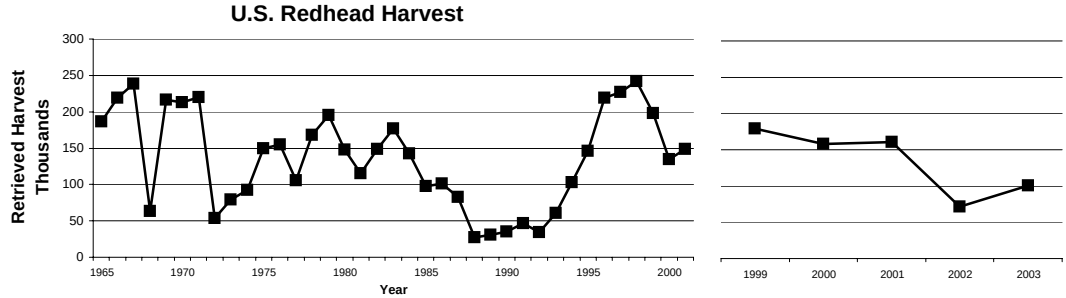


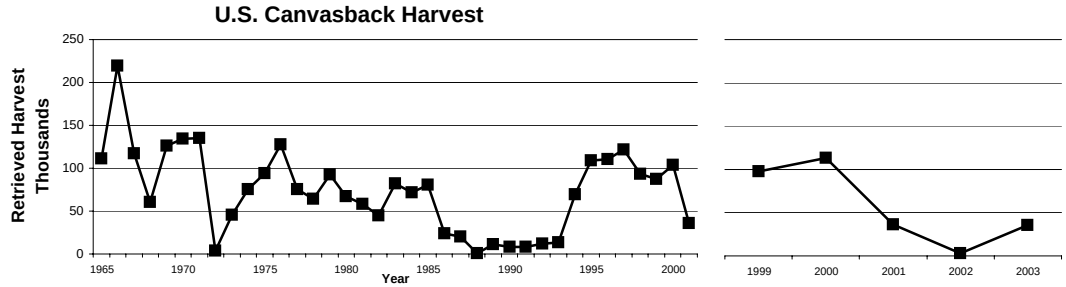
Mail Questionnaire Survey, 1965-2001 **Harvest Information Program, 1999-2003**











Estimated (Harvest Information Program) Total Duck Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	36,000	1,252,799	19,803	208,600	65,915	89,201	2,746	428,101	252,100	641,701	20,502	3,017,467	78,800	3,168,434	7,947,902	1,907,600	16,120,203
2000	50,900	952,697	23,490	193,901	79,816	52,900	4,680	425,601	210,501	554,298	10,911	2,559,694	78,100	3,266,004	8,214,699	1,822,700	15,941,198
2001	39,200	1,049,296	16,089	138,600	84,596	35,201	6,782	318,301	165,200	424,499	6,321	2,284,085	79,000	3,257,710	6,617,796	1,672,801	13,911,392
2002	34,900	974,099	15,454	160,601	95,336	46,000	14,362	351,300	195,002	393,101	2,560	2,282,714	74,700	2,577,787	5,974,099	1,830,998	12,740,298
2003	40,700	1,013,097	17,010	262,900	87,106	50,200	5,674	276,199	325,602	350,799	3,896	2,433,183	71,200	2,515,214	6,758,997	1,623,302	13,401,896
Averages:																	
1999-00	43,450	1,102,748	21,647	201,250	72,865	71,050	3,713	426,851	231,301	598,000	15,706	2,788,581	78,450	3,217,219	8,081,301	1,865,150	16,030,700
2001-10	38,267	1,012,164	16,184	187,367	89,012	43,800	8,940	315,267	228,601	389,466	4,259	2,333,327	74,967	2,783,570	6,450,297	1,709,034	13,351,196
All Years	40,340	1,048,397	18,369	192,920	82,554	54,700	6,849	359,900	229,681	472,880	8,838	2,515,429	76,360	2,957,030	7,102,699	1,771,480	14,422,998
% Change from:																	
1999-02	1.1%	-10.2%	-21.9%	-11.0%	24.2%	-22.2%	203.3%	-10.1%	-6.8%	-27.2%	-79.7%	-12.9%	-5.0%	-20.2%	-21.3%	1.7%	-16.9%
2002	16.6%	4.0%	10.1%	63.7%	-8.6%	9.1%	-60.5%	-21.4%	67.0%	-10.8%	52.2%	6.6%	-4.7%	-2.4%	13.1%	-11.3%	5.2%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	1.6%	39.5%	0.8%	7.2%	2.6%	2.5%	0.1%	15.3%	8.3%	21.4%	0.6%	17.4%	0.5%	20.1%	50.4%	11.6%	100.0%
2001-10	1.6%	43.4%	0.7%	8.0%	3.8%	1.9%	0.6%	14.7%	9.8%	16.7%	0.2%	17.5%	0.6%	20.8%	48.3%	12.8%	100.0%

Estimated (HIP) Common Merganser Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	0	0	161	626	0	117	0	489	545	441	92	2,472	93	346	4,819	6,386	14,116
2000	818	716	0	432	408	96	219	516	3,479	122	0	6,806	1,200	1,281	3,741	9,499	22,528
2001	213	108	141	203	397	102	0	1,181	1,167	1,152	0	4,663	0	1,506	4,078	3,796	14,042
2002	159	0	45	63	213	92	71	1,601	715	489	0	3,447	0	2,753	8,611	12,350	27,161
2003	298	715	0	681	201	144	0	996	2,307	374	0	5,717	1351.85	2,106	5,804	12,038	27,017
Averages:																	
1999-00	409	358	81	529	204	107	110	502	2,012	281	46	4,639	646	813	4,280	7,943	18,322
2001-10	223	274	62	315	270	112	24	1,259	1,396	672	0	4,609	451	2,122	6,164	9,395	22,740
All Years	298	308	69	401	244	110	58	956	1,643	516	18	4,621	529	1,598	5,411	8,814	20,973
% Change from:																	
1999-02	0.3%		-55.6%	-85.0%	-20.7%	-12.8%	-2.8%	119.7%	-58.7%	-14.4%		-25.8%		163.7%	104.4%	88.2%	60.8%
2002	88.1%			979.6%	-5.6%		-100.0%	-37.8%	222.8%	-23.5%		65.9%		-23.5%	-32.6%	-2.5%	-0.5%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	8.8%	7.7%	1.7%	11.4%	4.4%	2.3%	2.4%	10.8%	43.4%	6.1%	1.0%	25.3%	3.5%	4.4%	23.4%	43.4%	100.0%
2001-10	4.8%	6.0%	1.3%	6.8%	5.9%	2.4%	0.5%	27.3%	30.3%	14.6%	0.0%	20.3%	2.0%	9.3%	27.1%	41.3%	100.0%

Estimated (HIP) Red Breasted Merganser Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	0	0	0	0	0	0	0	244	218	147	0	610	0	797	3,409	8,726	13,541
2000	0	0	0	72	68	0	0	0	1,099	0	0	1,239	0	1,002	3,336	5,888	11,466
2001	0	0	0	0	0	0	0	0	583	0	0	583	0	944	2,856	6,233	10,616
2002	0	0	0	63	71	0	0	94	110	0	0	338	0	1,209	2,724	8,974	13,246
2003	0	0	0	0	0	0	0	0	577	0	0	577	1,893	173	4,040	10,786	17,469
Averages:																	
1999-00	0	0	0	36	34	0	0	122	658	74	0	924	0	900	3,373	7,307	12,504
2001-10	0	0	0	32	35	0	0	47	347	0	0	461	0	1,076	2,790	7,604	11,931
All Years	0	0	0	34	35	0	0	85	503	37	0	692	0	988	3,081	7,455	12,217
% Change from:																	
1999-02				-100.0%	-125.0%			-100.0%	14.8%	-100.0%		-16.7%		-82.4%	31.1%	44.7%	43.0%
2002									424.5%			70.6%		-85.7%	48.3%	20.2%	31.9%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	0.0%	0.0%	0.0%	3.9%	3.7%	0.0%	0.0%	13.2%	71.2%	8.0%	0.0%	7.4%	0.0%	7.2%	27.0%	58.4%	100.0%
2001-10	0.0%	0.0%	0.0%	4.2%	4.7%	0.0%	0.0%	6.3%	84.8%	0.0%	0.0%	3.6%	4.6%	5.6%	23.3%	62.9%	100.0%

Estimated (HIP) Hooded Merganser Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	0	1,103	0	125	210	59	0	1,222	0	2,059	0	4,778	0	13,249	47,565	29,713	95,306
2000	164	1,550	0	648	136	96	0	1,290	92	729	0	4,705	82	8,434	45,463	35,524	94,208
2001	0	1,725	0	203	79	0	0	1,417	83	1,063	0	4,570	0	9,520	43,362	26,608	84,061
2002	0	239	0	189	213	46	0	753	0	1,398	0	2,838	0	9,559	60,048	32,978	105,422
2003	128	835	128	681	302	192	0	782	494	1,947	0	5,488	0	7,132	55,608	29,181	97,409
Averages:																	
1999-00	82	1,327	0	387	173	77	0	1,256	46	1,394	0	4,741	41	10,841	46,514	32,619	94,757
2001-10	43	933	43	358	198	79	0	984	193	1,470	0	4,299	0	8,737	53,006	29,589	95,631
All Years	58	1,090	26	369	188	78	0	1,093	134	1,439	0	4,476	16	9,579	50,409	30,801	95,281
% Change from:																	
1999-02	212.5%	-83.6%		-41.8%	50.3%	-11.2%		-42.5%		8.9%		-39.4%		-8.1%	32.1%	7.7%	15.6%
2002		249.0%		259.9%	41.6%			3.8%		39.3%		93.4%		-25.4%	-7.4%	-11.5%	-7.6%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	1.7%	28.0%	0.0%	8.2%	3.6%	1.6%	0.0%	26.5%	1.0%	29.4%	0.0%	5.0%	0.0%	11.4%	49.1%	34.4%	100.0%
2001-10	1.0%	21.7%	1.0%	8.3%	4.6%	1.8%	0.0%	22.9%	4.5%	34.2%	0.0%	4.5%	0.0%	9.1%	55.4%	30.9%	100.0%

Estimated (HIP) Mallard Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	9,839	338,514	15,054	155,103	50,171	29,440	1,514	203,299	71,779	371,519	14,222	1,260,453	23,830	1,029,696	3,090,931	450,827	5,855,737
2000	15,221	309,376	15,426	141,071	61,920	17,024	2,705	203,834	66,474	324,242	8,061	1,165,355	19,190	999,162	3,310,933	533,447	6,028,088
2001	13,741	302,802	12,717	104,288	66,745	12,590	3,564	147,281	70,597	252,395	4,277	990,997	27,044	1,157,587	2,768,031	467,064	5,410,722
2002	8,989	225,408	10,943	110,220	56,506	19,152	7,181	177,015	63,076	231,429	1,152	911,071	19,655	1,007,034	2,423,134	554,703	4,915,597
2003	10,697	288,094	11,766	195,916	68,559	17,771	3,224	121,104	123,368	189,704	3,255	1,033,457	24,824	962,154	2,571,468	427,301	5,019,204
Averages:																	
1999-00	12,530	323,945	15,240	148,087	56,045	23,232	2,110	203,567	69,127	347,881	11,142	1,212,904	21,510	1,014,429	3,200,932	492,137	5,941,912
2001-10	11,143	272,101	11,809	136,808	63,936	16,504	4,656	148,467	85,680	224,509	2,895	978,508	23,841	1,042,258	2,587,544	483,023	5,115,174
All Years	11,698	292,839	13,181	141,319	60,780	19,195	3,638	170,507	79,059	273,858	6,193	1,072,267	22,909	1,031,127	2,832,899	486,668	5,445,870
% Change from:																	
1999-02	-10.5%	-28.9%	-24.0%	-17.4%	-5.2%	-2.7%	176.8%	-4.2%	-9.4%	-26.8%	-87.0%	-20.0%	-15.8%	-5.2%	-20.7%	14.7%	-14.7%
2002	19.0%	27.8%	7.5%	77.7%	21.3%	-7.2%	-55.1%	-31.6%	95.6%	-18.0%	182.6%	13.4%	26.3%	-4.5%	6.1%	-23.0%	2.1%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	1.0%	26.7%	1.3%	12.2%	4.6%	1.9%	0.2%	16.8%	5.7%	28.7%	0.9%	20.4%	0.4%	17.1%	53.9%	8.3%	100.0%
2001-10	1.1%	27.8%	1.2%	14.0%	6.5%	1.7%	0.5%	15.2%	8.8%	22.9%	0.3%	19.1%	0.5%	20.4%	50.6%	9.4%	100.0%

Estimated (HIP) Hand-reared Mallard Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	0	882	0	376	0	0	0	244	109	147	0	1,759	0	193	4,553	9,121	15,626
2000	0	1,193	0	288	68	0	0	129	183	365	0	2,225	0	1,312	9,473	10,123	23,133
2001	0	1,186	70	135	0	0	0	827	83	354	0	2,656	0	345	7,367	14,574	24,942
2002	106	837	0	189	0	46	0	188	110	70	0	1,546	0	577	7,123	16,367	25,613
2003	85	477	0	136	50	0	172	213	247	225	0	1,606	0	1,178	6,018	12,637	21,439
Averages:																	
1999-00	0	1,038	0	332	34	0	0	187	146	256	0	1,992	0	752	7,013	9,622	19,379
2001-10	64	833	23	153	17	15	57	409	147	216	0	1,936	0	700	6,836	14,526	23,998
All Years	38	915	14	225	24	9	34	320	147	232	0	1,958	0	721	6,907	12,564	22,151
% Change from:																	
1999-02	222.4%	-23.0%		-29.0%				-52.9%	-12.1%	-75.8%		-30.1%		-6.4%	-0.1%	45.2%	20.6%
2002	-19.4%	-43.0%		-28.0%		-100.0%		13.3%	124.8%	221.4%		3.9%		104.1%	-15.5%	-22.8%	-16.3%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	0.0%	52.1%	0.0%	16.7%	1.7%	0.0%	0.0%	9.4%	7.3%	12.8%	0.0%	10.3%	0.0%	3.9%	36.2%	49.7%	100.0%
2001-10	3.3%	43.0%	1.2%	7.9%	0.9%	0.8%	3.0%	21.2%	7.6%	11.2%	0.0%	8.1%	0.0%	2.9%	28.5%	60.5%	100.0%

Estimated (HIP) Gadwall Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	2,746	71,475	322	4,510	3,079	5,571	70	10,874	17,127	15,737	1,293	132,804	490	576,385	1,072,942	63,046	1,845,667
2000	5,892	59,633	1,192	5,182	2,313	4,569	366	14,578	16,206	18,959	733	129,623	577	603,797	1,283,920	65,198	2,083,115
2001	2,130	65,433	703	4,728	4,728	2,645	805	10,039	16,170	13,648	333	118,529	1,899	491,316	828,527	33,107	1,473,378
2002	2,803	71,389	670	4,036	6,531	7,056	853	8,945	16,608	11,253	299	130,442	1,177	403,950	673,853	41,936	1,251,359
2003	3,196	79,774	256	6,399	2,563	7,904	387	9,458	30,821	12,807	99	153,664	392	422,728	858,504	38,479	1,473,766
Averages:																	
1999-00	4,319	65,554	757	4,846	2,696	5,070	218	12,726	16,667	17,348	1,013	131,214	533	590,091	1,178,431	64,122	1,964,391
2001-10	2,710	72,199	543	5,054	4,607	5,868	682	9,481	21,200	12,569	243	134,211	1,156	439,331	786,962	37,841	1,399,501
All Years	3,353	69,541	628	4,971	3,843	5,549	496	10,779	19,386	14,481	551	133,012	907	499,635	943,549	48,353	1,625,457
% Change from:																	
1999-02	-5.8%	9.0%	-9.3%	-16.0%	93.6%	65.6%	106.3%	-24.4%	0.6%	-30.2%	-62.0%	2.7%	19.0%	-27.5%	-36.5%	-22.0%	-30.5%
2002	14.0%	11.7%	-61.8%	58.6%	-60.7%	12.0%	-54.7%	5.7%	85.6%	13.8%	-67.0%	17.8%	-66.7%	4.6%	27.4%	-8.2%	17.8%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	3.3%	50.0%	0.6%	3.7%	2.1%	3.9%	0.2%	9.7%	12.7%	13.2%	0.8%	6.7%	0.0%	30.0%	60.0%	3.3%	100.0%
2001-10	2.0%	53.8%	0.4%	3.8%	3.4%	4.4%	0.5%	7.1%	15.8%	9.4%	0.2%	9.6%	0.1%	31.4%	56.2%	2.7%	100.0%

Estimated (HIP) American Wigeon Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	3,203	172,621	1,369	14,784	3,429	2,229	528	63,164	14,727	105,896	1,385	383,335	18,036	206,387	164,827	50,039	822,623
2000	5,892	111,872	1,613	15,187	4,015	3,895	804	49,539	17,946	68,178	1,303	280,244	15,731	215,985	220,235	39,857	772,051
2001	4,900	146,927	913	12,496	6,003	1,958	1,494	49,723	12,753	66,289	570	304,028	16,552	204,268	169,185	36,719	730,752
2002	4,812	134,408	1,563	15,385	8,022	3,986	2,560	54,894	15,563	63,047	597	304,836	14,395	187,825	147,440	33,078	687,574
2003	6,648	112,566	1,151	20,150	4,574	3,784	903	38,614	21,097	64,408	197	274,092	9,397	151,005	124,228	39,505	598,228
Averages:																	
1999-00	4,548	142,246	1,491	14,985	3,722	3,062	666	56,352	16,336	87,037	1,344	331,789	16,883	211,186	192,531	44,948	797,337
2001-10	5,453	131,301	1,209	16,010	6,200	3,243	1,652	47,744	16,471	64,581	455	294,319	13,448	181,033	146,951	36,434	672,185
All Years	5,091	135,679	1,322	15,600	5,208	3,171	1,258	51,187	16,417	73,564	811	309,307	14,822	193,094	165,183	39,839	722,246
% Change from:																	
1999-02	41.4%	-6.5%	20.4%	8.7%	79.0%	48.0%	171.6%	1.4%	2.8%	-21.3%	-45.0%	-5.5%	-14.2%	-10.1%	-20.2%	-21.6%	-11.3%
2002	38.2%	-16.3%	-26.4%	31.0%	-43.0%	-5.1%	-64.7%	-29.7%	35.6%	2.2%	-67.0%	-10.1%	-34.7%	-19.6%	-15.7%	19.4%	-13.0%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	1.4%	42.9%	0.4%	4.5%	1.1%	0.9%	0.2%	17.0%	4.9%	26.2%	0.4%	41.6%	2.1%	26.5%	24.1%	5.6%	100.0%
2001-10	1.9%	44.6%	0.4%	5.4%	2.1%	1.1%	0.6%	16.2%	5.6%	21.9%	0.2%	43.8%	2.0%	26.9%	21.9%	5.4%	100.0%

Estimated (HIP) American Green-winged Teal Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	8,085	294,173	1,852	15,410	2,029	27,505	458	45,816	65,998	55,301	1,478	518,103	13,629	360,715	886,778	243,534	2,022,760
2000	6,874	192,018	2,244	11,876	2,586	17,361	366	55,345	54,205	61,616	326	404,815	10,295	347,317	699,540	191,321	1,653,289
2001	9,054	200,502	562	8,105	2,528	9,970	460	30,472	30,089	27,296	523	319,561	10,040	327,936	573,282	142,239	1,373,058
2002	6,134	239,758	983	9,269	5,537	6,094	2,489	40,770	36,350	32,013	341	379,737	7,544	295,575	548,398	158,248	1,389,501
2003	7,884	218,097	2,558	15,248	2,362	7,425	516	37,689	38,980	28,085	148	358,993	9,632	285,370	724,851	137,155	1,516,001
Averages:																	
1999-00	7,479	243,096	2,048	13,643	2,307	22,433	412	50,580	60,101	58,459	902	461,459	11,962	354,016	793,159	217,427	1,838,024
2001-10	7,691	219,453	1,368	10,874	3,476	7,829	1,155	36,310	35,140	29,131	337	352,764	9,072	302,960	615,510	145,881	1,426,187
All Years	7,606	228,910	1,640	11,982	3,008	13,671	857	42,018	45,124	40,862	563	396,242	10,228	323,383	686,570	174,499	1,590,922
% Change from:																	
1999-02	4.6%	4.7%	-36.7%	-21.4%	132.6%	-66.7%	481.8%	-7.1%	-27.4%	-33.4%	-56.0%	-8.3%	-33.4%	-14.4%	-23.8%	-17.7%	-17.4%
2002	28.5%	-9.0%	160.3%	64.5%	-57.3%	21.8%	-79.3%	-7.6%	7.2%	-12.3%	-56.6%	-5.5%	27.7%	-3.5%	32.2%	-13.3%	9.1%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	1.6%	52.7%	0.4%	3.0%	0.5%	4.9%	0.1%	11.0%	13.0%	12.7%	0.2%	25.1%	0.7%	19.3%	43.2%	11.8%	100.0%
2001-10	2.2%	62.2%	0.4%	3.1%	1.0%	2.2%	0.3%	10.3%	10.0%	8.3%	0.1%	24.7%	0.6%	21.2%	43.2%	10.2%	100.0%

Estimated (HIP) Blue-winged/Cinnamon Teal Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	2,136	48,643	161	1,253	560	1,290	0	367	4,145	441	0	58,995	82	281,837	731,696	83,288	1,155,898
2000	1,637	27,312	701	1,583	612	1,827	0	774	2,655	729	81	37,913	0	375,503	721,412	82,436	1,217,263
2001	959	36,112	351	203	869	966	0	591	1,334	266	190	41,840	271	374,132	611,796	51,601	1,079,641
2002	1,586	35,635	402	631	2,768	641	0	1,036	8,139	699	0	51,537	484	209,869	451,246	52,570	765,706
2003	2,046	46,267	0	817	955	287	0	640	6,016	300	99	57,426	0	263,127	611,188	45,872	977,614
Averages:																	
1999-00	1,886	37,977	431	1,418	586	1,559	0	570	3,400	585	41	48,454	41	328,670	726,554	82,862	1,186,580
2001-10	1,530	39,338	251	550	1,531	632	0	755	5,163	421	96	50,268	252	282,376	558,077	50,015	940,987
All Years	1,673	38,794	323	897	1,153	1,003	0	681	4,458	487	74	49,542	167	300,894	625,468	63,153	1,039,224
% Change from:																	
1999-02	29.5%	-4.6%	-0.6%	-37.8%	306.9%	-52.9%		79.5%	200.2%	46.0%		11.4%	311.8%	-39.0%	-34.4%	-27.4%	-33.5%
2002	29.0%	29.8%	-100.0%	29.6%	-65.5%			-38.2%	-26.1%	-57.1%		11.4%	-100.0%	25.4%	35.4%	-12.7%	27.7%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	3.9%	78.4%	0.9%	2.9%	1.2%	3.2%	0.0%	1.2%	7.0%	1.2%	0.1%	4.1%	0.0%	27.7%	61.2%	7.0%	100.0%
2001-10	3.0%	78.3%	0.5%	1.1%	3.0%	1.3%	0.0%	1.5%	10.3%	0.8%	0.2%	5.3%	0.0%	30.0%	59.3%	5.3%	100.0%

Estimated (HIP) Northern Shoveler Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	1,678	112,948	0	2,255	1,679	5,278	35	17,593	43,089	7,207	185	191,948	2,775	124,486	197,755	17,616	534,579
2000	2,782	83,248	0	2,159	476	2,116	73	14,062	11,995	10,452	0	127,363	3,541	101,406	198,537	18,005	448,853
2001	1,278	111,678	0	1,216	474	2,645	0	14,527	6,168	5,849	143	143,978	2,442	130,979	231,748	17,107	526,254
2002	1,957	103,915	45	2,648	1,704	3,574	0	10,169	21,282	8,527	85	153,906	4,014	86,590	128,638	14,138	387,285
2003	2,429	96,230	0	2,859	804	6,946	129	10,098	28,431	7,939	0	155,865	1,879	88,270	209,872	12,748	468,634
Averages:																	
1999-00	2,230	98,098	0	2,207	1,078	3,697	54	15,828	27,542	8,829	92	159,655	3,158	112,946	198,146	17,811	491,716
2001-10	1,888	103,941	15	2,241	994	4,388	43	11,598	18,627	7,438	76	151,249	2,779	101,946	190,086	14,664	460,725
All Years	2,025	101,604	9	2,228	1,027	4,112	47	13,290	22,193	7,995	83	154,612	2,930	106,346	193,310	15,923	473,121
% Change from:																	
1999-02	26.3%	1.3%		41.1%	94.4%	6.8%	-100.0%	-33.9%	4.2%	8.8%	-21.8%	-0.3%	37.5%	-27.2%	-38.6%	-19.6%	-23.0%
2002	24.2%	-7.4%	-100.0%	8.0%	-52.8%	94.4%	#DIV/0!	-0.7%	33.6%	-6.9%	-100.0%	1.3%	-53.2%	1.9%	63.1%	-9.8%	21.0%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	1.4%	61.4%	0.0%	1.4%	0.7%	2.3%	0.0%	9.9%	17.3%	5.5%	0.1%	32.5%	0.6%	23.0%	40.3%	3.6%	100.0%
2001-10	1.2%	68.7%	0.0%	1.5%	0.7%	2.9%	0.0%	7.7%	12.3%	4.9%	0.1%	32.8%	0.6%	22.1%	41.3%	3.2%	100.0%

Estimated (HIP) Northern Pintail Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	1,220	124,309	161	5,137	770	6,627	0	27,123	21,054	34,710	739	221,850	10,854	133,317	148,299	25,200	539,520
2000	2,128	82,174	210	4,966	1,021	3,703	0	30,575	19,228	39,619	326	183,950	17,213	134,252	155,082	20,752	511,250
2001	2,343	89,687	70	2,702	948	2,289	345	18,779	12,503	16,218	285	146,169	11,306	134,612	122,522	19,276	433,885
2002	582	79,999	89	2,711	3,052	2,153	711	17,702	11,548	13,560	43	132,151	11,281	60,407	102,481	16,367	322,686
2003	1,151	79,297	0	5,854	1,206	1,820	43	15,716	18,789	11,009	49	134,936	9,084	55,641	123,318	18,134	341,113
Averages:																	
1999-00	1,674	103,242	186	5,051	895	5,165	0	28,849	20,141	37,165	532	202,900	14,034	133,785	151,690	22,976	525,385
2001-10	1,359	82,994	53	3,756	1,736	2,088	366	17,399	14,280	13,596	126	137,752	10,557	83,553	116,107	17,926	365,895
All Years	1,485	91,093	106	4,274	1,399	3,319	220	21,979	16,624	23,023	288	163,811	11,948	103,646	130,340	19,946	429,691
% Change from:																	
1999-02	-26.6%	-19.0%	-39.3%	-36.5%	234.4%	-48.8%	518.5%	-30.6%	-34.4%	-55.1%	-90.5%	-28.2%	-14.0%	-54.9%	-27.8%	-24.7%	-34.8%
2002	97.8%	-0.9%	-100.0%	115.9%	-60.5%	-15.5%	-94.0%	-11.2%	62.7%	-18.8%	15.6%	2.1%	-19.5%	-7.9%	20.3%	10.8%	5.7%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	0.8%	50.9%	0.1%	2.5%	0.4%	2.5%	0.0%	14.2%	9.9%	18.3%	0.3%	38.6%	2.7%	25.5%	28.9%	4.4%	100.0%
2001-10	1.0%	60.2%	0.0%	2.7%	1.3%	1.5%	0.3%	12.6%	10.4%	9.9%	0.1%	37.6%	2.9%	22.8%	31.7%	4.9%	100.0%

Estimated (HIP) Wood Duck Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	0	27,686	81	4,134	280	1,056	35	12,218	109	6,619	0	52,216	0	126,907	938,102	414,691	1,531,917
2000	164	32,321	70	3,959	68	337	146	10,579	366	5,590	0	53,600	0	119,184	819,745	351,931	1,344,459
2001	107	32,555	70	1,554	237	127	0	16,063	250	2,836	0	53,798	0	112,835	633,140	385,682	1,185,455
2002	0	24,753	0	1,829	284	229	0	6,873	165	3,705	0	37,838	0	81,665	720,392	372,941	1,212,835
2003	341	25,280	0	2,723	302	575	0	9,031	165	2,546	0	40,962	0	76,038	779,488	338,004	1,234,493
Averages:																	
1999-00	82	30,003	75	4,047	174	696	91	11,398	238	6,104	0	52,908	0	123,046	878,923	383,311	1,438,188
2001-10	149	27,529	23	2,035	274	310	0	10,656	193	3,029	0	44,199	0	90,179	711,007	365,542	1,210,928
All Years	122	28,519	44	2,840	234	465	36	10,953	211	4,259	0	47,683	0	103,326	778,173	372,650	1,301,832
% Change from:																	
1999-02	404.8%	-19.8%		-43.1%	45.6%	-54.8%		-46.9%	-31.8%	-26.1%		-28.9%		-31.7%	-9.6%	-2.9%	-10.4%
2002		2.1%		48.9%	6.2%			31.4%	-0.1%	-31.3%		8.3%		-6.9%	8.2%	-9.4%	1.8%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	0.2%	56.7%	0.1%	7.6%	0.3%	1.3%	0.2%	21.5%	0.4%	11.5%	0.0%	3.7%	0.0%	8.6%	61.1%	26.7%	100.0%
2001-10	0.3%	62.3%	0.1%	4.6%	0.6%	0.7%	0.0%	24.1%	0.4%	6.9%	0.0%	3.7%	0.0%	7.4%	58.7%	30.2%	100.0%

Estimated (HIP) Redhead Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	1,220	5,074	0	376	490	1,349	0	2,077	4,036	1,618	0	16,240	0	102,212	56,677	3,836	178,965
2000	1,309	4,055	70	936	408	481	0	2,580	2,838	1,701	0	14,379	165	86,031	48,994	8,148	157,718
2001	0	4,312	0	135	395	102	0	118	2,000	4,431	0	11,493	0	92,579	50,617	6,141	160,831
2002	529	4,903	0	567	1,278	412	0	377	2,200	1,398	0	11,663	208	28,719	28,995	2,282	71,866
2003	341	8,228	0	2,451	1,056	719	0	213	7,911	1,797	49	22,765	157	34,400	37,828	5,570	100,719
Averages:																	
1999-00	1,265	4,564	35	656	449	915	0	2,329	3,437	1,660	0	15,310	82	94,122	52,836	5,992	168,341
2001-10	290	5,814	0	1,051	909	411	0	236	4,037	2,542	16	15,307	121	51,899	39,147	4,664	111,139
All Years	680	5,314	14	893	725	612	0	1,073	3,797	2,189	10	15,308	106	68,788	44,622	5,195	134,020
% Change from:																	
1999-02	-55.4%	9.4%		17.7%	196.5%	-36.0%		-76.3%	-25.6%	-45.9%		-16.9%	278.1%	-69.3%	-44.3%	-62.2%	-56.7%
2002	-35.5%	67.8%		331.8%	-17.4%			-43.4%	259.7%	28.6%		95.2%	-24.6%	19.8%	30.5%	144.1%	40.1%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	8.3%	29.8%	0.2%	4.3%	2.9%	6.0%	0.0%	15.2%	22.5%	10.8%	0.0%	9.1%	0.0%	55.9%	31.4%	3.6%	100.0%
2001-10	1.9%	38.0%	0.0%	6.9%	5.9%	2.7%	0.0%	1.5%	26.4%	16.6%	0.1%	13.8%	0.1%	46.7%	35.2%	4.2%	100.0%

Estimated (HIP) Canvasback Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	153	13,126	0	0	420	997	0	2,321	1,309	2,059	0	20,385	0	34,475	37,547	5,577	97,983
2000	818	10,615	0	288	408	240	0	3,096	3,022	972	81	19,541	247	26,587	49,921	16,796	113,093
2001	213	6,576	0	0	79	76	0	591	1,000	798	0	9,332	0	14,013	11,334	1,546	36,225
2002	0	717	0	0	71	0	0	94	0	70	0	953	346	1,152	604	0	3,055
2003	256	7,035	0	408	302	335	0	498	1,566	824	0	11,224	157	8,005	11,259	4,738	35,383
Averages:																	
1999-00	485	11,870	0	144	414	619	0	2,709	2,165	1,516	41	19,963	124	30,531	43,734	11,186	105,538
2001-10	156	4,776	0	136	151	137	0	394	855	564	0	7,170	168	7,723	7,732	2,095	24,887
All Years	288	7,614	0	139	256	330	0	1,320	1,379	945	16	12,287	150	16,847	22,133	5,731	57,148
% Change from:																	
1999-02	-13.6%	-92.9%			-76.5%			-95.3%		-94.5%		-94.2%	320.2%	-95.4%	-98.2%		-96.3%
2002		880.6%			324.8%			428.7%		1078.6%		1078.3%	-54.7%	594.7%	1765.1%		1058.3%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	2.4%	59.5%	0.0%	0.7%	2.1%	3.1%	0.0%	13.6%	10.8%	7.6%	0.2%	18.9%	0.1%	28.9%	41.4%	10.6%	100.0%
2001-10	2.2%	66.6%	0.0%	1.9%	2.1%	1.9%	0.0%	5.5%	11.9%	7.9%	0.0%	28.8%	0.7%	31.0%	31.1%	8.4%	100.0%

Estimated (HIP) Greater Scaup Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	0	2,868	0	251	0	0	0	14,539	327	1,030	0	19,014	408	2,925	9,209	8,219	39,775
2000	0	2,982	70	72	136	0	0	12,256	183	3,038	0	18,737	577	2,444	19,253	13,483	54,494
2001	0	6,144	0	0	0	0	0	4,252	333	4,520	0	15,249	362	1,811	8,060	7,582	33,065
2002	0	5,022	0	378	71	92	0	8,380	275	5,592	43	19,853	761	3,619	30,216	17,809	72,258
2003	85	4,412	0	136	0	96	0	6,187	82	4,419	0	15,417	705	1,257	14,469	17,344	49,192
Averages:																	
1999-00	0	2,925	35	161	68	0	0	13,397	255	2,034	0	18,876	492	2,685	14,231	10,851	47,134
2001-10	28	5,193	0	171	24	62	0	6,273	230	4,843	14	16,840	609	2,229	17,582	14,245	51,505
All Years	17	4,286	14	167	41	37	0	9,123	240	3,720	9	17,654	563	2,411	16,242	12,887	49,757
% Change from:																	
1999-02		25.6%		251.9%	56.5%			-19.0%	-2.2%	95.3%		12.4%	69.6%	51.2%	148.2%	82.4%	70.2%
2002		-12.2%		-64.0%				-26.2%	-70.0%	-21.0%		-22.3%	-7.4%	-65.3%	-52.1%	-2.6%	-31.9%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	0.0%	15.5%	0.2%	0.9%	0.4%	0.0%	0.0%	71.0%	1.4%	10.8%	0.0%	40.0%	1.0%	5.7%	30.2%	23.0%	100.0%
2001-10	0.2%	30.8%	0.0%	1.0%	0.1%	0.4%	0.0%	37.3%	1.4%	28.8%	0.1%	32.7%	1.2%	4.3%	34.1%	27.7%	100.0%

Estimated (HIP) Lesser Scaup Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	76	9,927	0	376	630	0	0	7,941	3,273	6,471	0	28,694	653	39,054	74,670	64,243	207,314
2000	164	12,642	210	720	1,905	144	0	8,257	2,106	3,767	0	29,915	741	81,797	187,098	32,390	331,943
2001	213	13,690	0	270	2,291	76	0	5,551	1,584	5,760	0	29,436	452	71,725	165,746	97,228	364,587
2002	529	13,991	89	694	2,414	275	0	8,380	3,959	3,635	0	33,965	1,315	85,386	185,381	84,399	390,446
2003	213	12,998	0	1,634	704	240	43	6,969	10,054	5,317	0	38,171	861	45,008	153,617	60,939	298,597
Averages:																	
1999-00	120	11,285	105	548	1,267	72	0	8,099	2,689	5,119	0	29,305	697	60,425	130,884	48,317	269,628
2001-10	318	13,560	30	866	1,803	197	14	6,967	5,199	4,904	0	33,857	876	67,373	168,248	80,856	351,210
All Years	239	12,650	60	739	1,589	147	9	7,420	4,195	4,990	0	32,036	805	64,594	153,302	67,840	318,577
% Change from:																	
1999-02	-13.2%	15.8%	27.4%	52.4%	50.0%	273.9%		15.6%	70.6%	-31.8%		15.7%	113.7%	33.0%	30.1%	30.6%	29.6%
2002	-59.7%	-7.1%		135.5%	-70.8%	-12.9%		-16.8%	153.9%	46.3%		12.4%	-34.5%	-47.3%	-17.1%	-27.8%	-23.5%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	0.4%	38.5%	0.4%	1.9%	4.3%	0.2%	0.0%	27.6%	9.2%	17.5%	0.0%	10.9%	0.3%	22.4%	48.5%	17.9%	100.0%
2001-10	0.9%	40.0%	0.1%	2.6%	5.3%	0.6%	0.0%	20.6%	15.4%	14.5%	0.0%	9.6%	0.2%	19.2%	47.9%	23.0%	100.0%

Estimated (HIP) Ring-necked Duck Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	3,814	18,310	161	877	140	880	35	8,797	982	10,148	185	44,328	1,306	97,137	237,456	152,195	532,422
2000	3,928	11,330	1,122	1,008	272	481	0	7,354	1,007	6,320	0	32,821	577	108,963	260,334	92,013	494,708
2001	2,557	17,571	351	1,148	474	331	115	4,961	1,834	8,242	0	37,583	452	79,447	226,706	66,583	410,771
2002	3,226	19,013	357	883	710	641	427	4,708	1,320	6,570	0	37,855	1,246	70,622	250,330	91,736	451,789
2003	2,983	15,502	256	545	352	671	129	5,973	2,307	6,591	0	35,308	1,018	62,466	239,855	112,806	451,453
Averages:																	
1999-00	3,871	14,820	641	942	206	680	18	8,075	994	8,234	92	38,574	941	103,050	248,895	122,104	513,565
2001-10	2,922	17,362	321	859	512	548	224	5,214	1,820	7,134	0	36,915	905	70,845	238,964	90,375	438,004
All Years	3,301	16,345	449	892	390	601	141	6,358	1,490	7,574	37	37,579	920	83,727	242,936	103,067	468,228
% Change from:																	
1999-02	-11.8%	20.8%	-34.4%	-12.7%	140.3%	13.8%	752.3%	-33.1%	3.6%	-20.2%		-1.0%	60.1%	-25.8%	3.7%	-11.4%	-5.7%
2002	-7.5%	-18.5%	-28.4%	-38.3%	-50.4%	4.5%	-69.8%	26.9%	74.8%	0.3%		-6.7%	-18.3%	-11.5%	-4.2%	23.0%	-0.1%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	10.0%	38.4%	1.7%	2.4%	0.5%	1.8%	0.0%	20.9%	2.6%	21.3%	0.2%	7.5%	0.2%	20.1%	48.5%	23.8%	100.0%
2001-10	7.9%	47.0%	0.9%	2.3%	1.4%	1.5%	0.6%	14.1%	4.9%	19.3%	0.0%	8.4%	0.2%	16.2%	54.6%	20.6%	100.0%

Estimated (HIP) Common Goldeneye Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	76	1,875	483	1,503	1,469	176	0	733	2,400	4,706	739	14,161	734	2,982	21,958	9,955	49,792
2000	164	3,697	280	2,375	1,837	48	0	1,419	4,944	1,701	0	16,467	1,647	7,898	18,245	13,046	57,303
2001	107	4,096	70	540	1,852	229	0	2,008	2,334	1,950	0	13,186	452	6,651	22,485	5,944	48,719
2002	635	2,990	179	8,386	4,472	412	0	847	10,229	2,097	0	30,246	2,699	8,372	37,405	12,349	91,072
2003	341	3,935	895	4,629	2,161	431	43	1,138	24,641	2,621	0	40,835	1,096	11,678	32,612	13,439	99,661
Averages:																	
1999-00	120	2,786	382	1,939	1,653	112	0	1,076	3,672	3,204	369	15,314	1,191	5,440	20,102	11,501	53,547
2001-10	361	3,674	381	4,519	2,829	357	14	1,331	12,401	2,223	0	28,089	1,416	8,900	30,834	10,578	79,817
All Years	264	3,319	382	3,487	2,358	259	9	1,229	8,909	2,615	148	22,979	1,326	7,516	26,541	10,947	69,309
% Change from:																	
1999-02	39.0%	-7.2%	-35.7%	469.3%	160.1%	173.1%		-38.9%	217.1%	-24.7%		107.1%	185.7%	43.3%	79.0%	28.0%	75.3%
2002	-46.3%	31.6%	401.1%	-44.8%	-51.7%	4.5%		34.3%	140.9%	25.0%		35.0%	-59.4%	39.5%	-12.8%	8.8%	9.4%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	0.8%	18.2%	2.5%	12.7%	10.8%	0.7%	0.0%	7.0%	24.0%	20.9%	2.4%	28.6%	2.2%	10.2%	37.5%	21.5%	100.0%
2001-10	1.3%	13.1%	1.4%	16.1%	10.1%	1.3%	0.1%	4.7%	44.1%	7.9%	0.0%	35.2%	1.8%	11.2%	38.6%	13.3%	100.0%

Estimated (HIP) Barrow's Goldeneye Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	0	110	0	251	70	59	0	122	218	1,177	92	2,099	1,714	210	0	0	4,023
2000	0	239	70	792	817	0	0	774	916	365	0	3,971	1,730	70	0	59	5,830
2001	0	216	0	405	0	25	0	0	417	532	0	1,595	633	353	0	82	2,664
2002	0	120	0	378	639	0	0	0	385	280	0	1,801	2,491	43	0	27	4,363
2003	0	119	0	0	151	48	0	427	165	524	0	1,434	3,837	99	0	0	5,369
Averages:																	
1999-00	0	174	35	521	443	29	0	448	567	771	46	3,035	1,722	140	0	29	4,926
2001-10	0	151	0	261	263	24	0	142	322	445	0	1,610	2,321	165	0	37	4,132
All Years	0	161	14	365	335	26	0	265	420	575	18	2,180	2,081	155	0	34	4,450
% Change from:																	
1999-02		-36.4%		-21.6%	116.2%				-25.5%	-59.5%		-29.5%	83.4%	-79.8%		-41.6%	4.6%
2002		-0.3%			-76.4%				-57.2%	87.5%		-20.4%	54.0%	131.2%			23.1%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	0.0%	5.7%	1.2%	17.2%	14.6%	1.0%	0.0%	14.8%	18.7%	25.4%	1.5%	61.6%	35.0%	2.8%	0.0%	0.6%	100.0%
2001-10	0.0%	9.4%	0.0%	16.2%	16.4%	1.5%	0.0%	8.8%	20.0%	27.7%	0.0%	39.0%	56.2%	4.0%	0.0%	0.9%	100.0%

Estimated (HIP) Bufflehead Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	1,220	5,184	0	1,128	210	411	35	7,941	327	12,796	92	29,344	490	12,552	87,797	61,210	191,393
2000	982	4,174	140	144	136	192	0	8,257	732	4,618	0	19,376	988	13,063	49,232	49,941	132,600
2001	746	5,282	0	135	158	432	0	9,803	1,917	9,217	0	27,690	995	14,053	59,465	39,993	142,196
2002	1,322	8,849	89	1,766	639	779	0	8,003	2,475	3,844	0	27,766	1,384	11,414	81,526	61,074	183,165
2003	256	9,897	0	1,089	302	431	43	9,600	6,181	8,163	0	35,962	705	9,564	89,254	54,571	190,055
Averages:																	
1999-00	1,101	4,679	70	636	173	301	18	8,099	530	8,707	46	24,360	739	12,807	68,515	55,575	161,997
2001-10	774	8,009	30	997	366	547	14	9,135	3,524	7,075	0	30,473	1,028	11,677	76,748	51,880	171,805
All Years	905	6,677	46	852	289	449	16	8,721	2,326	7,728	18	28,028	912	12,129	73,455	53,358	167,882
% Change from:																	
1999-02	-76.0%	81.3%	91.1%	276.6%	280.3%	125.7%		-7.7%	149.4%	-56.7%		9.0%	67.9%	-13.7%	24.5%	21.2%	17.9%
2002	-80.7%	11.8%		-38.3%	-52.8%	-44.7%		20.0%	149.8%	112.3%		29.5%	-49.1%	-16.2%	9.5%	-10.6%	3.8%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	4.5%	19.2%	0.3%	2.6%	0.7%	1.2%	0.1%	33.2%	2.2%	35.7%	0.2%	15.0%	0.5%	7.9%	42.3%	34.3%	100.0%
2001-10	2.5%	26.3%	0.1%	3.3%	1.2%	1.8%	0.0%	30.0%	11.6%	23.2%	0.0%	17.7%	0.6%	6.8%	44.7%	30.2%	100.0%

Estimated (HIP) Long-tailed Duck Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	0	0	0	0	0	0	0	0	0	147	0	147	0	0	247	17,374	17,768
2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	771	15,896	16,667
2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	148	37,818	37,966
2002	0	0	0	0	0	0	0	0	0	419	0	419	0	45	451	20,204	21,119
2003	0	0	0	136	0	0	0	71	0	225	0	432	811	0	2,640	17,627	21,509
Averages:																	
1999-00	0	0	0	0	0	0	0	0	0	74	0	74	0	0	509	16,635	17,218
2001-10	0	0	0	0	0	0	0	0	0	210	0	210	0	23	300	29,011	29,543
All Years	0	0	0	0	0	0	0	0	0	142	0	142	0	11	404	22,823	23,380
% Change from:																	
1999-02										58.8%		205.3%			553.0%	-22.8%	-8.0%
2002										-46.4%					485.3%	-12.8%	1.8%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.4%	0.0%	0.0%	3.0%	96.6%	100.0%
2001-10	0.0%	0.0%	0.0%	16.0%	0.0%	0.0%	0.0%	8.4%	0.0%	75.6%	0.0%	1.1%	1.0%	0.1%	4.0%	93.9%	100.0%

Estimated (HIP) Harlequin Duck Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	0	0	0	0	0	0	0	0	0	441	0	441	0	0	0	0	441
2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	70	0	0	0	0	0	0	0	0	70	0	0	0	0	70
2002	0	0	0	0	0	0	0	0	0	70	0	70	2,347	0	0	0	2,417
2003	0	0	0	136	0	0	0	0	0	0	0	136	811	0	1,175	0	2,122
Averages:																	
1999-00	0	0	0	0	0	0	0	0	0	221	0	221	0	0	0	0	221
2001-10	0	0	35	0	0	0	0	0	0	35	0	70	1,174	0	0	0	1,244
All Years	0	0	18	0	0	0	0	0	0	128	0	145	587	0	0	0	732
% Change from:																	
1999-02												-6.3%					189.9%
2002												94.8%					-12.2%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
2001-10	0.0%	0.0%	25.4%	49.3%	0.0%	0.0%	0.0%	0.0%	0.0%	25.3%	0.0%	6.0%	68.5%	0.0%	25.5%	0.0%	100.0%

Estimated (HIP) Black Scoter by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	0	0	0	0	0	0	0	0	0	0	0	0	741	197	924	7,833	9,695
2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,044	5,297	6,341
2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	819	5,831	6,649
2002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	799	10,822	11,621
2003	0	0	0	0	0	0	0	0	0	0	0	0	811	0	1,985	17,845	20,641
Averages:																	
1999-00	0	0	0	0	0	0	0	0	0	0	0	0	371	98	984	6,565	8,018
2001-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	809	8,326	9,135
All Years	0	0	0	0	0	0	0	0	0	0	0	0	185	49	896	7,446	8,577
% Change from:																	
1999-02													337.6%	-100.0%	121.4%	139.7%	140.7%
2002															148.4%	64.9%	77.6%
% Flyway Harvest:												% U.S. Harvest:					
1999-00												0.0%	4.6%	1.2%	12.3%	81.9%	100.0%
2001-10												0.0%	2.1%	0.0%	9.3%	88.7%	100.0%

Estimated (HIP) White-winged Scoter Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	0	0	0	0	0	0	0	0	0	294	0	294	834	193	0	2,178	3,500
2000	0	0	0	0	0	0	0	0	0	0	0	0	1,200	68	0	4,863	6,131
2001	0	108	0	0	0	0	0	0	0	354	0	462	6,100	0	1,485	15,143	23,190
2002	0	0	0	0	0	0	0	0	0	839	0	839	0	217	838	7,285	9,179
2003	0	0	0	0	0	0	0	0	0	599	0	599	1,622	159	1,903	6,822	11,106
Averages:																	
1999-00	0	0	0	0	0	0	0	0	0	147	0	147	1,017	131	0	3,521	4,816
2001-10	0	54	0	0	0	0	0	0	0	597	0	651	3,050	108	1,162	11,214	16,185
All Years	0	27	0	0	0	0	0	0	0	372	0	399	2,034	120	581	7,367	10,500
% Change from:																	
1999-02										61.1%		50.2%	-20.2%	33.4%	227.7%	-7.4%	5.8%
2002										-28.6%		-28.6%		-26.5%	127.0%	-6.4%	21.0%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	3.1%	21.1%	2.7%	0.0%	73.1%	100.0%
2001-10	0.0%	5.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	94.3%	0.0%	4.4%	17.8%	0.9%	9.7%	67.3%	100.0%

Estimated (HIP) Surf Scoter Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	0	110	0	0	0	0	0	244	0	294	0	649	2,132	193	2,855	9,253	15,082
2000	0	119	0	0	0	0	0	129	0	972		1,221	2,400	70	274	13,373	17,338
2001	0	216	0	0	0	0	0	0	0	1,241	0	1,456	0	132	333	26,753	28,675
2002	0	0	0	63	0	46	0	471	55	2,097	0	2,732	0	124	973	20,126	23,954
2003	43	119	0	0	0	0	0	71	0	150	0	383	0	173	1,145	38,507	40,209
Averages:																	
1999-00	0	115	0	0	0	0	0	187	0	633	0	935	2,266	132	1,565	11,313	16,210
2001-10	0	108	0	32	0	23	0	235	27	1,669	0	2,094	0	128	653	23,439	26,315
All Years	0	111	0	16	0	11	0	211	14	1,151	0	1,514	1,133	130	1,109	17,376	21,262
% Change from:																	
1999-02								-66.3%		-87.0%		-74.7%		33.5%	3.3%	121.6%	89.1%
2002								-84.9%		-92.9%		-86.0%		40.0%	17.6%	91.3%	67.9%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	0.0%	12.3%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	0.0%	67.7%	0.0%	5.8%	14.0%	0.8%	9.7%	69.8%	100.0%
2001-10	0.0%	7.3%	0.0%	1.4%	0.0%	1.0%	0.0%	11.9%	1.2%	76.3%	0.0%	4.9%	0.0%	0.5%	2.6%	92.0%	100.0%

Estimated (HIP) Ruddy Duck Harvest by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	229	3,861	0	0	280	6,158	0	611	327	147	0	11,612	0	7,587	14,727	29,050	62,978
2000	0	1,193	0	144	204	289	0	129	732	122	0	2,812	0	5,770	6,465	11,363	26,410
2001	0	2,264	0	135	79	636	0	118	2,000	89	0	5,321	0	3,946	4,191	6,629	20,087
2002	159	2,033	0	252	142	275	0	0	330	0	0	3,191	0	1,977	4,715	7,180	17,063
2003	426	2,743	0	272	201	383	0	213	1,319	75	0	5,632	0	1,748	13,202	2,474	23,056
Averages:																	
1999-00	114	2,527	0	72	242	3,223	0	370	530	134	0	7,212	0	6,679	10,596	20,207	44,694
2001-10	195	2,346	0	220	141	431	0	110	1,216	55	0	4,714	0	2,557	7,370	5,428	20,069
All Years	163	2,418	0	161	181	1,548	0	214	942	86	0	5,714	0	4,206	8,660	11,339	29,919
% Change from:																	
1999-02	340.0%	-16.7%		171.2%	-24.3%	-88.4%			-67.7%			-51.5%		-65.7%	-44.3%	-54.2%	-53.2%
2002	168.7%	34.9%		8.0%	41.6%				299.6%			76.5%		-11.6%	180.0%	-65.5%	35.1%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	1.6%	35.0%	0.0%	1.0%	3.4%	44.7%	0.0%	5.1%	7.3%	1.9%	0.0%	16.1%	0.0%	14.9%	23.7%	45.2%	100.0%
2001-10	4.1%	49.8%	0.0%	4.7%	3.0%	9.1%	0.0%	2.3%	25.8%	1.2%	0.0%	23.5%	0.0%	12.7%	36.7%	27.0%	100.0%

Total Goose Harvest (HIP) by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	3,800	116,600	7,015	46,600	12,414	10,700	1,083	81,700	23,200	84,900	3,299	391,309	10,000	1,273,491	1,173,200	502,300	3,350,300
2000	4,900	75,400	9,744	61,800	45,572	6,500	4,597	81,000	23,700	77,600	3,198	394,012	10,700	1,340,489	1,566,500	509,201	3,820,902
2001	15,500	107,800	5,106	64,400	28,460	6,300	1,613	54,000	18,300	60,400	1,504	363,382	7,900	1,144,018	1,309,400	810,498	3,635,198
2002	3,100	116,300	3,994	36,700	20,546	7,000	2,559	66,900	25,000	56,000	529	338,628	6,000	1,002,772	1,233,700	792,299	3,373,398
2003	2,300	118,300	5,403	84,200	28,983	8,600	3,416	59,900	29,600	73,500	1,192	415,394	6,900	1,134,107	1,528,799	739,200	3,824,400
Averages:																	
1999-00	4,350	96,000	8,379	54,200	28,993	8,600	2,840	81,350	23,450	81,250	3,248	392,661	10,350	1,306,990	1,369,850	505,750	3,585,601
2001-10	6,967	114,133	4,834	61,767	25,996	7,300	2,529	60,267	24,300	63,300	1,075	372,468	6,933	1,093,632	1,357,300	780,666	3,610,999
All Years	5,920	106,880	6,252	58,740	27,195	7,820	2,653	68,700	23,960	70,480	1,944	380,545	8,300	1,178,975	1,362,320	670,700	3,600,840
% Change from:																	
1999-02	-66.3%	13.7%	-16.4%	60.8%	8.4%	12.8%	38.7%	-15.5%	31.3%	5.4%	-44.1%	11.7%	-20.2%	-4.7%	15.8%	13.1%	7.9%
2002	-25.8%	1.7%	35.3%	129.4%	41.1%	22.9%	33.5%	-10.5%	18.4%	31.3%	125.4%	22.7%	15.0%	13.1%	23.9%	-6.7%	13.4%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	1.1%	24.4%	2.1%	13.8%	7.4%	2.2%	0.7%	20.7%	6.0%	20.7%	0.8%	11.0%	0.3%	36.5%	38.2%	14.1%	100.0%
2001-10	1.9%	30.6%	1.3%	16.6%	7.0%	2.0%	0.7%	16.2%	6.5%	17.0%	0.3%	10.3%	0.2%	30.3%	37.6%	21.6%	100.0%
All Years	1.6%	28.1%	1.6%	15.4%	7.1%	2.1%	0.7%	18.1%	6.3%	18.5%	0.5%	10.5%	0.2%	32.7%	37.8%	18.6%	100.0%

Greater White-fronted Goose Harvest (HIP) by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	0	27,760	0	168	0	96	0	1,084	0	350	0	29,458	2,646	114,010	111,434	0	257,549
2000	0	17,729	0	0	352	36	0	4,296	0	2,605	0	25,018	1,890	182,344	100,610	0	309,862
2001	1,192	27,080	0	0	0	0	0	1,036	0	0	0	29,307	475	91,438	108,928	0	230,149
2002	0	31,497	0	268	0	0	0	609	147	414	0	32,936	329	77,367	108,685	0	219,318
2003	0	24,685	0	0	0	0	0	832	191	352	0	26,060	93	80,017	110,611	0	216,781
Averages:																	
1999-00	0	22,744	0	84	176	66	0	2,690	0	1,477	0	27,238	2,268	148,177	106,022	0	283,706
2001-10	397	27,754	0	89	0	0	0	826	113	255	0	29,435	299	82,941	109,408	0	222,083
All Years	238	25,750	0	87	70	27	0	1,571	68	744	0	28,556	1,087	109,035	108,054	0	246,732
% Change from:																	
1999-02		-5.1%						-52.6%	417.9%	-58.2%		-10.7%	-93.1%	-31.2%	3.0%		-14.7%
2002		-21.6%						36.6%	29.5%	-15.0%		-20.9%	-71.9%	3.4%	1.8%		-1.2%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	0.0%	83.5%	0.0%	0.3%	0.6%	0.2%	0.0%	9.9%	0.0%	5.4%	0.0%	9.6%	0.8%	52.2%	37.4%	0.0%	100.0%
2001-10	1.4%	94.3%	0.0%	0.3%	0.0%	0.0%	0.0%	2.8%	0.4%	0.9%	0.0%	13.3%	0.1%	37.3%	49.3%	0.0%	100.0%
All Years	0.8%	90.2%	0.0%	0.3%	0.2%	0.1%	0.0%	5.5%	0.2%	2.6%	0.0%	11.5%	0.4%	44.2%	43.8%	0.0%	100.0%

Lesser Snow (Blue) Goose Harvest (HIP) by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	165	41,435	0	336	1,485	193	0	4,473	187	2,683	67	51,025	165	487,753	317,412	54,820	911,176
2000	790	26,594	0	0	1,936	108	0	7,978	119	1,421	0	38,945	94	380,158	234,699	71,935	725,831
2001	0	33,377	0	399	637	327	0	6,213	92	3,526	0	44,572	0	345,139	315,508	77,802	783,020
2002	274	30,279	0	179	938	117	0	7,845	0	6,566	0	46,197	329	268,572	197,297	39,295	551,691
2003	300	33,037	0	451	582	315	0	5,186	95	2,641	0	42,607	0	247,982	286,279	36,105	612,973
Averages:																	
1999-00	478	34,014	0	168	1,710	151	0	6,226	153	2,052	34	44,985	130	433,955	276,056	63,377	818,504
2001-10	191	32,231	0	343	719	253	0	6,415	62	4,244	0	44,459	110	287,231	266,361	51,067	649,228
All Years	306	32,944	0	273	1,116	212	0	6,339	99	3,367	13	44,669	118	345,921	270,239	55,991	716,938
% Change from:																	
1999-02	-2.4%	0.4%		97.3%	-53.4%	69.0%		-21.7%	-3.9%	-25.6%		-5.7%		-33.1%	7.5%	-40.8%	-17.5%
2002	9.7%	9.1%		152.6%	-37.9%	169.7%		-33.9%		-59.8%		-7.8%		-7.7%	45.1%	-8.1%	11.1%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	1.1%	75.6%	0.0%	0.4%	3.8%	0.3%	0.0%	13.8%	0.3%	4.6%	0.1%	5.5%	0.0%	53.0%	33.7%	7.7%	100.0%
2001-10	0.4%	72.5%	0.0%	0.8%	1.6%	0.6%	0.0%	14.4%	0.1%	9.5%	0.0%	6.8%	0.0%	44.2%	41.0%	7.9%	100.0%
All Years	0.7%	73.8%	0.0%	0.6%	2.5%	0.5%	0.0%	14.2%	0.2%	7.5%	0.0%	6.1%	0.0%	48.2%	37.7%	7.8%	100.0%

Ross' Goose Harvest (HIP) by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	0	27,147	0	168	424	96	0	407	0	0	0	28,243	0	64,232	10,870	0	103,344
2000	632	5,658	0	0	704	108	0	0	119	0	0	7,221	0	44,049	8,176	0	59,446
2001	1,192	13,015	0	100	319	208	0	0	0	0	0	14,834	0	69,268	24,655	0	108,757
2002	274	15,662	0	0	188	0	0	0	0	59	0	16,182	66	45,521	21,014	0	82,782
2003	50	16,333	0	0	65	105	0	256	95	0	0	16,904	0	44,329	27,580	0	88,814
Averages:																	
1999-00	316	16,403	0	84	564	102	0	203	59	0	0	17,732	0	54,140	9,523	0	81,395
2001-10	505	15,003	0	33	190	104	0	85	32	20	0	15,973	22	53,039	24,416	0	93,451
All Years	430	15,563	0	54	340	104	0	133	43	12	0	16,677	13	53,480	18,459	0	88,628
% Change from:																	
1999-02	-90.5%	6.3%			-84.2%	1.6%		151.9%	222.3%			1.7%	-100.0%	-20.5%	70.5%		0.3%
2002	-81.7%	4.3%			-65.5%							4.5%	-100.0%	-2.6%	31.2%		7.3%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	1.8%	92.5%	0.0%	0.5%	3.2%	0.6%	0.0%	1.1%	0.3%	0.0%	0.0%	21.8%	0.0%	66.5%	11.7%	0.0%	100.0%
2001-10	3.2%	93.9%	0.0%	0.2%	1.2%	0.7%	0.0%	0.5%	0.2%	0.1%	0.0%	17.1%	0.0%	56.8%	26.1%	0.0%	100.0%
All Years	2.6%	93.3%	0.0%	0.3%	2.0%	0.6%	0.0%	0.8%	0.3%	0.1%	0.0%	18.8%	0.0%	60.3%	20.8%	0.0%	100.0%

Canada Goose Harvest (HIP) by State and Flyway, 1999-2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.	AK	CF Tot.	MF Tot.	AF Tot.	U.S. Tot.
1999	3,635	17,758	7,015	45,927	10,504	10,314	1,083	75,636	23,013	81,068	3,231	279,183	5,788	607,496	731,969	425,892	2,050,328
2000	3,477	24,519	9,744	61,800	42,581	6,247	4,597	68,426	23,463	73,174	3,198	321,228	8,221	733,831	1,220,726	404,541	2,688,547
2001	13,115	30,228	5,106	63,901	27,505	5,765	1,613	45,752	18,208	55,774	1,504	268,470	5,825	638,052	858,422	687,904	2,458,672
2002	2,553	37,762	3,994	36,253	19,420	6,883	2,559	58,345	24,705	48,860	529	241,865	4,875	610,662	906,351	716,689	2,480,442
2003	1,950	41,946	5,403	83,749	28,336	8,180	3,416	53,526	29,218	69,008	1,192	325,923	6,207	761,655	1,103,880	657,910	2,855,576
Averages:																	
1999-00	3,556	21,138	8,379	53,864	26,543	8,281	2,840	72,031	23,238	77,121	3,215	300,205	7,005	670,664	976,347	415,216	2,369,437
2001-10	5,873	36,645	4,834	61,301	25,087	6,943	2,529	52,541	24,044	57,881	1,075	278,752	5,636	670,123	956,218	687,501	2,598,230
All Years	4,946	30,443	6,252	58,326	25,669	7,478	2,653	60,337	23,721	65,577	1,931	287,334	6,183	670,339	964,270	578,587	2,506,713
% Change from:																	
1999-02	-65.8%	52.2%	-16.4%	61.1%	13.3%	12.0%	38.7%	-13.7%	30.7%	6.6%	-43.7%	17.4%	0.5%	17.6%	18.8%	17.7%	18.0%
2002	-23.6%	11.1%	35.3%	131.0%	45.9%	18.8%	33.5%	-8.3%	18.3%	41.2%	125.4%	34.8%	27.3%	24.7%	21.8%	-8.2%	15.1%
% Flyway Harvest:												% U.S. Harvest:					
1999-00	1.2%	7.0%	2.8%	17.9%	8.8%	2.8%	0.9%	24.0%	7.7%	25.7%	1.1%	12.7%	0.3%	28.3%	41.2%	17.5%	100.0%
2001-10	2.1%	13.1%	1.7%	22.0%	9.0%	2.5%	0.9%	18.8%	8.6%	20.8%	0.4%	10.7%	0.2%	25.8%	36.8%	26.5%	100.0%
All Years	1.7%	10.6%	2.2%	20.3%	8.9%	2.6%	0.9%	21.0%	8.3%	22.8%	0.7%	11.5%	0.2%	26.7%	38.5%	23.1%	100.0%

Estimated harvest of Canada geese in the Atlantic Flyway during early September, regular, and special late seasons in 2003-04 (State totals include unknowns)

State	September	Regular	Late	Total
Maine	3,300	6,300	----	9,600
Vermont	1,500	2,200	----	3,600
New Hampshire	1,400	3,800	----	5,300
Massachusetts	3,800	5,200	3,900	12,900
Connecticut	4,200	14,000	500	18,700
Rhode Island	800	3,400	800	5,000
New York	32,100	64,700	0	96,800
Pennsylvania	69,400	93,700	25,200	188,200
West Virginia	1,100	3,100	----	4,200
New Jersey	7,600	16,300	2,000	26,000
Delaware	2,900	8,800	----	11,700
Maryland	11,600	119,800	----	131,400
Virginia	14,800	30,800	17,000	62,600
North Carolina	19,300	22,600	----	41,900
South Carolina	1,000	13,800	----	14,800
Georgia	6,400	18,900	----	25,300
Florida	----	3,800	----	3,800
Total	181,200	431,200	49,400	661,800

Estimated harvest of Canada geese in the Mississippi Flyway during early September, regular, and special late seasons in 2003-04 (State totals include unknowns)

State	September	Regular	Late	Total
Minnesota	125,400	152,300	4,800	282,500
Wisconsin	11,000	139,000	----	150,000
Michigan	50,600	128,700	12,200	191,500
Iowa	1,300	54,100	----	55,500
Illinois	8,500	124,600	----	133,200
Indiana	22,000	49,900	----	71,800
Ohio	37,600	46,500	3,800	87,900
Missouri	----	18,500	----	18,500
Kentucky	6,600	31,800	----	38,500
Arkansas	----	16,400	----	16,400
Tennessee	15,900	20,900	----	36,800
Louisiana	----	2,300	----	2,300
Mississippi	500	1,500	----	2,000
Alabama	9,900	7,000	----	16,900
Total	289,300	793,500	20,800	1,103,800

Estimated harvest of Canada geese in the Central and Pacific Flyways during September, regular, and special late seasons in 2003-04 (State totals include unknowns)

State	September	Regular	Late	Total
North Dakota	42,200	82,200	----	124,500
South Dakota	45,800	109,100	----	154,900
Kansas	0	123,900	----	123,900
Oklahoma	1,300	35,400	----	36,700
Total	89,300	350,600		440,000
Washington	5,700	62,800	400	69,000
Oregon	4,700	48,900	----	53,500
Idaho	----	83,700	----	83,700
Wyoming	0	1,200	----	1,200
California	----	41,900	----	41,900
Colorado	600	4,800	----	5,400
Total	11,000	243,300	400	254,700

Pacific Brant Harvest (HIP) for Pacific Flyway States, 1999-2003.

Year	CA	OR	WA	Other	AK	Total
1999	2,500	100	800	0	1,400	4,800
2000	900	300	400	0	400	2,000
2001	4,100	1,000	1,100	0	1,600	7,800
2002	1,100	100	100	0	400	1,700
2003	2,300	100	1,500	0	600	4,500
Averages:						
1999-00	1,700	200	600	0	900	3,400
2001-10	2,500	400	900	0	867	4,667
All Years	2,180	320	780	0	880	4,160
% Change from:						
1999-01	7.0%	-73.3%	150.0%		-36.8%	10.4%
2001	109.1%	0.0%	1400.0%		50.0%	164.7%
% Flyway Harvest:						
1999-00	50.0%	5.9%	17.6%	0.0%	26.5%	100.0%
2001-10	54.8%	8.6%	19.3%	0.0%	18.6%	100.0%
All Years	52.4%	7.7%	18.7%	0.0%	21.2%	100.0%

Season length, hunter activity, and harvest of tundra swans in the Pacific Flyway, 1962-2003.

Season	Season Length in Days	Number of Applications Received	Number of Permits Issued	Percent of Permittees Hunting	Estimated Number of Hunter Days	Estimated Retrieved Harvest	Estmated No. Knocked down & Unretrieved	Percent Gray Swan in Bag
1962	68		1,000			320	81	38
1963	90	1,519	1,000			392	62	48
1964	90	1,599	1,000	94	4,600	335	86	37
1965	90	2,495	995	92	4,700	336	60	45
1966	90	2,294	1,000	95	4,000	491	75	42
1967	90	2,766	1,000	91	4,800	246	69	54
1968	86	4,342	1,000	93	4,300	520	102	58
1969	58-93	6,846	3,000	87	11,410	1,377	289	62
1970	64-93	8,670	3,500	82	14,100	1,199	228	55
1971	58-93	6,833	3,495	80	13,670	1,109	175	33
1972	65-93	7,634	3,500	72	13,854	1,028	176	36
1973	65-93	6,805	3,500	79	11,605	1,191	257	49
1974	72-93	8,431	3,500	84	13,977	1,377	298	43
1975	65-93	10,180	3,500	83	13,069	1,383	241	40
1976	65-93	10,163	3,500	84	12,032	1,109	164	40
1977	72-93	9,413	3,488	87	10,622	1,575	347	51
1978	65-93	10,985	3,500	82	10,613	1,152	375	44
1979	72-93	9,661	3,500	84	11,551	1,293	345	39
1980	65-93	10,943	3,500	83	10,950	1,156	223	48
1981	62-93	7,798	3,500	86	10,756	1,619	377	36
1982	79-93	8,385	3,500	84	12,743	1,244	311	36
1983	79-93	6,848	3,650	82	12,452	1,168	286	43
1984	79-93	6,259	3,650	81	13,037	1,194	132	38
1985	72-79	5,991	3,645	75	13,527	673	97	32
1986	79-79	4,246	3,608	78	12,884	947	185	37
1987	79-79	3,944	3,593	76	13,519	600	66	33
1988	60-93	2,841	3,372	74	9,656	855	123	36
1989	60-93	2,920	3,454	77	10,330	1,094	193	37
1990	60-93	3,497	3,378	80	10,199	1,232	177	32
1991	60-93	4,302	3,342	71	9,769	923	168	42
1992	60-93	4,032	3,189	74	10,696	717	50	30
1993	61-100	4,176	3,375	78	14,409	699	76	29
1994	61-100	4,715	3,422	81	11,279	1,222	153	29
1995	49-79	5,177	3,843	76	14,997	659	104	39
1996	49-79	4,583	3,819	85	12,698	1,368	284	31
1997	49-79	5,326	3,832	85	12,826	1,193	273	33
1998	49-79	5,560	3,934	85	11,973	1,654	355	24
1999	49-79	6,717	3,995	83	11,485	1,388	249	26
2000	49-79	6,097	3,221	75	9,983	957	147	20
2001	50-79	5,737	3,063	75	9,092	713	92	17
2002	51-79	4,387	3,014	76	8,957	743	109	31
2003	51-79	4,515	3,013	78	8,219	1,034	132	37
Avg.								
1962-03		5,845	3,069	82	10,883	988	186	38
1994-03		5,281	3,516	80	11,151	1,093	190	29

Subsistence Migratory Bird Harvest Survey

Communities and Regions - Southwest Alaska

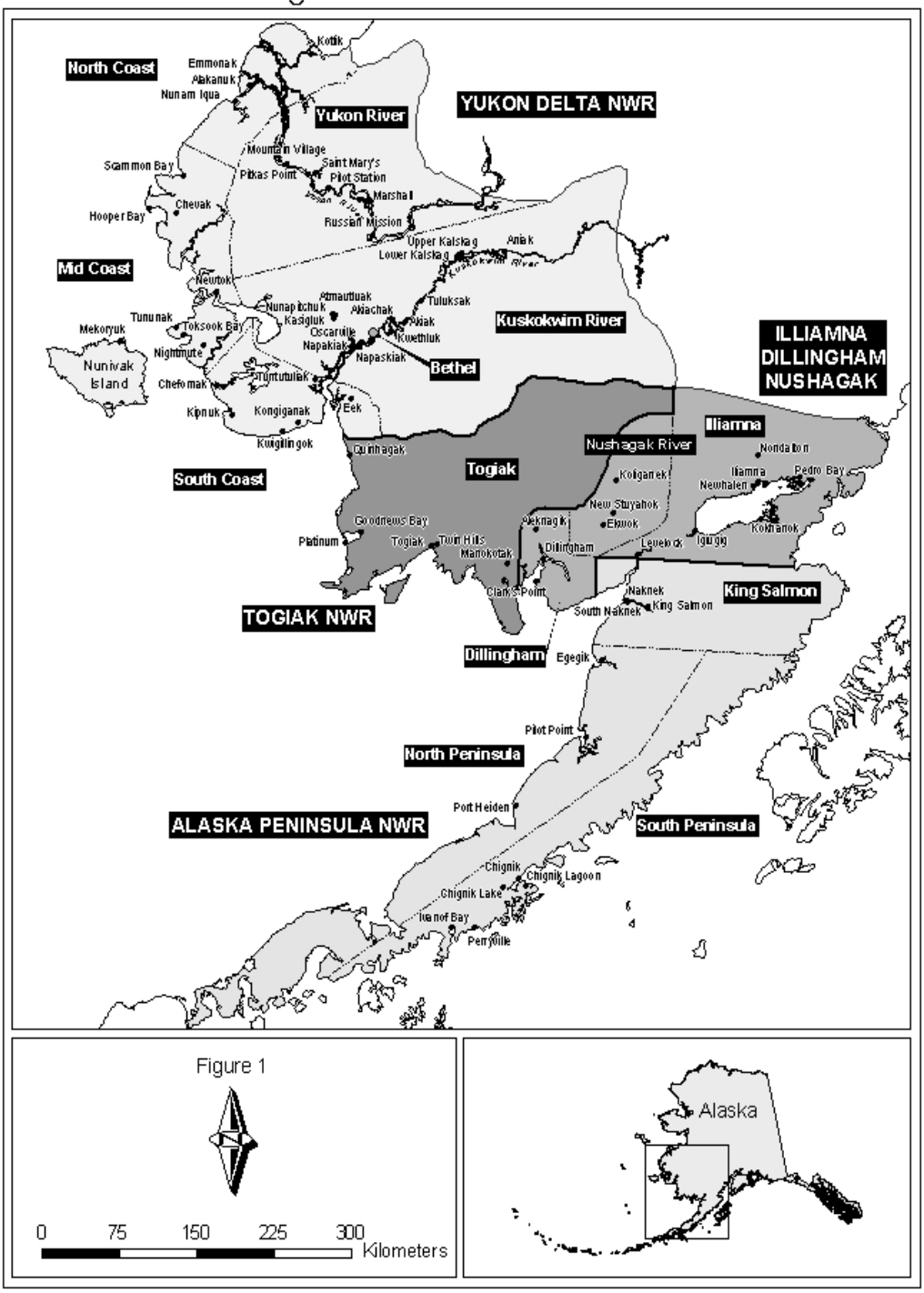


Table 1. Migratory bird subsistence harvest estimates, Yukon-Kuskokwim Delta, 1993-2002

	1993	1994	1995	1996	1997	1998	1999	2000	2001[1]	2002[2]	10 YEAR AVERAGE
GEESE											
White-fronted Geese	8,207	9,570	11,388	14,582	8,528	12,359	13,320	15,438	13,904	11,676	11,897
Cackling Canada Geese	7,087	9,780	13,799	14,983	9,921	15,173	11,145	11,533	10,227	13,442	11,709
Emperor Geese	2,602	1,493	2,041	2,374	1,469	1,899	818	1,352	1,078	1,250	1,638
Black Brant	2,502	2,326	4,995	3,302	3,572	4,100	2,721	4,002	5,769	4,790	3,808
Lesser Canada Geese	7,086	9,541	14,931	14,734	7,877	11,338	9,352	7,909	8,349	6,300	9,742
Lesser Snow Geese	2,119	2,115	2,305	3,834	1,379	2,135	1,339	1,495	3,072	1,871	2,166
TOTAL GEESE	29,603	34,825	49,459	53,809	32,746	47,004	38,695	41,729	42,399	39,329	40,960
Tundra Swans	5,767	8,030	9,529	8,860	5,501	5,916	5,107	3,578	3,775	3,349	5,941
Sandhill Cranes	2,282	3,118	5,340	3,899	2,370	3,907	3,539	2,517	2,899	2,648	3,252
DUCKS											
Pintails	7,474	6,895	12,579	10,952	5,685	8,085	5,473	5,881	5,573	7,807	7,640
Mallards	4,671	4,949	6,971	5,041	3,568	5,859	4,509	4,029	4,711	4,815	4,912
Unidentified ducks	1,993	1,881	2,615	1,427	996	2,107	1,368	1,855	2,408	1,145	1,780
Wigeons	4,358	2,950	4,525	2,967	3,128	2,526	2,169	1,087	1,611	2,255	2,758
Shovelers	925	770	1,314	804	813	1,171	1,469	469	833	1,693	1,026
Canvasbacks[3]										1,151	1,151
Green-winged Teals	1,103	1,268	1,557	1,910	1,833	1,480	1,079	996	1,203	1,454	1,388
Buffleheads	319	400	363	139	156	533	119	164	41	332	257
Harlequins	354	116	144	163	95	350	105	89	147	104	167
Greater Scaup	2,891	4,357	7,347	3,460	3,189	8,225	10,229	2,595	5,100	6,385	5,378
Goldeneyes	1,364	1,287	1,894	1,232	832	2,560	2,846	960	1,438	984	1,540
Long-tailed Ducks	1,709	1,355	2,403	1,609	2,042	3,159	2,300	575	1,360	2,188	1,870
White-winged Scoters	2,153	1,572	1,918	2,511	2,011	3,053	2,511	913	2,205	2,119	2,097
Black Scoters	7,974	4,936	6,946	6,982	4,634	7,579	6,289	3,219	4,869	6,782	6,021
Surf Scoters	493	713	409	685	217	421	489	402	687	434	495
Common Eiders	583	157	113	615	494	326	340	529	508	429	409
King Eiders	3,753	1,540	1,625	2,752	3,424	2,262	4,808	6,992	8,049	7,343	4,255
Spectacled Eiders	28	150	206	126	95	82	78	84	25	39	91
Steller's Eiders	0	18	95	43	15	104	42	8	11	28	36
Common Mergansers	123	60	70	74	27	185	180	81	70	147	102
Red-breasted Mergansers	297	148	256	145	183	293	142	83	258	200	201
TOTAL DUCKS	42,565	35,522	53,350	43,637	33,437	50,360	46,545	31,011	41,107	47,834	43,573

[1] Activity stratification and a new estimation method were employed for the first time in 2001

[2] An expanded survey form and slightly different survey periods were employed for the first time in 2002

[3] Species added to survey form in 2002

Table 1. Migratory bird subsistence harvest estimates, Yukon-Kuskokwim Delta, 1993-2002

	1993	1994	1995	1996	1997	1998	1999	2000	2001[1]	2002[2]	10 YEAR AVERAGE
Ptarmigan (non-migratory)	19,557	9,458	16,095	14,794	13,022	16,244	21,502	14,955	16,594	19,023	16,124
Spruce Grouse[3]										149	149
OTHER BIRDS											
Yellow-billed Loons	172	93	34	188	68	72	40	43	21	183	91
Red-throated Loons	25	94	18	36	17	38	20	15	38	29	33
Common Loons	657	263	390	424	273	237	170	125	87	272	290
Pacific Loons	142	44	20	26	39	53	0	17	350	278	97
Auklets[3]										0	0
Murres	29	307	29	42	87	6	76	3	57	117	75
Cormorants[3]										90	90
Kittiwakes[3]										2	2
Guillemots[3]										2	2
Mew Gulls	15	0	134	54	0	16	72	13	188	247	74
Sabines Gulls	41	8	101	78	18	20	4	11	1	92	37
Glaucous Gulls	98	184	72	72	602	307	116	188	17	246	190
Arctic Terns	0	0	15	1	271	87	6	34	0	150	56
Puffins[3]										361	361
Bristle-thighed curlews[3]										92	92
Godwits[3]										1,479	1,479
Whimbrels[3]										34	34
Golden Plovers[3]										90	90
Small shorebirds	599	53	118	76	84	88	87	155	76	402	174
Large shorebirds	145	174	138	774	485	1,867	1,696	2,014	1,714		
Other Birds[3]										55	55
TOTAL OTHER BIRDS	1,923	1,220	1,069	1,771	1,944	2,791	2,287	2,618	2,549	4,221	3,323
TOTAL (w/o Ptarm/Grouse)	82,140	82,715	118,747	111,976	75,998	109,978	96,173	81,453	92,729	97,381	97,049
TOTAL (w/ Ptarm/Grouse)	101,697	92,173	134,842	126,770	89,020	126,222	117,675	96,408	109,323	116,553	113,322

[1] Activity stratification and a new estimation method were employed for the first time in 2001

[2] An expanded survey form and slightly different survey periods were employed for the first time in 2002

[3] Species added to survey form in 2002

Table 2. Egg subsistence harvest estimates, Yukon-Kuskokwim Delta, 1993-2002

	1993	1994	1995	1996	1997	1998	1,999	2000	2001[1]	2002[2]	10 YEAR AVERAGE
GOOSE EGGS											
White-fronted Geese	598	667	848	454	635	1,730	1,514	3,634	1,603	3,372	1,260
Cackling Canada Geese	375	1,005	845	793	1,068	2,984	983	4,885	2,349	3,350	1,617
Emperor Geese	411	351	408	488	284	448	267	154	89	235	351
Black Brant	176	801	524	622	630	1,063	460	1,296	1,217	1,267	697
Lesser Canada Geese	681	763	816	762	792	1,766	1,731	1,590	1,387	1,381	1,113
Lesser Snow Geese	0	0	0	5	0	0	19	0	27	53	3
	-	-	-	-	-	-	-	-	-	-	
TOTAL GOOSE EGGS	2,241	3,587	3,441	3,124	3,409	7,991	4,974	11,559	6,672	9,658	5,041
Tundra Swan Eggs	961	293	856	565	531	1,379	766	728	571	735	760
Sandhill Crane Eggs	467	276	460	373	326	920	376	582	404	641	473
DUCK EGGS											
Pintails	1,100	705	649	611	291	1,358	573	1,769	708	2,558	882
Mallards	612	321	409	272	175	609	236	650	520	836	411
Unidentified ducks	373	301	1,140	756	260	582	85	364	532	371	483
Wigeons	121	199	54	59	37	73	23	317	51	26	110
Shovelers	65	0	17	0	0	170	0	149	0	82	50
Canvasbacks[3]										16	16
Green-winged Teals	147	50	33	88	58	276	129	307	188	353	136
Buffleheads	46	0	0	0	0	0	0	19	0	0	8
Harlequins	0	0	0	3	0	0	38	0	0	13	5
Greater Scaup	0	119	0	79	0	140	154	31	221	461	65
Goldeneyes	0	0	0	30	0	148	144	22	11	11	43
Long-tailed Ducks	70	137	154	158	30	162	273	112	22	58	137
White-winged Scoters	0	0	11	0	0	0	36	29	0	0	10
Black Scoters	0	0	127	0	0	105	48	0	7	0	35
Surf Scoters	0	0	59	0	0	0	0	161	0	7	28
Common Eiders	33	30	64	27	0	144	3	29	0	320	41
King Eiders	29	0	0	20	2	0	0	0	0	15	6
Spectacled Eiders	0	0	0	0	0	67	0	0	0	0	8
Stellers' Eiders	0	0	0	0	0	11	0	0	0	122	1
Common Mergansers	0	0	0	0	0	0	0	0	0	17	0
Red-breasted Mergansers	6	0	0	0	0	0	0	0	0	2	1
	-	-	-	-	-	-	-	-	-	-	
TOTAL DUCK EGGS	2,602	1,862	2,717	2,103	853	3,845	1,742	3,959	2,260	5,268	2,460

1 Activity stratification and a new estimation method were employed for the first time in 2001

2 An expanded survey form and slightly different survey periods were employed for the first time in 2002

3 Species added to survey form in 2002

Table 2. Egg subsistence harvest estimates, Yukon-Kuskokwim Delta, 1993-2002

	1993	1994	1995	1996	1997	1998	1,999	2000	2001[1]	2002[2]	10 YEAR AVERAGE
Ptarmigan Eggs	1,694	532	559	994	729	1,933	1,027	1,243	1,111	2,204	1,089
Spruse Grouse Eggs[3]										66	66
OTHER BIRD EGGS											
Yellow-billed Loons	37	0	0	10	9	38	19	10	5	6	15
Red-throated Loons	12	0	0	8	0	32	0	21	0	22	9
Common Loons	263	11	29	59	0	109	49	117	93	110	80
Pacific Loons	0	0	0	10	0	0	3	19	20	172	4
Auklets[3]										0	0
Murres	204	0	0	1,740	0	0	0	7	10	26	244
Cormorants[3]										0	0
Kittiwakes[3]										61	61
Guillemots[3]										0	0
Mew Gulls	1,338	1,004	364	347	107	695	613	315	315	4,059	598
Sabines Gulls	277	145	33	408	242	791	85	502	1,092	457	310
Glaucous Gulls	797	845	1,031	914	564	1,958	1,831	3,364	3,207	4,251	1,413
Arctic Terns	597	362	647	442	27	769	168	233	468	807	406
Puffins[3]										13	13
Bristle-thighed curlews[3]										54	54
Godwits[3]										89	89
Whimbrels[3]										36	36
Golden Plovers[3]										102	102
Small Shorebirds	1,286	1,994	1,418	2,169	680	1,153	431	1,493	901	846	1,328
Large Shorebirds	115	174	120	245	92	220	54	192	186		
Other Birds[3]										42	42
	-	-	-	-	-	-	-	-	-		-
TOTAL OTHER BIRD EGGS	4,926	4,535	3,642	6,352	1,721	5,765	3,253	6,273	6,297	11,153	4,804
TOTAL EGGS (w/o Ptarm/Grouse)	11,197	10,553	11,116	12,517	6,840	19,900	11,111	23,101	16,204	27,455	13,537
TOTAL EGGS(w/ Ptarm/Grouse)	12,891	11,085	11,675	13,511	7,569	21,833	12,138	24,344	17,315	29,725	14,692

1 Activity stratification and a new estimation method were employed for the first time in 2001

2 An expanded survey form and slightly different survey periods were employed for the first time in 2002

3 Species added to survey form in 2002

Table 3. Migratory bird subsistence harvest estimates, Bristol Bay, 1995-2001

	Bristol Bay Avg. 1995-2000*	Bristol Bay 2001**	Weighted average 1995-2000, 2001
GEESE			
White-fronted Geese	1,649	2,416	1,759
Cackling Canada Geese	1,886	1,948	1,895
Emperor Geese	397	122	358
Black Brant	1,236	1,106	1,217
Lesser Canada Geese	2,010	1,597	1,951
Lesser Snow Geese	127	59	117
TOTAL GEESE	7,305	7,248	7,297
Tundra Swans	371	138	338
Sandhill Cranes	413	247	389
DUCKS			
Pintails	3,448	2,670	3,337
Mallards	4,927	3,920	4,783
Unidentified ducks	941	753	914
Wigeons	684	805	701
Shovelers	177	192	179
Canvasbacks	8	23	10
Green-winged Teals	2,155	984	1,988
Buffleheads	123	196	133
Harlequins	291	239	284
Greater Scaup	66	34	61
Goldeneyes	791	600	764
Long-tailed Ducks	372	238	353
White-winged Scoters	335	208	317
Black Scoters	548	333	517
Surf Scoters	84	120	89
Common Eiders	170	129	164
King Eiders	1,456	838	1,368
Spectacled Eiders	91	61	87
Steller's Eiders	48	9	42
Common Mergansers	244	144	230
Red-breasted Mergansers	511	196	466
TOTAL DUCKS	17,470	12,692	16,787
Ptarmigan (non-migratory)	7,889	8,177	7,930
Spruce Grouse	936	2,483	1,157
OTHER BIRDS			
Yellow-billed Loons	44	26	41
Red-throated Loons	3	15	5
Common Loons	30	24	29
Arctic Loons	1	4	1
Common Murres	15	9	14
Small shorebirds	27	25	27
Large shorebirds	44	12	39
Mew Gulls	57	20	52
Sabines Gulls	19	0	16
Glaucous Gulls	103	341	137
Arctic Terns	11	0	9
TOTAL OTHER BIRDS	354	476	371
TOTAL (w/o Ptarmigan & Grouse)	25,913	20,801	25,183
TOTAL (with Ptarmigan & Grouse)	34,738	31,461	34,270

*Dillingham,Nushagak, Iliamna regions of Bristol Bay surveyed 1995, 97, 99 only, so 3 year average used for these regions.
Togiak and Alaska Peninsula/Becharof Refuge regions of Bristol Bay surveyed 1995-2000, so 6 year average used.
** Activity stratification and a new estimation method were employed for the first time in 2001

Table 4. Egg subsistence harvest estimates, Bristol Bay, 1995-2001

	Bristol Bay Avg. 1995-2000*	Bristol Bay 2001**	Weighted average 1995-2000, 2001
GOOSE EGGS			
White-fronted Geese	51	26	47
Cackling Canada Geese	87	20	77
Emperor Geese	1	0	1
Black Brant	23	0	20
Lesser Canada Geese	68	0	58
Lesser Snow Geese	0	0	0
TOTAL GOOSE EGGS	230	46	204
Tundra Swan Eggs	28	47	31
Sandhill Crane Eggs	29	0	25
DUCK EGGS			
Pintails	127	171	133
Mallards	218	166	211
Unidentified ducks	423	357	414
Wigeons	0	0	0
Shovelers	0	0	0
Canvasbacks	0	0	0
Green-winged Teals	0	0	0
Buffleheads	0	0	0
Harlequins	1	0	1
Greater Scaup	2	0	2
Goldeneyes	5	49	11
Long-tailed Ducks	54	0	46
White-winged Scoters	0	0	0
Black Scoters	5	0	4
Surf Scoters	15	0	13
Common Eiders	1	0	1
King Eiders	36	0	31
Spectacled Eiders	49	0	42
Stellers' Eiders	1	0	1
Common Mergansers	65	0	56
Red-breasted Mergansers	16	24	17
TOTAL DUCK EGGS	1,018	767	982
Ptarmigan Eggs	181	0	155
Grouse Eggs	0	0	0
OTHER BIRD EGGS			
Yellow-billed Loons	4	0	3
Red-throated Loons	0	0	0
Common Loons	19	0	16
Arctic Loons	240	0	206
Common Murres	5,352	2,420	4,933
Small Shorebirds	19	0	16
Large Shorebirds	45	0	39
Mew Gulls	3,099	5,840	3,491
Sabines Gulls	2,910	1,136	2,657
Glaucous Gulls	13,527	17,633	14,114
Glaucous -winged Gulls	2,160	0	1,851
Arctic Terns	1,662	735	1,530
TOTAL OTHER BIRD EGGS	29,033	27,764	28,852
TOTAL EGGS (w/o Ptarmigan & Grouse)	30,338	28,624	30,093
TOTAL EGGS (with Ptarmigan & Grouse)	30,519	28,624	30,248

*Dillingham,Nushagak, Iliamna regions of Bristol Bay surveyed 1995, 97, 99 only, so 3 year average used for these regions.
Togiak and Alaska Peninsula/Becharof Refuge regions of Bristol Bay surveyed 1995-2000, so 6 year average used.
** Activity stratification and a new estimation method were employed for the first time in 2001

ESTIMATES OF TOTAL DUCK HARVEST IN CANADA

YEAR	NFL	PEI	NS	NB	QUE	ONT	MAN	SAS	ALB	BC	NWT	YUK	NU	TOTAL
1968*	44,300	19,400	54,800	59,600	333,300	794,000	295,700	292,700	459,100	362,600				2,715,500
1969*	62,700	25,300	50,100	62,900	465,700	928,100	467,300	557,700	778,200	270,100				3,668,100
1970*	66,500	28,900	59,200	61,000	464,900	872,300	518,100	930,500	904,700	283,900				4,190,000
1971*	53,300	30,500	71,100	56,600	454,500	739,000	332,200	690,200	848,000	228,600				3,504,000
1972	56,200	18,200	55,700	51,100	414,900	815,700	356,200	615,100	800,200	260,700				3,444,000
1973	111,500	18,000	117,400	51,900	493,100	752,700	251,900	471,900	831,600	255,400				3,355,400
1974	103,800	31,400	105,500	58,700	569,500	811,500	249,600	699,700	1,014,300	210,900				3,854,900
1975	101,700	28,400	118,000	59,100	467,900	938,300	299,200	807,300	850,700	236,200	9,500	5,000		3,921,300
1976	98,400	37,400	117,900	68,600	602,900	976,400	352,300	807,800	886,600	231,200	29,200	3,900		4,212,600
1977	132,900	30,200	134,500	53,800	631,200	913,300	259,400	508,800	781,100	259,600	20,800	3,100		3,728,700
1978	142,700	30,000	109,500	65,800	529,100	943,200	361,200	527,300	581,700	210,500	18,100	3,000		3,522,100
1979	122,200	20,900	88,400	49,100	460,400	845,400	383,400	582,700	679,300	204,400	9,400	3,000		3,448,600
1980	106,000	31,900	124,700	59,900	500,200	912,100	335,100	443,600	688,800	186,300	11,500	3,000		3,403,100
1981	114,400	26,200	113,600	59,000	507,900	850,100	293,900	273,300	525,600	188,300	5,000	1,500		2,958,800
1982	111,500	39,600	87,700	60,600	512,500	862,000	280,900	324,100	458,200	163,100	3,100	1,100		2,904,400
1983	119,500	36,100	117,300	72,900	454,000	888,400	284,400	381,700	515,700	193,500	13,000	3,000		3,079,500
1984	115,500	35,000	95,600	68,900	439,800	832,800	215,300	258,300	438,500	173,700	11,500	3,200		2,688,100
1985	110,300	31,100	92,300	69,600	494,900	871,500	174,500	210,900	282,800	145,400	15,500	3,000		2,501,800
1986	124,300	29,600	99,800	71,000	434,100	821,800	207,800	226,500	273,600	124,300	5,400	2,900		2,421,100
1987	59,200	28,700	86,100	59,900	468,900	772,400	213,200	207,200	305,300	133,000	4,400	1,500		2,339,800
1988	83,800	34,300	84,800	63,600	446,900	661,300	126,000	104,800	183,100	115,500	5,100	1,300		1,910,500
1989	92,700	21,600	120,700	64,400	433,800	682,800	121,000	104,100	254,800	102,900	1,200	800		2,000,800
1990	91,500	20,100	104,000	70,500	456,300	684,500	111,800	115,700	231,900	96,200	2,100	500		1,985,100
1991	55,800	28,500	76,700	47,600	357,400	618,000	106,700	102,800	164,600	79,800	800	1,100		1,639,800
1992	63,490	14,995	90,203	52,749	345,468	539,960	119,146	90,093	129,381	80,352	1,237	864		1,527,938
1993	63,384	21,069	90,346	49,239	385,095	564,701	91,892	76,017	119,744	69,688	1,746	1,319		1,534,240
1994	78,453	17,530	87,322	51,273	342,454	502,989	113,788	128,611	163,664	76,716	1,999	882		1,565,681
1995	67,360	27,892	93,199	74,272	298,998	512,934	135,147	149,321	152,792	62,222	2,156	1,392		1,577,685
1996	56,532	19,257	79,992	56,202	255,647	460,414	168,503	190,133	183,079	72,241	1,988	597		1,544,585
1997	57,709	21,371	74,203	50,634	261,923	461,372	183,468	204,211	229,746	81,180	1,667	392		1,627,876
1998	61,367	15,361	82,094	59,803	256,382	425,275	175,742	205,545	170,071	87,429	1,985	1,102		1,542,156
1999	51,464	19,923	86,556	56,641	270,264	385,577	162,355	233,178	157,613	70,934	1,431	308		1,496,244
2000	63,617	13,540	69,188	52,476	244,486	367,333	148,147	242,275	160,684	73,409	1,055	460	114	2,699,255
2001	50,206	17,815	58,477	41,656	215,780	364,497	168,274	153,503	135,353	55,594	1,021	409	0	2,492,593
2002	50,457	15,651	62,118	43,051	189,473	351,891	155,537	173,087	125,532	58,736	3,344	1,131	0	2,371,033
2003	41,648	14,637	55,788	44,613	177,880	313,728	128,550	185,457	124,369	51,992	1,815	548	710	1,141,025
AVG:														
68-71	56,700	26,025	58,800	60,025	429,600	833,350	403,325	617,775	747,500	286,300				3,519,400
72-75	93,300	24,000	99,150	55,200	486,350	829,550	289,225	648,500	874,200	240,800	9,500	5,000		3,643,900
76-80	120,440	30,080	115,000	59,440	544,760	918,080	338,280	574,040	723,500	218,400	17,800	3,200		3,663,020
81-85	114,240	33,600	101,300	66,200	481,820	860,960	249,800	289,660	444,160	172,800	9,620	2,360		2,826,520
86-90	90,300	26,860	99,080	65,880	448,000	724,560	155,960	151,660	249,740	114,380	3,640	1,400		2,131,460
91-95	65,697	21,997	87,554	55,027	345,883	547,717	113,335	109,368	146,036	73,756	1,588	1,111		1,569,069
96-00	58,138	17,890	78,407	55,151	257,740	419,994	167,643	215,068	180,239	77,039	1,625	572	114	1,782,023
01-05	47,437	16,034	58,794	43,107	194,378	343,372	150,787	170,682	128,418	55,441	2,060	696	237	2,001,550

*: 1968-71 Estimates are useful only for distribution of harvest among Provinces. They are not comparable with estimates in subsequent years because different survey procedures were used.

ESTIMATES OF MALLARD HARVESTS IN CANADA

YEAR	NFL	PEI	NS	NB	QUE	ONT	MAN	SAS	ALB	BC	NWT	YUK	NU	CAN TOTAL
1968*					41,800	231,700	148,600	191,500	275,000	138,300				1,026,900
1969*	100	200	900	500	38,400	228,900	281,300	386,300	541,800	131,900				1,610,300
1970*			700	1,000	42,200	213,900	310,300	687,200	634,300	133,800				2,023,400
1971*		400	700	800	42,400	223,800	198,000	531,700	568,000	113,700				1,679,500
1972	400	100	800	800	61,500	254,200	214,500	477,800	557,600	114,800				1,682,500
1973	100	400	1,200	1,200	72,300	255,400	137,500	349,100	546,900	106,000				1,470,100
1974	300	200	500	1,300	74,100	257,200	145,000	499,600	714,100	108,600				1,800,900
1975	700	400	900	700	58,200	296,200	154,300	572,100	531,500	122,700	4,700	1,300		1,743,700
1976	700	300	1,500	800	73,700	318,200	205,100	608,700	612,300	116,200	13,800	1,000		1,952,300
1977	1,100	200	2,300	700	83,600	264,900	163,100	392,400	515,600	129,300	10,700	800		1,564,700
1978	800	300	1,200	1,500	62,400	322,400	239,600	396,700	379,600	116,800	6,700	1,300		1,529,300
1979	500	500	800	1,600	68,300	265,600	245,100	422,700	486,500	116,500	2,700	1,900		1,612,700
1980	0	1,000	3,200	1,400	81,300	290,500	210,000	354,600	482,400	103,400	5,000	1,400		1,534,200
1981	2,400	1,400	2,400	2,500	92,800	281,400	174,600	230,200	388,200	115,000	2,400	900		1,294,200
1982	500	400	1,400	1,800	94,800	333,700	150,300	241,100	295,000	91,500	3,100	0		1,213,600
1983	1,100	1,000	4,100	2,500	87,100	297,800	159,800	285,800	363,700	121,600	4,000	900		1,329,400
1984	800	700	2,100	1,600	66,800	283,600	118,100	181,700	304,800	89,900	7,500	1,700		1,059,300
1985	400	1,300	3,200	3,300	97,200	290,500	84,500	158,400	180,900	81,800	5,800	1,200		908,500
1986	2,500	700	3,200	2,500	84,400	265,400	113,500	151,100	182,000	72,200	800	900		879,200
1987	1,100	1,100	4,200	3,200	116,800	319,100	137,000	163,600	215,300	78,300	500	300		1,040,500
1988	0	1,000	2,400	1,600	82,300	233,700	59,800	73,500	138,000	64,000	4,700	400		661,400
1989	1,300	1,000	4,300	2,200	74,100	261,800	68,000	75,700	187,000	56,500	1,600	800		734,300
1990	1,000	900	3,500	3,200	86,500	262,700	56,700	78,800	173,900	60,100	2,000	400		729,700
1991	1,000	1,100	3,800	4,700	77,700	218,300	60,200	70,300	121,000	51,700	100	700		610,600
1992	967	198	6,343	5,260	89,551	196,776	66,189	66,902	95,405	51,840	668	244		580,343
1993	1,063	1,071	5,110	3,585	97,625	197,754	41,191	49,752	80,268	43,430	1,158	547		522,554
1994	830	828	3,172	2,755	103,446	192,356	56,301	87,448	108,951	49,233	1,999	201		607,520
1995	532	751	4,822	5,131	83,307	176,680	74,206	104,296	111,048	40,782	1,509	278		603,342
1996	351	1,024	4,286	4,044	82,201	176,869	91,266	121,608	115,668	42,447	1,326	0		641,090
1997	1,461	417	8,047	5,371	77,594	178,169	107,379	133,017	151,167	55,513	437	126		718,698
1998	1,628	1,011	5,440	7,512	76,320	164,431	104,470	129,461	119,826	52,663	881	276		663,919
1999	1,188	667	6,305	4,866	69,568	131,901	82,639	182,714	105,126	48,002	0	220		633,196
2000	1,511	1,915	5,481	5,999	81,655	162,352	67,467	197,400	110,163	51,925	512	72	0	686,452
2001	601	1,192	5,721	7,047	79,896	166,629	92,115	107,413	94,699	35,575	643	229	0	591,760
2002	300	2,176	6,498	6,002	66,533	147,847	77,992	118,857	80,707	37,371	1,702	609	0	546,594
2003	696	804	4,711	6,511	58,873	138,099	66,403	126,397	73,088	35,384	410	110	0	511,486
AVG:														
68-71	100	300	767	767	41,200	224,575	234,550	449,175	504,775	129,425				1,585,025
72-75	375	275	850	1,000	66,525	265,750	162,825	474,650	587,525	113,025	4,700	1,300		1,674,300
76-80	620	460	1,800	1,200	73,860	292,320	212,580	435,020	495,280	116,440	7,780	1,280		1,638,640
81-85	1,040	960	2,640	2,340	87,740	297,400	137,460	219,440	306,520	99,960	4,560	940		1,161,000
86-90	1,180	940	3,520	2,540	88,820	268,540	87,000	108,540	179,240	66,220	1,920	560		809,020
91-95	878	790	4,649	4,286	90,326	196,373	59,617	75,740	103,334	47,397	1,087	394		584,872
96-00	1,228	1,007	5,912	5,558	77,468	162,744	90,644	152,840	120,390	50,110	631	139	0	668,671
01-05	532	1,391	5,643	6,520	68,434	150,858	78,837	117,556	82,831	36,110	918	316	0	549,947

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ESTIMATES OF PINTAIL HARVESTS IN CANADA

YEAR	NFL	PEI	NS	NB	QUE	ONT	MAN	SAS	ALB	BC	NWT	YUK	NU	TOTAL
1968*					21,300		25,800	16,300	51,200	55,500				170,100
1969*	2,200	800	500	1,000	20,500	10,900	21,100	33,800	48,700	23,700				163,200
1970*	900	1,300	1,400	1,900	26,600	14,900	30,700	66,400	78,100	36,500				258,700
1971*	1,000	700	600	1,500	25,800	10,400	20,300	46,000	71,600	28,400				206,300
1972	1,000	400	400	400	16,900	9,700	16,700	29,100	68,900	48,700				192,200
1973	2,600	500	1,100	1,000	19,400	10,500	18,300	31,000	94,700	48,900				228,000
1974	1,100	1,100	1,300	1,300	21,000	10,800	10,700	51,900	98,700	25,700				223,600
1975	900	400	500	800	22,000	9,700	20,400	56,300	82,500	23,200	200	700		217,600
1976	1,300	700	1,000	1,700	29,000	17,300	17,600	34,300	60,800	35,200	2,600	300		201,800
1977	2,400	1,800	1,200	1,000	40,600	14,500	11,600	19,900	71,300	30,400	600	400		195,700
1978	900	800	700	1,400	20,600	13,200	20,700	13,700	38,100	23,000	2,200	200		135,500
1979	1,800	600	500	1,100	15,300	9,100	20,300	29,600	48,300	17,900	1,700	200		146,400
1980	900	500	700	1,300	17,100	13,300	12,700	17,900	43,900	20,900	0	100		129,300
1981	1,100	800	1,000	1,200	17,500	11,600	15,100	2,300	41,000	19,200	100	400		111,300
1982	0	1,600	1,100	1,500	20,300	10,200	14,300	12,700	28,700	14,000	0	0		104,400
1983	2,300	600	700	300	16,300	10,600	11,800	16,800	27,800	13,200	3,700	300		104,400
1984	1,700	1,100	700	900	9,500	35,500	13,200	13,000	32,500	18,700	500	500		127,800
1985	1,600	1,000	1,400	1,800	16,500	15,300	10,900	7,700	23,700	11,500	0	900		92,300
1986	700	600	800	1,700	13,000	9,300	6,700	9,000	9,000	8,800	0	800		60,400
1987	1,100	1,800	600	1,100	11,900	6,300	5,400	8,800	21,200	11,600	0	700		70,500
1988	2,200	1,300	500	800	12,600	8,000	14,000	6,000	15,300	11,000	0	0		71,700
1989	1,500	700	300	1,400	15,600	11,500	8,000	4,900	12,000	8,300	200	0		64,400
1990	4,400	500	700	1,700	19,800	8,300	5,600	10,200	13,600	7,700	600	100		73,200
1991	400	600	900	800	7,600	4,300	4,500	4,600	5,700	4,000	100	100		33,600
1992	0	904	84	473	6,327	4,857	5,214	2,076	6,930	6,521	169	67		33,622
1993	1,133	1,228	911	682	11,113	4,946	5,103	3,263	3,907	4,447	65	0		36,798
1994	946	707	1,093	1,084	10,887	4,526	4,769	7,229	7,252	4,727	0	63		43,283
1995	1,727	454	965	1,240	7,831	4,552	8,974	6,521	7,537	4,476	0	0		44,277
1996	1,246	478	897	1,234	5,043	4,011	10,323	14,477	9,621	5,367	0	0		52,697
1997	785	139	116	493	7,423	5,560	13,248	13,656	13,883	5,422	37	0		60,762
1998	1,026	0	653	757	7,735	6,361	14,347	11,099	11,119	6,462	19	276		59,854
1999	390	1,137	755	1,790	8,956	6,457	9,830	10,610	10,304	5,464	0	0		55,693
2000	470	509	499	581	6,480	5,397	2,633	13,468	9,488	2,240	38	0	0	41,803
2001	137	0	401	611	4,911	3,709	9,207	7,051	8,732	4,807	19	60	0	39,645
2002	1,153	78	543	702	5,527	9,910	13,879	13,055	7,640	4,551	0	0	0	57,038
2003	572	598	228	1,270	6,795	10,422	8,999	8,688	8,205	1,948	234	0	0	47,959
AVG:														
68-71	1,367	933	833	1,467	23,550	12,067	24,475	40,625	62,400	36,025				199,575
72-75	1,400	600	825	875	19,825	10,175	16,525	42,075	86,200	36,625	200	700		215,350
76-80	1,460	880	820	1,300	24,520	13,480	16,580	23,080	52,480	25,480	1,420	240		161,740
81-85	1,340	1,020	980	1,140	16,020	16,640	13,060	10,500	30,740	15,320	860	420		108,040
86-90	1,980	980	580	1,340	14,580	8,680	7,940	7,780	14,220	9,480	160	320		68,040
91-95	841	779	791	856	8,752	4,636	5,712	4,738	6,265	4,834	67	46		38,316
96-00	783	453	584	971	7,127	5,557	10,076	12,662	10,883	4,991	19	55	0	54,162
01-05	621	225	391	861	5,744	8,014	10,695	9,598	8,192	3,769	84	20	0	48,214

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Estimated (HIP) American Coot Harvest by State and Flyway, 2003.

Year	AZ	CA	CO	ID	MT	NV	NM	OR	UT	WA	WY	PF Tot.[a]	AK	AF Tot.	MF Tot.	CF Tot.[a]	US Tot.
2003	213	4,881	782	4,766	0	206	978	7,731	0	810	229	18,607	20	25,513	126,021	23,835	193,998

[a] Totals for the Pacific Flyway include all full PF states and MT, and, for the Central Flyway include all full CF states and CO, NM, and WY.

Estimated (HIP) Dove and Pigeon Harvest and Hunter Activity by State and Management Unit, 2003.

	Mourning doves											Total West	Total Central	Total East	Total U.S.
	Arizona	California	Colorado	Idaho	Montana	Nevada	New Mexico	Oregon	Utah	Washington	Wyoming				
Harvest	872,700	1,168,300	262,000	124,800	19,100	42,100	154,400	66,900	68,900	76,300	39,600	2,420,100	7,714,600	8,078,500	18,213,200
Hunters	40,800	71,000	19,100	10,800	1,600	4,700	7,100	6,400	9,300	7,600	3,000				
Hunter Days	138,100	216,000	51,200	33,800	4,900	10,800	32,900	20,500	23,200	17,300	7,400	459,700	1,442,600	1,456,900	3,359,100
Days Per Hunter	3.4	3.0	2.7	3.1	3.1	2.3	4.6	3.2	2.5	2.3	2.5				
	White-winged doves														
	Arizona	California	Nevada	New Mexico											
Harvest	112,300	46,800	800	40,400								159,900	825,100	12,900	997,900
Hunters	23,000	10,400	200	3,300											
Hunter Days	75,500	25,600	400	15,000								101,500	379,000	155,000	496,000
Days Per Hunter	3.3	2.5	2.0	4.5											
	Band-tailed pigeons														
	Pacific Coast				Interior										
	California	Oregon	Washington		Arizona	Colorado	New Mexico	Utah							
Harvest	8,000	4,900	1,500		1,400	900	400	100				14400	2,900		17,200
Hunters	4,600	1,800	1,000		1,500	400	400	300							
Hunter Days	11,500	5,100	1,600		3,700	2,100	1,400	600				18,300	7,900		26,200
Days Per Hunter	2.5	2.8	1.6		2.5	5.3	3.5	2.0							

Age ratios (immatures/adult) of certain ducks in the Pacific Flyway harvest (excluding Alaska).

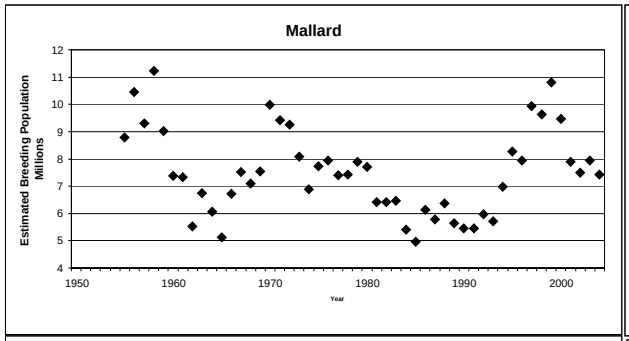
Year	MALL	GADW	AMWI	AGWT	BWCT	NSHO	NOPI	WODU	REDH	CANV	GRSC	LESC	RNDU	COGO	BUFF	RUDU
1965	1.88	3.13	2.19	1.24	1.15	2.73	1.98	1.89	3.54	2.87	1.30	2.86	2.18	1.91	1.34	1.61
1966	1.54	1.62	1.88	0.91	1.09	2.20	1.60	1.32	2.42	2.10	2.81	1.60	1.30	1.06	1.08	1.29
1967	1.73	2.60	2.28	1.09	2.01	2.21	1.65	2.21	2.58	1.95	1.44	1.36	3.02	2.39	1.76	0.98
1968	1.04	1.73	1.11	0.74	1.39	1.22	0.67	1.05	1.65	0.82	1.02	2.45	1.14	2.39	1.28	1.03
1969	2.02	3.55	2.38	1.35	1.47	2.99	2.64	1.34	3.07	2.77	1.07	1.06	0.96	2.31	1.30	1.86
1970	1.46	1.95	1.39	0.77	1.73	1.07	1.13	0.86	2.00	1.70	0.62	2.03	1.40	1.10	2.28	1.52
1971	1.44	3.18	1.71	1.16	1.81	1.49	1.05	2.60	1.72	1.55	1.59	1.38	2.14	1.75	0.95	1.30
1972	1.10	1.78	1.36	1.55	1.46	1.57	1.12	1.24	2.19	closed	5.55	1.52	1.28	1.04	0.90	0.97
1973	1.13	1.87	1.46	0.98	0.46	1.43	0.70	2.53	1.41	2.41	2.61	2.16	3.97	1.75	1.43	1.48
1974	1.90	1.75	2.29	1.35	0.94	1.87	1.31	2.14	2.22	2.89	1.00	1.13	1.91	1.88	2.39	2.74
1975	1.60	2.55	2.40	2.13	1.64	1.47	1.30	1.88	2.83	1.59	2.73	2.86	2.02	0.89	2.66	1.17
1976	1.69	1.68	2.00	0.91	1.69	1.58	1.02	1.86	1.88	1.27	3.08	3.20	1.49	1.26	1.69	0.96
1977	1.13	1.08	1.52	0.97	0.82	1.30	0.65	1.59	0.65	0.52	1.02	1.04	1.63	0.78	1.90	0.54
1978	1.80	2.57	2.06	1.30	1.41	1.29	1.76	1.36	3.38	1.32	4.95	3.56	1.18	1.54	2.14	1.30
1979	1.53	2.41	1.74	1.22	1.77	1.86	1.38	3.60	2.95	2.96	3.62	3.71	1.90	3.40	2.24	2.56
1980	1.12	1.68	1.33	1.03	1.52	1.17	0.62	1.44	2.11	1.28	1.47	1.68	1.41	2.21	2.14	0.99
1981	1.00	1.30	0.87	0.87	2.93	0.77	0.60	1.60	1.25	0.72	8.14	1.54	1.41	0.70	1.63	1.89
1982	1.26	1.65	1.02	0.79	1.52	0.93	0.74	2.22	1.91	0.89	0.29	0.87	1.27	0.73	1.74	0.51
1983	1.64	1.64	1.57	1.47	1.51	1.23	1.02	2.52	1.82	2.70	2.79	1.70	1.43	1.69	1.59	1.82
1984	1.25	1.30	1.42	1.04	1.86	1.45	0.89	1.64	0.93	0.68	2.78	1.74	0.91	0.83	2.14	0.91
1985	1.20	1.09	1.97	1.35	1.80	1.87	0.95	1.47	0.98	0.89	1.70	2.23	1.22	1.76	1.62	0.62
1986	1.47	1.73	2.09	1.55	2.24	1.97	1.03	1.43	1.62	0.84	1.54	1.58	1.51	1.57	1.18	2.07
1987	1.08	0.98	1.57	1.13	0.66	1.31	0.77	1.02	1.32	1.34	2.56	1.89	1.40	0.98	1.15	3.47
1988	0.81	1.43	1.23	0.90	1.03	0.94	0.66	0.96	0.65	closed	4.13	1.83	1.46	1.01	1.00	0.66
1989	1.31	1.84	1.40	1.26	1.90	1.67	0.83	2.70	1.36	1.45	3.21	3.16	2.47	0.99	1.10	1.32
1990	1.13	1.37	1.68	1.03	1.22	1.48	0.92	2.74	1.76	1.37	2.22	1.89	1.73	1.80	1.37	0.85
1991	0.84	1.02	0.96	1.18	2.42	1.12	0.79	1.22	1.23	2.71	1.79	2.10	2.24	1.02	1.18	1.96
1992	0.93	1.17	1.06	1.23	1.41	1.23	0.77	1.67	1.00	0.50	2.78	1.01	1.47	1.10	1.08	0.85
1993	1.47	2.02	1.63	1.62	1.38	1.64	1.04	1.43	2.04	0.88	3.47	2.26	1.47	1.07	0.99	0.64
1994	1.25	1.57	1.78	1.13	2.00	1.87	1.26	1.54	1.23	2.18	1.58	1.96	1.94	1.36	1.78	1.24
1995	1.02	1.55	1.37	1.15	1.14	1.48	0.85	1.60	1.56	1.42	2.70	2.23	1.20	0.76	0.97	1.00
1996	1.28	1.50	1.12	1.36	1.84	1.38	1.02	1.25	1.22	1.43	0.91	2.78	1.29	1.00	1.22	0.93
1997	1.52	1.30	1.47	1.50	1.75	2.22	1.62	1.53	1.16	1.89	1.28	1.88	2.54	1.18	1.79	2.16
1998	1.34	1.52	1.12	1.14	1.48	0.76	0.73	1.56	1.65	1.15	0.55	1.12	2.49	0.76	1.14	0.94
1999	0.98	0.98	0.86	1.00	1.00	0.92	0.99	1.26	0.87	0.82	0.57	0.90	1.83	0.49	1.41	0.39
2000	1.05	0.88	0.89	1.05	0.91	0.53	0.73	2.26	0.75	0.74	1.48	1.15	1.50	0.58	0.66	0.90
2001	1.19	0.80	1.02	1.05	1.29	0.66	0.65	1.31	0.50	1.15	0.51	1.64	1.53	0.64	1.33	0.63
2002	1.18	0.99	1.64	1.36	1.09	0.82	0.91	1.24	1.11	closed	0.97	1.60	1.25	1.14	1.11	0.57
2003*	1.51	1.41	1.11	1.14	1.50	1.11	0.97	1.57	1.69	1.02	0.72	1.58	1.44	0.71	0.93	1.10
% Change:																
2002	28.0%	42.4%	-32.3%	-16.2%	37.6%	35.4%	6.6%	26.6%	52.3%		-25.8%	-1.3%	15.2%	-37.7%	-16.2%	93.0%
1965-2002	14.0%	-17.3%	-28.3%	-3.4%	0.5%	-24.3%	-8.6%	-8.3%	-0.5%	-33.6%	-67.4%	-17.4%	-15.1%	-46.9%	-37.6%	-14.0%
Avg.:																
1965-2003	1.33	1.70	1.54	1.18	1.49	1.46	1.06	1.71	1.70	1.52	2.17	1.90	1.69	1.32	1.48	1.28

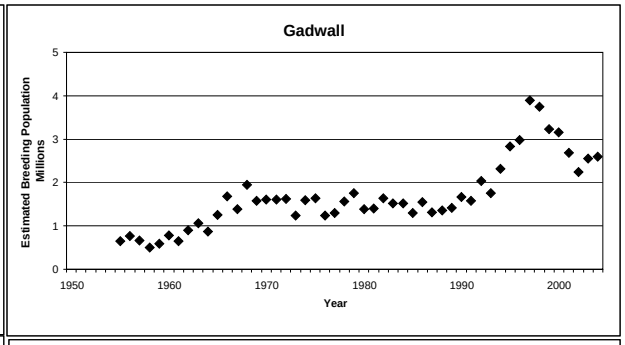
* Preliminary results.

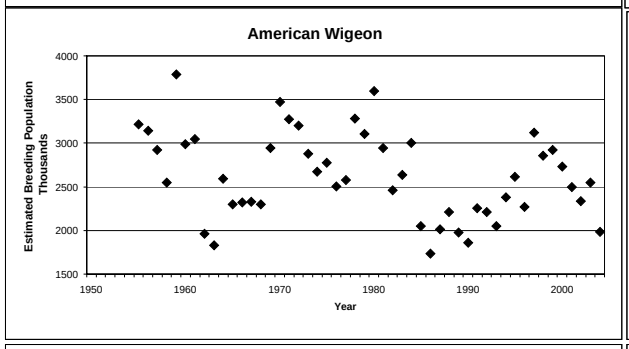
Sample size (n) and age ratios (immatures per adult) of SNOW GEESE, ROSS' GEESE, WHITE-FRONTED GEESE, and and CANADA GEESE in Pacific Flyway harvests, excluding Alaska, and age ratios in EMPEROR GEESE in Alaska harvests, as measured by the Waterfowl Parts Collection Survey using goose-tail fans.

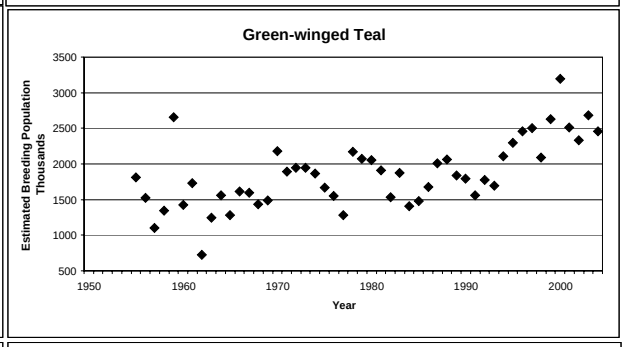
	Snow Geese		Ross' Geese		White-fronted Geese		Canada Geese		Pacific Brant		Emperor Geese	
Year	n	Imm/Ad	n	Imm/Ad	n	Imm/Ad	n	Imm/Ad	n	Imm/Ad	n	Imm/Ad
1965	166	0.16			186	1.05	920	0.30	44	0.38		
1966	582	1.90	3	2.00	218	1.52	978	0.36	22	1.45	5	1.50
1967	305	0.33	2	0.00	266	1.24	966	0.31	26	0.08	9	1.00
1968	268	0.59			205	1.50	820	0.38	34	0.05	4	3.00
1969	266	0.98	8	0.39	207	2.06	750	0.46	28	0.47	6	2.00
1970	398	1.52	15	9.60	199	1.05	742	0.30	1	0.00	20	0.33
1971	387	0.50	13	3.33	126	1.44	760	0.32	10	0.42	6	1.00
1972	84	0.30			96	1.58	796	0.35	29	0.70	4	1.00
1973	406	1.61	15	0.56	159	0.88	827	0.28	10	0.53	2	0.00
1974	168	0.08	25	0.19	123	0.63	816	0.20	12	0.00	13	0.18
1975	298	2.60	22	3.06	130	1.21	908	0.44	17	0.36	4	--
1976	314	1.63	17	0.71	94	1.84	629	0.39	3	0.72	42	0.83
1977	197	0.66	12	3.32	74	2.68	785	0.41	27	0.53	28	0.73
1978	103	0.39	7	0.40	112	2.14	1,117	0.39	7	0.50	36	0.89
1979	96	0.79	14	1.05	61	2.12	1,032	0.44	9	0.00	14	1.00
1980	148	1.16	14	2.50	82	1.59	1,031	0.35	8	3.00	36	0.71
1981	352	1.23	35	0.51	109	0.96	1,552	0.22	25	0.19	14	0.40
1982	139	0.24	26	1.11	56	0.83	1,235	0.17	3	0.00	10	0.43
1983	169	1.32	26	0.61	60	0.90	1,561	0.27	10	0.67	4	0.33
1984	344	0.75	48	3.22	37	0.80	1,407	0.44	1	0.00		
1985	389	0.90	50	1.05	59	0.41	1,467	0.20			2	0.00
1986	202	0.14	24	0.48	40	0.56	1,241	0.18	1	0.00		
1987	224	1.34	13	1.23	52	1.03	1,451	0.18	3	0.50		
1988	409	0.92	11	1.28	52	0.89	2,249	0.25				
1989	328	0.47	56	1.02	89	1.53	2,527	0.20	7	1.20		
1990	418	0.82	46	1.01	100	1.34	2,874	0.20	20	0.64		
1991	441	0.31	47	0.26	148	1.46	2,350	0.20	25	0.29		
1992	450	0.41	52	0.83	207	1.64	3,337	0.14	46	0.50		
1993	705	1.29	97	1.29	164	1.61	3,376	0.16	63	0.31		
1994	298	0.17	76	0.58	127	1.23	3,219	0.42	33	0.08		
1995	364	0.55	48	1.20	118	1.02	2,676	0.22	10	0.68		
1996	472	0.79	111	1.55	170	0.52	2,585	0.25	32	0.86		
1997	258	0.33	57	0.85	195	1.38	1,994	0.27	43	0.36		
1998	313	1.05	40	1.28	138	1.85	1,786	0.19	70	0.51		
1999	294	0.69	147	1.08	150	1.54	2,286	0.24	24	0.50		
2000	225	0.38	42	0.50	147	0.80	2,736	0.19	8	0.33		
2001	290	0.34	74	0.70	141	0.73	2,723	0.19	27	0.25		
2002	405	0.37	96	0.69	201	0.32	2,978	0.51	9	0.06		
2003[a]	307	0.86	96	1.25	150	0.53	3,292	0.71	14	0.42		
%Change:												
1965-2002		8.9%		-11.5%		-57.9%		145.9%		-11.7%		
2002		132.4%		81.2%		65.6%		39.2%		600.0%		
Average:												
1965-2003		0.79		1.41		1.24		0.30		0.47		

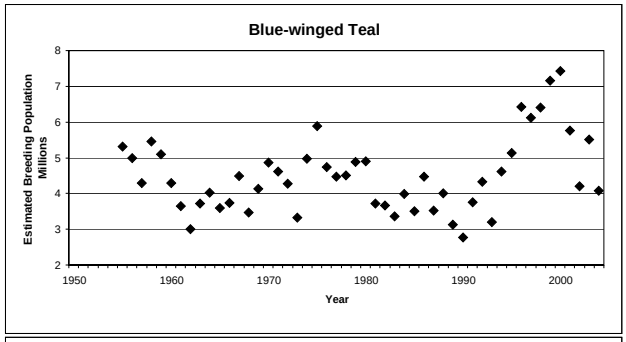
[a]Preliminary results.

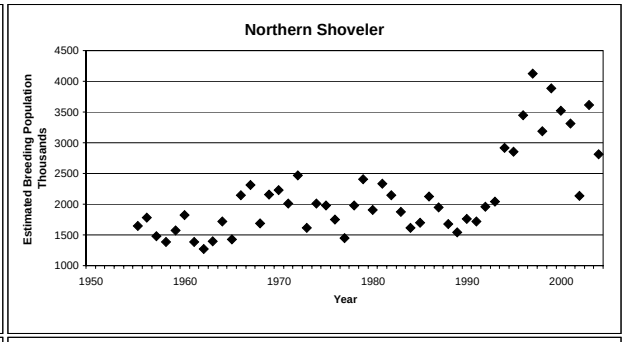

Mallard
Estimated Breeding Population
Millions
Year

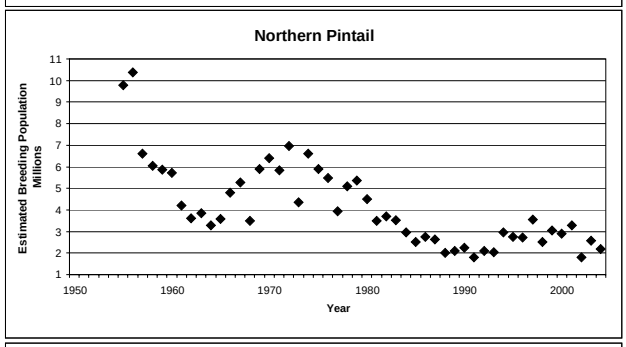

Gadwall
Estimated Breeding Population
Millions
Year

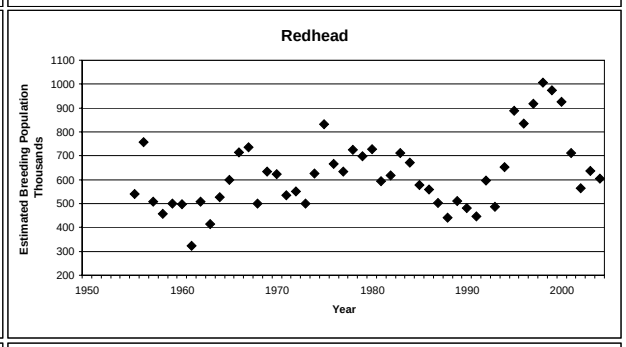

American Wigeon
Estimated Breeding Population
Thousands
Year

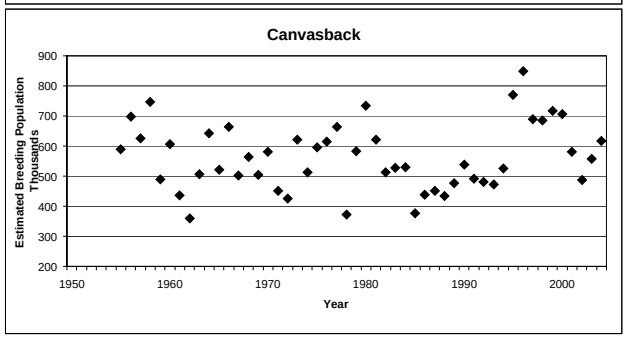

Green-winged Teal
Estimated Breeding Population
Thousands
Year

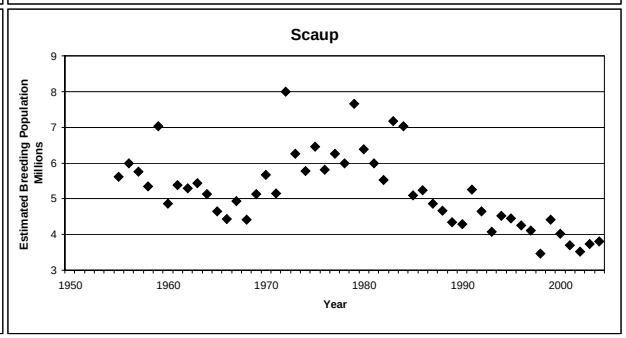

Blue-winged Teal
Estimated Breeding Population
Millions
Year


Northern Shoveler
Estimated Breeding Population
Thousands
Year


Northern Pintail
Estimated Breeding Population
Millions
Year


Redhead
Estimated Breeding Population
Thousands
Year


Canvasback
Estimated Breeding Population
Thousands
Year


Scaup
Estimated Breeding Population
Millions
Year

TRENDS IN DUCK BREEDING POPULATIONS, 1955-2004

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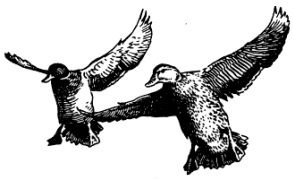
Administrative Report[a] – July 8, 2004



This report summarizes information about the status of duck populations and wetland habitats during spring 2004, focusing on areas encompassed by the U.S. Fish and Wildlife and Canadian Wildlife Services' Waterfowl Breeding Population and Habitat Survey. The estimates do not include information from surveys conducted by State or Provincial agencies. In the traditional survey area, which includes strata 1-18, 20-50, and 75-77 (Fig. 2), the total duck population estimate (excluding scoters [*Melanitta* spp.], eiders [*Somateria* and *Polysticta* spp.], long-tailed ducks [*Clangula hyemalis*], mergansers [*Mergus* and *Lophodytes* spp.], and wood ducks [*Aix sponsa*]) was 32.2 ± 0.6 [SE] million birds, 11% below ($P < 0.001$) last year's estimate of 36.2 ± 0.7 million birds and 3% below to the 1955-2003 long-term average ($P = 0.053$). Mallard (*Anas platyrhynchos*) abundance was 7.4 ± 0.3 million birds, which was similar to last year's estimate of 7.9 ± 0.3 million birds ($P = 0.177$) and the long-term average ($P = 0.762$). Blue-winged teal (*A. discors*) abundance was 4.1 ± 0.2 million birds. This value was 26% below last year's estimate of 5.5 ± 0.3 million birds ($P < 0.001$) and 10% below the long-term average ($P = 0.073$). Of the other duck species, only estimates of northern shovelers (*A. clypeata*; 2.8 ± 0.2 million) and American wigeon (*A. americana*; 2.0 ± 0.1 million) were significantly different from 2003 estimates ($P < 0.003$), and both were 22% below 2003 estimates. Compared to the long-term averages, gadwall (*A. strepera*; 2.6 ± 0.2 million; +56%), green-winged teal (*A. crecca*; 2.5 ± 0.1 million; +33%) and shovelers (+32%) were above their 1955-2003 averages ($P < 0.001$), as they were in 2003. In 2004, northern pintails (*A. acuta*; 2.2 ± 0.2 million; -48%) and scaup (*Aythya affinis* and *A. marila* combined; 3.8 ± 0.2 million; -27%) remained well below their long-term averages ($P < 0.001$). Wigeon also were below their long-term average in 2004 (-25%; $P < 0.001$). Estimates of redheads (*A. americana*) and canvasbacks (*A. valisineria*) were unchanged from their previous year and long-term averages ($P \geq 0.396$).

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The eastern survey area is comprised of strata 51-56 and 62-69 (Fig. 2). The 2004 total-duck estimate for this area was 3.9 ± 0.3 million birds. This estimate was similar to that of last year and the 1996-2003 average ($P \geq 0.102$). Estimates for most individual species were similar to last year and to 1996-2003 averages. Only numbers of ring-necked ducks (*A. collaris*) were significantly different from 2003 estimates, increasing by 67% to 0.7 ± 0.2 million birds ($P = 0.095$). Wigeon (0.1 ± 0.1 million; -61%) and goldeneye (*Bucephala clangula* and *B. islandica* combined; 0.4 ± 0.1 million; -42%) were below their 1996-2003 averages ($P \leq 0.052$). All other species were similar to 2003 estimates and 1996-2003 averages.

Most of the U.S. and Canadian prairies were much drier in May 2004 compared to May 2003. Unfortunately, good water conditions in the short-grass prairie of southern Alberta and Saskatchewan seen last year did not carry over to this year, and habitat in these areas deteriorated from good last year to fair or poor this year. Habitat conditions in Manitoba ranged from poor in the east to good in the west, similar to conditions observed last year. The Dakotas have experienced a slow drying trend over the past few years, and much of eastern South Dakota was in poor condition. Habitat conditions in North Dakota improved in northern regions. Eastern Montana was a mosaic of habitat conditions ranging from poor to good. Although many areas of the southern prairies received considerable snowfall during the winter and spring of 2003-2004, including a late spring snowstorm, the snowmelt was absorbed by the parched ground. As a consequence, fewer ponds were counted in the prairies this spring. The estimate of May ponds for the northcentral U.S. and Prairie Canada combined was 3.9 ± 0.2 million. This was 24% lower than last year ($P < 0.001$) and 19% below the long-term average ($P < 0.001$). Numbers of ponds in Canada (2.5 ± 0.1 million) and the U.S. (1.4 ± 0.1 million) both were below 2003 estimates (-29% in Canada and -16% in the U.S.; $P \leq 0.033$) and the number of Canadian ponds was 25% below the long-term average ($P < 0.001$). Snowy and cold conditions present during May probably adversely impacted early nesting species and young broods.

This year, the Northwest Territories, Northern Alberta, Northern Saskatchewan, and Northern Manitoba were exceptionally late in thawing; birds that over-flew the dry prairies encountered winter-like conditions and nesting may have been curtailed. This is especially true for early nesting species such as mallards and pintails. Unlike the northern areas of Canada, Alaska had excellent habitat conditions for breeding waterfowl this spring. Areas south of Alaska's Brooks Range experienced a widespread, record-setting early spring breakup, and only minor flooding.

Breeding habitat conditions were generally good to excellent in the eastern U.S. and Canada. Although spring was late in most areas, biologists believed that nesting was not significantly affected because of abundant spring rain and mild temperatures.

WATERFOWL POPULATION SURVEYS

50 Years & Still Counting

Next year is the 50th anniversary of the May Waterfowl Breeding Population and Habitat survey.

Figure 2. Strata and transects for areas of the May Waterfowl Breeding Population and Habitat Survey (stratum 57 is experimental and survey counts are not included in this report).

Breeding population estimates (X 1,000) for 10 species of ducks from the traditional survey area, 1955-2004.

Year	Mallard	Gadwall	Am. Wigeon	GW Teal	BW Teal	N. Shoveler	N. Pintail	Redhead	Canvasback	Scaup	Total
1955	8,777.3	651.5	3,216.8	1,807.2	5,305.2	1,642.8	9,775.1	539.9	589.3	5,620.1	37,925.2
1956	10,452.7	772.6	3,145.0	1,525.3	4,997.6	1,781.4	10,372.8	757.3	698.5	5,994.1	40,497.3
1957	9,296.9	666.8	2,919.8	1,102.9	4,299.5	1,476.1	6,606.9	509.1	626.1	5,766.9	33,271.0
1958	11,234.2	502.0	2,551.7	1,347.4	5,456.6	1,383.8	6,037.9	457.1	746.8	5,350.4	35,067.9
1959	9,024.3	590.0	3,787.7	2,653.4	5,099.3	1,577.6	5,872.7	498.8	488.7	7,037.6	36,630.1
1960	7,371.7	784.1	2,987.6	1,426.9	4,293.0	1,824.5	5,722.2	497.8	605.7	4,868.6	30,382.1
1961	7,330.0	654.8	3,048.3	1,729.3	3,655.3	1,383.0	4,218.2	323.3	435.3	5,380.0	28,157.5
1962	5,535.9	905.1	1,958.7	722.9	3,011.1	1,269.0	3,623.5	507.5	360.2	5,286.1	23,180.0
1963	6,748.8	1,055.3	1,830.8	1,242.3	3,723.6	1,398.4	3,846.0	413.4	506.2	5,438.4	26,203.2
1964	6,063.9	873.4	2,589.6	1,561.3	4,020.6	1,718.3	3,291.2	528.1	643.6	5,131.8	26,421.8
1965	5,131.7	1,260.3	2,301.1	1,282.0	3,594.5	1,423.7	3,591.9	599.3	522.1	4,640.0	24,346.6
1966	6,731.9	1,680.4	2,318.4	1,617.3	3,733.2	2,147.0	4,811.9	713.1	663.1	4,439.2	28,855.5
1967	7,509.5	1,384.6	2,325.5	1,593.7	4,491.5	2,314.7	5,277.7	735.7	502.6	4,927.7	31,063.2
1968	7,089.2	1,949.0	2,298.6	1,430.9	3,462.5	1,684.5	3,489.4	499.4	563.7	4,412.7	26,879.9
1969	7,531.6	1,573.4	2,941.4	1,491.0	4,138.6	2,156.8	5,903.9	633.2	503.5	5,139.8	32,013.2
1970	9,985.9	1,608.1	3,469.9	2,182.5	4,861.8	2,230.4	6,392.0	622.3	580.1	5,662.5	37,595.5
1971	9,416.4	1,605.6	3,272.9	1,889.3	4,610.2	2,011.4	5,847.2	534.4	450.7	5,143.3	34,781.4
1972	9,265.5	1,622.9	3,200.1	1,948.2	4,278.5	2,466.5	6,979.0	550.9	425.9	7,997.0	38,734.5
1973	8,079.2	1,245.6	2,877.9	1,949.2	3,332.5	1,619.0	4,356.2	500.8	620.5	6,257.4	30,838.3
1974	6,880.2	1,592.4	2,672.0	1,864.5	4,976.2	2,011.3	6,598.2	626.3	512.8	5,780.5	33,514.4
1975	7,726.9	1,643.9	2,778.3	1,664.8	5,885.4	1,980.8	5,900.4	831.9	595.1	6,460.0	35,467.5
1976	7,933.6	1,244.8	2,505.2	1547.5	4,744.7	1,748.1	5,475.6	665.9	614.4	5,818.7	32,298.5
1977	7,397.1	1,299.0	2,575.1	1285.8	4,462.8	1,451.8	3,926.1	634.0	664.0	6,260.2	29,955.9
1978	7,425.0	1,558.0	3,282.4	2174.2	4,498.6	1,975.3	5,108.2	724.6	373.2	5,984.4	33,103.9
1979	7,883.4	1,757.9	3,106.5	2071.7	4,875.9	2,406.5	5,376.1	697.5	582.0	7,657.9	36,415.4
1980	7,706.5	1,392.9	3,595.5	2,049.9	4,895.1	1,908.2	4,508.1	728.4	734.6	6,381.7	33,900.9
1981	6,409.7	1,395.4	2,946.0	1,910.5	3,720.6	2,333.6	3,479.5	594.9	620.8	5,990.9	29,401.9
1982	6,408.5	1,633.8	2,458.7	1,535.7	3,657.6	2,147.6	3,708.8	616.9	513.3	5,532.0	28,212.9
1983	6,456.0	1,519.2	2,636.2	1,875.0	3,366.5	1,875.7	3,510.6	711.9	526.6	7,173.8	29,651.5
1984	5,415.3	1,515.0	3,002.2	1,408.2	3,979.3	1,618.2	2,964.8	671.3	530.1	7,024.3	28,128.7
1985	4,960.9	1,303.0	2,050.7	1,475.4	3,502.4	1,702.1	2,515.5	578.2	375.9	5,098.0	23,562.1
1986	6,124.2	1,547.1	1,736.5	1,674.9	4,478.8	2,128.2	2,739.7	559.6	438.3	5,235.3	26,662.6
1987	5,789.8	1,305.6	2,012.5	2,006.2	3,528.7	1,950.2	2,628.3	502.4	450.1	4,862.7	25,036.5
1988	6,369.3	1,349.9	2,211.1	2,060.8	4,011.1	1,680.9	2,005.5	441.9	435.0	4,671.4	25,236.9
1989	5,645.4	1,414.6	1,972.9	1,841.7	3,125.3	1,538.3	2,111.9	510.7	477.4	4,342.1	22,980.3
1990	5,452.4	1,672.1	1,860.1	1,789.5	2,776.4	1,759.3	2,256.6	480.9	539.3	4,293.1	22,879.7
1991	5,444.6	1,583.7	2,254.0	1,557.8	3,763.7	1,716.2	1,803.4	445.6	491.2	5,254.9	24,315.1
1992	5,976.1	2,032.8	2,208.4	1,773.1	4,333.1	1,954.4	2,098.1	595.6	481.5	4,639.2	26,092.3
1993	5,708.3	1,755.2	2,053.0	1,694.5	3,192.9	2,046.5	2,053.4	485.4	472.1	4,080.1	23,541.4
1994	6,980.1	2,318.3	2,382.2	2,108.4	4,616.2	2,912.0	2,972.3	653.5	525.6	4,529.0	29,997.6
1995	8,269.4	2,835.7	2,614.5	2,300.6	5,140.0	2,854.9	2,757.9	888.5	770.6	4,446.4	32,878.5
1996	7,941.3	2,984.0	2,273.3	2,459.2	6,415.9	3,449.0	2,735.9	834.2	848.5	4,250.1	34,191.4
1997	9,939.7	3,897.2	3,117.6	2,506.6	6,124.3	4,120.4	3,558.0	918.3	688.8	4,112.3	38,983.2
1998	9,640.3	3,742.2	2,857.7	2,087.3	6,398.8	3,183.2	2,520.6	1,005.1	685.8	3,471.9	35,592.9
1999	10,805.7	3,235.5	2,920.1	2,631.0	7,149.5	3,889.5	3,057.9	973.4	716.0	4,411.7	39,790.3
2000	9,470.2	3,158.4	2,733.1	3,193.5	7,431.4	3,520.7	2,907.6	926.3	706.8	4,026.3	38,074.3
2001	7,904.0	2,679.2	2,493.5	2,508.7	5,757.0	3,313.5	3,296.0	712.0	579.8	3,694.0	32,937.7
2002	7,503.7	2,235.4	2,334.4	2,333.5	4,206.5	2,318.2	1,789.7	564.8	486.6	3,524.1	27,296.9
2003	7,949.7	2,549.0	2,551.4	2,678.5	5,518.2	3,619.6	2,558.2	636.8	557.6	3,734.4	32,353.4
2004	7,425.3	2,589.6	1,981.3	2,460.8	4,073.0	2,810.4	2,184.6	605.3	617.2	3,807.2	28,554.7
Avg. 1955-2004	7,510.4	1,682.5	2,624.4	1,860.7	4,499.4	2,148.7	4,142.5	624.9	562.9	5,220.8	30,877.1
% Change from:											
1955-03 Avg.	-1.2%	55.6%	-24.9%	33.1%	-9.7%	31.6%	-47.8%	-3.2%	9.9%	-27.5%	-7.7%
2003	-6.6%	1.6%	-22.3%	-8.1%	-26.2%	-22.4%	-14.6%	-4.9%	10.7%	1.9%	-11.7%

MALLARD breeding population estimates, adjusted for birds present that were not seen by aerial crews, in Surveyed Areas (Strata 1-18, 20-50 and 75-77).

Year	Alaska-Yukon 1-12	NAlbta BC&NWT 13-19, 20, 75-77	So. Albta 26-29	N.Sask 21-23	S.Sask 30-35	N.Man 24-25	S.Man 36-40	Mont 41-42	N.Dak 43 & 45-47	S.Dak 44 & 48-49	W.Ont 50	Surveyed Areas
55	173,246	1,635,090	1,906,984	410,273	3,317,190	287,171	424,781	280,508	173,706	127,194	41,152	8,777,295
56	174,465	1,472,958	1,757,634	504,848	4,691,429	403,021	627,975	279,070	199,516	158,004	183,768	10,452,688
57	160,144	1,045,915	1,986,693	366,311	3,987,910	277,224	712,945	279,487	225,783	185,063	69,412	9,296,887
58	185,939	1,385,330	2,072,202	514,102	4,533,958	586,439	920,607	280,913	402,371	208,351	144,031	11,234,243
59	214,046	2,764,253	1,753,018	565,137	2,152,157	349,778	545,446	282,711	162,220	108,239	127,283	9,024,288
60	159,377	760,754	1,502,358	265,627	2,967,483	243,445	526,169	284,449	288,540	176,576	196,876	7,371,654
61	284,998	2,303,954	1,330,884	243,517	1,649,689	298,019	331,411	285,897	225,898	212,110	163,578	7,329,955
62	171,743	1,285,876	983,105	217,203	1,125,920	303,783	193,720	286,960	238,120	367,342	362,134	5,535,906
63	208,939	1,413,734	1,227,931	249,347	1,551,425	247,835	327,684	287,582	512,813	535,847	185,692	6,748,829
64	106,147	1,364,807	1,119,407	397,212	1,387,258	231,092	418,015	287,740	271,112	261,100	219,974	6,063,864
65	189,594	725,018	893,925	429,939	1,069,927	390,232	271,519	363,332	430,225	314,459	53,533	5,131,703
66	128,491	828,963	1,546,738	359,498	1,975,568	191,860	333,193	489,369	507,131	216,322	154,744	6,731,877
67	256,758	745,024	1,502,441	884,893	1,888,409	657,305	289,357	320,900	545,034	248,221	171,206	7,509,548
68	240,929	942,097	911,963	685,672	2,132,153	772,618	197,783	198,498	434,642	450,675	122,208	7,089,238
69	162,856	705,811	1,121,447	804,434	2,179,962	866,778	356,523	291,273	462,627	443,342	136,562	7,531,615
70	293,897	941,420	1,594,553	995,521	2,945,486	1,148,041	447,844	311,489	736,613	415,243	155,766	9,985,873
71	167,149	981,426	1,871,286	541,859	3,407,249	497,077	288,941	273,902	769,304	392,039	226,142	9,416,374
72	261,877	1,435,377	1,825,320	487,928	2,711,463	382,274	431,017	374,195	673,999	492,991	189,109	9,265,550
73	245,252	1,047,395	1,729,505	503,600	2,369,095	482,395	233,686	261,261	547,173	432,593	227,248	8,079,203
74	278,242	822,887	1,576,215	391,694	2,073,786	227,873	341,429	198,227	458,415	276,526	234,860	6,880,154
75	132,692	1,004,359	1,398,330	414,730	2,449,214	310,156	379,809	478,399	566,489	354,263	238,437	7,726,878
76	181,397	465,460	1,453,591	634,169	3,044,740	579,185	540,411	167,955	367,999	256,226	242,454	7,933,587
77	459,778	944,191	853,258	547,034	2,869,326	572,775	254,066	171,021	292,069	186,788	246,755	7,397,061
78	318,842	951,721	823,488	916,508	1,917,559	628,856	290,484	282,539	506,552	537,335	251,083	7,424,967
79	275,779	1,084,674	983,127	717,078	2,244,208	622,268	359,782	258,262	641,351	441,717	255,194	7,883,440
80	399,102	1,164,921	975,156	588,179	2,262,999	562,066	414,664	256,221	485,352	338,864	258,960	7,706,484
81	476,251	931,305	947,057	557,101	1,509,802	631,753	352,948	245,793	308,640	186,758	262,293	6,409,701
82	254,727	757,381	765,771	502,446	1,941,081	420,651	419,630	323,534	466,460	291,667	265,128	6,408,476
83	321,687	1,278,635	845,564	410,502	1,670,142	363,549	354,567	230,068	398,866	314,917	267,511	6,456,008
84	504,182	715,489	713,044	377,548	1,364,736	218,811	176,720	189,805	550,325	334,941	269,670	5,415,271
85	219,055	831,327	802,991	309,050	1,173,330	291,016	238,763	151,976	361,377	310,062	271,920	4,960,867
86	233,539	1,419,973	698,795	291,326	1,542,604	171,796	382,585	156,860	487,789	531,993	206,977	6,124,237
87	185,802	934,840	753,948	496,980	1,273,327	258,634	249,911	240,889	582,640	556,751	256,054	5,789,776
88	356,711	1,304,590	627,426	647,899	1,389,229	332,157	273,493	217,998	354,946	374,120	490,771	6,369,340
89	411,507	961,781	585,874	426,745	951,715	489,303	238,337	282,795	403,974	471,987	421,423	5,645,441
90	366,933	945,898	778,677	510,374	1,253,692	413,673	292,954	148,364	142,208	183,525	416,088	5,452,386
91	385,319	905,433	769,227	600,071	1,031,104	451,958	236,481	222,694	261,820	342,556	237,917	5,444,580
92	345,708	882,323	733,528	497,847	1,293,391	573,396	334,242	239,903	364,119	360,606	351,017	5,976,080
93	282,984	941,492	753,847	506,686	1,036,406	533,026	243,691	288,604	374,137	491,482	255,939	5,708,294
94	350,876	734,870	848,784	488,337	1,380,292	653,039	300,840	368,651	900,685	715,854	237,839	6,980,067
95	524,199	1,010,536	778,458	541,940	1,808,541	565,238	416,244	365,957	1,063,876	919,702	274,725	8,269,416
96	522,006	676,729	793,817	364,847	2,142,742	286,503	358,511	386,939	1,100,478	839,766	468,980	7,941,318
97	584,247	1,205,629	883,563	561,148	2,450,764	348,194	436,468	641,219	1,377,708	1,323,163	127,589	9,939,692
98	836,217	1,054,582	950,114	539,919	2,448,698	250,592	439,468	549,486	1,267,718	1,035,640	267,929	9,640,363
99	713,054	2,040,801	1,031,842	689,426	2,528,576	322,345	514,434	319,037	1,490,922	1,016,388	138,857	10,805,682
2000	770,333	1,288,091	833,158	474,892	2,266,723	413,433	367,668	304,086	1,482,786	1,108,388	160,656	9,470,214
2001	718,286	979,033	743,759	342,629	1,649,653	158,540	445,965	239,132	1,484,312	1,040,497	102,149	7,903,955
2002	667,337	1,182,335	793,296	468,202	1,212,518	404,834	400,670	185,751	1,247,729	699,279	241,753	7,503,704
2003	843,496	851,810	627,097	375,453	2,110,665	284,152	504,996	279,704	1,051,070	577,518	443,781	7,949,742
2004	811,137	776,384	600,098	362,971	1,609,495	390,372	393,431	262,812	1,152,911	535,665	530,040	7,425,316
% Chg. from:												
2003	-3.8%	-8.9%	-4.3%	-3.3%	-23.7%	37.4%	-22.1%	-6.0%	9.7%	-7.2%	19.4%	-6.6%
1955-2003	137.9%	-29.6%	-46.3%	-27.8%	-22.9%	-8.7%	4.6%	-8.7%	97.2%	18.4%	129.9%	-1.2%
Average:												
1955-2003	340,942	1,103,231	1,117,555	502,402	2,088,475	427,677	376,303	287,988	584,687	452,347	230,513	7,512,118
1955-2004	350,345	1,096,694	1,107,206	499,613	2,078,896	426,931	376,646	287,484	596,051	454,013	236,503	7,510,382

GADWALL breeding population estimates, adjusted for birds present that were not seen by aerial crews, in Surveyed Areas (Strata 1-18, 20-50 and 75-77).

Year	Alaska-Yukon 1-12	NAlbta BC&NWT 13-19, 20, 75-77	So. Albta 26-29	N.Sask 21-23	S.Sask 30-35	N.Man 24-25	S.Man 36-40	Mont 41-42	N.Dak 43 & 45-47	S.Dak 44 & 48-49	W.Ont 50	Surveyed Areas
55	581	1,300	200,319	1,013	359,048	3,831	27,595	57,809	0	0	0	651,496
56	532	983	269,942	1,015	422,148	0	18,892	59,127	0	0	0	772,639
57	926	1,566	187,084	0	375,700	5,559	23,559	60,482	11,951	0	0	666,827
58	121	3,536	219,587	0	136,737	0	34,053	61,664	44,779	1,565	0	502,042
59	1,106	1,768	275,747	25,705	171,409	9,194	26,280	62,584	13,395	0	2,770	589,958
60	713	0	369,182	1,013	227,008	354	27,597	63,201	85,151	9,852	0	784,071
61	95	12,931	279,615	28,593	126,780	15,094	52,821	63,533	56,431	18,938	0	654,831
62	486	9,104	207,811	7,091	342,747	5,301	38,765	63,648	156,176	73,946	0	905,075
63	0	1,455	198,773	9,355	319,375	13,791	70,482	64,234	213,813	164,020	0	1,055,298
64	742	9,781	256,634	8,527	317,564	16,266	54,384	65,577	86,000	53,567	4,331	873,373
65	133	7,580	200,306	26,426	481,176	15,382	39,122	147,941	226,791	115,418	0	1,260,275
66	1,392	1,879	479,606	21,157	575,370	9,267	78,826	130,496	269,506	112,942	0	1,680,441
67	1,243	6,650	415,764	51,344	409,166	15,913	82,038	99,978	216,167	75,134	11,237	1,384,634
68	86	13,410	491,606	26,183	679,884	50,659	42,690	93,740	352,933	197,764	0	1,948,955
69	85	4,289	338,981	28,541	463,498	54,015	22,792	94,256	323,122	243,811	0	1,573,390
70	85	22,685	343,276	13,514	511,537	24,961	50,295	53,286	373,913	214,520	0	1,608,072
71	85	7,607	362,838	6,618	590,171	21,607	31,316	49,061	372,152	162,221	1,940	1,605,616
72	85	23,022	444,939	10,066	488,815	27,719	67,088	15,537	353,577	192,095	0	1,622,943
73	513	16,412	281,022	20,472	451,507	22,547	66,387	11,834	223,219	149,939	1,765	1,245,617
74	5,343	8,215	495,640	5,568	644,723	9,439	52,797	69,594	213,562	85,538	1,932	1,592,351
75	903	6,354	303,696	2,957	744,569	13,960	40,137	72,886	330,130	126,365	1,925	1,643,882
76	552	6,659	308,696	6,709	679,395	8,249	56,163	55,331	76,513	44,577	1,915	1,244,759
77	83	34,395	392,235	23,172	607,488	18,705	66,910	19,680	103,043	31,383	1,896	1,298,990
78	2,042	18,044	279,676	5,175	532,861	21,566	44,402	174,820	243,929	233,614	1,859	1,557,988
79	735	43,567	346,447	4,436	695,477	14,675	66,298	78,607	369,170	136,682	1,798	1,757,892
80	702	56,477	319,614	14,712	474,563	28,218	119,359	83,470	224,308	69,750	1,711	1,392,884
81	2,450	61,724	309,430	39,370	409,483	24,578	57,657	119,920	255,598	113,559	1,598	1,395,367
82	2,081	58,282	215,521	9,130	619,727	14,439	47,725	95,058	381,220	189,116	1,465	1,633,764
83	1,386	8,326	142,293	14,988	573,312	3,536	49,109	70,961	435,011	218,964	1,324	1,519,210
84	3,949	37,571	204,445	8,057	411,816	1,768	15,533	38,257	528,762	263,700	1,188	1,515,046
85	2,252	18,557	164,891	2,218	588,412	10,595	54,735	40,754	274,029	145,467	1,075	1,302,985
86	0	69,548	226,430	4,436	559,866	10,586	100,438	33,813	287,727	254,295	0	1,547,139
87	653	42,272	127,093	8,145	539,128	8,827	63,430	32,634	275,941	205,720	1,765	1,305,608
88	6,004	68,442	256,444	18,780	376,208	17,622	56,534	30,705	294,947	222,476	1,765	1,349,927
89	4,915	87,358	250,164	6,653	387,935	11,110	60,414	128,519	296,307	177,651	3,529	1,414,555
90	4,597	106,607	414,419	8,578	539,476	9,548	110,506	56,651	296,014	125,666	0	1,672,062
91	8,875	81,961	292,740	29,830	507,677	19,589	65,251	96,896	197,924	282,912	0	1,583,655
92	4,396	99,297	357,967	3,702	626,928	10,419	105,505	154,380	388,658	281,506	0	2,032,758
93	654	80,421	414,289	11,715	429,560	22,667	78,381	181,524	285,836	246,637	3,535	1,755,219
94	2,296	83,701	511,707	22,958	639,777	8,742	49,996	182,858	433,302	382,953	0	2,318,290
95	654	63,768	410,569	20,653	583,604	17,187	81,149	359,306	757,355	541,484	0	2,835,729
96	5,234	74,219	404,176	4,267	930,116	5,508	100,574	201,747	806,347	451,805	0	2,983,993
97	1,309	92,728	308,294	12,199	1,155,292	9,147	91,466	513,463	893,805	819,507	0	3,897,210
98	333	139,045	360,237	4,697	1,342,038	3,098	102,988	232,740	932,896	624,152	0	3,742,224
99	4,913	138,520	332,527	4,697	1,028,707	5,194	115,619	205,271	918,432	481,597	0	3,235,477
2000	2,724	99,536	310,856	4,761	649,965	7,045	85,075	125,922	1,236,303	636,223	0	3,158,410
2001	6,543	111,106	256,757	5,915	715,448	8,838	106,252	179,032	780,317	508,947	0	2,679,155
2002	987	161,941	333,366	7,975	359,696	19,196	131,798	87,323	691,545	441,619	0	2,235,446
2003	4,580	75,848	240,943	8,835	1,076,560	17,996	94,085	109,062	597,431	320,154	3,535	2,549,029
2004	1,871	138,331	289,920	13,329	751,786	7,156	147,594	101,301	846,163	290,357	1,768	2,589,576
% Chg. from:												
2003	-59.1%	82.4%	20.3%	50.9%	-30.2%	-60.2%	56.9%	-7.1%	41.6%	-9.3%	-50.0%	1.6%
1955-2003	0.6%	210.9%	-6.0%	6.7%	37.0%	-49.4%	131.4%	-3.6%	141.3%	36.2%	55.1%	55.6%
Average:												
1955-2003	1,860	44,499	308,461	12,488	548,560	14,153	63,781	105,085	350,723	213,260	1,140	1,664,011
1955-2004	1,861	46,376	308,090	12,505	552,625	14,013	65,457	105,009	360,632	214,802	1,153	1,682,523

AM. WIGEON breeding population estimates, adjusted for birds present that were not seen by aerial crews, in Surveyed Areas (Strata 1-18, 20-50 and 75-77).

Year	Alaska-Yukon 1-12	NAlbta BC&NWT 13-19, 20, 75-77	So. Albta 26-29	N.Sask 21-23	S.Sask 30-35	N.Man 24-25	S.Man 36-40	Mont 41-42	N.Dak 43 & 45-47	S.Dak 44 & 48-49	W.Ont 50	Surveyed Areas
55	73,215	1,559,563	582,304	55,946	620,429	116,496	95,311	61,155	25,076	9,516	17,788	3,216,799
56	82,311	1,317,909	535,550	22,872	946,174	17,297	122,918	58,996	22,030	8,633	10,303	3,144,993
57	156,916	1,340,887	535,785	31,814	634,025	19,713	114,992	58,278	19,513	7,854	0	2,919,777
58	140,750	882,122	548,883	8,450	473,139	54,836	353,060	58,677	24,680	7,126	0	2,551,723
59	107,890	2,120,473	616,007	37,478	472,625	93,770	247,479	59,940	24,918	7,082	0	3,787,662
60	132,206	1,623,260	539,938	67,858	365,228	78,673	83,081	61,801	22,750	9,551	3,225	2,987,571
61	135,235	1,847,208	502,309	93,189	238,029	23,743	117,411	64,044	5,019	6,070	16,009	3,048,266
62	180,180	925,316	380,146	72,534	150,209	83,126	56,804	66,507	3,847	8,058	32,018	1,958,745
63	77,248	879,132	315,248	53,309	237,331	82,449	86,458	69,067	16,394	3,058	11,114	1,830,808
64	118,482	1,404,336	346,277	116,829	310,129	80,950	115,703	71,609	4,552	4,438	16,300	2,589,605
65	209,044	1,028,090	320,911	100,788	317,687	131,647	130,473	36,761	5,889	0	19,834	2,301,124
66	247,113	984,965	385,549	108,349	302,129	102,229	98,086	43,186	18,620	9,627	18,523	2,318,376
67	280,898	545,044	485,275	82,079	649,108	105,194	52,397	63,636	27,864	29,742	4,229	2,325,466
68	347,587	519,929	467,515	181,472	362,775	185,480	98,620	68,616	8,326	22,594	35,656	2,298,570
69	337,124	683,029	403,794	163,019	831,660	244,173	111,666	85,841	40,496	30,672	9,961	2,941,435
70	424,670	959,699	434,256	213,636	819,303	421,815	52,516	92,553	30,012	21,442	0	3,469,902
71	321,506	871,808	502,040	229,160	951,415	234,569	28,786	58,326	28,113	18,953	28,179	3,272,855
72	312,247	1,007,953	448,432	146,624	772,341	135,288	108,950	129,826	29,076	99,101	10,265	3,200,103
73	334,919	1,054,975	394,136	160,161	474,367	143,201	112,370	99,212	36,035	43,665	24,903	2,877,944
74	456,844	622,403	514,484	75,040	633,168	114,662	87,044	76,826	44,100	16,339	31,065	2,671,975
75	224,435	767,974	384,299	125,522	893,723	69,968	54,284	110,619	72,828	42,732	31,962	2,778,346
76	242,239	620,548	344,513	165,686	720,058	104,413	56,285	99,688	62,299	56,633	32,819	2,505,181
77	487,050	942,452	194,907	141,576	490,684	121,764	25,098	77,050	31,736	29,194	33,619	2,575,130
78	626,430	1,069,113	303,478	188,084	519,911	199,442	22,592	157,027	69,375	92,671	34,300	3,282,423
79	563,676	797,780	402,492	168,394	784,147	125,822	60,467	87,888	47,449	33,590	34,790	3,106,495
80	741,425	1,100,805	403,885	191,291	610,439	176,953	61,201	148,919	84,036	41,505	35,029	3,595,488
81	859,750	998,245	179,810	203,289	211,695	179,141	34,744	65,228	119,155	59,983	35,003	2,946,043
82	464,212	694,013	199,965	142,804	594,333	122,055	35,014	89,421	41,511	40,652	34,734	2,458,714
83	557,362	674,482	170,873	139,114	675,023	157,780	30,392	77,947	45,142	73,838	34,285	2,636,238
84	658,399	1,349,481	158,359	161,738	322,256	91,086	28,473	72,998	38,651	87,018	33,767	3,002,226
85	397,779	755,242	177,253	105,947	290,085	95,457	32,847	58,694	58,850	45,219	33,307	2,050,680
86	476,903	549,000	90,165	106,426	292,326	59,730	39,430	51,961	30,882	39,698	0	1,736,521
87	462,823	895,317	110,393	118,806	159,427	83,615	20,892	64,869	44,125	45,622	6,641	2,012,530
88	527,684	925,934	85,486	164,982	194,130	115,763	26,943	44,041	40,791	48,811	36,524	2,211,089
89	550,813	660,595	95,932	145,742	181,403	172,756	24,848	58,797	15,551	21,610	44,825	1,972,872
90	536,313	510,947	123,237	144,317	177,271	136,820	31,515	126,212	22,855	27,370	23,243	1,860,100
91	641,130	788,919	117,898	131,889	234,315	149,186	21,737	70,336	20,931	44,426	33,204	2,253,971
92	593,240	663,279	170,303	118,841	324,887	112,148	23,848	88,226	44,135	32,930	36,520	2,208,357
93	537,975	749,844	198,493	135,695	195,205	92,111	13,791	65,479	13,918	17,279	33,200	2,052,990
94	727,805	479,423	193,153	177,623	261,002	197,723	16,234	137,710	71,431	83,628	36,520	2,382,252
95	730,024	833,789	179,760	63,617	401,835	129,204	13,513	116,915	91,999	46,771	7,114	2,614,541
96	818,888	509,622	191,111	73,964	311,817	87,642	33,433	100,224	78,939	47,641	20,068	2,273,349
97	953,470	1,094,489	190,539	95,864	381,851	88,752	20,463	122,394	83,204	71,348	15,243	3,117,617
98	1,196,854	744,788	150,303	104,155	305,539	78,779	8,751	92,947	101,008	74,576	0	2,857,700
99	932,277	1,045,765	179,573	92,475	345,527	103,919	20,042	63,074	69,104	49,104	19,228	2,920,088
2000	1,141,270	721,714	225,194	44,605	253,138	92,068	19,387	57,605	97,975	69,927	10,264	2,733,147
2001	1,105,936	727,917	186,807	47,886	177,289	40,972	18,165	41,593	82,464	53,541	10,979	2,493,549
2002	1,036,393	672,772	77,480	96,663	174,480	100,462	21,726	28,558	87,506	33,037	5,367	2,334,444
2003	1,019,528	850,198	131,604	80,310	218,864	108,457	15,758	30,733	66,315	26,995	2,684	2,551,446
2004	897,214	564,511	116,577	61,236	128,062	82,785	3,443	42,789	56,198	23,104	5,367	1,981,286
% Chg. from:												
2003	-12.0%	-33.6%	-11.4%	-23.8%	-41.5%	-23.7%	-78.2%	39.2%	-15.3%	-14.4%	100.0%	-22.3%
1955-2003	81.0%	-39.0%	-61.6%	-47.3%	-70.5%	-30.8%	-94.6%	-44.7%	26.8%	-37.1%	-73.8%	-24.9%
Average:												
1955-2003	495,683	925,970	303,594	116,284	433,958	119,659	63,388	77,388	44,316	36,752	20,502	2,637,494
1955-2004	503,714	918,741	299,854	115,183	427,840	118,922	62,189	76,696	44,553	36,479	20,200	2,624,370

G-W TEAL breeding population estimates, adjusted for birds present that were not seen by aerial crews, in Surveyed Areas (Strata 1-18, 20-50 and 75-77).

Year	Alaska-Yukon 1-12	NAlbta BC&NWT 13-19, 20, 75-77	So. Albta 26-29	N.Sask 21-23	S.Sask 30-35	N.Man 24-25	S.Man 36-40	Mont 41-42	N.Dak 43 & 45-47	S.Dak 44 & 48-49	W.Ont 50	Surveyed Areas
55	14,149	973,737	351,266	41,969	359,645	22,728	25,164	18,508	0	0	0	1,807,166
56	17,722	770,238	182,240	35,572	484,260	0	17,830	17,452	0	0	0	1,525,314
57	39,427	566,645	186,193	12,349	251,993	0	29,587	16,696	0	0	0	1,102,890
58	72,550	792,217	205,077	0	182,252	0	74,707	16,124	4,502	0	0	1,347,429
59	77,855	1,982,534	324,350	64,128	110,034	23,321	45,866	15,698	0	0	9,648	2,653,434
60	25,347	885,305	262,316	7,449	205,506	4,759	20,183	16,050	0	0	0	1,426,915
61	47,269	1,152,447	320,587	7,789	101,737	2,463	64,857	16,705	6,762	2,726	5,927	1,729,269
62	44,115	481,424	63,388	9,479	44,166	28,061	10,703	17,361	0	9,996	14,224	722,917
63	64,313	893,582	72,773	14,725	73,759	17,475	63,606	17,986	2,180	2,691	19,200	1,242,290
64	79,696	1,169,304	114,628	46,264	69,109	35,327	4,296	18,556	0	0	24,138	1,561,318
65	193,203	713,794	117,249	44,022	125,336	29,993	32,519	22,532	3,344	0	0	1,281,992
66	170,244	939,621	176,110	35,486	114,220	37,818	45,879	18,357	60,886	7,725	10,972	1,617,318
67	275,091	533,176	174,972	27,254	367,714	61,508	75,090	29,864	26,932	9,565	12,524	1,593,690
68	315,221	605,463	121,517	30,352	200,706	53,492	42,693	20,513	12,414	23,496	5,029	1,430,896
69	202,629	257,603	204,538	63,083	408,781	88,287	161,478	8,619	67,046	28,951	0	1,491,015
70	249,677	400,451	203,628	66,847	801,360	53,771	74,304	28,240	138,647	115,146	50,398	2,182,469
71	321,359	566,347	263,317	76,134	386,865	72,383	120,819	11,535	23,384	25,358	21,842	1,889,343
72	198,803	858,747	288,071	61,741	232,246	68,650	107,022	31,733	50,999	42,611	7,601	1,948,224
73	217,550	728,358	311,867	61,419	331,195	55,053	117,316	51,507	37,957	29,607	7,375	1,949,204
74	404,302	385,275	404,833	69,859	295,379	56,333	106,519	21,878	74,974	19,069	26,045	1,864,466
75	108,607	564,924	230,776	67,776	412,817	39,233	63,428	53,108	59,377	37,356	27,441	1,664,843
76	187,942	271,409	345,644	121,070	356,483	63,027	110,937	13,568	17,377	31,071	28,963	1,547,491
77	207,933	469,995	151,905	94,235	168,132	106,555	35,361	3,921	7,386	9,778	30,610	1,285,811
78	278,440	805,050	222,319	201,664	233,904	206,707	116,559	18,230	20,471	38,511	32,355	2,174,210
79	254,062	789,553	256,774	160,782	315,995	138,946	36,700	40,072	25,418	19,270	34,167	2,071,739
80	316,496	697,285	224,048	279,141	174,346	122,504	27,532	9,924	92,402	70,177	36,012	2,049,867
81	516,139	758,758	180,132	109,934	140,851	60,165	37,264	9,085	39,198	21,108	37,868	1,910,502
82	210,326	770,533	127,493	87,485	112,910	53,492	32,758	13,438	52,629	34,919	39,705	1,535,688
83	260,505	964,870	136,150	103,254	172,386	74,893	49,448	18,949	16,408	36,623	41,489	1,874,975
84	310,303	585,300	117,742	87,003	132,664	48,410	34,851	10,635	16,178	21,967	43,184	1,408,237
85	264,973	673,017	106,661	47,003	179,903	42,836	19,307	6,408	58,920	31,618	44,760	1,475,406
86	384,256	817,483	78,682	101,142	95,852	47,877	44,307	6,160	20,057	52,065	27,043	1,674,924
87	362,445	1,127,056	120,282	117,416	85,813	90,026	37,831	6,035	33,525	23,355	2,458	2,006,242
88	385,197	1,054,156	162,043	142,506	92,656	69,842	24,523	12,043	28,342	25,529	63,920	2,060,757
89	402,147	956,313	106,049	61,829	115,474	61,499	36,945	17,049	9,537	24,434	50,398	1,841,674
90	473,763	718,217	132,524	86,187	135,727	88,895	36,815	15,725	26,748	8,510	66,378	1,789,489
91	546,682	453,658	131,086	132,706	131,756	68,451	30,382	12,409	9,108	16,953	24,585	1,557,776
92	375,993	547,680	174,435	180,200	135,603	234,427	49,699	16,295	14,135	12,629	31,973	1,773,069
93	444,632	570,783	175,929	186,918	77,817	155,351	3,176	8,368	9,028	6,576	55,887	1,694,465
94	562,753	697,422	152,574	104,023	253,232	123,537	18,675	33,966	60,457	55,183	46,625	2,108,447
95	556,196	749,503	245,312	130,936	271,327	165,082	35,299	30,279	45,898	58,427	12,335	2,300,594
96	757,644	427,781	314,510	121,229	351,232	98,017	106,427	56,095	90,606	62,967	72,694	2,459,202
97	512,275	608,083	324,416	148,784	418,509	142,062	69,069	58,110	79,014	69,411	76,851	2,506,584
98	679,010	657,823	92,233	141,730	271,237	90,618	44,940	13,286	48,427	34,322	13,719	2,087,345
99	679,434	984,398	190,546	178,338	342,245	85,742	40,652	27,178	55,530	39,132	7,767	2,630,962
2000	946,230	1,282,073	308,129	99,532	294,805	61,822	60,804	16,513	44,427	51,550	27,640	3,193,525
2001	1,028,810	741,646	190,497	87,494	202,322	79,950	31,464	18,053	44,695	69,771	13,957	2,508,659
2002	630,952	928,376	147,019	158,984	127,343	116,814	25,484	40,594	66,255	28,217	63,457	2,333,495
2003	1,035,265	766,994	131,787	146,051	272,568	122,186	48,435	50,154	39,059	26,420	39,576	2,678,495
2004	818,737	835,132	98,429	160,493	124,319	168,988	27,036	56,379	99,613	26,678	45,034	2,460,838
% Chg. from:												
2003	-20.9%	8.9%	-25.3%	9.9%	-54.4%	38.3%	-44.2%	12.4%	155.0%	1.0%	13.8%	-8.1%
1955-2003	140.1%	10.3%	-49.9%	76.3%	-45.7%	131.9%	-48.0%	162.7%	197.5%	-2.1%	68.6%	33.1%
Average:												
1955-2003	341,019	757,070	196,462	91,046	229,024	72,865	52,031	21,460	33,482	27,241	26,709	1,848,409
1955-2004	350,573	758,631	194,501	92,435	226,930	74,788	51,531	22,159	34,805	27,229	27,075	1,860,657

B-W TEAL breeding population estimates, adjusted for birds present that were not seen by aerial crews, in Surveyed Areas (Strata 1-18, 20-50 and 75-77).

Year	Alaska-Yukon 1-12	NAlbta BC&NWT 13-19, 20, 75-77	So. Albta 26-29	N.Sask 21-23	S.Sask 30-35	N.Man 24-25	S.Man 36-40	Mont 41-42	N.Dak 43 & 45-47	S.Dak 44 & 48-49	W.Ont 50	Surveyed Areas
55	0	342,816	1,550,238	13,763	2,068,507	44,236	470,599	80,826	229,618	504,635	0	5,305,238
56	0	292,797	903,759	29,651	2,542,739	34,924	284,709	78,040	295,476	535,551	0	4,997,646
57	0	40,330	908,556	33,536	1,924,310	7,806	391,256	75,932	357,739	560,036	0	4,299,501
58	0	201,348	1,078,543	125,113	1,650,704	96,344	1,120,162	74,131	528,703	581,537	0	5,456,585
59	0	911,885	903,562	92,554	1,087,019	54,645	1,247,586	72,507	316,434	413,117	0	5,099,309
60	0	417,421	877,793	36,762	1,112,769	34,023	699,198	71,024	519,523	524,482	0	4,292,995
61	0	578,862	897,110	13,763	583,022	22,218	521,299	69,670	295,603	673,757	0	3,655,304
62	0	244,422	346,740	166,009	383,752	75,656	368,354	68,448	755,185	602,486	0	3,011,052
63	0	128,014	426,848	169,913	504,893	136,912	401,535	67,361	686,622	1,201,526	0	3,723,624
64	0	508,488	634,556	305,445	735,756	132,108	358,838	67,258	584,542	686,268	7,355	4,020,614
65	57	227,580	494,085	78,391	669,095	86,499	284,199	137,534	913,463	703,553	0	3,594,456
66	0	141,100	533,204	65,252	909,736	72,059	213,050	133,253	1,041,693	623,894	0	3,733,241
67	1,128	21,248	712,934	86,324	1,395,676	136,225	627,614	82,908	1,106,138	313,697	7,633	4,491,525
68	1,452	29,994	325,319	261,569	720,229	535,637	313,137	53,249	749,748	466,065	6,129	3,462,528
69	0	46,084	363,220	224,071	966,589	297,881	445,767	149,912	902,888	742,177	0	4,138,589
70	9,921	50,600	440,876	159,960	1,552,614	408,253	672,922	99,254	712,724	706,755	47,946	4,861,825
71	2,109	114,265	714,293	35,029	1,291,387	150,619	314,268	87,096	1,238,068	654,268	8,798	4,610,200
72	0	152,573	494,851	59,643	1,012,888	146,030	406,256	16,976	780,282	1,209,031	0	4,278,530
73	0	48,826	459,217	69,736	887,888	93,098	399,443	8,488	588,725	777,110	0	3,332,531
74	0	99,984	1,209,712	34,883	1,312,215	21,495	686,767	77,689	1,171,318	348,813	13,346	4,976,222
75	0	285,658	1,108,175	103,497	2,360,150	64,956	360,989	98,280	1,051,443	437,209	14,999	5,885,356
76	0	158,415	820,335	178,403	1,799,610	200,882	654,609	207,086	357,049	351,682	16,672	4,744,743
77	2,783	635,514	750,958	214,835	1,631,307	221,437	292,917	93,751	282,150	318,851	18,337	4,462,840
78	3,561	385,950	393,236	200,097	902,361	195,656	279,164	93,942	737,375	1,287,317	19,958	4,498,617
79	0	280,595	592,923	93,392	1,482,802	113,933	440,752	117,453	826,505	906,012	21,499	4,875,866
80	3,561	470,163	834,569	169,067	1,307,164	322,317	290,224	103,377	888,400	483,317	22,920	4,895,079
81	4,033	411,821	1,148,075	273,822	781,509	234,584	253,899	81,833	252,751	254,130	24,192	3,720,649
82	0	234,741	498,144	85,261	605,878	281,391	289,639	210,954	906,330	519,923	25,303	3,657,564
83	1,453	149,310	419,133	47,704	963,207	105,443	226,642	79,894	545,726	801,767	26,252	3,366,531
84	4,892	322,462	429,216	119,268	993,592	59,904	171,008	52,091	860,996	938,839	27,059	3,979,327
85	0	200,587	295,318	197,020	1,327,329	91,942	172,344	38,557	546,997	604,491	27,772	3,502,357
86	5,949	455,829	361,868	55,095	876,499	70,211	326,546	21,576	871,769	1,433,478	0	4,478,820
87	1,546	440,557	596,632	98,527	674,828	116,707	203,180	40,202	579,425	777,093	0	3,528,697
88	13,317	580,403	552,905	368,466	755,343	288,255	197,853	83,504	553,927	617,135	0	4,011,108
89	1,057	237,539	418,152	232,271	578,438	186,911	176,409	65,896	338,463	860,152	29,966	3,125,254
90	0	189,374	521,168	95,327	875,476	149,492	268,593	76,256	230,408	346,315	23,973	2,776,382
91	0	207,047	580,235	225,630	936,689	195,069	208,517	77,726	233,400	1,075,401	23,973	3,763,687
92	0	314,835	716,095	159,602	1,362,432	268,291	376,989	89,032	401,426	626,420	17,984	4,333,106
93	2,906	260,586	526,558	217,593	570,073	206,848	269,189	60,325	303,081	679,872	95,912	3,192,943
94	0	194,190	466,610	84,690	980,163	126,914	92,783	186,418	1,088,794	1,383,614	11,989	4,616,165
95	2,906	166,120	430,834	43,221	1,088,352	61,572	301,793	94,414	1,463,104	1,468,428	19,268	5,140,012
96	0	194,521	505,871	38,852	2,046,644	59,910	295,524	89,263	1,764,133	1,390,947	30,196	6,415,861
97	0	203,805	358,462	30,961	1,974,361	34,234	300,397	138,070	1,544,632	1,535,028	4,319	6,124,269
98	0	339,947	521,877	78,065	1,589,022	71,803	257,900	225,543	1,734,588	1,573,377	6,688	6,398,810
99	0	206,284	391,543	105,462	2,110,905	66,952	439,554	241,498	2,068,023	1,516,592	2,671	7,149,484
2000	0	274,877	577,823	46,034	1,622,426	79,910	355,035	49,960	2,848,508	1,576,869	0	7,431,442
2001	0	119,314	367,782	77,224	1,267,465	70,921	484,127	72,769	1,688,744	1,608,652	0	5,756,998
2002	0	303,541	244,159	141,995	667,136	164,751	230,100	73,343	1,338,336	1,043,116	0	4,206,477
2003	2,906	314,303	322,586	97,308	1,918,273	78,838	419,730	171,169	1,327,119	859,935	5,995	5,518,162
2004	2,219	400,612	360,166	26,577	1,154,741	33,833	282,315	145,896	1,096,286	570,391	0	4,073,036
% Chg. from:												
2003	-23.6%	27.5%	11.6%	-72.7%	-39.8%	-57.1%	-32.7%	-14.8%	-17.4%	-33.7%		-26.2%
1955-2003	65.9%	49.4%	-41.2%	-78.1%	-4.7%	-75.5%	-26.7%	55.2%	29.7%	-30.3%		-9.7%
Average:												
1955-2003	1,337	268,101	612,789	121,226	1,211,454	138,300	384,967	93,995	845,063	818,464	12,431	4,508,125
1955-2004	1,355	270,751	607,736	119,333	1,210,319	136,211	382,914	95,033	850,088	813,502	12,182	4,499,423

N. SHOVELER breeding population estimates, adjusted for birds present that were not seen by aerial crews in Surveyed Areas (Strata 1-18, 20-50 and 75-77).

Year	Alaska-Yukon 1-12	NAlbta BC&NWT 13-19, 20, 75-77	So. Albta 26-29	N.Sask 21-23	S.Sask 30-35	N.Man 24-25	S.Man 36-40	Mont 41-42	N.Dak 43 & 45-47	S.Dak 44 & 48-49	W.Ont 50	Surveyed Areas
55	2,531	289,198	397,210	4,223	667,073	2,644	54,728	78,979	28,613	117,609	0	1,642,808
56	2,722	194,706	404,963	1,927	854,377	0	66,519	76,381	58,257	121,557	0	1,781,409
57	5,105	104,017	349,831	0	637,868	7,931	85,433	74,589	85,263	126,068	0	1,476,105
58	18,179	232,741	442,257	2,622	335,357	881	83,397	73,269	62,870	132,193	0	1,383,766
59	14,167	603,840	321,119	19,734	264,463	37,452	160,841	72,240	45,321	38,413	0	1,577,590
60	13,267	202,540	431,919	0	604,342	15,455	142,542	71,378	184,807	156,292	1,971	1,824,513
61	24,008	409,700	303,463	0	233,867	16,676	121,437	70,611	106,849	96,353	0	1,382,964
62	13,804	215,593	196,817	8,991	79,804	26,437	49,457	71,065	271,520	335,465	0	1,268,953
63	9,348	129,579	378,016	5,826	196,937	35,385	124,473	72,463	221,030	225,378	0	1,398,435
64	11,750	493,764	341,960	50,048	375,309	53,299	119,808	73,827	102,768	95,729	0	1,718,262
65	28,075	201,416	276,232	34,609	293,647	37,225	107,196	65,712	289,351	90,194	0	1,423,657
66	29,486	192,532	470,839	26,779	809,890	36,402	99,257	83,089	290,403	108,284	0	2,146,961
67	24,225	142,084	538,540	10,339	807,683	32,131	170,010	98,553	403,759	82,204	5,170	2,314,698
68	150,176	110,788	394,635	18,861	479,420	30,088	77,178	77,996	194,769	150,576	0	1,684,487
69	58,347	65,531	433,252	25,358	777,381	36,414	151,188	109,616	304,021	195,675	0	2,156,783
70	85,431	77,654	329,082	20,884	760,655	49,882	126,678	64,877	454,946	260,326	0	2,230,415
71	37,814	141,064	423,593	13,321	907,672	31,121	68,253	65,504	219,386	103,235	457	2,011,420
72	68,324	197,432	435,736	14,916	921,903	27,250	119,047	61,142	289,856	330,852	0	2,466,458
73	72,394	167,736	466,095	6,490	538,385	32,391	47,958	47,212	129,743	110,598	0	1,619,002
74	139,602	135,281	587,970	7,327	705,214	8,541	97,552	58,132	219,535	51,110	1,035	2,011,299
75	40,928	145,046	550,321	21,744	730,330	21,539	51,295	100,232	225,237	92,850	1,236	1,980,758
76	83,955	89,764	325,035	5,102	822,932	13,690	157,731	102,216	89,700	56,503	1,438	1,748,066
77	199,386	327,871	220,775	35,822	422,711	43,865	38,935	31,050	71,150	58,643	1,639	1,451,847
78	218,676	85,837	258,970	16,323	426,651	26,028	65,159	179,228	277,507	419,081	1,840	1,975,300
79	110,648	121,658	391,405	8,442	692,352	15,402	85,859	189,635	447,304	341,768	2,037	2,406,510
80	392,743	232,671	388,768	27,920	494,687	19,116	56,678	52,204	181,923	59,261	2,230	1,908,201
81	622,873	260,205	503,911	30,242	335,314	26,185	99,799	121,811	264,096	66,699	2,417	2,333,552
82	161,282	99,468	320,364	12,230	699,031	26,777	135,382	160,721	377,399	152,386	2,597	2,147,637
83	186,586	83,435	200,299	16,920	792,829	15,033	121,693	61,827	194,267	199,992	2,772	1,875,653
84	235,308	163,402	187,302	15,568	370,934	19,692	47,806	65,025	273,328	236,942	2,941	1,618,248
85	176,998	118,511	321,237	8,461	670,984	25,997	76,351	34,083	153,206	113,157	3,107	1,702,092
86	264,923	237,037	220,715	4,191	538,761	10,570	156,167	69,344	244,685	379,769	2,030	2,128,192
87	326,707	223,151	330,681	14,673	375,780	34,286	87,331	73,160	255,490	226,887	2,030	1,950,176
88	404,050	258,444	165,576	54,233	428,308	33,997	99,826	33,692	118,426	84,367	0	1,680,919
89	294,518	271,974	227,934	10,834	243,769	28,692	56,016	58,557	158,666	185,353	2,030	1,538,343
90	361,987	261,932	322,514	24,936	447,811	26,169	77,326	86,287	67,077	79,245	4,059	1,759,343
91	362,656	221,594	294,468	13,434	473,397	33,684	66,919	51,502	75,225	117,215	6,091	1,716,185
92	365,878	284,670	241,407	50,483	571,923	58,291	137,891	27,117	114,706	102,008	0	1,954,374
93	448,827	263,221	421,143	18,791	327,372	25,342	60,507	92,724	175,132	213,413	0	2,046,472
94	499,960	166,712	421,444	27,987	737,459	30,175	42,640	194,320	507,801	283,522	0	2,912,020
95	464,560	127,582	267,574	36,547	763,878	49,341	140,377	81,359	573,622	350,040	0	2,854,880
96	481,326	117,835	373,844	23,877	1,212,813	11,800	176,733	109,320	653,776	287,636	0	3,448,960
97	497,237	204,388	443,177	29,291	1,660,717	8,525	161,392	209,102	492,235	414,324	0	4,120,388
98	852,470	394,368	329,424	16,225	790,546	27,100	91,712	90,476	360,578	230,323	0	3,183,222
99	658,478	219,008	408,219	18,095	1,281,261	8,586	160,899	235,634	535,036	364,334	0	3,889,550
2000	846,385	247,966	380,428	18,091	899,774	18,180	175,829	60,324	646,965	226,793	0	3,520,735
2001	666,271	203,691	267,780	10,777	718,125	16,992	199,358	86,116	682,488	461,905	0	3,313,503
2002	580,832	371,370	273,950	10,877	310,155	27,555	100,174	76,170	378,813	188,301	0	2,318,197
2003	670,866	318,273	448,370	2,492	1,437,743	7,576	123,026	158,490	321,499	131,238	0	3,619,573
2004	642,605	246,511	384,649	14,707	783,624	16,079	142,871	125,633	350,839	100,883	2,029	2,810,430
% Chg. from:												
2003	-4.2%	-22.5%	-14.2%	490.2%	-45.5%	112.2%	16.1%	-20.7%	9.1%	-23.1%		-22.4%
1955-2003	156.3%	15.8%	8.1%	-15.9%	24.1%	-35.8%	36.6%	41.2%	33.5%	-45.4%	102.4%	31.6%
Average:												
1955-2003	250,736	212,822	355,726	17,487	631,216	25,057	104,567	88,946	262,865	184,736	1,003	2,135,161
1955-2004	258,573	213,496	356,304	17,431	634,264	24,877	105,333	89,680	264,625	183,059	1,023	2,148,666

N. PINTAIL breeding population estimates, adjusted for birds present that were not seen by aerial crews, in Surveyed Areas (Strata 1-18, 20-50 and 75-77).

Year	Alaska-Yukon 1-12	NAlbta BC&NWT 13-19, 20, 75-77	So. Albta 26-29	N.Sask 21-23	S.Sask 30-35	N.Man 24-25	S.Man 36-40	Mont 41-42	N.Dak 43 & 45-47	S.Dak 44 & 48-49	W.Ont 50	Surveyed Areas
55	662,212	1,161,391	1,591,524	21,000	5,076,494	121,679	213,432	469,606	260,134	197,602	0	9,775,074
56	676,915	687,713	1,521,459	48,017	6,222,181	12,087	284,112	428,270	283,170	199,277	9,600	10,372,801
57	399,215	585,165	1,250,631	16,218	3,245,914	19,777	192,281	393,643	303,660	200,382	0	6,606,886
58	752,478	1,133,922	1,223,870	7,000	1,813,032	23,537	187,395	363,966	330,381	202,339	0	6,037,920
59	1,051,707	2,583,696	832,648	39,492	775,041	26,262	127,774	338,157	62,756	25,486	9,722	5,872,741
60	742,531	697,883	1,087,483	10,386	1,665,516	40,593	217,171	315,459	632,667	305,705	6,767	5,722,161
61	634,899	1,277,718	513,319	96,608	846,659	32,440	97,951	295,328	244,866	175,384	2,986	4,218,158
62	864,991	447,030	328,585	5,333	581,072	25,124	104,810	279,121	429,630	557,827	0	3,623,523
63	860,955	307,522	811,931	24,846	823,901	26,675	177,122	267,319	320,684	221,604	3,455	3,846,014
64	773,552	475,679	417,623	27,249	853,386	32,756	114,949	256,917	230,271	108,845	0	3,291,227
65	586,251	453,537	777,086	14,150	716,564	20,412	129,038	287,381	478,551	128,948	0	3,591,918
66	717,673	202,821	1,265,152	22,659	1,504,782	13,342	96,677	262,948	495,296	228,857	1,727	4,811,934
67	681,344	148,650	1,559,463	12,775	1,671,102	26,918	168,713	277,264	544,897	186,567	0	5,277,693
68	1,444,503	227,652	501,554	23,754	809,172	52,719	54,594	72,242	169,388	129,066	4,751	3,489,395
69	645,624	98,276	1,584,537	16,710	1,956,154	86,549	266,267	156,393	693,690	396,592	3,097	5,903,889
70	733,465	165,221	1,366,414	50,116	2,417,173	99,953	198,759	191,248	831,647	333,346	4,645	6,391,987
71	452,464	132,797	1,763,054	7,104	2,222,040	65,102	139,535	124,271	690,018	247,793	3,025	5,847,203
72	898,932	468,661	1,716,409	12,477	2,261,553	18,243	211,972	240,596	749,088	395,438	5,585	6,978,954
73	1,120,482	378,961	1,025,103	18,301	1,006,310	27,390	73,556	167,738	257,067	275,120	6,193	4,356,221
74	937,980	320,614	2,123,070	10,475	2,185,998	12,316	301,804	116,837	487,140	99,102	2,847	6,598,183
75	651,918	442,791	1,553,133	22,807	2,050,332	27,342	216,198	259,226	455,636	218,206	2,781	5,900,370
76	854,383	267,421	956,502	27,342	2,549,564	21,972	249,401	226,045	208,596	111,709	2,711	5,475,646
77	1,931,166	551,600	345,799	18,581	672,535	37,196	26,195	118,461	91,100	130,825	2,635	3,926,093
78	1,011,857	263,202	1,087,568	43,425	961,787	31,321	90,648	348,892	588,480	678,446	2,552	5,108,178
79	752,148	236,301	1,456,351	12,985	1,579,919	17,960	195,928	324,778	517,345	279,961	2,458	5,376,134
80	1,816,457	296,127	842,287	14,309	897,591	12,243	68,588	146,576	291,799	119,748	2,351	4,508,076
81	1,488,696	346,317	657,342	24,776	526,183	29,375	59,014	157,301	135,216	53,035	2,224	3,479,479
82	788,226	112,303	576,822	14,626	1,222,040	5,094	107,096	306,898	369,370	204,208	2,074	3,708,757
83	925,329	410,377	380,814	1,420	1,029,352	22,772	97,235	88,288	329,403	223,757	1,895	3,510,642
84	925,967	460,038	299,777	8,819	492,073	10,847	26,871	99,750	375,459	263,519	1,681	2,964,801
85	637,131	291,798	593,397	4,591	520,629	4,964	40,786	56,540	198,915	165,314	1,428	2,515,493
86	882,518	185,630	242,646	10,888	545,934	6,194	120,539	95,893	259,981	389,524	0	2,739,747
87	959,434	231,444	447,350	11,214	343,843	25,237	56,304	146,019	191,641	212,761	3,097	2,628,344
88	1,142,541	198,856	171,394	10,358	113,754	5,313	33,566	61,603	149,721	118,415	0	2,005,521
89	878,625	213,321	313,638	1,869	363,716	8,675	16,783	58,023	108,964	148,288	0	2,111,902
90	1,102,962	170,080	317,734	7,135	336,665	5,778	55,256	131,150	61,778	63,448	4,645	2,256,631
91	1,026,244	225,579	116,271	17,483	220,989	10,833	23,785	43,099	49,285	69,816	0	1,803,384
92	899,711	275,124	103,933	3,163	456,879	15,660	90,449	75,490	112,069	65,663	0	2,098,141
93	743,328	228,928	372,522	2,858	240,367	3,983	37,524	130,382	126,875	166,650	0	2,053,417
94	787,539	104,883	383,403	5,548	785,174	7,885	47,704	244,538	375,517	230,075	0	2,972,266
95	809,937	102,227	198,201	16,427	554,227	23,772	109,442	154,534	424,941	364,156	0	2,757,864
96	776,100	56,384	333,503	1,944	807,418	1,764	84,460	135,556	351,480	187,257	0	2,735,866
97	647,491	249,472	472,805	17,699	1,123,866	4,603	64,691	209,305	418,148	349,913	0	3,557,993
98	945,957	186,398	166,283	5,172	551,839	3,786	63,688	110,903	281,173	205,449	0	2,520,648
99	1,021,886	182,710	114,998	2,786	875,230	5,973	61,508	131,841	459,058	201,896	0	3,057,886
2000	1,452,235	220,277	188,827	9,597	463,614	6,271	44,686	58,737	262,801	200,516	0	2,907,561
2001	1,426,488	174,978	66,076	3,716	680,017	6,192	97,078	79,030	377,027	385,387	0	3,295,989
2002	941,984	187,161	72,984	1,897	181,841	9,543	31,572	46,953	227,696	88,076	0	1,789,707
2003	848,188	169,797	251,948	2,547	993,373	3,060	39,240	94,951	116,097	39,027	0	2,558,228
2004	927,355	193,399	161,340	6,106	473,685	4,229	39,666	77,921	237,066	63,836	0	2,184,603
% Chg. from:												
2003	9.3%	13.9%	-36.0%	139.7%	-52.3%	38.2%	1.1%	-17.9%	104.2%	63.6%		-14.6%
1955-2003	1.6%	-50.1%	-78.2%	-63.1%	-61.8%	-82.1%	-65.4%	-59.6%	-29.2%	-70.4%		-47.8%
Average:												
1955-2003	912,543	387,682	741,739	16,544	1,240,710	23,663	114,574	192,765	334,910	215,313	1,978	4,182,421
1955-2004	912,839	383,797	730,131	16,335	1,225,370	23,274	113,076	190,468	332,953	212,283	1,939	4,142,465

REDHEAD breeding population estimates, adjusted for birds present that were not seen by aerial crews, in Surveyed Areas (Strata 1-18, 20-50 and 75-77).

Year	Alaska-Yukon 1-12	NAlbta BC&NWT 13-19, 20, 75-77	So. Albta 26-29	N.Sask 21-23	S.Sask 30-35	N.Man 24-25	S.Man 36-40	Mont 41-42	N.Dak 43 & 45-47	S.Dak 44 & 48-49	W.Ont 50	Surveyed Areas
55	77	73,372	140,504	16,980	215,438	37,382	42,358	4,900	7,098	1,834	0	539,943
56	81	66,319	145,690	0	449,138	16,487	53,460	4,518	13,226	8,400	0	757,319
57	46	37,478	105,884	1,037	266,765	17,258	37,982	4,337	24,047	14,252	0	509,086
58	0	29,463	127,205	0	143,540	0	99,124	4,255	34,122	19,413	0	457,122
59	0	133,770	113,249	0	108,583	0	123,685	4,209	15,277	0	0	498,773
60	482	52,896	71,291	19,899	134,155	21,661	68,128	4,189	88,880	30,060	6,142	497,783
61	49	56,811	78,127	6,231	46,550	46,343	31,367	4,184	39,329	14,312	0	323,303
62	170	98,593	44,294	11,410	150,681	10,137	40,430	4,194	91,214	56,382	0	507,505
63	373	18,157	79,611	12,818	44,602	12,672	93,075	4,218	97,366	50,534	0	413,426
64	53	72,963	88,569	29,003	105,288	21,818	97,307	4,257	58,497	50,370	0	528,125
65	1,302	9,436	93,321	29,616	114,140	26,792	148,576	2,639	117,107	56,379	0	599,308
66	56	16,535	190,141	7,779	124,630	26,435	83,569	4,170	203,067	56,704	0	713,086
67	57	29,065	194,413	27,352	175,999	45,075	68,163	12,361	163,101	20,105	0	735,691
68	58	29,209	84,971	34,890	134,886	49,042	38,305	1,377	93,292	33,356	0	499,386
69	59	9,756	117,774	6,055	137,803	32,319	60,186	2,573	177,058	87,803	1,807	633,193
70	60	8,254	74,686	2,271	179,593	66,893	81,413	2,022	153,479	53,581	0	622,252
71	60	14,552	68,723	5,677	169,263	22,634	65,647	2,414	123,729	60,690	1,031	534,420
72	61	17,666	118,113	3,784	158,555	17,703	59,523	0	126,908	48,567	0	550,880
73	61	19,555	89,099	3,890	176,286	22,838	57,499	2,414	94,556	34,579	0	500,777
74	61	7,896	155,310	757	237,626	4,888	86,899	1,049	110,656	20,209	971	626,322
75	62	14,860	181,735	2,271	305,700	16,560	66,912	735	214,803	27,298	966	831,902
76	62	6,122	173,409	13,584	311,671	6,514	83,148	2,667	63,634	4,096	957	665,864
77	9,912	33,306	202,082	4,163	224,321	25,240	88,131	3,156	31,903	10,809	938	633,961
78	62	28,690	133,845	6,326	130,314	12,490	68,856	6,984	191,765	144,417	899	724,648
79	901	26,580	100,666	7,569	220,475	3,258	73,277	14,710	198,264	50,937	832	697,469
80	2,408	35,245	268,364	6,812	190,929	26,537	42,065	4,372	122,694	28,220	730	728,376
81	10,231	34,527	111,109	23,055	138,422	46,464	108,310	25,024	75,157	22,036	590	594,925
82	63	13,928	57,828	6,990	123,435	21,618	74,196	14,999	258,185	45,190	419	616,851
83	939	15,160	60,412	20,716	232,232	8,841	53,761	10,503	226,250	82,860	229	711,903
84	186	42,009	98,329	7,221	201,569	4,111	16,455	19,180	170,279	111,944	39	671,322
85	0	9,776	133,947	4,920	219,554	12,266	42,215	2,667	116,866	35,942	0	578,153
86	1,636	31,598	123,277	7,096	181,600	9,755	33,375	3,556	103,480	64,234	0	559,607
87	186	5,634	143,546	10,040	154,252	7,422	44,788	3,446	99,024	34,087	0	502,425
88	4,360	17,706	85,673	11,633	189,306	9,874	46,141	2,721	55,196	19,265	0	441,875
89	3,378	41,794	96,588	2,136	137,780	5,793	27,686	7,038	133,434	55,084	0	510,711
90	3,625	42,319	162,824	1,514	137,203	15,070	74,187	7,800	16,958	16,707	2,710	480,917
91	14,619	55,021	110,780	1,443	131,056	26,068	73,792	6,428	14,749	11,665	0	445,621
92	659	83,389	112,003	1,515	150,261	11,278	111,234	5,544	78,761	40,965	0	595,609
93	1,679	72,505	110,341	1,098	85,678	7,396	36,783	5,274	102,218	62,445	0	485,417
94	1,449	30,951	110,275	15,440	183,462	23,023	32,355	3,353	154,965	98,195	0	653,468
95	0	16,227	95,242	7,502	345,117	9,459	125,010	3,356	218,198	68,371	0	888,482
96	639	23,899	102,698	3,788	293,216	3,170	86,549	8,138	257,856	54,277	0	834,230
97	219	62,400	188,866	2,522	308,499	7,572	71,846	4,281	216,530	55,550	0	918,285
98	0	67,534	67,550	3,454	268,107	27,768	158,067	6,126	327,550	78,926	0	1,005,082
99	0	94,805	180,744	0	288,320	30,058	57,310	6,328	259,787	56,043	0	973,395
2000	622	25,772	106,770	1,557	323,805	39,080	87,762	1,803	306,110	33,015	0	926,296
2001	0	26,272	53,950	824	224,287	7,309	117,236	4,766	226,403	50,967	0	712,014
2002	4,550	37,935	112,538	6,740	94,886	21,660	57,883	9,469	143,497	75,646	0	564,804
2003	2,975	29,301	96,922	15,099	271,324	11,256	70,827	14,209	96,383	28,501	0	636,797
2004	2,360	73,356	78,910	6,410	131,194	24,942	101,991	11,173	161,331	13,678	0	605,345
% Chg. from:												
2003	-20.7%	150.4%	-18.6%	-57.5%	-51.6%	121.6%	44.0%	-21.4%	67.4%	-52.0%		-4.9%
1955-2003	68.6%	96.7%	-32.9%	-24.6%	-31.2%	27.9%	44.2%	93.5%	25.2%	-69.3%		-3.2%
Average:												
1955-2003	1,400	37,286	117,618	8,500	190,618	19,496	70,752	5,774	128,835	44,596	393	625,268
1955-2004	1,419	38,007	116,844	8,458	189,430	19,605	71,377	5,882	129,485	43,978	385	624,869

CANVASBACK breeding population estimates, adjusted for birds present that were not seen by aerial crews in Surveyed Areas (Strata 1-18, 20-50 and 75-77).

Year	Alaska-Yukon 1-12	NAlbta BC&NWT 13-19, 20, 75-77	So. Albta 26-29	N.Sask 21-23	S.Sask 30-35	N.Man 24-25	S.Man 36-40	Mont 41-42	N.Dak 43 & 45-47	S.Dak 44 & 48-49	W.Ont 50	Surveyed Areas
55	48,591	52,743	96,240	22,330	266,234	43,842	36,663	9,036	11,564	2,015	0	589,258
56	50,248	26,406	98,733	12,968	397,376	28,448	60,686	8,292	13,022	2,331	0	698,510
57	59,367	25,063	100,592	0	362,043	5,889	48,505	7,670	14,340	2,602	0	626,071
58	39,289	75,646	168,707	0	249,673	22,583	118,030	7,135	30,675	2,836	32,256	746,830
59	77,409	80,638	78,148	36,022	81,192	79,590	39,344	6,669	6,870	2,801	0	488,683
60	85,593	56,821	58,254	11,248	118,071	57,581	75,702	6,328	13,171	1,438	121,491	605,698
61	14,690	50,009	63,861	43,416	120,986	68,255	54,850	6,059	3,058	2,801	7,266	435,251
62	22,732	32,739	54,620	4,700	175,656	17,214	42,264	5,850	2,222	2,241	0	360,238
63	69,254	100,405	77,628	42,715	90,882	42,735	57,910	5,695	14,704	2,627	1,681	506,236
64	77,777	89,014	83,828	154,436	107,655	24,765	76,516	5,585	17,234	4,977	1,850	643,637
65	66,523	44,632	100,526	26,681	126,493	50,530	82,630	3,080	18,993	2,032	0	522,120
66	96,656	151,538	68,517	23,771	167,823	29,357	65,224	542	53,556	6,130	0	663,114
67	48,854	33,354	97,884	25,738	137,480	50,489	75,248	1,598	26,508	3,504	1,919	502,576
68	140,795	106,678	57,901	18,005	99,523	82,206	35,178	3,487	17,338	2,580	0	563,691
69	63,450	76,527	26,683	12,819	162,416	17,597	61,754	5,543	58,871	17,871	0	503,531
70	42,606	44,076	49,437	11,628	238,949	112,373	46,629	3,620	24,725	6,057	0	580,100
71	46,233	49,169	39,010	1,263	202,092	14,621	69,283	5,631	14,710	2,773	5,889	450,674
72	92,862	26,701	65,481	6,945	135,333	14,373	33,124	6,709	30,225	14,159	0	425,912
73	127,100	50,780	54,039	7,787	228,926	65,701	34,909	9,648	28,501	13,060	0	620,451
74	81,750	29,007	100,193	1,894	181,819	7,519	34,370	1,320	62,980	6,357	5,633	512,842
75	39,393	64,269	78,945	9,522	252,884	19,961	77,565	2,112	39,286	5,599	5,561	595,097
76	48,531	40,110	52,081	17,133	283,277	22,346	110,778	16,231	15,302	3,115	5,486	614,390
77	168,622	49,316	64,639	16,772	256,461	28,225	58,162	3,168	10,282	2,991	5,403	664,041
78	48,519	33,317	51,218	6,371	128,997	26,419	37,283	6,391	17,021	12,326	5,311	373,173
79	62,365	51,826	53,462	8,575	280,931	11,627	49,316	10,443	42,695	5,553	5,210	582,003
80	152,230	66,440	62,125	8,770	307,205	45,549	45,835	4,771	28,538	8,005	5,102	734,570
81	133,576	133,506	49,418	36,764	110,099	43,366	65,875	5,357	31,949	5,936	4,996	620,842
82	100,272	49,927	73,779	18,198	151,895	17,643	49,479	12,521	32,410	2,241	4,899	513,264
83	109,231	68,981	49,684	12,628	212,701	15,542	33,382	4,964	12,389	2,293	4,817	526,612
84	118,223	80,016	26,610	11,560	157,655	22,879	38,249	3,508	50,876	15,805	4,748	530,129
85	80,541	14,107	56,591	6,911	118,752	21,950	45,576	2,089	20,116	4,610	4,685	375,928
86	84,647	54,994	59,172	1,872	127,229	11,465	48,363	2,828	36,324	11,456	0	438,350
87	99,281	27,809	53,490	3,950	184,156	9,615	36,467	980	28,693	5,668	0	450,109
88	77,259	67,696	54,769	17,341	119,017	32,482	37,464	2,149	19,248	7,622	0	435,047
89	131,649	110,005	36,657	12,103	81,515	22,387	33,480	5,145	39,193	5,305	0	477,439
90	193,058	67,559	78,128	20,678	79,699	19,546	51,597	10,836	10,086	8,131	0	539,318
91	125,852	80,103	58,413	13,450	130,547	24,656	43,289	1,026	8,553	5,262	0	491,151
92	93,593	60,473	32,759	2,835	95,739	110,874	60,952	5,578	17,293	1,430	0	481,526
93	82,470	127,925	45,856	11,365	93,026	41,244	32,977	9,341	19,833	8,019	0	472,056
94	81,170	69,840	63,970	9,463	117,734	72,006	28,232	12,506	56,061	14,623	0	525,605
95	125,595	120,157	60,492	12,217	282,283	20,343	91,838	8,016	42,041	7,611	0	770,593
96	157,513	136,007	66,975	8,026	282,951	41,772	83,032	4,555	58,596	9,059	0	848,486
97	44,985	93,403	68,517	22,372	280,055	27,969	63,532	9,588	69,152	9,180	0	688,753
98	105,259	100,346	68,550	15,024	246,948	23,276	66,465	6,070	49,395	4,529	0	685,862
99	88,955	151,409	56,133	16,718	253,376	28,762	70,515	4,944	42,278	2,945	0	716,035
2000	186,670	83,431	73,178	1,945	232,190	34,646	63,684	3,493	20,844	6,673	0	706,754
2001	89,029	62,722	31,885	10,106	232,198	21,460	56,310	4,541	66,508	5,066	0	579,825
2002	135,323	121,025	14,481	8,402	73,255	29,248	63,271	1,244	32,500	7,846	0	486,595
2003	88,976	115,122	69,688	4,960	194,783	8,270	41,815	10,886	20,007	3,067	0	557,574
2004	161,343	109,271	50,159	21,846	120,932	27,969	70,055	10,399	37,500	7,753	0	617,227
% Chg. from:												
2003	81.3%	-5.1%	-28.0%	340.4%	-37.9%	238.2%	67.5%	-4.5%	87.4%	152.8%		10.7%
1955-2003	79.5%	52.8%	-22.0%	32.1%	-34.3%	-19.0%	25.6%	78.9%	31.2%	29.6%		9.9%
Average:												
1955-2003	89,889	71,506	64,325	16,539	184,044	34,514	55,788	5,812	28,586	5,983	4,780	561,766
1955-2004	91,318	72,261	64,042	16,645	182,782	34,383	56,073	5,904	28,765	6,018	4,684	562,876

SCAUP breeding population estimates, adjusted for birds present that were not seen by aerial crews, in Surveyed Areas (Strata 1-18, 20-50 and 75-77).

Year	Alaska-Yukon 1-12	NAlbta BC&NWT 13-19, 20, 75-77	So. Albta 26-29	N.Sask 21-23	S.Sask 30-35	N.Man 24-25	S.Man 36-40	Mont 41-42	N.Dak 43 & 45-47	S.Dak 44 & 48-49	W.Ont 50	Surveyed Areas
55	753,530	2,800,647	427,241	383,247	858,296	119,934	171,292	56,138	19,852	13,332	16,624	5,620,133
56	785,946	2,648,479	483,205	163,496	1,274,657	152,144	147,877	52,846	18,988	13,667	252,774	5,994,079
57	612,344	2,523,084	515,078	388,610	898,118	485,072	187,491	49,982	18,459	13,930	74,774	5,766,942
58	796,797	2,442,658	490,625	160,104	519,954	262,190	535,666	47,474	11,701	14,139	69,064	5,350,372
59	795,959	4,118,305	400,167	240,930	683,122	264,467	360,682	45,340	22,118	13,608	92,914	7,037,612
60	831,350	2,630,024	325,779	88,984	484,451	66,281	265,420	43,606	40,687	18,316	73,672	4,868,570
61	893,246	3,035,070	393,608	127,116	419,505	132,048	227,101	42,247	18,301	8,131	83,674	5,380,047
62	1,252,000	2,746,477	231,904	165,153	418,844	105,168	153,191	41,219	77,726	32,907	61,509	5,286,098
63	1,149,391	3,081,750	358,495	233,622	174,445	105,893	207,330	40,473	15,081	11,014	60,909	5,438,403
64	1,005,518	2,909,275	400,469	244,863	162,858	140,384	145,839	39,960	2,957	1,392	78,284	5,131,799
65	665,936	2,714,312	306,502	290,519	257,313	173,235	130,274	27,804	14,004	29,172	30,894	4,639,965
66	827,528	2,592,734	238,706	192,211	193,509	111,387	112,444	44,744	15,475	29,718	80,784	4,439,240
67	582,826	2,897,293	346,752	330,859	323,387	191,208	120,563	42,954	22,121	11,158	58,550	4,927,671
68	982,187	2,253,632	233,992	249,555	95,641	337,372	83,242	27,016	16,638	22,329	111,078	4,412,682
69	909,939	2,707,741	350,869	298,484	305,025	338,225	59,758	50,035	36,326	12,122	71,257	5,139,781
70	847,809	3,008,370	367,910	455,697	322,829	375,880	88,839	33,229	28,305	74,420	59,189	5,662,477
71	712,499	3,221,233	299,466	255,069	222,426	189,620	101,129	15,585	28,182	7,306	90,746	5,143,261
72	772,525	5,483,115	426,765	463,913	242,571	310,593	69,223	39,506	30,418	41,082	117,256	7,996,967
73	844,139	3,775,802	588,899	406,364	230,379	187,038	66,179	49,232	41,881	19,232	48,271	6,257,416
74	799,266	3,081,586	368,630	512,154	377,899	317,908	146,280	35,838	37,277	13,012	90,614	5,780,464
75	830,445	3,528,071	382,726	439,869	622,166	296,659	160,029	26,414	70,275	12,744	90,626	6,460,024
76	1,057,363	2,707,300	625,930	298,214	504,645	196,582	208,720	29,876	54,138	45,306	90,671	5,818,745
77	1,236,560	3,047,468	477,693	311,079	702,247	194,254	129,710	34,417	19,683	16,374	90,752	6,260,237
78	931,800	2,871,013	462,961	441,609	526,169	182,860	231,513	72,108	99,766	73,734	90,878	5,984,411
79	869,502	3,849,246	687,495	774,361	796,541	175,671	89,640	88,566	199,175	36,692	91,054	7,657,943
80	1,244,015	3,196,776	472,963	346,985	628,970	148,808	161,998	36,763	47,734	5,357	91,286	6,381,655
81	1,033,374	3,303,857	469,335	244,662	277,144	293,553	114,930	35,823	107,536	19,092	91,577	5,990,883
82	853,830	2,730,445	522,077	395,662	496,595	103,247	129,652	60,969	103,905	43,661	91,922	5,531,965
83	992,949	3,575,832	491,943	583,000	844,809	221,280	177,679	47,127	92,617	54,262	92,300	7,173,798
84	1,095,502	4,175,201	367,493	366,208	510,174	103,411	81,055	53,267	120,785	58,555	92,669	7,024,320
85	816,838	2,500,697	363,182	623,208	319,833	115,311	113,234	19,962	102,100	30,633	92,958	5,097,956
86	795,481	2,527,231	322,744	295,735	468,909	147,704	251,898	33,431	129,406	104,735	158,030	5,235,304
87	797,827	2,701,361	256,190	370,331	278,187	53,653	150,304	44,737	91,392	35,422	83,325	4,862,729
88	770,177	2,339,908	345,157	321,402	366,910	139,667	109,024	55,903	83,044	63,156	77,004	4,671,352
89	768,778	2,467,281	157,957	235,124	208,113	104,917	88,955	46,877	38,794	80,442	144,813	4,342,051
90	803,390	2,038,157	307,318	392,368	199,330	155,798	114,576	33,064	43,610	43,477	162,053	4,293,141
91	1,170,594	2,061,038	299,766	854,778	265,398	152,481	75,251	25,202	89,932	66,800	193,659	5,254,899
92	909,988	1,811,641	288,041	539,088	438,565	288,100	107,399	13,999	22,961	47,915	171,533	4,639,230
93	951,311	1,838,799	268,357	320,665	352,122	195,497	44,981	28,298	36,565	7,290	36,264	4,080,149
94	1,148,609	1,977,563	264,964	211,045	343,869	143,670	118,248	28,562	109,637	155,249	27,629	4,529,045
95	946,247	1,784,121	366,514	243,641	518,643	215,337	116,143	21,417	108,498	120,947	4,934	4,446,442
96	1,056,867	1,476,902	376,350	301,242	462,511	117,705	186,676	35,857	91,496	94,614	49,872	4,250,092
97	800,166	1,632,593	347,674	352,466	489,481	158,052	94,811	32,692	115,513	75,614	13,289	4,112,351
98	927,866	1,436,449	243,105	97,984	300,157	122,537	61,579	14,095	148,008	87,381	32,753	3,471,914
99	955,974	2,133,616	228,222	351,563	287,429	191,628	72,369	28,049	120,777	40,303	1,795	4,411,725
2000	1,219,182	1,620,966	292,335	170,627	272,776	122,349	60,064	30,719	178,218	59,088	0	4,026,324
2001	1,148,144	1,475,601	201,944	184,193	320,616	68,924	74,163	31,488	130,282	44,526	14,129	3,694,010
2002	792,049	1,784,302	146,475	216,076	149,681	157,334	49,671	20,610	136,788	66,553	4,605	3,524,144
2003	969,705	1,736,074	172,052	211,663	251,357	142,661	48,576	24,622	140,737	36,996	0	3,734,443
2004	982,437	1,624,425	124,093	320,328	184,770	254,900	31,442	16,301	232,147	30,018	6,332	3,807,193
% Chg. from:												
2003	1.3%	-6.4%	-27.9%	51.3%	-26.5%	78.7%	-35.3%	-33.8%	65.0%	-18.9%		1.9%
1955-2003	7.7%	-39.2%	-65.8%	-2.8%	-56.2%	37.6%	-77.4%	-57.5%	239.6%	-27.4%		-27.5%
Average:												
1955-2003	912,556	2,673,492	362,531	329,506	421,808	185,218	138,830	38,370	68,365	41,365	77,657	5,249,699
1955-2004	913,954	2,652,510	357,762	329,323	417,067	186,612	136,682	37,929	71,640	41,138	76,231	5,220,849

MERGANSER SPP. breeding population estimates, adjusted for birds present that were not seen by aerial crews in Surveyed Areas (Strata 1-18, 20-50 and 75-77).

Year	Alaska-Yukon 1-12	NAlbta BC&NWT 13-19, 20, 75-77	So. Albta 26-29	N.Sask 21-23	S.Sask 30-35	N.Man 24-25	S.Man 36-40	Mont 41-42	N.Dak 43 & 45-47	S.Dak 44 & 48-49	W.Ont 50	Surveyed Areas
55	1,232	151,416	0	102,312	455	71,891	196	789	0	0	94,011	422,302
56	1,226	99,215	0	40,606	0	13,420	0	853	0	0	71,613	226,933
57	418	87,253	0	27,197	0	9,195	0	911	0	0	68,046	193,020
58	1,363	176,944	5,940	56,600	0	33,711	193	963	0	21	165,788	441,523
59	139	194,348	3,960	51,614	420	27,145	0	1,006	0	0	53,467	332,099
60	1,115	175,828	1,188	22,093	11,361	56,942	945	1,042	0	0	160,728	431,242
61	456	148,953	396	11,806	2,596	30,375	376	1,072	0	0	85,324	281,354
62	7,721	96,812	0	29,187	0	75,296	0	1,101	0	0	108,886	319,003
63	4,706	105,154	0	54,230	9,399	80,118	0	1,129	172	0	109,461	364,369
64	597	99,210	1,584	48,487	2,433	34,811	9,691	1,163	0	0	89,056	287,032
65	2,054	109,084	9,268	85,755	5,219	59,203	8,957	1,447	218	0	62,807	344,012
66	2,132	78,950	7,746	46,274	0	40,315	4,470	0	233	1,331	144,571	326,022
67	7,715	58,743	1,814	94,183	0	72,086	0	7,688	0	0	157,957	400,186
68	309	19,815	1,100	71,382	989	59,421	188	708	0	0	118,893	272,805
69	959	30,213	1,691	105,611	1,443	62,123	759	0	2,863	0	171,414	377,076
70	2,368	48,584	9,443	101,291	8,809	51,499	2,768	0	0	0	115,510	340,272
71	1,786	17,978	4,056	68,353	1,260	39,057	595	0	0	0	124,964	258,049
72	6,056	30,632	4,187	91,144	0	38,742	5,599	708	1,432	0	147,270	325,770
73	3,755	32,672	2,101	74,933	2,178	56,336	7,470	827	716	800	104,403	286,191
74	3,355	21,125	0	87,759	455	51,526	16,818	3,541	716	0	130,382	315,677
75	5,155	33,624	16,428	107,454	7,523	176,326	15,145	1,416	0	0	132,314	495,385
76	2,199	85,644	0	73,943	5,323	48,100	4,764	827	0	0	134,304	355,104
77	7,852	143,165	4,800	110,717	3,364	76,611	8,950	2,656	0	0	136,342	494,457
78	11,504	168,550	16,088	166,449	6,486	145,932	9,624	1,948	0	0	138,421	665,002
79	5,535	124,388	5,678	76,471	12,983	91,483	27,356	4,073	0	2,546	140,535	491,048
80	5,230	138,965	17,961	116,416	6,849	174,909	45,568	0	0	800	142,680	649,378
81	6,721	53,313	13,594	98,184	14,552	170,268	47,188	8,502	0	0	144,855	557,177
82	8,662	60,497	15,473	102,891	3,431	48,917	11,642	1,829	334	7,039	147,060	407,775
83	7,228	78,521	15,322	146,681	5,941	165,986	60,491	0	6,252	5,714	149,300	641,436
84	20,221	116,502	4,906	141,524	17,722	134,694	21,659	1,416	2,667	6,137	151,570	619,018
85	25,064	75,509	8,875	155,887	1,855	94,180	26,003	708	543	0	153,850	542,474
86	24,710	34,331	8,645	209,880	0	52,371	11,962	2,775	0	0	101,071	445,745
87	21,569	69,242	10,069	164,970	6,872	131,649	14,228	1,948	543	0	126,987	548,077
88	24,094	62,811	21,560	157,386	5,817	83,487	11,487	1,416	0	2,095	156,605	526,758
89	8,420	74,537	8,593	100,018	3,650	82,100	19,204	2,124	716	3,481	138,094	440,937
90	10,141	91,708	4,982	126,105	7,945	60,573	34,190	0	4,319	2,401	105,514	447,878
91	14,142	44,706	15,245	186,213	6,458	143,423	11,092	4,234	3,240	4,020	111,067	543,840
92	19,222	125,943	8,721	129,633	3,819	61,847	16,056	1,266	0	0	180,912	547,419
93	23,046	71,092	6,295	117,062	3,547	83,699	10,407	985	293	2,108	209,780	528,314
94	21,038	109,992	6,943	155,001	2,282	188,701	6,199	770	506	3,728	305,861	801,021
95	16,649	70,812	10,436	160,749	7,544	106,213	4,408	2,576	1,435	4,949	224,592	610,363
96	39,454	31,938	5,931	111,453	4,005	64,121	26,171	3,067	321	475	510,790	797,726
97	25,160	49,741	9,011	165,117	6,140	89,874	53,357	1,874	830	7,396	442,847	851,347
98	24,671	48,519	5,416	106,581	6,773	86,410	4,652	2,974	543	2,495	120,905	409,939
99	15,103	96,032	8,136	155,433	2,624	49,323	38,879	11,288	716	4,002	95,057	476,593
2000	32,795	187,977	5,061	154,034	9,187	51,429	26,394	6,730	7,504	2,895	278,841	762,847
2001	27,356	109,312	8,471	127,713	21,194	67,167	16,060	4,786	669	3,700	322,505	708,933
2002	22,772	96,605	10,460	182,481	2,960	131,026	10,979	8,628	0	2,404	579,997	1,048,312
2003	20,416	116,609	2,560	148,484	2,427	61,780	6,619	2,983	0	506	666,574	1,028,958
2004	22,011	46,746	4,212	221,728	3,078	224,573	6,064	1,340	325	1,364	551,138	1,082,579
% Chg. from:												
2003	7.8%	-59.9%	64.5%	49.3%	26.8%	263.5%	-8.4%	-55.1%		169.6%	-17.3%	5.2%
1955-2003	97.7%	-47.4%	-37.5%	107.9%	-36.2%	183.2%	-55.0%	-39.6%	-57.8%	-5.9%	216.5%	121.1%
Average:												
1955-2003	11,135	88,847	6,737	106,648	4,822	79,302	13,464	2,219	771	1,450	174,159	489,555
1955-2004	11,352	88,005	6,687	108,950	4,787	82,208	13,316	2,202	762	1,448	181,698	501,416

Ring-necked Duck breeding population estimates, adjusted for birds present that were not seen by aerial crews in Surveyed Areas (Strata 1-18, 20-50 and 75-77).

Year	Alaska-Yukon 1-12	NAlbta BC&NWT 13-19, 20, 75-77	So. Albta 26-29	N.Sask 21-23	S.Sask 30-35	N.Man 24-25	S.Man 36-40	Mont 41-42	N.Dak 43 & 45-47	S.Dak 44 & 48-49	W.Ont 50	Surveyed Areas
55	110	240,319	1,430	97,443	27,218	40,817	2,133	1,218	606	0	40,192	451,486
56	105	248,612	8,813	1,827	16,901	51,978	17,829	1,362	577	23	1,493	349,520
57	0	144,020	1,491	0	10,947	0	6,955	1,481	553	76	0	165,523
58	0	124,617	4,472	0	11,669	0	18,368	1,569	0	120	0	160,815
59	0	502,257	9,418	2,485	27,559	2,506	53,155	1,630	0	0	0	599,010
60	624	218,083	2,935	9,631	13,795	13,670	12,795	1,668	2,939	0	1,868	278,008
61	0	121,889	10,138	10,200	8,352	26,900	17,362	1,687	0	0	1,855	198,383
62	0	149,867	2,130	48,794	0	54,693	8,095	1,693	0	0	99,243	364,515
63	0	128,820	1,662	158,424	20,828	57,977	22,903	1,689	858	955	67,608	461,724
64	0	157,373	3,408	63,889	9,638	96,743	4,021	1,679	0	0	34,233	370,984
65	0	235,625	11,012	97,384	23,183	97,496	8,877	3,256	29	0	35,623	512,485
66	0	185,642	4,331	137,354	15,984	136,643	1,313	914	2,517	1,432	162,045	648,175
67	0	141,395	34,792	87,074	10,360	141,059	9,984	7,405	0	1,117	60,025	493,211
68	0	98,152	11,047	165,293	1,516	205,727	3,244	2,917	0	0	1,967	489,863
69	0	62,905	8,687	106,530	6,459	164,452	6,626	222	584	0	18,275	374,740
70	0	159,219	14,214	247,373	13,931	191,688	7,454	0	2,791	1,064	35,589	673,323
71	0	155,244	36,221	193,395	7,175	217,630	0	0	1,056	532	46,812	658,065
72	412	82,677	30,628	99,140	8,531	161,016	8,845	0	674	0	16,851	408,774
73	0	121,405	2,002	97,495	8,242	59,939	11,530	0	0	0	32,703	333,316
74	0	64,362	15,135	61,844	42,563	92,975	10,454	2,127	584	0	56,234	346,278
75	0	123,160	26,015	112,640	53,769	137,873	16,356	0	1,168	0	59,440	530,421
76	0	76,644	13,482	155,151	42,600	129,642	16,601	1,429	1,123	266	62,661	499,599
77	62	202,878	23,939	113,688	38,991	79,101	9,046	222	1,370	431	65,887	535,615
78	128	154,837	50,884	139,502	45,061	135,550	27,334	762	2,227	1,393	69,107	626,785
79	764	91,260	21,324	92,592	46,839	85,298	33,768	0	8,433	631	72,311	453,220
80	836	121,439	8,945	191,482	55,491	169,832	59,765	890	3,640	1,163	75,489	688,972
81	9,626	120,313	29,526	279,199	40,994	194,943	58,844	890	0	2,789	78,630	815,754
82	3,853	69,898	23,699	162,150	69,791	140,019	28,667	2,350	11,610	7,118	81,728	600,883
83	3,501	144,927	12,682	154,626	21,765	147,033	32,438	16,263	103,023	59,044	84,779	780,081
84	28,656	134,786	33,597	207,544	42,735	154,070	8,040	2,986	12,232	17,294	87,788	729,728
85	16,298	88,159	18,727	181,788	21,387	185,941	16,468	4,320	3,460	1,393	90,772	628,713
86	65,933	88,726	11,687	221,087	13,743	83,943	17,911	7,145	11,571	18,311	26,932	566,989
87	38,287	121,133	18,557	267,576	29,315	203,625	29,251	445	3,190	14,415	6,733	732,527
88	50,457	179,176	35,327	199,324	30,682	123,116	26,018	1,207	10,457	5,670	75,987	737,421
89	24,751	152,267	46,509	98,543	8,620	100,612	15,673	3,781	10,939	17,685	64,444	543,824
90	35,023	134,995	12,421	151,151	19,789	146,414	29,983	381	9,649	17,633	75,025	632,464
91	18,669	131,749	14,924	189,372	19,606	171,340	19,246	470	5,018	5,474	81,758	657,626
92	35,662	122,426	15,423	538,820	16,084	400,408	9,140	3,919	10,251	27,623	106,811	1,286,567
93	39,781	209,323	9,559	228,559	12,012	191,075	5,886	4,007	425	5,801	161,498	867,926
94	28,999	225,048	12,588	155,266	15,694	198,184	11,878	5,041	15,670	11,128	200,593	880,089
95	26,089	211,294	8,981	159,170	36,011	151,835	11,679	6,961	44,360	41,561	257,021	954,962
96	29,949	143,534	10,081	117,500	82,889	98,307	20,525	361	12,118	17,405	240,020	772,689
97	36,999	385,575	37,449	174,732	58,057	121,803	27,676	0	11,228	19,140	319,803	1,192,462
98	60,582	317,606	11,918	163,291	30,772	147,012	11,395	2,130	6,973	8,401	406,671	1,166,751
99	19,150	365,723	51,981	301,184	57,237	102,509	16,596	2,355	20,601	25,726	140,159	1,103,221
2000	65,471	478,777	16,220	154,839	63,882	99,402	41,242	0	6,200	10,834	341,414	1,278,281
2001	86,530	256,834	20,167	154,818	36,316	158,846	37,997	2,945	13,292	8,698	163,228	939,671
2002	52,132	161,419	7,531	369,450	29,672	221,703	29,967	1,145	22,764	13,314	580,945	1,490,042
2003	96,086	322,452	31,096	163,261	27,212	179,157	39,984	387	10,601	8,921	350,540	1,229,697
2004	71,669	222,776	44,081	174,822	19,603	221,100	19,842	2,982	2,543	5,007	358,085	1,142,510
% Chg. from:												
2003	-25.4%	-30.9%	41.8%	7.1%	-28.0%	23.4%	-50.4%	670.5%	-76.0%	-43.9%	2.2%	-7.1%
1955-2003	301.1%	25.8%	154.4%	17.6%	-28.9%	72.7%	3.3%	38.8%	-67.8%	-34.5%	241.3%	73.5%
Average:												
1955-2003	17,868	177,119	17,331	148,651	27,589	128,010	19,211	2,149	7,905	7,645	104,914	658,391
1955-2004	18,944	178,032	17,866	149,174	27,429	129,872	19,223	2,166	7,798	7,592	109,978	668,074

Goldeneye SPP. breeding population estimates, adjusted for birds present that were not seen by aerial crews in Surveyed Areas (Strata 1-18, 20-50 and 75-77).

Year	Alaska-Yukon 1-12	NAlbta BC&NWT 13-19, 20, 75-77	So. Albta 26-29	N.Sask 21-23	S.Sask 30-35	N.Man 24-25	S.Man 36-40	Mont 41-42	N.Dak 43 & 45-47	S.Dak 44 & 48-49	W.Ont 50	Surveyed Areas
55	27,539	418,423	15,996	44,794	11,811	17,952	12,357	431	0	0	13,477	562,780
56	28,915	289,608	21,071	1,205	21,189	0	13,281	460	0	0	39,084	414,813
57	30,149	140,339	15,495	4,211	17,681	2,201	17,452	493	0	0	0	228,021
58	39,019	472,588	9,080	149,582	9,812	47,934	28,222	529	0	0	41,417	798,183
59	46,539	859,109	8,734	277,725	13,271	258,169	41,321	565	0	0	227,069	1,732,502
60	45,906	134,875	11,372	49,139	21,435	182,409	42,165	599	0	0	42,758	530,658
61	41,243	375,515	11,241	71,491	10,598	77,203	13,600	630	0	0	71,764	673,285
62	69,789	360,992	7,929	91,367	7,783	50,792	13,481	657	0	0	190,024	792,814
63	60,891	32,242	2,440	38,799	3,892	33,581	6,288	678	32	0	123,965	302,808
64	23,720	160,027	5,860	31,069	2,584	12,422	6,373	696	0	0	77,186	319,937
65	44,441	204,012	1,457	35,694	8,802	32,317	11,391	0	36	0	5,009	343,159
66	45,769	39,876	4,880	43,631	10,501	28,430	2,102	1,309	1,239	0	70,169	247,906
67	122,644	64,985	0	9,290	14,327	5,812	18,376	0	0	0	53,399	288,833
68	130,244	30,331	5,639	32,279	22,506	9,935	6,595	0	0	0	347,335	584,864
69	94,705	36,774	8,908	75,013	8,731	77,002	7,029	637	0	0	102,724	411,523
70	63,266	35,665	3,622	146,310	15,492	76,801	13,972	0	0	0	64,988	420,116
71	81,671	38,921	20,413	69,644	14,262	44,108	32,900	0	0	0	100,974	402,893
72	92,499	75,381	15,609	50,109	4,575	49,803	5,503	8,821	1,103	1,233	153,389	458,025
73	93,251	39,309	19,651	91,437	20,632	78,818	917	2,365	0	0	181,339	527,719
74	84,061	58,397	17,678	90,693	13,923	35,785	12,033	0	0	0	102,176	414,746
75	96,603	37,700	15,508	51,609	16,367	39,261	33,856	0	0	0	102,519	393,423
76	87,770	69,487	28,286	138,775	15,943	115,674	30,559	0	0	0	102,832	589,326
77	93,640	91,783	3,887	67,332	64,829	125,287	4,299	637	0	0	103,114	554,808
78	68,520	119,234	33,240	60,411	14,039	60,885	42,505	0	0	953	103,359	503,146
79	103,980	184,325	7,557	42,661	35,657	44,846	18,506	1,091	0	0	103,564	542,187
80	113,376	196,535	29,566	21,735	29,381	47,687	12,636	1,592	0	0	103,722	556,230
81	62,323	108,170	4,640	166,766	20,143	221,927	29,015	0	0	0	103,828	716,812
82	76,033	83,402	6,802	74,750	20,752	48,090	29,058	0	0	1,233	103,877	443,997
83	73,646	103,922	6,802	106,418	16,223	77,778	22,175	0	2,509	2,426	103,863	515,762
84	85,552	390,565	1,727	83,896	15,204	28,343	656	637	1,350	761	103,782	712,473
85	97,031	97,397	16,178	48,978	27,120	60,467	23,608	1,274	0	761	103,633	476,447
86	67,808	166,773	29,908	44,782	19,903	194,527	20,324	2,547	0	761	79,663	626,996
87	71,813	46,330	24,169	111,518	22,678	38,392	29,565	0	1,029	0	128,929	474,423
88	90,292	62,118	31,635	35,002	4,289	15,475	23,615	0	0	0	111,109	373,535
89	63,108	105,130	16,087	14,164	20,171	31,783	16,070	1,091	0	0	136,266	403,870
90	47,256	81,417	19,303	30,873	5,714	32,967	33,919	637	0	0	77,567	329,653
91	51,750	79,172	10,588	82,628	17,991	23,455	13,345	670	0	3,648	36,687	319,934
92	34,170	69,295	10,078	197,437	44,361	142,178	25,161	0	0	0	38,831	561,511
93	69,266	90,378	9,507	124,334	34,685	74,069	4,718	1,515	0	0	183,825	592,297
94	59,442	152,574	15,063	98,755	34,758	19,998	322	0	676	756	104,003	486,347
95	73,979	102,048	31,397	181,943	41,858	190,001	5,221	441	0	760	23,454	651,102
96	77,925	39,271	6,081	136,420	53,003	150,359	42,518	0	0	869	702,921	1,209,367
97	67,189	90,999	6,727	176,747	37,413	173,424	28,105	823	0	0	171,150	752,577
98	77,213	102,710	44,717	142,250	66,664	143,543	37,421	749	0	0	108,611	723,878
99	69,244	54,071	5,759	129,082	29,493	139,063	27,439	1,401	0	0	226,293	681,845
2000	55,737	91,246	26,529	85,140	40,509	161,007	38,645	478	1,255	0	393,684	894,230
2001	95,653	88,665	22,588	185,190	10,152	284,336	29,284	0	0	0	73,197	789,065
2002	80,585	58,751	6,573	231,441	21,405	156,851	18,046	1,637	0	0	129,909	705,198
2003	75,733	197,144	34,241	148,915	64,759	144,523	55,932	0	0	0	42,902	764,149
2004	92,544	66,420	26,272	97,865	16,011	172,847	20,433	512	0	0	74,377	567,281
% Chg. from:												
2003	22.2%	-66.3%	-23.3%	-34.3%	-75.3%	19.6%	-63.5%				73.4%	-25.8%
1955-2003	31.3%	-53.7%	80.7%	8.4%	-28.6%	106.2%	-0.1%	-30.5%			-38.4%	0.0%
Average:												
1955-2003	70,467	143,428	14,535	90,274	22,434	83,830	20,447	737	188	289	120,721	567,350
1955-2004	70,909	141,888	14,770	90,426	22,306	85,610	20,446	732	185	283	119,794	567,349

Bufflehead breeding population estimates, adjusted for birds present that were not seen by aerial crews in Surveyed Areas (Strata 1-18, 20-50 and 75-77).

Year	Alaska-Yukon 1-12	NAlbta BC&NWT 13-19, 20, 75-77	So. Albta 26-29	N.Sask 21-23	S.Sask 30-35	N.Man 24-25	S.Man 36-40	Mont 41-42	N.Dak 43 & 45-47	S.Dak 44 & 48-49	W.Ont 50	Surveyed Areas
55	25,420	236,090	26,140	30,606	7,641	19,237	12,415	666	0	0	8,269	366,484
56	26,868	252,953	36,632	14,342	8,806	5,254	3,615	695	0	0	15,951	365,116
57	26,885	213,382	33,770	18,826	14,205	1,675	1,197	725	7	0	0	310,672
58	15,714	202,693	39,475	15,586	7,518	13,445	9,218	757	0	14	16,941	321,361
59	43,294	409,514	44,641	20,608	8,968	11,364	9,710	792	0	0	6,058	554,949
60	37,751	277,597	32,949	60,858	13,422	66,644	6,932	828	0	0	16,241	513,222
61	25,485	274,642	53,212	16,535	9,498	26,293	8,262	865	0	0	9,303	424,095
62	46,138	262,226	22,142	43,270	1,987	14,293	4,862	900	0	0	17,365	413,183
63	37,426	210,775	26,546	33,662	11,196	11,592	15,169	932	75	0	25,832	373,205
64	29,415	276,307	24,446	29,950	13,182	4,640	9,632	962	0	0	0	388,534
65	40,510	252,212	71,138	25,252	22,877	6,266	20,486	1,318	122	0	3,073	443,254
66	47,808	323,656	33,434	35,773	14,378	12,433	13,238	1,290	144	404	4,305	486,863
67	54,147	256,134	48,640	54,732	18,058	19,290	32,589	380	0	945	6,553	491,468
68	37,159	249,902	32,448	110,505	29,476	55,202	10,007	2,050	0	0	51,306	578,055
69	32,946	358,755	44,142	67,740	39,162	47,997	25,725	1,414	0	0	36,016	653,897
70	43,536	306,759	40,370	115,130	20,522	20,507	8,379	376	1,805	0	84,895	642,279
71	44,545	452,695	33,837	121,094	12,612	66,286	16,542	0	0	0	21,637	769,248
72	40,862	428,649	53,320	112,566	31,727	54,472	10,284	1,666	2,607	1,458	18,558	756,169
73	40,487	299,540	30,593	84,400	17,890	32,360	6,368	645	494	0	28,298	541,075
74	64,846	373,252	25,989	100,980	19,122	32,541	22,138	1,694	0	450	22,588	663,600
75	44,018	390,717	56,129	92,222	43,688	26,982	19,533	376	0	0	23,013	696,678
76	81,727	327,652	47,317	157,327	23,759	65,185	24,146	645	652	0	23,526	751,936
77	51,062	324,548	35,200	117,548	38,500	43,492	18,930	0	0	0	24,100	653,380
78	69,757	446,095	60,638	166,539	40,666	33,997	35,575	1,290	956	450	24,703	880,666
79	78,958	453,913	67,167	147,764	42,409	49,407	12,588	3,600	2,405	1,518	25,300	885,029
80	60,021	369,943	32,328	120,822	23,908	33,397	26,860	1,021	1,406	1,068	25,847	696,621
81	40,037	304,557	55,464	139,754	29,181	41,313	31,977	2,365	989	900	26,295	672,832
82	48,194	249,786	42,220	88,416	24,723	39,701	24,075	5,563	652	3,147	26,624	553,101
83	45,007	517,057	57,370	161,008	36,247	65,938	27,154	376	3,688	6,071	26,832	946,748
84	37,821	589,282	25,754	91,884	27,630	23,201	20,082	1,774	7,087	2,808	26,947	854,270
85	36,788	301,088	16,954	77,854	26,868	34,336	31,783	1,021	494	0	27,027	554,213
86	38,657	365,497	33,818	101,392	33,916	20,813	26,483	376	798	4,752	12,220	638,722
87	55,759	479,870	22,662	83,307	32,906	24,463	36,418	0	0	0	12,863	748,248
88	46,731	446,362	50,807	72,919	20,419	18,088	29,024	4,141	494	2,892	28,298	720,175
89	54,676	445,637	32,509	100,368	21,880	34,422	30,472	1,666	2,101	5,031	15,436	744,198
90	31,763	407,933	36,522	140,679	31,746	39,118	30,184	6,019	494	450	20,581	745,489
91	40,059	420,324	80,036	135,709	44,311	46,181	37,994	2,162	3,204	1,218	23,153	834,351
92	32,271	428,798	67,581	258,475	37,561	133,039	41,498	1,296	3,296	7,452	19,274	1,030,541
93	29,731	364,254	79,610	225,102	43,877	71,081	18,227	358	2,474	0	34,694	869,408
94	38,318	401,486	43,090	133,361	42,058	38,469	40,320	337	4,680	12,039	11,565	765,723
95	37,932	459,945	68,323	112,532	41,868	53,455	41,613	539	3,582	5,886	6,884	832,559
96	49,745	467,314	103,463	107,638	52,985	34,887	29,507	0	1,841	1,189	31,396	879,965
97	40,178	619,714	91,329	140,291	91,615	69,324	53,373	2,254	2,002	1,300	12,465	1,123,845
98	46,698	472,410	73,919	178,086	78,803	45,860	35,415	1,480	1,123	633	11,452	945,879
99	41,166	601,213	69,528	183,075	88,392	71,999	41,731	1,122	267	2,316	10,857	1,111,666
2000	39,705	382,713	70,930	161,385	112,811	71,044	38,196	1,718	3,235	389	28,162	910,288
2001	54,412	481,770	59,180	144,642	73,670	56,112	36,873	633	5,219	613	12,475	925,599
2002	38,291	485,953	47,225	190,050	75,351	51,187	34,696	542	2,396	1,912	20,786	948,389
2003	46,616	558,124	82,872	195,622	99,373	56,137	38,769	656	2,536	1,565	7,219	1,089,489
2004	43,849	532,066	70,636	180,367	55,215	107,341	50,454	647	560	1,014	11,077	1,053,226
% Chg. from:												
2003	-5.9%	-4.7%	-14.8%	-7.8%	-44.4%	91.2%	30.1%	-1.4%	-77.9%	-35.2%	53.4%	-3.3%
1955-2003	1.5%	41.1%	46.4%	72.0%	58.8%	174.7%	113.1%	-49.1%	-56.7%	-27.9%	-45.4%	51.5%
Average:												
1955-2003	43,211	377,177	48,241	104,861	34,763	39,070	23,679	1,271	1,292	1,406	20,269	695,240
1955-2004	43,224	380,275	48,689	106,371	35,172	40,435	24,214	1,259	1,278	1,398	20,085	702,399

Long-tailed Duck breeding population estimates, adjusted for birds present that were not seen by aerial crews in Surveyed Areas (Strata 1-18, 20-50 and 75-77).

Year	Alaska-Yukon 1-12	NAlbta BC&NWT 13-19, 20, 75-77	So. Albta 26-29	N.Sask 21-23	S.Sask 30-35	N.Man 24-25	S.Man 36-40	Mont 41-42	N.Dak 43 & 45-47	S.Dak 44 & 48-49	W.Ont 50	Surveyed Areas
55	101,313	461,036	0	0	0	0	0	0	0	0	0	562,349
56	104,466	357,504	0	0	0	0	0	0	0	0	0	461,970
57	118,737	418,774	0	0	0	0	0	0	0	0	0	537,511
58	113,039	451,587	0	0	0	0	0	0	0	0	0	564,626
59	103,125	607,727	0	0	0	0	0	0	0	0	0	710,852
60	117,802	367,340	0	0	0	0	0	0	0	0	0	485,142
61	96,059	432,379	0	0	0	0	0	0	0	0	0	528,438
62	118,039	278,661	0	0	0	0	0	0	0	0	0	396,700
63	168,910	163,410	0	0	0	0	0	0	0	0	0	332,320
64	119,997	522,247	0	16	0	0	0	0	0	0	0	642,260
65	113,084	320,808	0	0	0	0	0	0	0	0	0	433,892
66	152,978	460,229	0	0	0	0	0	0	0	0	0	613,207
67	155,157	402,349	0	0	0	0	0	0	0	0	0	557,506
68	214,327	165,141	0	0	0	0	118	0	0	0	4,737	384,323
69	126,915	460,284	0	0	0	0	0	0	0	0	0	587,199
70	144,278	283,336	0	0	0	0	0	0	0	0	0	427,614
71	164,230	224,620	0	0	0	0	0	0	0	0	305	389,155
72	184,766	105,708	0	0	0	0	0	0	0	0	1,193	291,667
73	121,432	181,405	0	0	0	0	0	0	0	0	0	302,837
74	215,296	218,798	0	0	0	0	0	0	0	0	312	434,406
75	158,556	196,158	0	0	0	0	0	0	0	0	314	355,028
76	145,431	176,088	0	0	0	734	0	0	0	0	316	322,569
77	290,940	193,657	0	1,033	0	0	0	0	0	0	318	485,948
78	263,007	180,090	0	0	0	0	0	0	0	0	320	443,417
79	199,235	626,439	0	0	0	0	0	0	0	0	321	825,995
80	336,865	321,968	0	0	0	0	0	0	0	0	323	659,156
81	173,600	171,786	0	0	0	0	0	0	0	0	323	345,709
82	177,779	193,729	649	0	0	0	0	0	0	0	323	372,480
83	224,262	112,970	0	0	0	0	0	0	0	0	323	337,555
84	135,667	601,278	0	0	0	0	0	0	0	0	322	737,267
85	149,973	267,747	0	0	0	0	0	0	0	0	320	418,040
86	189,696	129,858	0	0	0	0	0	0	0	0	0	319,554
87	117,410	276,715	0	0	0	0	0	0	0	0	1,158	395,283
88	108,604	233,705	0	0	0	0	0	0	0	0	0	342,309
89	94,971	279,324	0	0	0	0	0	0	0	0	0	374,295
90	114,325	43,601	0	0	0	0	0	0	0	0	0	157,926
91	107,857	76,253	404	0	0	0	0	0	0	0	0	184,514
92	86,745	46,989	0	0	0	0	0	0	0	0	0	133,734
93	107,048	64,631	0	0	286	0	503	0	0	0	1,122	173,590
94	98,776	79,121	0	0	597	0	1,251	0	0	0	0	179,745
95	110,801	93,690	0	0	0	0	535	0	0	0	0	205,026
96	88,005	47,063	0	0	0	0	0	0	0	0	13,405	148,473
97	68,686	107,679	0	0	0	0	0	0	0	0	0	176,365
98	91,043	50,520	0	0	0	901	0	0	0	0	0	142,464
99	72,237	111,612	0	0	0	0	0	538	0	0	0	184,387
2000	105,236	48,178	0	0	0	0	0	0	0	0	0	153,414
2001	99,806	57,323	0	0	0	0	0	0	0	0	0	157,129
2002	84,147	104,273	0	0	0	0	0	0	0	0	0	188,420
2003	83,212	83,230	0	0	0	0	0	0	0	0	0	166,442
2004	83,503	116,281	0	0	0	0	0	0	0	0	0	199,784
% Chg. from:												
2003	0.3%	39.7%										20.0%
1955-2003	-40.2%	-52.0%										-47.7%
Average:												
1955-2003	139,548	242,021	21	21	18	33	49	11	0	0	526	382,249
1955-2004	138,427	239,506	21	21	18	33	48	11	0	0	515	378,600

Scoter SPP. breeding population estimates, adjusted for birds present that were not seen by aerial crews in Surveyed Areas (Strata 1-18, 20-50 and 75-77).

Year	Alaska-Yukon 1-12	NAlbta BC&NWT 13-19, 20, 75-77	So. Albta 26-29	N.Sask 21-23	S.Sask 30-35	N.Man 24-25	S.Man 36-40	Mont 41-42	N.Dak 43 & 45-47	S.Dak 44 & 48-49	W.Ont 50	Surveyed Areas
55	438,203	1,530,432	0	9,626	5,415	5,791	128	6	0	0	15,768	2,005,369
56	433,308	1,325,314	27,962	2,420	13,445	11,015	931	7	0	0	12,428	1,826,830
57	362,971	1,330,612	21,612	68,299	812	3,532	933	7	0	0	1,368	1,790,146
58	480,526	1,207,501	20,604	25,466	9,951	1,283	10,284	8	0	0	0	1,755,623
59	305,515	1,795,517	26,949	30,758	4,880	71,941	7,865	8	0	0	0	2,243,433
60	481,627	1,712,805	18,895	483	5,518	5,050	0	8	0	0	6,126	2,230,512
61	528,820	1,358,551	25,604	7,242	2,609	37,330	1,400	8	0	0	2,027	1,963,591
62	449,299	807,775	25,183	15,072	0	19,359	0	8	0	0	0	1,316,696
63	322,187	790,990	16,379	6,795	3,823	7,070	1,400	8	0	0	2,815	1,151,467
64	361,711	1,338,917	17,097	34,052	5,914	7,182	531	8	0	0	0	1,765,412
65	333,239	968,612	16,870	1,722	8,372	16,622	980	0	0	0	0	1,346,417
66	335,962	623,099	19,960	15,484	2,627	28,227	1,593	0	0	0	2,815	1,029,767
67	333,568	725,391	23,630	19,503	1,985	15,127	1,545	143	0	0	0	1,120,892
68	415,881	624,792	17,498	34,477	6,248	55,588	128	0	0	0	68,377	1,222,989
69	340,713	855,531	21,599	29,217	3,678	98,821	0	0	0	0	8,410	1,357,969
70	319,134	1,195,029	23,222	23,283	496	17,298	265	0	0	0	10,512	1,589,239
71	308,731	648,926	12,078	30,113	5,165	22,279	0	0	0	0	16,900	1,044,192
72	385,578	1,102,663	13,205	20,381	2,482	73,616	0	0	0	0	26,433	1,624,358
73	266,941	915,708	15,974	28,666	4,737	35,851	1,018	0	0	0	11,774	1,280,669
74	382,056	1,108,659	8,023	22,756	2,271	30,715	1,158	0	0	0	17,389	1,573,027
75	295,500	784,969	7,343	17,944	7,197	45,197	1,628	0	0	0	17,233	1,177,011
76	344,410	742,598	24,107	36,446	1,117	46,178	2,035	0	0	0	17,046	1,213,937
77	392,522	946,348	13,479	40,842	4,275	51,896	611	0	0	0	16,867	1,466,840
78	420,626	1,223,629	25,988	58,655	2,626	32,997	751	0	0	0	16,701	1,781,973
79	434,775	1,420,621	36,231	46,311	12,592	41,080	477	0	0	0	16,527	2,008,614
80	496,047	1,107,239	20,381	34,033	1,737	75,713	0	0	0	0	16,303	1,751,453
81	394,362	1,030,509	7,656	25,897	496	61,497	0	0	0	0	15,985	1,536,402
82	466,577	858,206	11,823	38,125	3,295	81,871	698	0	0	0	15,543	1,476,138
83	605,838	1,097,052	6,355	80,813	2,564	121,760	1,425	242	0	0	14,957	1,931,006
84	412,051	1,327,882	17,333	17,245	3,047	48,308	0	0	0	0	14,218	1,840,084
85	324,514	1,055,130	18,627	25,881	2,644	24,811	700	0	0	0	13,321	1,465,628
86	436,528	915,146	17,204	12,036	1,737	9,902	0	0	0	0	2,943	1,395,496
87	359,696	1,202,454	1,078	27,318	2,261	26,539	0	0	0	0	1,682	1,621,028
88	422,964	759,996	7,225	18,295	2,178	10,217	0	0	0	0	18,922	1,239,797
89	355,581	1,138,004	5,607	15,261	2,319	4,734	0	0	0	0	1,682	1,523,188
90	356,009	444,024	9,939	13,358	4,336	10,131	0	0	0	0	2,523	840,320
91	315,044	659,997	15,467	26,545	5,166	19,240	0	0	489	0	0	1,041,948
92	469,795	559,865	4,376	10,531	1,759	11,211	642	0	0	1,605	2,529	1,062,313
93	321,550	637,205	772	11,065	925	26,066	0	0	0	0	8,861	1,006,444
94	324,311	382,646	5,198	22,323	3,574	25,705	0	0	0	0	11,445	775,202
95	309,916	419,046	10,899	22,548	308	41,461	0	0	0	0	0	804,178
96	460,922	360,424	267	19,531	925	22,501	0	332	0	0	82,204	947,106
97	235,720	690,467	1,310	76,225	1,488	45,577	0	497	0	0	95,625	1,146,909
98	348,351	287,118	0	22,171	168	36,256	0	0	0	0	0	694,064
99	345,850	528,140	262	33,640	0	34,786	788	0	0	0	13,334	956,800
2000	327,055	557,736	0	31,436	0	24,547	0	0	0	0	0	940,774
2001	242,408	547,290	1,833	8,604	308	20,402	0	0	0	0	0	820,845
2002	311,272	506,424	524	28,494	0	28,041	429	0	0	0	23,184	898,368
2003	368,201	696,729	0	27,613	308	30,765	0	497	0	0	3,794	1,127,907
2004	367,401	656,050	786	41,303	0	83,572	1,341	0	0	0	36,252	1,186,705
% Chg. from:												
2003	-0.2%	-5.8%		49.6%		171.6%					855.5%	5.2%
1955-2003	-2.6%	-28.3%		58.7%		152.3%					174.7%	-14.1%
Average:												
1955-2003	377,232	915,382	13,135	26,020	3,261	33,124	823	36	10	33	13,195	1,382,252
1955-2004	377,035	910,195	12,888	26,326	3,196	34,133	834	36	10	32	13,656	1,378,342

Ruddy Duck breeding population estimates, adjusted for birds present that were not seen by aerial crews in Surveyed Areas (Strata 1-18, 20-50 and 75-77).

Year	Alaska-Yukon 1-12	NAlbta BC&NWT 13-19, 20, 75-77	So. Albta 26-29	N.Sask 21-23	S.Sask 30-35	N.Man 24-25	S.Man 36-40	Mont 41-42	N.Dak 43 & 45-47	S.Dak 44 & 48-49	W.Ont 50	Surveyed Areas
55	6	34,733	76,180	0	128,697	0	28,904	8,538	11,163	1,639	0	289,860
56	6	29,593	78,270	0	231,810	0	28,602	8,282	11,272	831	0	388,666
57	6	6,904	43,444	0	126,127	0	24,925	8,012	11,544	320	0	221,282
58	0	18,693	51,584	0	66,230	0	24,560	7,739	1,579	327	0	170,712
59	0	100,268	79,151	0	256,132	4,495	76,840	7,510	23,823	0	0	548,219
60	0	23,497	97,861	0	116,771	2,075	60,407	7,372	44,286	10,693	0	362,962
61	6	67,451	49,800	0	71,428	2,420	92,851	7,263	23,344	3,602	24,958	343,123
62	0	1,225	21,895	23,774	59,550	5,532	49,507	7,180	27,469	11,836	9,983	217,951
63	0	22,237	37,418	9,906	38,531	7,953	98,281	7,121	18,194	5,608	0	245,249
64	7	7,830	92,953	78	34,264	6,224	68,705	7,081	5,401	1,402	0	223,945
65	7	6,408	93,379	7,925	42,614	10,719	65,530	0	9,047	1,869	0	237,498
66	8	17,512	83,012	4,953	77,068	6,570	95,751	2,715	33,409	5,608	0	326,606
67	8	15,342	111,877	10,524	58,726	9,480	74,859	1,666	41,836	0	0	324,318
68	9	7,721	96,722	24,416	83,345	55,886	87,996	1,464	15,527	8,914	3,529	385,529
69	9	36,462	47,903	1,345	54,967	19,363	38,626	22,292	45,151	6,963	0	273,081
70	10	10,367	66,904	0	42,062	14,888	64,692	613	86,036	39,331	3,451	328,354
71	11	12,541	56,720	0	60,181	6,916	52,880	1,321	46,990	27,698	1,835	267,093
72	13	45,550	101,955	3,915	67,151	8,644	25,835	5,656	55,134	30,115	0	343,968
73	14	18,841	38,224	0	115,961	6,874	43,867	3,111	40,651	18,615	3,451	289,609
74	15	9,557	93,341	0	98,476	7,261	55,554	1,816	166,970	23,151	1,779	457,920
75	16	21,550	184,681	0	80,323	2,697	49,940	2,595	125,136	209,732	1,756	678,426
76	17	1,566	33,571	4,337	58,362	346	45,305	1,862	22,838	6,228	1,730	176,162
77	18	42,471	101,483	723	101,834	5,532	34,650	1,156	21,129	5,815	1,702	316,513
78	19	8,267	75,549	2,169	49,972	7,950	51,087	14,144	123,267	28,655	1,671	362,750
79	20	10,691	42,045	1,446	91,103	3,607	22,288	12,354	97,986	15,995	1,637	299,172
80	20	18,959	33,938	1,374	57,940	26,232	80,539	660	111,362	21,649	1,600	354,273
81	21	53,076	62,966	14,943	49,705	37,418	91,792	17,094	237,580	67,045	1,559	633,199
82	22	25,888	116,002	1,486	181,908	15,560	146,203	17,756	357,108	84,425	1,514	947,872
83	23	171,613	72,906	17,130	108,529	5,532	55,049	9,082	184,756	88,919	1,464	715,003
84	1,451	58,793	62,324	0	78,878	7,261	31,634	11,794	251,823	48,654	1,409	554,021
85	0	28,714	43,776	723	128,272	5,187	39,344	7,997	111,932	23,149	1,350	390,444
86	0	112,732	32,902	0	120,190	6,548	68,533	4,623	170,083	69,389	0	585,000
87	0	30,329	35,823	5,060	105,566	1,037	79,997	613	113,850	28,544	0	400,819
88	119	17,764	77,895	0	61,243	13,529	57,384	25,099	12,639	3,173	0	268,845
89	836	109,223	65,604	5,697	80,122	6,570	51,315	5,779	55,270	44,007	0	424,423
90	653	78,963	129,916	24,786	56,232	7,823	68,853	9,196	62,516	34,139	0	473,077
91	0	44,060	193,766	6,747	58,480	15,739	68,697	37,980	14,031	10,172	0	449,672
92	0	106,349	85,225	7,215	116,146	2,422	58,390	9,239	29,473	3,898	0	418,357
93	0	120,285	57,054	0	78,071	51,796	22,758	1,817	33,928	21,492	0	387,201
94	0	12,559	65,536	0	102,211	673	14,427	4,717	105,606	36,694	0	342,423
95	0	42,749	128,457	4,083	158,130	16,432	32,074	6,989	78,620	43,234	0	510,768
96	837	67,943	302,195	2,808	166,676	2,018	38,711	1,195	72,793	14,660	10,438	680,274
97	0	31,487	87,116	9,711	124,098	7,736	31,402	8,896	180,229	18,690	0	499,365
98	0	210,874	123,555	0	82,294	2,018	13,731	11,788	143,325	24,914	0	612,499
99	0	97,843	73,405	3,824	170,285	12,874	43,155	8,318	217,326	82,101	4,616	713,747
2000	0	82,532	74,308	0	168,208	3,027	45,751	2,350	212,282	65,893	0	654,351
2001	1,023	39,851	51,612	3,149	134,254	9,441	58,647	24,895	185,007	58,836	0	566,715
2002	0	126,847	86,481	3,146	69,957	16,763	108,487	14,870	192,551	75,624	0	694,726
2003	0	155,558	54,857	15,656	358,216	11,590	40,508	17,052	81,535	28,016	0	762,988
2004	837	99,025	93,460	0	229,931	27,042	143,271	10,212	176,659	1,906	0	782,343
% Chg. from:												
2003		-36.3%	70.4%	-100.0%	-35.8%	133.3%	253.7%	-40.1%	116.7%	-93.2%		2.5%
1955-2003	684.2%	100.3%	15.3%	-100.0%	124.1%	175.7%	159.1%	22.4%	100.2%	-93.6%		81.5%
Average:												
1955-2003	107	49,434	81,093	4,552	102,598	9,809	55,303	8,340	88,261	29,842	1,662	431,001
1955-2004	121	50,426	81,340	4,461	105,145	10,154	57,062	8,377	90,029	29,283	1,629	438,027

American Coot breeding population estimates, adjusted for birds present that were not seen by aerial crews in Surveyed Areas (Strata 1-18, 20-50 and 75-77).

Year	Alaska-Yukon 1-12	NAlbta BC&NWT 13-19, 20, 75-77	So. Albta 26-29	N.Sask 21-23	S.Sask 30-35	N.Man 24-25	S.Man 36-40	Mont 41-42	N.Dak 43 & 45-47	S.Dak 44 & 48-49	W.Ont 50	Surveyed Areas
55	85	30,748	141,262	0	360,714	0	18,772	39,862	41,147	21,782	0	654,372
56	237	5,474	108,038	0	604,698	0	45,684	39,080	44,395	21,609	0	869,215
57	5	0	56,605	0	438,843	0	27,830	38,542	47,919	22,724	0	632,468
58	0	0	98,069	0	127,546	0	76,960	38,205	59,014	24,940	0	424,734
59	0	156,775	169,760	22,465	145,323	115,835	170,796	38,029	94,402	31,128	0	944,513
60	0	3,884	120,075	7,855	111,952	33,997	87,532	37,985	81,985	40,387	0	525,652
61	5	62,589	92,872	0	70,527	114,327	125,400	38,024	51,084	29,340	0	584,168
62	0	23,713	19,746	5,498	78,951	19,192	32,780	38,259	103,958	60,958	0	383,055
63	6,353	22,846	82,177	17,280	27,371	68,816	43,635	38,880	47,427	21,014	0	375,799
64	6	18,799	39,957	6,265	50,484	79,782	37,394	39,997	14,200	53,396	0	340,280
65	6	5,654	65,136	15,539	63,564	74,847	46,199	13,949	93,789	19,307	0	397,990
66	6	35,540	48,130	8,240	83,356	42,222	20,318	19,440	150,515	33,777	0	441,544
67	6	6,608	202,542	29,331	178,983	76,218	74,096	23,406	203,316	27,961	0	822,467
68	6	82,071	98,780	132,574	214,325	448,558	46,404	58,112	127,526	75,652	0	1,284,008
69	6	13,550	144,825	15,536	203,789	23,651	120,689	30,955	131,266	91,127	0	775,394
70	7	9,612	169,841	19,970	450,341	42,962	169,108	22,279	192,302	91,771	0	1,168,193
71	7	20,484	99,723	13,032	481,517	31,396	120,880	9,576	147,652	34,973	905	960,145
72	7	32,012	122,608	7,213	284,899	19,572	159,683	17,541	178,836	110,937	0	933,308
73	7	167,406	145,425	33,025	465,919	66,533	69,406	37,952	124,724	126,109	0	1,236,506
74	7	30,826	266,979	4,585	544,311	15,269	230,322	22,196	368,921	27,821	1,943	1,513,180
75	7	36,637	483,329	12,610	799,782	37,986	282,924	13,776	512,939	75,667	2,262	2,257,919
76	7	27,056	83,519	32,801	1,512,966	32,432	470,430	59,458	104,227	66,604	2,579	2,392,079
77	7	428,722	285,358	192,611	269,357	123,309	179,959	16,392	74,819	91,398	2,896	1,664,828
78	7	65,559	168,357	48,248	317,848	24,392	111,315	83,083	389,599	232,503	3,213	1,444,124
79	7	7,730	417,979	3,439	787,159	22,605	182,855	319,446	1,358,125	356,097	3,526	3,458,968
80	7	415,657	501,055	292,094	634,230	201,320	330,575	104,220	395,967	77,091	3,830	2,956,046
81	7	198,729	405,024	414,742	395,073	358,149	157,473	197,667	374,657	176,800	4,119	2,682,440
82	7	68,724	371,736	25,849	175,368	93,241	111,878	53,327	561,294	202,707	4,386	1,668,517
83	7	138,411	253,247	18,773	546,681	16,921	123,936	42,885	411,000	263,525	4,621	1,820,007
84	94	91,667	542,666	88,836	507,406	23,213	38,308	103,474	898,926	603,719	4,811	2,903,120
85	0	69,291	327,286	16,066	530,572	49,020	33,778	145,150	309,729	196,547	4,946	1,682,385
86	0	34,234	282,225	7,881	315,049	14,492	212,457	32,078	313,196	487,546	0	1,699,158
87	0	83,630	137,883	157,696	241,678	97,448	77,065	27,238	530,327	427,336	0	1,780,301
88	0	232,749	166,147	100,139	930,687	240,716	591,810	95,515	429,080	436,363	0	3,223,206
89	0	158,089	349,532	119,530	276,168	80,035	60,145	65,866	246,784	284,727	0	1,640,876
90	0	197,152	485,709	23,665	261,462	38,073	151,795	153,414	161,725	191,467	0	1,664,462
91	0	92,552	279,675	8,772	366,579	134,823	81,071	52,948	58,127	77,412	0	1,151,959
92	0	114,937	307,393	14,993	442,607	52,575	215,541	15,337	84,059	132,791	0	1,380,233
93	0	92,496	282,100	20,506	111,817	146,505	32,198	58,300	113,905	167,235	0	1,025,062
94	0	50,381	234,681	23,451	383,314	8,801	35,778	56,845	607,988	310,989	0	1,712,228
95	0	37,512	232,937	9,178	625,223	12,646	195,400	33,236	1,675,859	616,886	0	3,438,877
96	0	41,342	234,396	11,750	868,112	3,734	281,166	38,798	1,241,901	409,910	0	3,131,109
97	0	253,833	377,464	9,752	1,661,100	9,410	282,918	80,096	1,715,341	525,686	0	4,915,600
98	0	467,040	260,003	26,583	594,337	33,716	506,700	12,777	76,946	468,979	0	2,447,081
99	0	159,570	342,321	38,032	823,675	19,864	162,542	174,701	889,876	458,569	0	3,069,150
2000	0	615,563	418,761	79,296	848,497	129,964	284,810	69,091	912,574	300,905	0	3,659,461
2001	0	87,215	207,397	41,472	679,248	32,268	315,349	21,588	319,644	141,671	0	1,845,852
2002	0	584,907	376,091	91,235	306,828	203,347	246,716	36,341	437,899	235,084	0	2,518,448
2003	0	101,998	222,265	4,549	633,881	7,843	107,401	17,698	77,862	21,988	0	1,195,485
2004	0	294,933	240,183	74,401	536,336	31,025	83,748	43,403	525,803	32,211	0	1,862,043
% Chg. from:												
2003		189.2%	8.1%	1535.5%	-15.4%	295.6%	-22.0%	145.2%	575.3%	46.5%		55.8%
1955-2003		154.3%	3.9%	60.4%	20.4%	-56.8%	-45.9%	-24.7%	46.5%	-82.5%		11.7%
Average:												
1955-2003	141	115,959	231,206	46,387	445,594	71,878	154,861	57,613	358,954	183,774	899	1,667,265
1955-2004	138	119,538	231,385	46,947	447,409	71,061	153,439	57,328	362,291	180,743	881	1,671,160

Pacific Flyway States (CA, NV, OR, UT, WA) Duck Breeding Population Summary, 1994-2004.

	Year											Average	% Change	% Change
Species	1994	1995	1996	1997	1998	1999	2000*	2001**	2002	2003	2004	94-04	04 vs. 03	04 vs. 94-03
Mallard	544,455	541,928	733,014	733,980	582,859	798,499	539,528	493,895	432,725	494,021	414,109	573,547	-16.2%	-29.8%
Gadwall	148,233	177,339	172,703	217,960	176,423	187,906	201,774	163,016	144,464	172,611	184,887	177,029	7.1%	4.9%
Wigeon	9,263	9,593	23,477	21,758	37,602	37,303	15,476	13,462	14,765	11,402	11,993	18,736	5.2%	-38.2%
GW Teal	10,268	5,934	21,514	38,315	30,864	26,182	10,227	10,390	5,450	4,160	6,008	15,392	44.4%	-63.2%
BWC Teal	158,583	131,386	87,777	141,056	118,089	119,187	126,154	112,290	93,379	98,020	100,967	116,990	3.0%	-14.9%
Shoveler	58,701	43,138	116,591	175,921	140,648	66,586	86,500	45,652	51,484	51,730	32,552	79,046	-37.1%	-61.1%
Pintail	17,109	33,854	31,356	44,606	15,995	23,503	14,613	12,722	10,450	9,017	12,820	20,550	42.2%	-39.9%
All Dabblers	946,612	943,172	1,186,432	1,373,596	1,102,480	1,259,166	994,271	851,426	752,717	840,961	763,336	1,001,288	-9.2%	-25.5%
Redhead	55,675	49,038	46,124	41,804	45,709	33,861	42,371	41,663	30,474	45,597	31,963	42,207	-29.9%	-26.1%
Canvasback	3,890	4,127	2,756	4,958	4,871	5,484	5,497	3,850	5,979	5,804	2,774	4,545	-52.2%	-41.2%
Scaup	7,917	18,499	37,077	17,711	27,818	25,260	14,842	18,643	21,807	23,580	11,053	20,382	-53.1%	-48.1%
Ringneck	2,899	11,002	9,762	17,938	16,949	17,219	23,841	14,444	7,958	11,760	5,694	12,679	-51.6%	-57.4%
Goldeneye	2,077	3,579	4,987	2,184	1,426	2,298	2,327	4,087	4,036	5,629	3,293	3,266	-41.5%	0.9%
Bufflehead	4,762	9,932	12,302	11,369	7,454	8,163	3,939	4,727	11,215	8,012	7,660	8,140	-4.4%	-6.4%
Ruddy	22,887	31,113	38,889	33,285	112,907	92,562	37,669	31,965	23,104	50,644	36,720	46,522	-27.5%	-22.7%
All Divers	100,107	127,290	151,897	129,249	217,134	184,847	130,485	119,315	104,573	151,026	99,157	137,735	-34.3%	-30.0%
Wood Duck	14,297	11,518	11,524	7,544	13,670	25,567	10,766	7,497	7,270	4,828	12,567	11,550	160.3%	9.8%
Mergansers	604	3,450	2,233	1,902	5,096	2,006	2,639	2,175	2,344	3,704	3,303	2,678	-10.8%	26.3%
All Ducks	1,061,620	1,085,430	1,352,086	1,512,291	1,338,380	1,471,586	1,138,161	980,414	866,904	1,000,519	878,363	1,153,250	-12.2%	-25.6%

*In 2000, the long-term average (1994-1999) was used for Nevada. No survey was conducted in Nevada.

**In 2001, the long-term average (1994-2000) was used for Oregon. No survey was conducted in Oregon.

Duck Breeding Population Summary for California, 1990-2004.

Species	Year															Average	% Change	% Change
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	1990-2004	2004 vs. 2003	2004 vs. 90-03
Mallard	615,025	380,834	384,579	384,280	321,097	368,526	536,709	511,344	353,901	560,063	347,559	302,204	265,295	337,056	262,727	395,413	-22.1%	-35.1%
Gadwall	32,210	24,168	38,249	77,939	59,452	94,421	92,024	93,441	69,936	92,434	103,989	68,560	59,345	78,037	75,773	70,665	-2.9%	7.8%
Wigeon	2,260	3,348	1,031	3,929	1,453	3,221	6,995	4,476	22,322	30,124	4,220	3,952	350	3,738	1,021	6,163	-72.7%	-84.4%
GW Teal	7,714	1,637	2,855	6,097	6,636	0	639	21,536	14,646	16,786	1,802	4	230	0	0	5,372		
BWC Teal	32,108	70,173	63,165	74,554	31,725	51,330	18,140	46,336	39,443	39,725	24,689	26,592	14,008	29,382	35,461	39,789	20.7%	-11.6%
Shoveler	12,926	3,231	7,876	55,866	25,857	15,650	61,514	101,558	100,679	22,183	55,728	6,393	22,920	25,277	7,903	35,037	-68.7%	-78.6%
Pintail	8,328	95,364	5,037	8,694	8,464	20,873	9,571	23,585	6,213	13,207	6,163	1,057	2,417	4,296	5,440	14,581	26.6%	-64.3%
All Dabblers	710,571	578,755	502,792	611,359	454,684	554,021	725,592	802,276	607,140	774,522	544,150	408,762	364,565	477,786	388,325	579,784	-18.7%	-33.0%
Redhead	15,066	7,999	3,153	11,047	2,541	5,250	2,625	808	4,038	1,211	1,615	0	1,211	11,207	1,226	4,600	-89.1%	-74.7%
Canvasback	459	815	0	259	859	1,022	518	790	198	472	1,226	0	3,139	3,708	0	898		
Scaup	272	18,837	7,523	4,081	957	6,349	22,547	1,553	15,047	6,313	3,077	3,025	5,863	7,320	1,324	6,939	-81.9%	-82.0%
Ringneck	7,010	2,252	487	536	111	67	407	0	418	0	0	0	0	125	0	761		
Goldeneye	0	1,180	0	0	0	0	2,292	307	0	0	0	0	0	0	0	252		
Bufflehead	1,521	290	0	1,126	3,628	2,598	2,761	325	2,648	2,273	1,299	0	3,348	2,631	1,949	1,760	-25.9%	11.6%
Ruddy	778	18,108	8,465	6,197	497	11,970	12,007	8,610	74,529	53,142	8,454	1,749	2,010	23,497	13,936	16,263	-40.7%	-15.2%
All Divers	25,106	49,481	19,628	23,246	8,593	27,256	43,157	12,393	96,878	63,411	15,671	4,774	15,571	48,488	18,435	32,404	-62.0%	-43.1%
Wood Duck	10,796	14,500	4,533	2,411	9,346	8,433	4,216	0	2,763	16,323	3,414	0	0	0	7,041	5,585		28.5%
Mergansers	0	0	2,612	0	166	0	327	327	0	0	0	0	0	1,373	0	320		
All Ducks	746,473	642,736	529,565	637,016	472,789	589,710	773,292	814,996	706,781	854,256	563,235	413,536	380,136	527,647	413,801	604,398	-21.6%	-33.0%

Duck Breeding Population Summary for Nevada, 1990-2004.

Species	Year															Average	% Change	% Change
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	1990-2004	2004 vs. 2003	2004 vs. 90-03
Mallard	1,928	1,303	2,113	1,009	2,246	1,377	2,255	3,554	2,497	2,506	No Survey	2,883	1,104	2,126	2,660	2,112	25.1%	28.8%
Gadwall	5,760	4,245	5,031	2,372	6,380	5,297	6,932	7,856	6,470	8,237	"	8,031	3,828	6,824	7,755	6,073	13.6%	31.7%
Wigeon																		
GW Teal																		
BWC Teal	6,215	4,741	3,795	1,964	3,890	3,501	6,532	4,950	5,219	6,170	"	4,733	2,295	4,018	4,195	4,444	4.4%	-6.8%
Shoveler	388	487	318	195	271	384	525	602	476	1,839	"	476	232	358	584	510	63.1%	13.5%
Pintail	706	321	617	855	805	620	1,176	841	1,058	1,265	"	746	225	540	687	747	27.2%	-11.0%
All Dabblers	14,997	11,097	11,874	6,395	13,592	11,179	17,420	17,803	15,720	20,017	"	16,869	7,684	13,866	15,881	13,885	14.5%	15.7%
Redhead	9,564	5,115	4,029	4,070	6,972	6,673	10,798	9,191	9,326	7,587	"	9,301	4,441	7,039	7,224	7,238	2.6%	-0.4%
Canvasback	267	94	128	68	527	363	426	559	752	1,302	"	363	182	427	326	413	-23.7%	-22.2%
Scaup																		
Ringneck																		
Goldeneye																		
Bufflehead																		
Ruddy	5,411	3,754	4,461	944	1,547	2,586	2,262	2,196	4,748	2,422	"	4,584	1,990	3,239	3,887	3,145	20.0%	26.3%
All Divers	15,242	8,963	8,618	5,082	9,046	9,622	13,486	11,946	14,826	11,311	"	14,248	6,613	10,705	11,437	10,796	6.8%	6.4%
Wood Duck																		
Mergansers																		
All Ducks	30,239	20,060	20,492	11,477	22,638	20,801	30,906	29,749	30,546	31,328	"	31,117	14,297	24,571	27,318	24,681	11.2%	11.6%

Duck Breeding Population Summary for Oregon, 1994-2004.

Species	Year											Average	% Change	% Change
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	94-04	04 vs. 03	04 vs. 94-03
Mallard	160,896	104,493	124,270	144,156	142,094	144,282	121,654	No Survey	116,820	109,878	102,784	127,133	-6.5%	-20.8%
Gadwall	59,003	53,357	52,324	87,684	78,728	64,033	72,666	"	54,916	65,833	80,432	66,898	22.2%	23.0%
Wigeon	3,012	2,611	10,472	8,890	8,241	1,458	6,733	"	7,915	2,636	5,530	5,750	109.8%	-4.2%
GW Teal	1,963	2,947	16,922	9,739	9,043	5,731	5,105	"	2,547	2,411	4,531	6,094	87.9%	-27.7%
BWC Teal	92,509	51,651	41,271	67,216	49,650	48,565	67,373	"	47,516	49,997	43,882	55,963	-12.2%	-23.4%
Shoveler	26,360	12,082	44,308	60,240	26,037	24,103	20,535	"	20,483	17,620	17,123	26,889	-2.8%	-38.8%
Pintail	6,528	9,137	16,074	16,841	5,987	6,438	5,803	"	6,697	2,901	4,254	8,066	46.6%	-49.9%
All Dabblers	350,271	236,278	305,641	394,766	319,780	294,610	299,869	"	256,894	251,276	258,536	296,792	2.9%	-14.1%
Redhead	26,701	17,571	14,294	16,076	15,711	10,497	14,749	"	9,539	14,586	12,152	15,188	-16.7%	-21.7%
Canvasback	2,424	2,065	1,172	2,247	3,302	2,678	3,013	"	1,152	750	1,830	2,063	144.0%	-12.4%
Scaup	1,660	2,208	2,768	7,725	5,097	8,250	4,783	"	6,655	3,538	4,922	4,761	39.1%	3.8%
Ringneck	1,438	4,998	5,540	15,448	14,041	13,384	18,741	"	6,553	8,572	4,844	9,356	-43.5%	-50.9%
Goldeneye	581	1,120	337		118	305	201	"		916	39	452	-95.7%	-92.4%
Bufflehead	1,063	4,873	4,655	5,686	4,001	4,796	2,230	"	6,261	2,347	4,431	4,034	88.8%	11.0%
Ruddy	10,392	6,601	7,931	9,554	16,200	14,736	14,676	"	9,452	10,423	7,504	10,747	-28.0%	-32.4%
All Divers	44,259	39,436	36,697	56,736	58,470	54,646	58,393	"	39,612	41,132	35,722	46,510	-13.2%	-25.1%
Wood Duck	2,545	1,829	5,252	5,960	9,071	6,748	5,511	"	5,407	4,212	3,973	5,051	-5.7%	-23.2%
Mergansers	214	1,173	1,313	1,305	4,428	1,824	2,478	"	2,017	1,574	2,840	1,917	80.4%	56.6%
All Ducks	397,289	278,716	348,903	458,767	391,749	357,828	366,251	"	303,930	298,194	301,071	350,270	1.0%	-15.4%

Duck Breeding Population Summary for Utah, 1990-2004.

Species	Year															Average	% Change	% Change
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	1990-2004	2004 vs. 2002	2004 vs. 90-03
Mallard	1,323	3,222	2,818	3,910	7,590	8,625	8,165	7,935	5,405	5,405	7,475	3,795	4,830	5,118	5,980	5,440	16.8%	10.7%
Gadwall	4,871	6,541	7,740	6,236	12,635	13,237	6,427	13,675	4,212	6,072	4,349	3,337	7,849	6,564	5,743	7,299	-12.5%	-22.5%
Wigeon																		
GW Teal																		
BWC Teal	3,025	4,340	9,791	3,286	9,726	8,543	7,754	5,651	3,549	3,811	9,200	3,286	5,191	3,351	3,811	5,621	13.7%	-33.7%
Shoveler	5,874	36,772	1,103	1,492	2,303	9,828	4,152	1,751	876	3,535	454	259	1,881	681	649	4,774	-4.7%	-87.2%
Pintail	179	538	896	716	358	2,060	2,687	537	627	448	716	358	716	672	1,343	857	99.9%	63.4%
All Dabblers	15,272	51,413	22,348	15,640	32,612	42,293	29,185	29,549	14,669	19,271	22,194	11,035	20,467	16,386	17,526	23,991	7.0%	-28.3%
Redhead	4,368	1,130	3,605	4,170	4,539	6,602	4,365	3,366	4,235	998	1,998	1,933	3,453	4,648	2,997	3,494	-35.5%	-15.1%
Canvasback																		
Scaup																		
Ringneck																		
Goldeneye																		
Bufflehead																		
Ruddy	10,265	22,342	6,014	1,191	2,160	0	2,178	3,088	1,956	7,706	493	5,035	629	1,310	1,769	4,409	35.0%	-61.5%
All Divers	14,633	23,472	9,619	5,361	6,699	6,602	6,543	6,454	6,191	8,704	2,491	6,968	4,082	5,958	4,766	7,903	-20.0%	-41.4%
Wood Duck																		
Mergansers																		
All Ducks	29,905	74,885	31,967	21,001	39,311	48,895	35,728	36,003	20,860	27,975	24,685	18,003	24,549	22,344	22,292	31,894	-0.2%	-31.6%

Duck Breeding Population Summary for Washington, 1990-2004.

Species	Year															Average	% Change	% Change
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	1990-2004	2004 vs. 2003	2004 vs. 90-03
Mallard	58,502	42,194	38,905	51,049	52,626	58,907	61,615	66,991	78,962	86,243	60,434	50,464	44,676	39,843	39,958	55,425	0.3%	-29.3%
Gadwall	11,557	8,328	7,685	10,413	10,763	11,027	14,996	15,304	17,077	17,130	13,908	16,260	18,526	15,353	15,184	13,567	-1.1%	12.9%
Wigeon	6,001	5,861	2,646	4,102	4,798	3,761	6,010	8,392	7,039	5,721	4,523	3,593	6,500	5,028	5,442	5,294	8.2%	3.0%
GW Teal	2,323	2,175	1,167	1,345	1,669	2,987	3,953	7,040	7,175	3,665	3,320	3,036	2,673	1,749	1,477	3,050	-15.6%	-53.3%
BWC Teal	27,932	28,528	28,436	24,797	20,733	16,361	14,080	16,903	20,228	20,916	19,848	17,931	24,369	11,272	13,618	20,397	20.8%	-34.8%
Shoveler	5,119	3,639	3,576	4,345	3,910	5,194	6,092	11,770	12,580	14,926	9,100	8,000	5,968	7,794	6,293	7,220	-19.3%	-13.6%
Pintail	653	379	815	1,990	954	1,164	1,848	2,802	2,110	2,145	970	1,017	395	608	1,096	1,263	80.3%	-14.0%
All Dabblers	112,087	91,104	83,230	98,041	95,453	99,401	108,594	129,202	145,171	150,746	112,103	100,301	103,107	81,647	83,068	107,871	1.7%	-23.0%
Redhead	19,976	16,956	9,665	14,524	14,922	12,942	14,042	12,363	12,399	13,568	15,584	13,915	11,830	8,117	8,364	13,278	3.0%	-38.6%
Canvasback	150	222	274	728	80	677	640	1,362	619	1,032	603	1,073	1,506	919	618	700	-32.8%	-12.5%
Scaup	8,431	12,842	6,349	11,040	5,300	9,942	11,762	8,433	7,674	10,697	6,982	10,976	9,289	12,722	4,807	9,150	-62.2%	-49.2%
Ringneck	1,014	1,983	2,032	1,590	1,350	5,937	3,815	2,490	2,490	3,835	5,100	3,931	1,405	3,063	850	2,726	-72.2%	-70.3%
Goldeneye	3,131	2,352	1,530	1,501	1,496	2,459	2,358	1,877	1,308	1,993	2,126	3,643	4,036	4,713	3,254	2,518	-31.0%	32.0%
Bufflehead	1,011	1,003	666	533	71	2,461	4,886	5,358	805	1,094	410	826	1,606	3,034	1,280	1,670	-57.8%	-24.6%
Ruddy	13,198	9,947	6,827	6,072	8,291	9,956	14,511	9,837	15,474	14,556	11,419	9,156	9,023	12,175	9,624	10,671	-21.0%	-10.4%
All Divers	46,911	45,305	27,343	35,988	31,510	44,374	52,014	41,720	40,769	46,775	42,224	43,520	38,695	44,743	28,797	41,564	-35.6%	-30.7%
Wood Duck	1,143	2,092	3,539	1,535	2,406	1,256	2,056	1,584	1,836	2,496	1,841	2,223	1,863	616	1,553	1,869	152.1%	-17.9%
Mergansers	56	348	181	51	224	2,277	593	270	668	182	161	356	327	757	463	461	-38.8%	0.5%
All Ducks	160,197	138,849	114,293	135,615	129,593	147,308	163,257	172,776	188,444	200,199	156,329	146,400	143,992	127,763	113,881	149,260	-10.9%	-25.0%

Table 1. Indicated total* population indices for cackling Canada, emperor, and white-fronted geese from 1985-2004 on the Yukon Delta Coastal Zone.

	Cackling Canada Geese		Emperor Geese		White-fronted Geese	
Year	Index	SE	Index	SE	Index	SE
1985	13,963	1,605	19,805	1,960	18,914	1,482
1986	13,502	1,013	12,430	1,008	13,400	1,014
1987	19,921	1,390	13,035	1,121	15,717	1,413
1988	24,467	1,507	16,392	1,402	27,191	2,642
1989	25,475	1,567	16,855	1,220	28,004	2,430
1990	31,759	2,166	17,347	1,401	37,836	4,067
1991	28,843	1,688	14,888	1,284	31,286	2,294
1992	44,356	2,632	15,416	994	34,671	2,908
1993	45,749	2,534	17,147	1,230	39,748	3,020
1994	65,021	3,181	18,733	1,059	56,513	3,730
1995	69,888	3,756	18,764	1,072	77,710	5,483
1996	74,574	4,008	24,413	2,476	78,032	5,339
1997	88,018	4,359	23,287	1,451	83,215	5,738
1998	64,601	3,701	21,741	1,541	87,881	7,874
1999	72,173	3,509	21,406	1,591	95,040	8,876
2000	74,992	3,352	18,667	949	91,911	6,591
2001	75,620	3,734	27,297	1,473	113,603	9,358
2002	50,187	2,487	19,504	1,326	90,407	7,537
2003	69,867	3,482	21,378	1,746	117,951	12,034
2004	51,390	2,691	21,396	1,097	100,622	9,611

* Indicated Total = 2 x (singles + pairs) + birds in flocks

Table 2. Indicated singles and pairs indices** for cackling Canada, emperor, and white-fronted geese from 1985-2004 on the Yukon Delta Coastal Zone.

	:ackling Canada Gees		Emperor Geese		White-fronted Geese	
Year	Index	SE	Index	SE	Index	SE
1985	10,313	1,378	9,542	852	9,382	776
1986	10,770	854	7,413	611	6,713	513
1987	14,367	967	9,312	746	7,819	653
1988	16,290	1,009	8,695	829	11,953	890
1989	21,168	1,330	10,737	791	11,982	968
1990	20,330	1,341	9,282	787	11,705	938
1991	22,405	1,290	7,758	590	12,584	902
1992	28,443	1,697	9,879	686	14,077	1,086
1993	33,781	1,828	10,183	787	15,010	1,213
1994	41,200	2,135	12,007	712	20,155	1,432
1995	49,354	2,872	12,892	806	26,985	1,911
1996	39,543	2,371	12,433	604	21,887	1,626
1997	49,254	2,570	12,820	741	27,611	1,521
1998	46,372	2,896	15,686	1,136	40,872	3,888
1999	49,556	2,401	16,208	1,285	48,207	3,791
2000	52,855	2,428	12,798	680	42,558	2,693
2001	49,665	2,451	17,112	926	63,555	5,228
2002	41,982	2,033	15,646	1,215	51,381	4,491
2003	40,993	2,058	12,141	869	51,670	4,797
2004	40,848	2,219	14,410	848	47,928	4,973

**Indicated singles and pairs = 2 x (singles + pairs)

Table 3. Black Brant and Taverner's Canada Geese population indices.

	Black Brant		Taverner's Canada Geese	
Year	Indicated Singles & Pairs*	Indicated Total**	Indicated Singles & Pairs*	Indicated Total**
1985	1,180	5,164	4,285	5,517
1986	2,030	14,007	3,782	5,150
1987	4,652	14,893	3,187	4,059
1988	3,840	22,713	5,191	9,217
1989	4,220	26,231	7,142	8,865
1990	2,989	28,820	6,498	7,819
1991	4,528	27,151	5,454	8,063
1992	6,144	20,026	5,089	8,698
1993	4,446	32,004	6,519	8,643
1994	5,764	31,278	5,536	7,017
1995	5,858	34,401	5,780	6,475
1996	5,620	29,503	3,856	6,644
1997	6,818	30,738	4,466	6,630
1998	8,252	22,127	6,607	8,446
1999	9,492	22,520	7,532	12,532
2000	8,402	26,381	8,232	10,384
2001	5,686	31,242	6,063	7,701
2002	9,208	20,396	5,145	6,204
2003	3,588	20,621	5,426	8,043
2004	7,641	19,238	4,580	7,755

*Indicated singles and pairs = 2 x (singles + pairs)
**Indicated total = 2 x (singles + pairs) + birds in flocks

Table 4. Tundra Swan breeding pairs, total birds, and nest indices from 1985-2004.

Year	Pairs*	Total Birds**	Nests***
1985	13,664	30,874	2,471
1986	14,093	24,299	3,093
1987	12,149	24,180	2,177
1988	13,872	24,459	3,159
1989	12,695	33,115	2,613
1990	12,759	30,006	2,802
1991	11,465	18,663	2,442
1992	13,174	19,411	3,009
1993	12,348	20,180	2,818
1994	13,204	18,787	3,086
1995	16,594	23,052	3,560
1996	17,238	23,121	3,975
1997	18,106	28,683	4,034
1998	19,947	33,355	4,964
1999	20,727	27,211	4,601
2000	20,048	28,306	4,494
2001	17,251	24,395	3,147
2002	21,356	31,193	5,713
2003	14,823	23,015	4,646
2004	17,760	27,099	5,301

* Pairs = singles/2 + pairs
** Total birds = singles + (2 x pairs) + birds in flocks
*** Nests = number of active nest observations

Table 5. Sandhill Crane Singles and Pairs and Total Bird Indices from 1987-2004.

Year	Singles and Pairs*	Total Birds**
1987	14,246	15,079
1988	12,777	16,549
1989	13,247	16,719
1990	14,228	18,310
1991	14,358	20,601
1992	13,394	17,185
1993	16,012	19,312
1994	13,832	16,548
1995	16,906	18,182
1996	10,220	16,430
1997	11,446	13,530
1998	17,859	24,458
1999	16,236	18,612
2000	15,886	18,144
2001	14,923	16,211
2002	12,605	13,076
2003	10,779	13,778
2004	12,014	14,608

* Singles and pairs = number of singles + number of pairs
** Total birds = singles + (2 x pairs) + birds in flocks

Table 6. Population indices of dusky Canada geese on the Copper River Delta from aerial surveys.

Year	Breeding Pair Index[a]	SE	Total Goose Index[b]	SE
1986	4,697	389	5,356	353
1987	4,012	351	5,126	465
1988	4,272	323	5,155	362
1989	4,300	359	6,418	554
1990	4,286	453	5,246	668
1991	2,732	332	3,645	414
1992	4,195	276	6,372	829
1993	3,822	258	6,060	480
1994	4,021	246	5,605	427
1995	3,324	249	3,652	322
1996	2,854	187	3,427	265
1997	3,325	174	4,155	271
1998	3,516	202	4,759	350
1999*	2,599	174	3,068	224
2000	2,477	128	3,009	184
2001	2,783	181	3,153	202
2002	3,072	192	3,942	302
2003	2,225	129	3,092	222
2004	2,739	189	3,225	233

* 1999 indices were corrected for pilot change

[a]Breeding pair index = 2 x (singles + pairs)

[b]Total goose index = 2 x (singles + pairs) + birds in flocks

Population indices for certain populations of Pacific Flyway geese as measured by the Special Fall and December Goose Surveys.

Fall	White-fronted Geese**	Cackling Canada Geese			Snow/Ross' Geese		
		Oregon-Wash.*	Calif. & Elsewhere	Total**	Skagit-Fraser	Calif. & Elsewhere	Total
1979	73,100	200	63,900	64,100	35,600	492,500	528,100
1980	93,500	200	127,200	127,400	22,400	181,800	204,200
1981	116,500	1,100	86,000	87,100	48,600	711,300	759,900
1982	91,700	0	54,100	54,100	26,100	328,000	354,100
1983	112,900	0	26,200	26,200	24,500	523,100	547,600
1984	100,200	4,000	21,800	25,800	26,600	439,700	466,300
1985	93,800	7,400	24,700	32,100	46,200	503,600	549,800
1986	107,100	12,000	39,400	51,400	39,900	481,800	521,700
1987	130,600	11,000	43,800	54,800	47,700	477,600	525,300
1988	161,500	19,100	50,800	69,900	43,800	397,200	441,000
1989	218,800	13,000	63,800	76,800	32,200	431,700	463,900
1990	240,800	34,700	75,500	110,200	31,700	676,800	708,500
1991	236,500	27,900	76,700	104,600	39,100	651,000	690,100
1992	230,900	60,700	88,600	149,300	34,300	605,000	639,300
1993	295,100	65,700	98,600	164,300	49,100	520,100	569,200
1994	324,800	75,900	76,600	152,500	42,600	435,600	478,200
1995	277,500	114,000	47,400	161,400	37,000	464,400	501,400
1996	344,100	123,600	11,000	134,600	45,800	320,500	366,300
1997	319,000	188,900	16,200	205,100	47,000	369,400	416,400
1998	413,100	139,000	9,600	148,600	47,100	307,200	354,300
1999	393,400	--	--	169,600	28,600	550,400	579,000
2000	352,700	--	--	175,000	56,300	600,500	656,800
2001	438,900	--	--	176,200	52,000	396,200	448,200
2002	359,700	--	--	127,900	73,100	523,700	596,800
2003	422,000	--	--	165,200	66,800	521,000	587,800
2004	374,900	--	--	130,200	***		
Most recent 3-yr average:	385,533			141,100	63,967		544,267
Population objective:	300,000			250,000	>35,000		
Stop hunting If below 3-yr avg. threshold of:	95,000			80,000			
Resume hunting if above 3-yr avg. threshold of:	120,000			110,000			

*Lower Columbia River, Willamette Valley, and Summer Lake, only.

**Population indices after 1998 are based on number of total indicated birds from the breeding ground survey and calculated according to guidelines established in the Flyway management plan.

***Survey to be conducted in Fall.

PACIFIC BRANT populations as measured during the Midwinter Waterfowl Survey (generally January) in the Pacific Flyway; percentage of young birds in the population as measured by counts during fall at Izembek Lagoon prior to the winter survey; and regional objectives within an overall objective of 185,000 brant.

January	West Coast of U.S.					Mexico			W. Coast & Mexico Population Index		Other		Total		% Yg Prev.
	WA					Mainland						British			
Survey	Other	WHA	OR	CA	Subtotal[a]	Baja	Coast	Subtotal	Annual[a]	3-yr Avg[a]	Alaska	Columbia[b]	Annual[a]	3-yr Avg[a]	Fall
1936	8,202		3,085	19,910	31,197										
1937	13,450		5,935	13,460	32,845										
1938	24,560		10,475	38,200	73,235										
1939	25,595		9,502	16,890	51,987										
1940	35,520		5,350	35,050	75,920										
1941	24,100		5,000	31,785	60,885										
1942	53,950		6,850	28,983	89,783										
1943	37,000		575	18,000	55,575										
1944	33,950		7,250	20,250	61,450										
1945	32,650		3,000	30,100	65,750										
1946	25,462		55	60,452	85,969										
1947	20,250		8,200	39,640	68,090	Not svy'd	0	Partial svy							
1948	20,660		2,850	32,750	56,260	Not svy'd	0	Partial svy							
1949	20,650		803	66,515	87,968	Not svy'd	Not svy'd	Not svy'd							
1950	15,574		3,600	57,792	76,966	Not svy'd	Not svy'd	Not svy'd							
1951	21,639		2,110	48,131	71,880	93,200[c]	0	Partial svy							
1952	16,578		3,200	43,840	63,618	102,945[c]	0	Partial svy							
1953	13,473	14,000	1,509	37,557	52,539	87,905[c]	0	Partial svy							
1954	9,376	6,000	1,560	28,750	39,686	86,316[c]	0	Partial svy							
1955	4,915	17,000	1,686	34,070	40,671	76,679[c]	0	Partial svy							
1956	6,914	9,000	2,073	38,510	47,497	52,743[c]	0	Partial svy							
1957	13,354	7,347	1,493	35,848	50,695	73,380[c]	0	Partial svy							
1958	9,119	16,100	2,778	26,560	38,457	71,305[c]	4	Partial svy							
1959	1,815	9,000	1,121	10,750	13,686	71,305[c]	1,400	Partial svy							
1960	9,114	8,500	652	3,771	13,537	113,087	1,115	114,202	127,739	--					
1961	7,595	9,080	1,330	6,853	15,778	138,625	4,355	142,980	158,758	--					
1962	9,035	16,780	2,266	23,510	34,811	116,245	2,400	118,645	153,456	146,651					
1963	9,042	11,358	2,639	2,388	14,069	101,575	13,240	114,815	128,884	147,033					
1964	13,112	21,057	2,000	8,353	23,465	117,470	23,290	140,760	164,225	148,855					23.9
1965	6,844	13,094	1,325	3,372	11,541	117,350	24,915	142,265	153,806	148,972					25.6
1966	4,797	17,378	798	3,284	8,879	115,601	19,505	135,106	143,985	154,005					19.2
1967	3,005	18,230	1,523	3,824	8,352	111,755	41,315	153,070	161,422	153,071					41.8
1968	3,164	12,582	865	1,729	5,758	111,600	24,400	136,000	141,758	149,055					16.8
1969	1,443	8,620	382	166	1,991	97,400	35,075	132,475	134,466	145,882					17.1
1970	3,816	5,100	963	207	4,986	98,200	33,400	131,600	136,586	137,603					21.8
1971	2,775	8,140	1,374	130	4,279	105,800	31,000	136,800	141,079	137,377					34.1
1972	1,345	2,983	1,047	0	2,392	91,200	28,200	119,400	121,792	133,152					28.8
1973	3,256	2,655	2,544	950	6,750	85,500	30,100	115,600	122,350	128,407					35.9
1974	2,297	2,680	1,904	470	4,671	96,900	26,400	123,300	127,971	124,038					29.4
1975	2,453	3,710	1,507	480	4,440	80,825	34,455	115,280	119,720	123,347					4.6
1976	2,550	4,990	1,769	680	4,999	82,783	29,273	112,056	117,055	121,582					36.7
1977	3,211	10,900	2,100	0	5,311	86,534	44,222	130,756	136,067	124,281					35.3
1978	6,688	11,412	1,110	560	8,358	106,469	36,648	143,117	151,475	134,866					31.6
1979	4,878	3,200	1,255	10	6,143	87,860	32,210	120,070	126,213	137,918					14.7
1980	2,565	5,100	1,015	135	3,715	89,690	47,860	137,550	141,265	139,651					14.7
1981	1,982	8,125	1,790	540	4,312	160,560	21,200	181,760	186,072	151,183					25.8
1982	2,481	3,970	706	485	3,672	85,105	28,297	113,402	117,074	148,137					18.6
1983	1,008	2,105	718	565	2,291	81,761	23,157	104,918	107,209	136,785					9.5
1984	2,047	5,050	930	700	3,677	95,170	29,533	124,703	128,380	117,554					24.1
1985	2,953	8,840	641	800	4,394	101,405	30,163	131,568	135,962	123,850		283			13.7
1986	2,676	9,350	1,113	706	4,495	92,525	22,200	114,725	119,220	127,854	7,665	319	126,885		13.7
1987	3,926	10,445	1,133	736	5,795	73,825	13,088	86,913	92,708	115,963	5,755	205	98,463		15.3
1988	4,511	15,320	1,104	947	6,562	99,066	17,630	116,696	123,258	111,729	8,385	263	131,643	118,997	31.2
1989	4,198	14,340	871	1,033	6,102	89,600	18,121	107,721	113,823	109,930	7,050	484	120,873	116,993	19.3
1990	3,286	10,470	1,399	992	5,677	107,545	22,320	129,865	135,542	124,208	5,595	406	141,137	131,218	23.9
1991	4,031	12,190	1,262	1,340	6,633	88,650	19,905	108,555	115,188	121,518	4,350	591	119,538	127,183	19.2
1992	3,985	9,520	1,397	2,424	7,806	78,280	14,905	93,185	100,991	117,240	7,200	283	108,191	122,955	27.8
1993	2,218	10,840	1,254	9,415	12,887	68,280	24,444	92,724	105,611	107,263	8,008	219	113,619	113,783	16.5
1994	2,355	11,240	666	2,299	5,320	83,130	17,135	100,265	105,585	104,062	13,221	646	118,806	113,539	23.6
1995	3,331	16,900	708	3,987	8,026	74,060	22,755	96,815	104,841	105,346	11,978	711	116,819	114,359	11.6
1996	2,056	4,885	644	2,008	4,708	87,280	20,205	107,485	112,193	107,540	9,795	1,072	121,988	117,808	36.1
1997	3,763	5,990	669	3,598	8,030	108,018	22,720	130,738	138,768	118,601	13,147	712	157,905	132,237	21.7
1998	4,541	6,340	580	6,091	11,212	97,805	14,300	112,105	123,317	124,759	8,773	1,181	132,090	137,328	17.4
1999	6,037	9,215	645	4,296	10,978	84,965	15,795	100,760	111,738	124,608	8,255	1,046	119,993	136,663	25.7
2000	5,944	7,915	523	3,389	9,856	92,020	16,420	108,440	118,296	117,784	8,833	1,711	127,129	126,404	21.6
2001	5,316	4,881	695	4,197	10,208	78,850	13,010	91,860	102,068	110,701	17,790	1,272	119,858	122,327	30.9
2002	4,514	8,964	552	4,092	9,158	93,995	11,055	105,050	114,208	111,524	13,576	1,748	127,784	124,924	7.5
2003	6,575	4,880	557	3,124	10,256	74,132	8,094	82,226	92,482	102,919	9,168	1,150	101,650	116,431	20.5
2004	6,849	7,695	528	6,372	13,749	71,685	13,270	84,955	98,704	101,798	12,756	2,754	111,460	113,631	13.7
% Chg:															
2003	4.2%	57.7%	-5.2%	104.0%	34.1%	-3.3%	63.9%	3.3%	6.7%	-1.1%	39.1%	139.5%	9.7%	-2.4%	-33.2%
1965-03	92.4%	-9.8%	-51.0%	236.9%	110.6%	-23.6%	-46.4%	-28.4%	-21.1%	-19.5%	36.2%	265.9%	-9.0%	-7.9%	-39.5%
Avg.:															
1936-52	25,282		4,579	35,397	65,258										
1953-60	8,510	10,868	1,609	26,977	37,096										
1961-70	6,185	13,328	1,409	5,369	12,963	112,582	22,190	134,772	147,735	147,903					23.7
1971-80	3,202	5,577	1,563	342	5,106	91,356	34,037	125,393	130,499	130,462					26.6
1981-90	2,907	8,802	1,041	750	4,698	98,656	22,571	121,227	125,925	126,719	6,890		123,800		19.5
1991-00	3,826	9,504	835	3,885	8,546	86,249	18,858	105,107	113,653	114,872	9,356	817	123,608	124,226	22.1
2001-10	5,814	6,605	583	4,446	10,843	79,666	11,357	91,023	101,866	106,736	13,323	1,731	115,188	119,328	18.2
Objectives:	13,000	12,000	3,000	10,000				107,000			9,000	8,000		162,000	

[a] Beginning in 1953, WA-WHA brant were surveyed separately. Subtotal and Total-Annual, 3-yr Avg does not include WHA brant.
[b] In British Columbia, totals for 1984-91 are Christmas Bird Counts, and from 1992-98 are from CWS counts.
[c] Incomplete survey in Mexico. Baja Magdalena was not surveyed because of refueling difficulties.

MIDWINTER WATERFOWL SURVEY INDICES FOR 11 PACIFIC FLYWAY STATES, WITH COMPARISONS TO THE 10 YEAR AND LONG TERM AVERAGES.

												10-YR AVG.	L-T Avg.	2004 as % change from:		
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004[a]	(1994-2003)	(1955-2003)	1994-2003	1955-2003	2003
Mallard	1,382,793	1,191,200	1,380,444	1,046,397	1,651,146	2,114,805	1,460,320	1,062,914	943,174	958,108	828,034	1,319,130	1,653,101	-37.2%	-49.9%	-13.6%
Blk/Mot'ld/Mex.	529	250	746	483	775	33	30	0	0	18	0	286	130			
Gadwall	87,188	77,542	159,080	142,474	164,246	161,013	210,819	205,575	179,710	141,717	183,113	152,936	66,523	19.7%	175.3%	29.2%
Wigeon	582,464	560,966	631,523	501,155	715,130	695,607	841,280	781,837	571,839	615,846	625,090	649,765	742,950	-3.8%	-15.9%	1.5%
G-w Teal	392,024	370,469	561,278	402,991	620,028	377,122	515,167	526,788	268,939	414,203	315,891	444,901	311,662	-29.0%	1.4%	-23.7%
B-w/Cinn Teal	3,444	2,306	9,308	4,939	4,560	7,725	16,037	2,880	3,574	8,589	8,749	6,336	5,037	38.1%	73.7%	1.9%
Shoveler	292,792	277,806	417,190	382,980	475,194	508,406	551,132	553,284	447,707	371,253	440,098	427,774	387,637	2.9%	13.5%	18.5%
Pintail	1,055,970	1,012,086	1,435,296	962,026	1,278,494	1,129,553	1,444,171	1,710,149	1,081,216	1,139,062	1,219,077	1,224,802	1,931,999	-0.5%	-36.9%	7.0%
Wood Duck	1,834	2,481	4,500	2,509	2,424	3,193	3,297	3,427	3,659	2,822	3,042	3,015	2,637	0.9%	15.4%	7.8%
Whistling Duck	0	0	0	0	0	0	0	0	0	0	0	0	0			
Subt. Dabblers	3,799,038	3,495,106	4,599,365	3,445,954	4,911,997	4,997,242	5,042,253	4,861,167	3,509,031	3,663,373	3,630,519	4,232,453	5,102,393	-14.2%	-28.8%	-0.9%
Redhead	26,987	42,686	23,853	32,828	22,389	29,536	26,933	52,026	56,341	36,706	7,663	35,029	19,705	-78.1%	-61.1%	-79.1%
Canvasback	29,233	23,994	24,476	57,447	53,631	41,847	51,738	52,758	26,412	62,905	95,822	42,444	60,972	125.8%	57.2%	52.3%
Scaup	154,321	129,188	87,099	154,245	205,084	201,207	173,719	266,871	186,529	165,923	201,666	172,419	144,374	17.0%	39.7%	21.5%
Ring-necked D.	26,066	29,824	65,623	38,495	54,832	23,899	57,493	41,429	45,446	55,237	52,222	43,834	18,332	19.1%	184.9%	-5.5%
Goldeneye	52,243	45,239	64,234	62,242	53,646	52,977	59,247	47,429	45,180	57,048	32,965	53,949	45,011	-38.9%	-26.8%	-42.2%
Bufflehead	64,459	40,220	59,333	51,784	43,772	51,087	44,194	72,076	70,374	70,770	50,923	56,807	38,356	-10.4%	32.8%	-28.0%
Ruddy Duck	79,835	71,804	118,967	122,215	106,575	84,544	84,302	117,641	92,283	94,631	134,268	97,280	104,729	38.0%	28.2%	41.9%
Subt. Divers	433,144	382,955	443,585	519,256	541,052	485,097	497,626	651,595	524,394	545,742	576,930	502,445	431,617	14.8%	33.7%	5.7%
Eiders	0	0	0	1	0	0	4	0	0	0	0	1	38			
Scoters	74,035	50,134	50,618	69,563	88,807	61,358	61,053	97,645	45,765	44,063	59,663	64,304	88,160	-7.2%	-32.3%	35.4%
Oldsquaw	356	1,194	638	1,062	575	652	450	559	423	574	478	648	436	-26.3%	9.7%	-16.7%
Harlequin	752	777	1,084	913	793	704	847	605	655	797	963	793	237	21.5%	306.9%	20.8%
Subt. Seaducks	75,143	52,105	52,340	71,539	90,175	62,714	62,354	98,809	46,843	45,434	61,104	65,746	88,870	-7.1%	-31.2%	34.5%
Mergansers	29,096	31,273	53,744	32,405	26,535	27,943	29,241	34,478	41,001	42,365	34,231	34,808	27,521	-1.7%	24.4%	-19.2%
Unidentified	73,238	68,437	54,571	111,339	48,147	48,646	32,993	37,061	31,024	28,839	13,706	53,430	62,942	-74.3%	-78.2%	-52.5%
Miscellaneous	38	127	35	67	108	63	40	85	3,568	2,778	22	691	274	-96.8%	-92.0%	-99.2%
TOT. DUCKS	4,409,697	4,030,003	5,203,640	4,180,560	5,618,014	5,621,705	5,664,507	5,683,195	4,155,861	4,328,531	4,316,512	4,889,571	5,713,619	-11.7%	-24.5%	-0.3%
L. Snow	36,008	39,348	35,331	45,401	43,711	42,220	51,879	49,118	63,053	719	683	40,679	166,710	-98.3%	-99.6%	-5.0%
Blue-phase Snow	0	0	1	0	2	2	2	4	0	0	0	1	1			
Ross'	1	1	0	4	3	14	0	1	5,202	1	1	523	3,831	-99.8%	-100.0%	0.0%
Snow/Ross' undif.	514,260	350,894	376,333	489,052	292,574	445,618	594,133	497,306	330,914	473,611	450,993	436,470	277,646	3.3%	62.4%	-4.8%
Subt. "White" G.	550,269	390,256	411,665	534,457	336,290	487,854	646,014	546,429	399,169	474,330	451,677	477,673	448,188	-5.4%	0.8%	-4.8%
White-fronted G.	162,960	127,627	187,630	217,619	76,782	222,144	265,981	291,901	189,575	252,756	187,595	199,498	127,364	-6.0%	47.3%	-25.8%
Western	127,569	166,778	151,060	109,167	145,427	193,505	128,157	148,632	161,505	146,801	126,358	147,860	33,417	-14.5%	278.1%	-13.9%
Lesser/Taverner	13,093	7,404	6,022	5,572	9,468	15,158	15,446	10,462	20,143	7,834	3,118	11,060	44,909	-71.8%	-93.1%	-60.2%
Cackling	48,149	19,895	33,374	13,489	8,374	2,581	4,591	7,436	7,417	6,118	480	15,142	68,549	-96.8%	-99.3%	-92.2%
Dusky	523	499	658	544	574	721	605	1,120	739	939	13	692	181	-98.1%	-92.8%	-98.6%
Aleutian	108	103	24,205	23,639	135	124	7,537	36,775	23,317	15,536	36,762	13,148	3,065	179.6%	1099.4%	136.6%
"Canada" - undif.	238,050	211,227	246,471	240,206	320,197	257,820	341,690	252,305	205,773	227,024	61,829	254,076	193,986	-75.7%	-68.1%	-72.8%
Subt. Canada	427,492	405,906	461,790	392,617	484,175	469,909	498,026	456,730	418,856	416,110	228,560	443,161	344,349	-48.4%	-33.6%	-45.1%
Brant	16,560	24,926	9,593	14,020	17,552	20,193	17,771	15,089	18,122	15,136	21,444	16,896	20,543	26.9%	4.4%	41.7%
TOT. GEESE	1,157,281	948,715	1,070,678	1,158,713	914,799	1,200,100	1,427,346	1,310,149	1,025,722	1,158,332	889,276	1,137,184	938,346	-21.8%	-5.2%	-23.2%
Tundra Swan	79,406	52,942	98,064	122,521	70,048	119,777	89,622	87,327	58,675	102,736	82,950	88,112	60,584	-5.9%	36.9%	-19.3%
Trumpeter Sw.	1,427	497	3,332	2,916	2,429	3,301	4,381	4,372	6,808	6,559	4,084	3,602	1,407	13.4%	190.2%	-37.7%
Mute Swan	0	1	10	7	2	5	5	12	2	1	2	5	2	-55.6%	-6.7%	100.0%
Unident. Swan	2,368	1,939	6,162	8,974	1,971	2,216	4,967	3,162	3,669	4,540	6,523	3,997	1,007	63.2%	548.1%	43.7%
TOT. SWANS	83,201	55,379	107,568	134,418	74,450	125,299	98,975	94,873	69,156	113,836	93,559	95,716	63,000	-2.3%	48.5%	-17.8%
GRAND TOTAL	5,650,179	5,034,097	6,381,886	5,473,691	6,607,263	6,947,104	7,190,828	7,088,217	5,250,739	5,600,699	5,299,347	6,122,470	6,619,215	-13.4%	-19.9%	-5.4%
COOTS	435,789	563,758	553,482	582,722	603,212	663,459	554,808	557,866	527,180	424,206	595,448	546,648	492,885	8.9%	20.8%	40.4%
SANDHILL CR.	20,678	17,096	38,852	19,882	29,100	34,306	34,599	47,104	43,269	41,609	44,106	32,650	16,250	35.1%	171.4%	6.0%

[a] No midwinter waterfowl surveys were conducted in Idaho and Wyoming (Pacific Flyway portion) and the survey was incomplete in Montana and Oregon during 2004.

Midwinter indices for selected species of ducks 1955-2004.

Year	Mallard	Gadwall	Wigeon	G-W Teal	B-W/Cinn Teal	Shoveler	Pintail	Wood Duck	Subt. Dabblers	Mergansers	TOT. DUCKS	TOTAL WATERFOWL
1955	1,520,309	31,879	858,060	201,176	2,090	244,648	2,221,786	1,325	5,081,273	17,096	5,629,114	6,574,391
1956	1,674,578	17,031	1,300,242	239,000	729	237,507	2,521,200	1,186	5,991,473	20,426	6,578,411	7,627,657
1957	1,647,111	12,070	719,425	193,435	12,028	146,086	2,155,306	694	4,886,155	19,468	5,687,641	6,530,032
1958	2,216,682	36,160	1,211,385	256,881	1,204	241,697	2,882,530	1,158	6,847,697	21,915	7,611,073	8,531,630
1959	2,801,396	21,552	1,197,023	289,064	4,480	292,444	2,321,848	3,371	6,931,178	24,367	7,736,859	8,707,778
1960	2,205,512	45,289	1,163,670	231,105	13,950	215,395	1,962,322	1,525	5,838,768	17,494	6,467,214	7,398,080
1961	2,205,512	45,289	1,163,670	231,105	13,950	215,395	1,962,322	1,525	5,838,768	17,494	6,467,214	7,398,080
1962	2,088,406	25,731	966,527	274,344	5,634	168,859	1,585,198	9,782	5,124,489	21,153	5,750,150	5,783,082
1963	2,680,139	85,714	1,059,373	282,951	4,969	247,114	1,641,994	1,185	6,003,439	35,680	6,886,879	7,732,631
1964	2,097,574	54,474	908,618	431,441	7,958	236,999	1,682,528	1,088	5,420,680	29,227	6,096,271	6,996,630
1965	1,638,297	60,289	982,925	454,534	9,183	306,250	2,288,802	2,398	5,742,678	19,784	6,440,302	7,414,206
1966	1,702,632	56,261	714,163	351,538	6,772	218,083	1,633,828	3,405	4,686,682	30,906	5,355,727	6,074,354
1967	1,809,217	29,300	555,974	270,400	1,470	242,189	2,342,643	1,510	5,252,703	29,547	5,951,644	6,001,280
1968	1,847,688	35,335	768,097	349,648	5,547	317,597	1,378,472	2,965	4,705,349	21,046	5,306,000	6,141,324
1969	1,405,715	39,927	638,888	222,725	4,275	258,235	1,685,502	880	4,256,147	20,075	4,838,590	5,784,453
1970	2,209,819	30,137	1,017,842	244,770	2,436	687,859	2,449,789	3,326	6,645,978	34,448	7,131,255	8,116,925
1971	2,496,256	25,428	882,349	373,254	1,330	421,605	3,857,712	7,515	8,065,449	23,805	8,545,687	8,644,955
1972	2,594,673	27,437	689,133	265,616	2,482	497,845	2,918,980	5,040	7,001,206	25,581	7,485,091	8,367,165
1973	1,781,956	12,512	753,666	163,759	1,802	651,127	2,868,092	3,919	6,236,833	21,226	6,783,921	7,689,127
1974	1,519,139	27,703	825,035	260,433	7,896	486,614	3,441,401	4,052	6,572,523	21,114	7,030,736	7,898,270
1975	1,271,450	30,535	683,579	212,665	1,095	632,697	3,278,495	12,099	6,122,715	19,221	6,541,516	6,597,235
1976	1,401,273	23,153	575,205	223,821	533	627,308	3,326,695	2,011	6,179,999	33,272	6,726,665	7,577,932
1977	1,312,602	22,381	671,992	178,824	988	755,777	3,620,038	1,887	6,564,639	24,497	7,130,979	8,049,511
1978	1,482,265	28,321	954,044	252,721	1,620	627,983	2,996,528	6,286	6,349,938	34,666	6,946,843	7,924,170
1979	1,215,816	34,201	753,473	277,459	2,631	560,110	3,265,814	1,601	6,111,505	19,903	6,621,469	7,571,051
1980	1,708,853	31,517	922,081	281,231	1,527	730,559	4,015,739	1,377	7,693,384	31,725	8,255,186	9,122,592
1981	1,674,639	33,144	788,280	263,375	1,364	489,748	2,508,739	1,813	5,761,102	34,638	6,301,150	6,385,722
1982	1,735,149	38,667	694,989	290,343	2,067	514,248	1,831,832	198	5,107,493	26,042	5,463,817	6,355,071
1983	1,778,288	30,303	368,823	237,036	2,070	287,063	1,181,335	148	3,885,093	30,491	4,376,039	5,314,586
1984	1,581,658	138,808	720,215	339,535	18,678	477,663	2,411,716	537	5,689,020	23,763	6,550,864	7,544,602
1985	1,648,402	35,594	425,027	140,864	3,657	199,784	859,305	164	3,313,082	30,540	3,944,667	4,889,174
1986	1,282,271	39,733	377,219	185,272	3,736	262,584	1,254,794	253	3,405,862	29,542	4,102,726	5,064,061
1987	1,458,194	80,088	370,310	351,870	1,328	294,966	663,212	447	3,220,515	31,159	3,602,035	4,431,260
1988	1,493,310	70,612	796,533	462,633	3,237	309,853	1,262,689	800	4,399,667	24,078	4,917,977	5,807,900
1989	1,127,116	52,535	476,049	257,439	4,620	213,533	685,403	562	2,817,927	29,633	3,358,430	4,310,108
1990	1,515,500	123,926	507,867	295,823	15,883	403,868	888,876	1,518	3,753,445	29,379	4,456,431	5,644,805
1991	1,563,647	72,148	564,231	325,523	2,745	338,025	1,051,819	6,424	3,924,735	25,372	4,601,266	5,632,311
1992	1,651,846	77,810	487,252	363,015	1,428	377,008	773,548	1,098	3,733,105	29,509	4,320,985	5,490,627
1993	765,740	47,280	393,670	295,799	4,051	280,167	741,120	2,001	2,530,028	21,171	3,072,770	3,992,101
1994	1,382,793	87,188	582,464	392,024	3,444	292,792	1,055,970	1,834	3,799,038	29,096	4,409,697	5,650,179
1995	1,191,200	77,542	560,966	370,469	2,306	277,806	1,012,086	2,481	3,495,106	31,273	4,030,003	5,034,084
1996	1,380,444	159,080	631,523	561,278	9,308	417,190	1,435,296	4,500	4,599,365	53,744	5,203,640	6,381,886
1997	1,046,397	142,474	501,155	402,991	4,939	382,980	962,026	2,509	3,445,954	32,405	4,180,560	5,473,691
1998	1,651,146	164,246	715,130	620,028	4,560	475,194	1,278,494	2,424	4,911,997	26,535	5,618,014	6,607,263
1999	2,114,805	161,013	695,607	377,122	7,725	508,406	1,129,553	3,193	4,997,242	27,943	5,621,705	6,947,104
2000	1,460,320	210,819	841,280	515,167	16,037	551,132	1,444,171	3,297	5,042,253	29,241	5,664,507	7,190,828
2001	1,062,914	205,575	781,837	526,788	2,880	553,284	1,710,149	3,427	4,861,167	34,478	5,683,195	7,088,217
2002	943,174	179,710	571,839	268,939	3,574	447,707	1,081,216	3,659	3,509,031	41,001	4,155,861	5,250,739
2003	958,108	141,717	615,846	414,203	8,589	371,253	1,139,062	2,822	3,663,373	42,365	4,328,531	5,600,699
2004[a]	828,034	183,113	625,090	315,891	8,749	440,098	1,219,077	3,042	3,630,519	34,231	4,316,512	5,299,347
Avg. 1955-2004	1,636,599	68,855	740,593	311,747	5,111	388,687	1,917,741	2,645	5,072,955	27,655	5,685,676	6,592,818
2004/(55-03)	-49.91%	175.26%	-15.86%	1.36%	73.70%	13.53%	-36.90%	15.35%	-28.85%	24.38%	-24.45%	-19.94%
2004/2003	-13.58%	29.21%	1.50%	-23.74%	1.86%	18.54%	7.02%	7.80%	-0.90%	-19.20%	-0.28%	-5.38%

[a] No midwinter waterfowl surveys were conducted in Idaho and Wyoming (Pacific Flyway portion) and the survey was incomplete in Montana and Oregon during 2004.

Midwinter indices for selected species of ducks 1955-2004.

Year	Redhead	Canvasback	Scaup	Ring-necked D.	Goldeneye	Bufflehead	Ruddy Duck	Subt. Divers	Scoters	Oldsquaw	Harlequin	Subt. Seaducks
1955	6,054	73,553	150,953	4,155	32,399	23,357	65,352	355,823	51,736	601	0	52,337
1956	23,729	57,977	148,386	3,575	28,624	10,141	71,050	343,482	32,989	550	0	33,539
1957	5,105	154,499	175,122	2,048	40,160	10,640	82,305	469,879	80,289	20	0	80,309
1958	7,846	142,257	132,528	5,182	40,287	23,817	102,694	454,611	76,846	667	0	77,513
1959	20,649	108,487	205,016	8,946	58,258	28,980	125,054	555,390	101,582	1,450	0	103,032
1960	9,326	50,713	129,816	4,562	58,808	29,342	101,411	383,978	61,855	480	6	62,341
1961	9,326	50,713	129,816	4,562	58,808	29,342	101,411	383,978	61,855	480	6	62,341
1962	10,405	44,761	172,972	6,931	54,891	30,065	122,357	442,382	93,413	227	17	93,657
1963	17,631	100,034	283,418	6,520	64,467	33,746	160,014	665,830	94,616	260	14	94,890
1964	24,741	80,383	141,098	9,891	68,233	25,579	149,305	499,230	79,972	330	17	80,319
1965	8,357	54,316	140,588	9,294	54,700	34,624	174,022	475,901	112,740	850	31	113,621
1966	10,447	45,599	117,216	7,752	55,353	21,676	190,697	448,740	121,874	181	14	122,069
1967	11,281	78,360	88,904	7,268	45,269	35,887	101,478	368,447	187,214	180	11	187,405
1968	4,137	69,186	162,086	5,106	44,313	26,594	112,332	423,754	99,852	10	10	99,872
1969	6,160	51,681	101,952	4,272	42,928	43,162	159,686	409,841	108,414	894	0	109,308
1970	10,376	63,157	66,699	4,287	46,167	26,888	92,370	309,944	113,000	192	7	113,199
1971	15,267	47,615	72,039	6,258	45,359	32,688	107,187	326,413	66,337	335	14	66,686
1972	14,944	48,204	93,826	5,073	39,873	33,896	78,781	314,597	116,425	312	17	116,754
1973	6,484	54,587	139,120	9,410	39,975	39,069	98,608	387,253	113,232	791	21	114,228
1974	14,216	83,260	64,221	3,173	37,512	24,572	125,504	352,458	52,121	315	996	54,920
1975	13,210	77,668	61,785	3,397	34,621	25,896	65,646	282,223	83,459	407	10	83,876
1976	15,796	83,261	116,836	4,568	41,902	20,945	107,528	390,836	96,801	154	133	97,088
1977	22,705	89,135	112,083	2,726	49,032	43,992	95,481	415,154	107,554	545	77	108,176
1978	14,753	78,308	184,688	13,168	30,631	35,748	70,648	427,944	105,877	258	162	106,372
1979	16,049	80,263	111,658	4,822	33,967	37,902	74,132	358,793	110,313	388	6	110,707
1980	12,970	87,599	135,270	6,915	37,166	40,341	90,677	410,938	91,492	291	89	91,972
1981	25,542	50,432	105,824	8,563	37,994	41,435	114,534	384,324	79,554	331	23	79,914
1982	26,659	40,596	79,498	10,867	34,204	19,240	57,405	268,469	49,067	105	18	49,190
1983	31,835	57,933	95,123	6,257	33,879	35,708	99,925	360,660	51,299	100	46	51,445
1984	22,108	73,801	190,833	21,427	34,084	38,591	273,209	654,053	106,388	87	35	106,510
1985	24,218	60,996	154,416	12,171	35,806	54,699	127,450	469,756	113,554	600	143	114,297
1986	18,855	44,626	223,838	12,648	42,966	45,463	73,325	461,721	165,222	564	268	166,054
1987	22,235	31,570	87,214	14,186	24,862	34,795	57,973	272,835	62,455	207	121	62,784
1988	10,918	28,857	125,835	39,540	46,754	36,543	95,381	383,828	95,435	370	237	96,042
1989	25,387	45,888	143,363	30,302	34,327	41,650	80,832	401,749	86,617	121	180	86,920
1990	22,877	54,861	196,652	49,301	32,134	49,261	93,167	498,253	125,597	166	15	125,778
1991	23,074	42,690	201,662	43,594	36,094	49,722	96,041	492,877	139,892	470	97	140,459
1992	16,156	37,855	170,566	20,477	44,845	58,357	63,053	411,309	127,292	169	168	127,629
1993	13,420	37,509	137,225	36,710	44,382	37,010	100,902	407,158	52,578	404	662	53,644
1994	26,987	29,233	154,321	26,066	52,243	64,459	79,835	433,144	74,035	356	752	75,143
1995	42,686	23,994	129,188	29,824	45,239	40,220	71,804	382,955	50,134	1,194	777	52,105
1996	23,853	24,476	87,099	65,623	64,234	59,333	118,967	443,585	50,618	638	1,084	52,340
1997	32,828	57,447	154,245	38,495	62,242	51,784	122,215	519,256	69,563	1,062	913	71,539
1998	22,389	53,631	205,084	54,832	53,646	43,772	106,575	541,052	88,807	575	793	90,175
1999	29,536	41,847	201,207	23,899	52,977	51,087	84,544	485,097	61,358	652	704	62,714
2000	26,933	51,738	173,719	57,493	59,247	44,194	84,302	497,626	61,053	450	847	62,354
2001	52,026	52,758	266,871	41,429	47,429	72,076	117,641	651,595	97,645	559	605	98,809
2002	56,341	26,412	186,529	45,446	45,180	70,374	92,283	524,394	45,765	423	655	46,843
2003	36,706	62,905	165,923	55,237	57,048	70,770	94,631	545,742	44,063	574	797	45,434
2004[a]	7,663	95,822	201,666	52,222	32,965	50,923	134,268	576,930	59,663	478	963	61,104
Avg. 1955-2004	19,464	61,669	145,520	19,009	44,770	38,607	105,320	434,524	87,590	436	251	88,315
2004/(55-03)	-61.11%	57.16%	39.68%	184.87%	-26.76%	32.76%	28.21%	33.67%	-32.32%	9.73%	306.85%	-31.24%
2004/2003	-79.12%	52.33%	21.54%	-5.46%	-42.22%	-28.04%	41.89%	5.71%	35.40%	-16.72%	20.83%	34.49%

[a] No midwinter waterfowl surveys were conducted in Idaho and Wyoming (Pacific Flyway portion) and the survey was incomplete in Montana and Oregon during 2004.

Midwinter indices for selected species of Geese, Swans, Coots, and Sandhill Cranes, 1955-2004.

Year	Subt. "White" G.	White-fronted G.	Subt. Canada	Brant	TOT. GEESE	Tundra Swan	Trumpeter Sw.	Mute Swan	TOT. SWANS	COOTS	SANDHILL CR.
1955	316,884	197,511	339,385	56,321	910,101	34,725	449	0	35,176	669,418	2,300
1956	415,676	196,951	333,470	56,497	1,002,594	46,282	370	0	46,652	784,804	No Survey
1957	356,601	92,511	290,757	59,112	798,981	42,970	438	0	43,410	843,229	4,302
1958	325,145	120,595	371,912	54,557	872,209	49,946	493	0	50,348	698,409	11,041
1959	388,133	152,917	366,926	22,686	930,662	39,600	657	0	40,257	932,990	7,474
1960	366,332	165,679	340,729	22,037	894,777	35,508	581	0	36,089	727,539	4,673
1961	366,332	165,679	340,729	22,037	894,777	40,828	581	0	36,089	727,539	4,673
1962	568,908	193,295	455,805	51,591	1,269,599	32,356	576	0	32,932	590,161	4,485
1963	482,766	127,690	448,473	27,673	1,086,602	46,350	421	0	46,771	526,318	3,669
1964	484,806	162,901	328,813	47,204	1,023,724	40,545	578	0	30,150	604,475	No Survey
1965	532,783	134,017	271,204	24,635	962,639	42,649	593	0	43,242	554,364	2,908
1966	338,774	67,004	249,744	26,258	681,780	34,804	543	0	36,847	506,408	3,638
1967	746,610	184,628	343,558	26,582	1,301,378	48,946	690	0	49,636	741,969	15,729
1968	505,825	70,894	235,303	18,340	830,362	35,630	713	0	36,343	755,675	6,181
1969	432,809	114,212	246,834	10,611	804,466	74,879	775	0	75,654	402,130	14,945
1970	461,660	206,698	275,664	10,086	954,108	31,000	562	0	31,562	517,765	13,302
1971	512,618	106,264	280,954	12,419	912,255	98,856	412	0	99,268	492,980	5,555
1972	436,242	103,914	324,154	5,375	869,685	82,847	246	0	83,093	544,989	7,195
1973	346,847	53,600	264,799	9,405	674,651	33,917	1,080	0	34,997	528,722	3,288
1974	442,938	85,023	261,707	7,351	797,019	69,768	747	0	70,515	498,368	No Survey
1975	446,380	67,639	277,042	8,150	799,211	54,872	846	1	55,719	477,029	No Survey
1976	486,608	81,098	371,422	9,989	949,117	51,350	935	1	52,286	445,653	No Survey
1977	503,196	48,958	316,099	15,911	884,164	47,269	1,051	3	48,323	620,118	1,000
1978	236,083	112,522	310,041	19,770	678,416	45,597	1,063	5	46,665	285,862	No survey
1979	246,276	37,013	256,471	9,343	549,103	53,523	1,282	0	54,805	373,224	No survey
1980	377,522	87,282	327,353	8,815	800,972	65,209	1,224	1	66,434	532,188	No survey
1981	443,254	71,333	291,693	12,437	818,717	83,553	1,019	0	84,572	487,503	No survey
1982	641,516	95,094	283,285	7,642	1,027,537	91,314	959	0	92,273	355,796	10,691
1983	442,564	30,078	284,016	4,396	761,054	67,302	924	0	68,338	167,413	6,960
1984	514,077	62,365	216,998	8,727	802,167	61,873	1,202	1	63,076	159,364	10,138
1985	369,647	33,065	298,720	13,234	714,666	48,798	436	3	49,730	161,996	12,727
1986	557,349	53,715	268,787	13,845	893,696	66,157	1,480	2	67,639	133,804	22,650
1987	335,586	70,489	352,714	16,240	775,029	52,798	1,396	2	54,196	187,708	19,108
1988	344,791	99,979	362,308	21,882	828,960	59,193	1,768	2	60,963	193,685	17,267
1989	411,411	102,059	336,848	20,442	870,760	78,673	1,570	14	80,918	250,088	16,018
1990	572,118	139,776	417,804	16,147	1,145,845	40,052	861	7	42,529	311,833	23,359
1991	564,480	79,229	317,793	18,823	980,325	47,618	1,842	11	50,720	329,807	20,147
1992	428,648	176,862	480,950	17,326	1,103,786	63,737	1,204	3	65,856	310,103	20,911
1993	434,304	95,312	300,205	23,727	853,548	62,202	360	4	65,783	253,476	8,652
1994	550,269	162,960	427,492	16,560	1,157,281	79,406	1,427	0	83,201	435,789	20,678
1995	390,243	127,627	405,906	24,926	948,702	52,942	497	1	55,379	563,758	17,096
1996	411,665	187,630	461,790	9,593	1,070,678	98,064	3,332	10	107,568	553,482	38,852
1997	534,457	217,619	392,617	14,020	1,158,713	122,521	2,916	7	134,418	582,722	19,882
1998	336,290	76,782	484,175	17,552	914,799	70,048	2,429	2	74,450	603,212	29,100
1999	487,854	222,144	469,909	20,193	1,200,100	119,777	3,301	5	125,299	663,459	52,844
2000	646,014	265,981	498,026	17,771	1,427,346	89,622	4,381	5	98,975	554,808	34,599
2001	546,429	291,901	456,730	15,089	1,310,149	87,327	4,372	12	94,873	557,866	47,104
2002	399,169	189,575	418,856	18,122	1,025,722	58,675	6,808	2	69,156	527,180	43,269
2003	474,330	252,756	416,110	15,136	1,158,332	102,736	6,559	1	113,836	424,206	41,609
2004[a]	451,677	187,595	228,560	21,444	889,276	82,950	4,084	2	93,559	595,448	44,106
Avg. 1955-2004	448,258	128,568	342,033	20,561	939,411	61,351	1,461	2	63,611	494,937	16,930
2004/(55-03)	0.78%	47.29%	-33.63%	4.39%	-5.44%	36.18%	190.24%	-6.67%	48.51%	20.81%	171.41%
2004/2003	-4.78%	-25.78%	-45.07%	41.68%	-23.23%	-19.26%	-37.73%	100.00%	-17.81%	40.37%	6.00%

[a] No midwinter waterfowl surveys were conducted in Idaho and Wyoming (Pacific Flyway portion) and the survey was incomplete in Montana and Oregon during 2004.

Midwinter Waterfowl Survey (MWS) indices of the Rocky Mountain Population of Canada geese by reference area (RA), 1967-2004.

	MT	ID	WY		CO	UT		NV			AZ			CA		NM		3-Yr-Avg
Year	Cent.	SE	Cent.	Total	West.	North.	South.	NE	South.	NW	West.	South	North[a]	Cent.	South.	NW	Total	Index
1967	499	6,388		50	71	13	987	112	959	5,537	1,531	2,071		3,795	27,610	0	49,623	
1968	469	2,149	75	248	92	1,008	243	2	1,200	2,108	1,587	2,783		5,928	14,290	0	32,107	
1969	268	3,508	197	651	1,207	2,444	443	62	438	5,313	1,973	1,079		5,377	15,095	No survey	37,858	39,863
1970	232	5,348	85	174	1,014	1,161	445	33	839	4,303	1,957	1,178		2,916	6,160	No survey	25,760	31,908
1971	84	3,218	72	147	1,179	1,722	673	5	550	3,021	2,080	1,422		4,160	7,115	3	25,379	29,666
1972	70	11,615	197	422	1,205	2,209	517	2	659	3,422	2,505	1,736		3,590	8,694	45	36,691	29,277
1973	335	5,063	15	392	1,673	887	208	3	1,005	2,695	2,046	2,699		4,145	15,995	28	37,174	33,081
1974	330	10,005	90	366	1,558	2,894	904	70	1,320	3,661	3,242	2,115		4,095	12,255	158	42,973	38,946
1975	159	12,738	30	577	2,174	1,730	324	35	1,500	3,195	764	1,770		7,440	14,324	179	46,909	42,352
1976	0	19,675	32	247	1,503	1,321	722	540	1,225	4,090	1,995	1,550		5,735	12,965	177	51,745	47,209
1977	75	18,723	125	787	1,391	5,092	1,585	225	1,210	5,282	1,900	1,611		5,965	10,450	525	54,821	51,158
1978	60	26,269	300	709	2,405	6,863	2,220	1,090	1,400	5,540	2,685	1,654		2,620	5,480	411	59,406	55,324
1979	1	31,885	164	749	2,979	2,222	1,530	200	1,715	3,535	3,217	1,745		3,595	7,515	3,694	64,582	59,603
1980	740	27,976	176	814	2,362	2,205	3,417	1,000	1,940	8,135	12,050	1,942		1,115	11,510	661	75,867	66,618
1981	1,922	52,204	187	879	3,892	5,904	722	2,715	1,280	7,148	7,700	1,470		3,300	3,365	700	93,201	77,883
1982	66	21,564	1,681	2,370	4,476	2,314	2,494	1,466	1,352	6,743	8,625	2,210		4,420	5,250	1,370	64,720	77,929
1983	3,300	15,256	900	1,364	4,803	2,405	2,624	1,205	1,825	7,244	11,450	1,923		6,740	8,840	2,406	71,385	76,435
1984	25	7,765	470	1,028	2,912	2,480	2,362	2,115	2,380	12,420	14,850	1,981		1,225	4,010	7,054	62,607	66,237
1985	355	28,812	1,926	2,474	4,678	1,090	3,092	1,420	2,790	11,010	15,950	1,669		5,725	10,855	2,451	92,371	75,454
1986	0	6,130	295	897	6,667	1,671	3,701	1,952	1,706	13,283	21,200	1,842		1,499	7,811	3,388	71,747	75,575
1987	1,029	16,946	758	1,240	4,658	2,915	3,748	2,925	1,205	11,265	16,930	1,286		2,496	4,848	3,857	75,348	79,822
1988	819	19,229	732	1,218	5,996	2,263	2,488	1,236	1,280	8,263	22,600	1,330		1,645	3,050	4,325	75,742	74,279
1989	1,218	10,138	2,538	3,014	8,864	2,092	1,346	1,068	1,102	9,895	20,850	1,744		5,891	6,635	18,486	92,343	81,144
1990	3,864	22,474	1,977	2,650	15,877	3,480	3,295	2,925	1,405	13,952	25,600	1,374		3,323	2,215	32,646	135,080	101,055
1991	2,773	14,522	1,352	1,745	3,533	1,339	1,622	806	1,972	13,589	30,100	1,797		6,837	6,067	11,673	98,375	108,599
1992	14,704	46,689	2,668	2,961	8,111	3,837	3,216	914	1,358	12,044	17,650	1,083		1,398	1,742	18,352	134,059	122,505
1993	5,235	9,210	2,862	2,999	6,782	2,983	4,257	806	1,340	7,600	22,596	1,296		6,528	3,025	17,224	91,881	108,105
1994	5,559	11,199	2,279	2,674	10,046	5,491	3,232	401	446	11,524	21,300	1,307		3,617	484	13,645	90,925	105,622
1995	14,242	19,298	4,022	4,416	8,353	4,382	2,484	42	700	14,566	19,527	1,551		1,587	684	28,343	120,175	100,994
1996	3,096	47,070	3,353	3,681	8,297	17,121	1,871	2,250	580	12,195	14,043	1,283		3,972	1,161	12,714	129,334	113,478
1997	2,990	24,116	3,510	3,854	7,687	16,284	1,948	1,987	570	15,130	17,000	1,598		4,669	669	15,320	113,822	121,110
1998	24,122	22,878	4,758	4,983	7,721	11,683	2,395	1,350	625	14,267	12,816	1,348		218	1,018	11,234	116,658	119,938
1999	7,188	33,784	5,298	5,560	4,774	10,050	1,356	2,365	512	25,795	18,259	2,331	450	1,599	393	18,333	132,749	121,076
2000	26,112	7,778	9,801	10,348	8,397	12,978	2,141	890	840	14,805	6,281	1,838	315	4,352	1,715	23,475	122,265	123,891
2001	16,164	18,172	13,327	13,845	6,182	12,263	1,913	1,000	480	15,585	12,592	1,813	265	8,515	1,788	9,141	119,718	124,911
2002	32,864	12,369	7,396	7,805	12,544	6,662	1,595	1,160	315	15,210	8,585	2,665	No survey	3,470	773	5,932	111,949	117,977
2003	35,437	17,392	5,119	6,151	5,850	12,510	1,969	1,130	580	13,309	11,030	2,100	221	5,125	469	11,431	124,704	118,790
2004[b]	42,470	No survey	13,228	13,228	3,672	6,049	1,086	1,152	876	16,149	5,564	2,145	68	5,305	53	13,738	111,555	116,069
Avg.	6,549	18,096	2,486	2,835	4,884	4,790	1,873	1,017	1,144	9,548	11,122	1,746	264	4,051	6,484	8,142	81,411	81,497
Pct. Change From:																		
Prev. Yr.	19.85%		158.41%	115.05%	-37.23%	-51.65%	-44.85%	1.95%	51.03%	21.34%	-49.56%	2.14%	-69.23%	3.51%	-88.70%	20.18%	-10.54%	-2.29%
Prev. 3-yr. Av.	50.84%		53.56%	42.74%	-55.18%	-42.27%	-40.51%	5.05%	91.13%	9.85%	-48.17%	-2.17%	-72.02%	-6.98%	-94.75%	55.50%	-6.09%	-3.72%
Period of Rec.	548.46%		432.02%	366.65%	-24.81%	26.29%	-42.02%	13.24%	-23.44%	69.13%	-49.97%	22.87%	-74.22%	30.96%	-99.18%	68.73%	37.03%	42.42%

[a] North: New survey area was added in 1999, not previously surveyed.

[b] No midwinter waterfowl surveys were conducted in Idaho and Wyoming (Pacific Flyway portion) and the survey was incomplete in Montana during 2004.

Breeding population surveys for the Pacific Population of Western Canada Geese, 1970 - 2004.

YEAR	UNIT 1 British Columbia	UNIT 2 Alberta	UNIT 3 Washington Western	UNIT 3 Washington Eastern	UNIT 3 Washington Total	UNIT 4 Oregon Western	UNIT 4 Oregon Eastern	UNIT 4 Oregon Total	UNIT 5 California	UNIT 6 Nevada Western	UNIT 7 Idaho Southwest[a]	UNIT 7 Idaho Panhandle	UNIT 7 Idaho Total	UNIT 8 Montana	TOTAL	3-YR Average
1970					**1,925**				1,589	390			**0**		**3,904**	
1971					**1,955**				1,481				**0**	160	**3,596**	
1972					**2,214**				1,949	603			**0**		**4,766**	**4,089**
1973					**2,339**				1,757	513			**0**		**4,609**	**4,324**
1974				642	**642**				1,165	577			**0**	389	**2,773**	**4,049**
1975				691	**691**				1,247	387			**0**	381	**2,706**	**3,363**
1976				706	**706**				930	422			**0**	414	**2,472**	**2,650**
1977				793	**793**				1,135	402	806		**806**	568	**3,704**	**2,961**
1978				710	**710**				1,357	453	943		**943**	455	**3,918**	**3,365**
1979				682	**682**				1,262	267	985	94	**1,079**	550	**3,840**	**3,821**
1980				844	**844**				1,710	415	1,489	107	**1,596**	564	**5,129**	**4,296**
1981				1,212	**1,212**				1,780		1,337	120	**1,457**	521	**4,970**	**4,646**
1982				1,633	**1,633**				1,148	679	373	161	**534**	485	**4,479**	**4,859**
1983				1,888	**1,888**				1,101	659	997	113	**1,110**	624	**5,382**	**4,944**
1984				1,816	**1,816**				1,002	782	1,180	142	**1,322**	687	**5,609**	**5,157**
1985				2,037	**2,037**				910	900	1,036	151	**1,187**	621	**5,655**	**5,549**
1986				2,049	**2,049**				1,453	851	1,310	138	**1,448**	719	**6,520**	**5,928**
1987	79			2,247	**2,247**				960	981	1,380	145	**1,525**	723	**6,515**	**6,230**
1988	102			2,488	**2,488**				870	945	1,498	237	**1,735**	814	**6,954**	**6,663**
1989	139			2,153	**2,153**				848	854	1,527	286	**1,813**	851	**6,658**	**6,709**
1990	147			2,140	**2,140**				1,127	845	1,901	317	**2,218**	892	**7,369**	**6,994**
1991	181			2,173	**2,173**				918	687	2,127	325	**2,452**	869	**7,280**	**7,102**
1992	270			2,323	**2,323**				735	528	1,712	294	**2,006**	992	**6,854**	**7,167**
1993	250			2,434	**2,434**				748	473	1,946	332	**2,278**	919	**7,102**	**7,078**
1994	240			2,353	**2,353**	3,539	58,200	**57,907**	834	538	2,006	380	**2,386**	950	**65,208**	**26,388**
1995	338			2,369	**2,369**	4,556	43,486	**44,464**	473	626	1,688	374	**2,062**	959	**51,291**	**41,200**
1996	265			2,458	**2,458**	9,300	49,698	**53,294**	1,532	518	1,380	402	**1,782**	939	**60,788**	**59,096**
1997	561		3,250	2,395	**5,645**	12,145	58,276	**56,881**	634	669	1,686	366	**2,052**	1,315	**67,757**	**59,946**
1998	641	56,000	1,791	2,257	**4,048**	13,301	37,690	**55,486**	1,059	703	1,671	359	**2,030**	1,173	**121,140**	**83,228**
1999	390	79,900	2,711	2,096	**4,807**	11,112	41,190	**52,302**	831	870	1,722	290	**2,012**	1,104	**142,216**	**110,371**
2000	468	103,200	2,392	2,162	**4,554**	14,440	78,757	**93,197**	1,366	1,049	1,742	388	**2,130**	1,705	**207,669**	**157,008**
2001	486	58,500	1,305	2,371	**3,676**	12,060	53,122	**65,182**	1,007	1,286	448	380	**828**	ND[b]	**130,965**	**160,283**
2002	438	84,048	1,404	2,441	**3,845**	9,129	37,103	**46,232**	1,159	752	1,757	184	**1,941**	ND[b]	**138,415**	**159,016**
2003	432	77,073	1,709	2,104	**3,813**	9,373	60,534	**69,907**	930	818	1,371	320	**1,691**	ND[b]	**154,664**	**141,348**
2004[a]	472	59,308	2,137	2,059	**4,196**	8,876	40,545	**49,421**	915	692	842	325	**1,167**	ND[b]	**116,171**	**136,417**
AVG.	**328**	**74,004**	**2,087**	**1,830**	**2,339**	**9,803**	**50,782**	**58,570**	**1,141**	**671**	**1,388**	**259**	**1,303**	**762**	**39,401**	**34,682**
Survey Type[c]	**Geese**	**Geese**	**Nests**	**Nests**		**Geese**	**Geese**		**Pairs**	**Pairs**	**Pairs**	**Pairs**		**Geese**		
Percent Change From:																
Prev. Yr.	9.3%	-23.0%	25.0%	-2.1%	10.0%	-5.3%	-33.0%	-29.3%	-1.6%	-15.4%	-38.6%	1.6%	-31.0%		-24.9%	-3.5%
Prev. 5 yr. Av.	6.6%	-26.4%	12.2%	-7.9%	1.4%	-20.9%	-25.1%	-24.4%	-13.6%	-27.5%	-40.2%	4.0%	-32.2%		-24.9%	-6.3%
Period of Rec.	44.0%	-19.9%	2.4%	12.5%	79.4%	-9.5%	-20.2%	-15.6%	-19.8%	3.2%	-39.3%	25.6%	-10.4%		194.8%	293.3%
3-year avg.	447	73,476	1,750	2,201	3,951	9,126	46,061	55,187	1,001	754	1,323	276	1,600			

No survey, previous 5-year average used.

[a]In 2004, survey in Southwest was only 60% complete.

[b]Montana discontinued this survey in 2001.

[c]Montana = Total adults in April, Nevada = indicated pairs only,

Number of tundra swans counted in the Pacific Flyway during the mid-winter waterfowl surveys.

Year	Arizona	California	Idaho	Montana	Nevada	Oregon	Utah	Washington	Wyoming	Colorado	New Mexico	Annual Index	3-YEAR AVG
1949	40	15,051	72	0	207	636	5	55				16,066	
1950	12	12,729	70	0	2,645	668	623	82				16,829	
1951	2	17,041	119	0	2,821	548	11,145	11				31,687	21,527
1952	35	17,162	47	0	850	556	360	210				19,220	22,579
1953	4	20,226	103	0	5,451	1,293	429	168				27,674	26,194
1954	9	13,773	102	0	7,209	3,275	1,632	206				26,206	24,367
1955	2	25,397	134	0	5,167	1,907	1,443	675				34,725	29,535
1956	35	28,679	1	0	1,927	7,464	7,980	196				46,282	35,738
1957	53	23,263	226	0	13,202	3,979	1,915	332		0		42,970	41,326
1958	10	28,322	110	0	10,227	5,755	4,515	1,007				49,946	46,399
1959	23	20,590	230	1	9,847	4,405	3,464	1,040		0		39,600	44,172
1960	43	29,427	156	4	619	3,716	934	606	3	0	0	35,508	41,685
1961	38	32,232	110	41	455	5,741	1,492	719	0	0	0	40,828	38,645
1962	20	23,460	208	11	1,068	4,880	1,266	1,443	0	0	0	32,356	36,231
1963	4	21,820	728	9	1,568	4,375	16,398	1,434	14	0	0	46,350	39,845
1964	16	27,031	164	5	4,324	6,828	795	1,379	0	0	3	40,545	39,750
1965	2	25,949	127	6	8,055	4,235	3,624	651	0	0	0	42,649	43,181
1966	0	18,705	303	2	7,966	4,349	2,379	1,100	0	0	0	34,804	39,333
1967	16	35,907	246	4	5,231	5,823	864	855	0	0	0	48,946	42,133
1968	8	25,969	27	9	267	7,703	287	1,360	0	0	0	35,630	39,793
1969	6	66,195	69	22	2,005	3,694	1,394	1,491	3	0	0	74,879	53,152
1970	6	21,890	200	3	3,758	2,945	1,577	620	0	1	0	31,000	47,170
1971	4	91,824	143	12	619	4,508	276	1,470	0	0	0	98,856	68,245
1972	2	74,528	93	16	333	6,204	269	1,402	0	0	0	82,847	70,901
1973	0	27,628	27	27	99	5,285	191	660	0	0	0	33,917	71,873
1974	4	61,542	110	13	679	4,951	1,094	1,332	43	0	0	69,768	62,177
1975	0	45,987	100	39	315	6,451	130	1,850	0	0	0	54,872	52,852
1976	0	40,675	204	5	2,682	6,067	375	1,342	0	0	0	51,350	58,663
1977	0	37,920	139	20	1,117	6,418	254	1,401	0	0	0	47,269	51,164
1978	0	28,960	224	59	405	8,943	4,816	2,190	0	0	0	45,597	48,072
1979	0	47,730	214	1	205	3,917	33	1,423		0	0	53,523	48,796
1980	0	37,295	82	8	6,240	15,271	4,276	2,037		0	0	65,209	54,776
1981	0	34,945	253	84	5,117	5,292	33,665	4,197		0	0	83,553	67,428
1982	0	79,295	261	14	1,045	4,391	3,402	2,906	0	0	0	91,314	80,025
1983	7	54,860	112	22	2,791	3,752	5,425	333	0	0	0	67,302	80,723
1984	0	47,945	184	12	2,372	4,779	5,604	965	12	0	0	61,873	73,496
1985	1	39,500	101	139	1,575	4,769	69	2,619	25	0	0	48,798	59,324
1986	2	55,417	121	0	232	6,682	46	3,647	10	0	0	66,157	58,943
1987	0	30,208	228	3	10,742	9,535	99	1,948	35	0	0	52,798	55,918
1988	0	50,527	49	155	31	4,738	12	3,661	19	1	0	59,193	59,383
1989	0	68,482	242	178	92	7,511	38	2,101	28	1	0	78,673	63,555
1990	0	30,008	278	149	630	7,955	68	939	24	1	0	40,052	59,306
1991	0	38,616	55	1	206	6,436	56	2,248	0	0	0	47,618	55,448
1992	0	45,119	137	277	321	14,571	103	3,209	0	0	0	63,737	50,469
1993	0	52,632	5	328	284	7,868	202	883	0	0	0	62,202	57,852
1994	0	66,301	56	293	1,266	7,228	1,646	2,616	0	0	0	79,406	68,448
1995	0	37,096	167	258	2,120	6,779	5,190	1,332	0	0	0	52,942	64,850
1996	0	66,817	148	94	1,573	8,046	16,988	4,398	0	0	0	98,064	76,804
1997	0	93,696	154	2	2,451	14,562	8,445	3,211	0	0	0	122,521	91,176
1998	32	49,521	85	85	4,804	8,699	3,398	3,424	0	0	0	70,048	96,878
1999	14	103,946	110	89	627	9,038	3,151	2,802	0	0	0	119,777	104,115
2000	0	63,026	220	331	5,916	3,409	12,378	4,342	0	0	0	89,622	93,149
2001	0	65,511	174	113	4,584	9,918	2,430	4,597	0	0	0	87,327	98,909
2002	0	47,432	205	240	981	5,157	2,130	2,521	9	0	0	58,675	78,541
2003	0	73,408	178	48	1,339	3,366	18,004	6,393	0	0	0	102,736	82,913
2004[a]	0	66,581	0	0	1,614	7,113	6,195	1,447	0	0	0	82,950	81,454

[a] No mid-winter waterfowl surveys were conducted in Idaho and Wyoming (Pacific Flyway portion) and the survey was incomplete in MT during 2004.

Index to Federal Registers - 2004

Federal Register Titles relevant to Migratory Bird Hunting through September 29 are listed below. If you wish to obtain a copy of these Federal Registers or those after September 29, please visit the Federal Register Web Site at: http://www.gpoaccess.gov/fr/index.html.

Monday, January 12
Migratory Bird Subsistence Harvest In Alaska; Subsistence Harvest regulations for Migratory Birds in Alaska During the Spring/Summer 2004 Subsistence Season

Monday, March 15
Migratory Bird Hunting; Approval of Three Shot Types — Tungsten-Bronze-Iron, Tungsten-Iron, and Tungsten-Tin-Bismuth— as Nontoxic for Hunting Waterfowl and Coots

Monday, March 22
Migratory Bird Hunting; Proposed 2004-05 Migratory Game Bird Hunting Regulations (Preliminary) With Requests for Indian Tribal Proposals and Requests for 2004 Spring/Summer Migratory Bird Subsistence Harvest Proposals in Alaska; Proposed Rule

Monday, March 29
Information Collection To Be Submitted to the Office of Management and Budget (OMB) for Approval Under the Paperwork Reduction Act; Sandhill Crane Harvest Survey

Migratory Bird Harvest Surveys

Friday, April 2
Migratory Bird Subsistence Harvest in Alaska; Subsistence Harvest Regulations for Migratory Birds in Alaska During the Spring/Summer 2004 Subsistence Season

Wednesday, June 2
Migratory Bird Permits; Take of Migratory Birds by Department of Defense

Wednesday, June 9
Migratory Bird Hunting; Supplemental Proposals for Migratory Game Bird Hunting Regulations for the 2004-05 Hunting Season; Notice of meetings; Proposed Rule

Wednesday, July 21
Migratory Bird Hunting; Proposed Frameworks for Early-Season Migratory Bird Hunting regulations; Notice of Meetings; Proposed Rule

Monday, August 9
Migratory Bird Hunting; Approval of Three Shot Types — Tungsten-Bronze, Tungsten-Iron, and Tungsten-Tin-Bismuth— as Nontoxic for Hunting Waterfowl and Coots

Tuesday, August 17
Migratory Bird Hunting; Proposed Migratory Bird Hunting Regulations on Certain Federal Indian Reservations and Ceded Lands for the 2004-2005 Season

Tuesday, August 24
Migratory Bird Hunting; Proposed Frameworks for Late-Season Migratory Bird Hunting Regulations; Proposed Rule

Monday, August 30
Migratory Bird Hunting; Final Frameworks for Early-Season Migratory Bird Hunting Regulations; Final Rule

Wednesday, September 1
Migratory Bird Hunting; Early Seasons and Bag and Possession Limits for Certain Migratory Game Birds in the Contiguous United States, Alaska, Hawaii, Puerto Rico, and the Virgin Islands; Final Rule

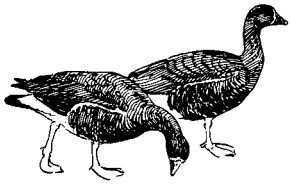
Friday, September 3
Migratory Bird Hunting Regulations on Certain Federal Indian Reservations and Ceded Lands for the 2004-05 Early Season; Final Rule

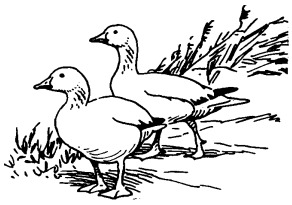
Friday, September 17
Migratory Bird Hunting; Approval of Tungsten-Bronze Shot as Nontoxic for Hunting Waterfowl and Coots

Thursday, September 23
Migratory Bird Hunting; Final Frameworks for Late-Season Migratory Bird Hunting Regulations; Final Rule

Monday, September 29
Migratory Bird Hunting; Late Seasons and Bag and Possession Limits for Certain Migratory Game Birds; Final Rule

Wednesday, September 29
Migratory Bird Hunting Regulations on Certain Federal Indian Reservations and Ceded Lands for the 2004-05 Late Season; Final Rule





Appendix A: Summary of Goose Population Monitoring Programs, 2003-2004

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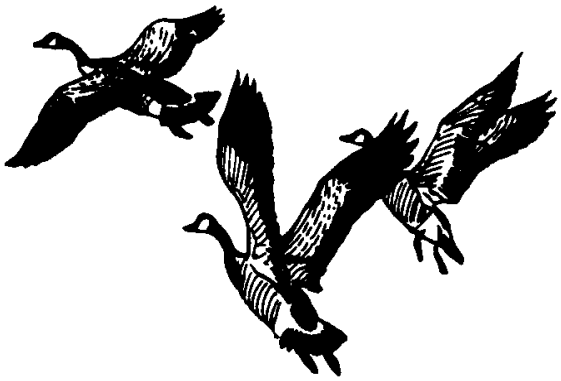

Note: This report is for management purposes only, no citation or reference to this report should be made without the permission of the Pacific Flyway Study Committee and the report compilers. The information in this report has been contributed by many different individuals representing all of the above agencies and it is their hard work that makes this report possible. The compilers accept sole responsibility for the accuracy and interpretation of the information contained in this report.

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OBSERVATIONS OF

COLOR BANDED ALEUTIAN CANADA GEESE

Progress Report - July 2004

prepared for

U. S. Fish and Wildlife Service
Alaska Department of Fish and Game
Washington Department of Fish and Wildlife
Oregon Department of Fish and Wildlife
California Department of Fish and Game

INTRODUCTION:

We assume for the purposes of this progress report that the reader has a basic understanding of the general purpose and objectives of the program to monitor Aleutian Canada geese in the Flyway. In this report, the latest population estimates based on the mark-recapture program will be presented. Furthermore, there will be updates on other objectives of the program including translocation, migration, mortalities, and a brief summary of the band observations.

MARK-RECAPTURE POPULATION ESTIMATES:

In 2003-2004, indirect population estimates were calculated using a modified version of the Peterson Index (see Estimated Number of Dusky Canada Geese, page 1.49, for details) for the primary wintering area (Modesto) and spring staging areas (NW California, SW Oregon). Both areas exhibited increased numbers in 2003-2004 and continued strong growth since 1995-96 (Table 1). Percent change from 2002-2003 was approximately 44% and 12% for Modesto and NW California, SW Oregon, respectively. Long term change since 1995-96 for the 2 areas was approximately 200% and 300%, respectively. Efforts to conduct Spring "Fly-off" counts were not successful because bird movements made it difficult to coordinate counts among the different count locations and no final "fly-off" number was computed for 2003-2004 (D. Bachman, pers. comm.)

Table 1. Estimated population size for Aleutian Canada geese, 1995-96 to 2003-2004.

Year	Location	Estimated number of neck banded Aleutians (SE)	Number unmarked / Number marked (SE)	Indirect population estimate (SE)
2003-04	Modesto	629.00 (43.30)	124.06 (1.19)	78,034 (5,423)
	NW CA, SW OR	355.92 (37.78)	196.40 (10.11)	69,905 (8,237)
2002-03	Modesto	446.20 (57.25)	121.22 (7.00)	54,087 (7,600)
	NW CA, SW OR	468.83 (38.28)	134.04 (6.26)	62,844 (5,906)
2001-02	Modesto	No estimate	--	--
	NW CA, SW OR	343.47 (36.82)	107.24 (9.04)	36,834 (5,011)
2000-01	Modesto	621.20 (25.77)	47.85 (6.69)	29,797 (4,334)
	Crescent City	No estimate	--	--
1999-00	Modesto	577.84 (21.34)	57.97 (5.26)	33,496 (3,277)
	Crescent City	516.75 (38.21)	61.55 (3.12)	31,806 (2,848)
1998-99	Modesto	527.13 (29.06)	54.31 (5.13)	28,628 (3,127)
	Crescent City	No estimate	--	--
1997-98	Modesto	488.62 (11.37)	59.32 (4.33)	28,984 (2,221)
	Crescent City	430.72 (26.82)	62.67 (7.23)	26,993 (3,534)

Table 1 (cont.).

Year	Location	Estimated number of neck banded Aleutians (SE)	Number unmarked / Number marked (SE)	Indirect population estimate (SE)
1996-97	Modesto	334.12 (1.24)	71.76 (5.65)	23,977 (1,891)
	Crescent City	281.06 (1.76)	71.02 (4.55)	19,957 (1,285)
1995-96	Modesto	333.76 (1.60)	73.83 (3.91)	24,643 (1,306)
	Crescent City	290.95 (2.10)	54.94 (2.36)	15,986 (688)

GENERAL INFORMATION:

A detailed summary of the Color Band Observation Program for 2003-2004, which includes information about neck band and tarsal band observations, is presented in Appendix A starting on page 1.7.

Band Observations: Valid band observations and observations of unique codes increased in 2003-2004. The number of unique codes observed was the highest recorded for all years 1991-1992 through 2002-2003 (Appendix A1). Expanded observer effort was likely responsible for the increases. Days valid bands were observed rose in the 3 main observation locations (Modesto, Humboldt Bay, and Crescent City) and valid bands were observed in 2 additional areas (Colusa and Sacramento River Delta) not surveyed in 2002-2003 (Appendix A2). Furthermore, numbers of groups observed, and total numbers of marked, examined, and present increased similarly (Appendix A4). Available funding allowed surveys to be conducted over an even broader area than 2002-2003 leading to a strong probability of more unique code observations.

Modesto continued to be the primary location for color band observations followed by Crescent City and Humboldt Bay (Appendix A2). 77% of the unique codes were observed in Modesto with 28% observed only there. Crescent City and Humboldt Bay exhibited slight declines in unique codes observed, which was offset by the number of unique codes observed in Colusa and the Sacramento River Delta.

Migration: Aleutians were present in Modesto and Colusa (Sacramento Valley) by mid-October and continued to be observed in Modesto until mid-March (Appendix A3). Because no color band surveys were conducted at Crescent City or Humboldt Bay in the Fall, it was not clear if birds used those areas in large numbers on their way south. The first indications of Aleutians at coastal staging areas were color band observations at Humboldt Bay in early December (Appendix A3). Sightings of Aleutians at Humboldt Bay at that time demonstrate that geese do not spend the entire winter in Modesto or may even be short stopping along the northwest California Coast. Observers continued to see color bands at coastal staging areas through the end of April.

No marked geese were observed in the Willamette Valley, Oregon or at Willapa Bay, Washington in 2003-2004 (Appendix A4). Three groups of unmarked Aleutians representing

less than 10 individuals were observed in the Willamette Valley. Only 1 group of Aleutians was observed at Willapa primarily because there was no official goose observer funded during 2003-2004 for that area.

Mortalities: In 2003-2004, legal take of Aleutians continued for the second year in Washington, Oregon, and California in conjunction with regular Canada goose seasons. In Washington and Oregon, no Aleutians were reported harvested (D. Kraege and B. Bales, pers. comm.) (Appendix A5). This differed from 2002-2003 as 14 were reported harvested from Willapa Bay, Washington. In California, preliminary harvest estimates indicated approximately 820 Aleutians were shot statewide (D. Bachman, K Griggs, and M. Weaver, pers. comm.). Several neck bands from hunter killed Aleutians were reported to the Bird banding Lab in Laurel, Maryland.

Non-hunting mortalities including 17 from Avian Cholera in the San Joaquin Valley, and 2 each from Humboldt Bay, California and coastal Oregon (Appendix A5). Numbers dying from Avian Cholera at the San Joaquin NWR continued to be low for the second consecutive year (K. Griggs, pers. comm.) The 2 Aleutians reported lost on the Oregon Coast were Semidi Island birds and no cause was determined as these birds were not observed with the other Semidi Aleutians during 2003-2004 (D. Pitkin, pers comm.).

Translocation: We continue to monitor resightings of Aleutians from various translocations during the 1990's. Only birds translocated to Skagul and Yunaska Islands during 1994 and 1995 were resighted (Appendices A6a, A6b, 7, 8, 9, and 10). Many of the remaining translocated geese were marked with plastic tarsal bands and not neck collars. These bands are more difficult to see and concentration was on reading neck collars. This may have limited the number of resightings during 2003-2004. Only 4 unique plastic tarsal bands were observed. This is likely not an issue at this time because of the large population growth of Aleutian Canada geese since 1995-1996.

APPENDIX A

DETAILED SUMMARY OF THE 2003-2004

COLOR BAND OBSERVATION PROGRAM

FOR

ALEUTIAN CANADA GEESE

Appendix A1. Total number of valid color band observations and number of individual color marked Aleutian Canada geese observed from 1991-92 to 2003-2004 in Washington, Oregon, and California.

	Number of valid color band observations												
	Year												
Area	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
Flyway	5,804	3,546	2,455	6,334	4,718	4,450	5,912	2,193	4,590	1,870	4,884	2,634	3,267
Washington:													
Willapa Bay/LCR	7	1	0	0	0	0	0	1	0	0	1	0	0
Oregon:													
N. Oregon Coast	240	792	1,367	571	97	94	106	48	44	12	3,945	63	51
S. Oregon Coast	0	1	0	62	19	0	49	0	258	0	17	8	7
Willamette Valley	1	2	2	8	5	0	2	0	2	0	2	0	0
Oregon/California:													
Klamath Basin	0	0	0	3	0	0	1	0	0	0	0	0	0
California:													
Humboldt Bay	0	0	0	1	0	0	0	8	174	54	158	531	482
El Sobrante	11	6	5	2	0	0	0	0	0	0	0	0	0
Alameda	0	6	0	0	0	0	0	0	0	0	0	0	0
Crescent City	1,245	528	221	1,852	1,062	1,248	868	125	1,079	0	735	870	789
Colusa	240	72	124	87	47	177	112	131	215	0	0	0	56
Modesto	4,060	2,138	736	3,745	3,488	2,931	4,818	1,880	2,765	1,804	0	1,162	1,759
Sac. R. Delta	--	--	--	--	--	--	--	--	25	0	0	0	122
	Number of individual color marked geese												
Flyway	530	530	335	542	564	481	611	555	634	552	388	583	668
Washington:													
Willapa Bay/LCR	7	1	0	3	0	0	0	1	0	0	1	0	0
Oregon:													
N. Oregon Coast	36	26	21	16	20	19	17	14	11	10	41	34	26
S. Oregon Coast	0	1	0	49	19	0	48	0	164	0	6	5	5
Willamette Valley	1	2	2	4	4	0	1	0	2	0	1	0	0
Oregon/California:													
Klamath Basin	0	0	0	2	0	0	1	0	0	0	0	0	0
California:													
Humboldt Bay	0	0	0	1	0	0	0	7	64	38	78	268	215
El Sobrante	4	5	3	1	0	0	0	0	0	0	0	0	0
Alameda	0	1	0	0	0	0	0	0	0	0	0	0	0
Crescent City	372	243	111	371	380	357	358	103	360	0	274	323	253
Colusa	145	58	64	50	43	103	91	96	164	0	0	0	35
Modesto	449	476	275	488	485	415	566	517	586	529	0	398	513
Sac. R. Delta	--	--	--	--	--	--	--	--	21	0	0	0	108

Appendix A2. Number of valid band observations, number of individual color marked Aleutian Canada geese seen, number of color marked geese observed at one location only, and total number of days valid bands were observed during the 2002-2003 and 2003-2004 winter observation period in Washington, Oregon, and California.

	Number of valid band observations		Number of individual color marked geese (% of Flyway total)		Number of geese observed only at this location (% of Flyway total)		Number of days valid bands were sighted	
Area	2002-2003	2003-2004	2002-2003	2003-2004	2002-2003	2003-2004	2002-2003	2003-2004
Flyway	2,634	3,267	583	668	--	--	82	114
Washington:								
Willapa Bay/LCR	0	0	0	0	0	0	0	0
Oregon:								
N. Oregon Coast	63	51	34 (6)	26 (4)	33 (6)	25 (4)	2	2
S. Oregon Coast	8	7	5 (1)	5 (1)	0	0	3	3
Willamette Valley	0	0	0	0	0	0	0	0
Oregon/California:								
Klamath Basin	0	0	0	0	0	0	0	0
California:								
Humboldt Bay	531	482	268 (46)	215 (32)	56 (10)	52 (8)	33	48
El Sobrante	0	0	0	0	0	0	0	0
Crescent City	870	789	323 (55)	253 (38)	60 (10)	36 (5)	31	33
Colusa	0	56	0	35 (5)	0	2 (1)	0	11
Modesto	1,162	1,759	398 (68)	513 (77)	93 (16)	179 (28)	44	48
Sac. R. Delta	0	122	0	108 (16)	0	14 (2)	0	10

Appendix A3. Number of valid band observations (total bands) and number of individual color marked Aleutian Canada geese (unique codes) seen by month during the 2002-2003 and 2003-2004 winter observation period in Washington, Oregon, and California.

	15 Oct - 15 Nov				16 Nov - 15 Dec				16 Dec - 15 Jan			
	2002-2003		2003-2004		2002-2003		2003-2004		2002-2003		2003-2004	
Area	Total bands	Unique codes	Total bands	Unique codes	Total bands	Unique codes	Total bands	Unique codes	Total bands	Unique codes	Total bands	Unique codes
Flyway	107	90	205	140	356	203	786	274	211	147	389	277
Washington:												
Willapa Bay/LCR	0	0	0	0	0	0	0	0	0	0	0	0
Oregon:												
N. Oregon Coast	0	0	0	0	0	0	0	0	0	0	0	0
S. Oregon Coast	0	0	0	0	0	0	0	0	0	0	0	0
Willamette Valley	0	0	0	0	0	0	0	0	0	0	0	0
Oregon/California:												
Klamath Basin	0	0	0	0	0	0	0	0	0	0	0	0
California:												
Humboldt Bay	0	0	0	0	0	0	5	4	0	0	0	0
El Sobrante	0	0	0	0	0	0	0	0	0	0	0	0
Crescent City	0	0	0	0	0	0	0	0	0	0	6	6
Colusa	0	0	54	33	0	0	0	0	0	0	0	0
Modesto	107	90	151	114	356	203	723	243	211	147	322	233
Sac. R. Delta	0	0	0	0	0	0	58	53	0	0	61	56

	16 Jan - 15 Feb				16 Feb - 15 Mar				16 Mar - 30 Apr			
	2002-2003		2003-2004		2002-2003		2003-2004		2002-2003		2003-2004	
Area	Total bands	Unique codes	Total bands	Unique codes	Total bands	Unique codes	Total bands	Unique codes	Total bands	Unique codes	Total bands	Unique codes
Flyway	335	205	735	397	1,066	435	532	294	559	295	425	233
Washington:												
Willapa Bay/LCR	0	0	0	0	0	0	0	0	0	0	0	0
Oregon:												
N. Oregon Coast	0	0	0	0	29	29	23	23	34	34	28	25
S. Oregon Coast	0	0	0	0	2	2	1	1	6	5	6	4
Willamette Valley	0	0	0	0	0	0	0	0	0	0	0	0
Oregon/California:												
Klamath Basin	0	0	0	0	0	0	0	0	0	0	0	0
California:												
Humboldt Bay	41	35	145	84	369	229	170	118	121	76	122	81
El Sobrante	0	0	0	0	0	0	0	0	0	0	0	0
Crescent City	0	0	87	67	472	242	324	154	398	188	269	125
Colusa	0	0	0	0	0	0	0	0	0	0	0	0
Modesto	294	178	500	280	194	95	14	14	0	0	0	0
Sac. R. Delta	0	0	3	3	0	0	0	0	0	0	0	0

Appendix A4. Total number of geese marked with a neck collar, necks examined, and total geese present in flocks of Aleutian Canada geese counted in Washington, Oregon, and California during 2002-2003 and 2003-2004.

	2002-2003				2003-2004			
Area	Groups of geese observed [a]	Total number marked [b]	Total number examined [b]	Total number present [b]	Groups of geese observed [a]	Total number marked [b]	Total number examined [b]	Total number present [b]
Flyway	637 (14)	637	332,171	712,598	1,076 (52)	3,566	539,350	958,201
Washington:								
Willapa Bay/LCR	8 (0)	0	198	198	0 (1)	0	0	0
Oregon:								
N. Oregon Coast	8 (0)	53	1,510	1,510	6 (0)	28	522	522
S. Oregon Coast	6 (0)	10	1,304	2,878	4 (0)	31	1,637	1,927
Willamette Valley	0	0	0	0	0 (3)	0	0	0
Oregon/California:								
Klamath Basin	0	0	0	0	0	0	0	0
California:								
Humboldt Bay	220 (3)	621	94,950	134,868	552 (27)	625	148,861	230,233
El Sobrante	0	0	0	0	0	0	0	0
Crescent City	314 (7)	955	114,206	181,135	338 (19)	852	122,455	209,490
Colusa	0	0	0	0	23 (0)	72	16,475	40,062
Modesto	81 (4)	1,186	120,363	392,009	133 (2)	1,821	221,610	410,667
Sac. R. Delta	0	0	0	0	20 (0)	137	27,790	65,300

[a] Groups for which complete information was recorded. The number in parentheses represents additional groups for which the number marked, examined, and present was not counted.
[b] Totals from groups for which complete information was recorded.

Appendix A5. Estimated Aleutian Canada goose mortalities, 2003-2004.

Location	Number	Probable cause of death	Band
Washington:			
Willapa	None		
Oregon:			
North Coast	2	Unknown	Neck bands: Red (2) - 308, 319
California:			
Crescent City	200 (estimate)	Hunting	Neck band: Blue (1) - 622
Humboldt Bay	250 (estimate)	Hunting, Predation (1), Hit by car (1)	Neck bands: Blue (2) - 59E, 14X
Sacramento Valley	80 (estimate)	Hunting	Neck band: Blue (1) - 61A
San Joaquin Valley	220 (estimate)	Hunting, Avian Cholera (17 - estimate)	Neck bands: Blue (8) - 501, 583, 692, 972, 52E, 16N, 37N, 63N
Delta	70 (estimate)		Neck bands: Blue (3) - 39A, 95A, 79N
NE California	1	Unknown	Neck band: Blue (1) - 532
Total	823 (estimate)		

Appendix A6a. Sightings of color marked Aleutian Canada geese translocated to Skagul and Yunaska Islands in August 1994.

Translocation Island	Number translocated August 1994	Number resighted (%) 1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
Skagul	18 adults	15 (83)	7 (39)	6 (33)	5 (28)	4 (22)	3 (17)	4 (22)	3 (17)	4 (22)	3 (17)
	4 males	4 (100)	2 (50)	1 (25)	1 (25)	1 (25)	0	2 (50)	2 (50)	2 (50)	2 (50)
	14 females	11 (79)	5 (36)	5 (36)	4 (29)	3 (21)	3 (21)	2 (14)	1 (7)	2 (14)	1 (7)
	52 locals	9 (17)	8 (15)	6 (12)	8 (15)	4 (8)	3 (6)	0	0	3 (6)	1 (2)
	26 males	5 (19)	5 (19)	4 (15)	4 (15)	3 (12)	3 (12)	0	0	0	0
	26 females	4 (15)	3 (12)	2 (8)	4 (15)	1 (4)	0	0	0	3 (12)	1 (4)
Total:	70	24 (34)	15 (21)	12 (17)	13 (19)	8 (11)	6 (9)	4 (5)	3 (4)	7 (10)	4 (6)
	30 males	9 (30)	7 (23)	5 (17)	5 (17)	4 (13)	3 (10)	2 (7)	2 (7)	2 (7)	2 (7)
	40 females	15 (38)	8 (20)	7 (18)	8 (20)	4 (10)	3 (8)	2 (5)	1 (3)	5 (13)	2 (5)
Yunaska	18 adults	16 (88)	11 (61)	7 (39)	5 (28)	3 (17)	3 (17)	3 (17)	2 (11)	3 (17)	3 (17)
	6 males	6 (100)	3 (50)	3 (50)	2 (33)	1 (17)	0	0	0	0	0
	12 females	10 (83)	8 (67)	4 (33)	3 (25)	2 (17)	3 (25)	3 (25)	2 (17)	3 (25)	3 (25)
	63 locals	24 (38)	17 (27)	18 (29)	12 (19)	4 (6)	3 (5)	3 (5)	2 (3)	3 (5)	5 (8)
	23 males	7 (30)	4 (17)	3 (13)	2 (9)	1 (4)	0	0	0	0	1 (4)
	40 females	17 (43)	13 (33)	15 (38)	10 (25)	3 (8)	7 (17)	3 (8)	2 (5)	3 (5)	4 (10)
Total:	81	40 (49)	28 (35)	25 (31)	17 (21)	7 (9)	10 (12)	6 (7)	4 (5)	6 (7)	8 (10)
	29 males	13 (45)	7 (24)	6 (21)	4 (14)	2 (7)	0	0	0	0	1 (3)
	52 females	27 (52)	21 (40)	19 (37)	13 (25)	5 (10)	10 (19)	6 (12)	4 (8)	6 (12)	7 (13)

Appendix A6b. Sightings of color marked Aleutian Canada geese translocated to Skagul and Yunaska Islands in August 1995.

Translocation Island	Number translocated August 1995	Number resighted (%) 1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
Skagul	19 adults	18 (95)	14 (74)	13 (68)	9 (47)	7 (37)	5 (26)	6 (32)	6 (32)	7 (36)
	5 males	5 (100)	3 (60)	3 (60)	1 (20)	1 (20)	0	0	1 (20)	3 (60)
	14 females	13 (93)	11 (79)	10 (71)	8 (57)	6 (43)	5 (36)	6 (43)	5 (36)	4 (29)
	62 locals	27 (44)	20 (32)	15 (24)	13 (21)	7 (11)	5 (8)	5 (8)	6 (10)	3 (5)
	25 males	12 (48)	7 (28)	6 (24)	6 (24)	3 (12)	3 (12)	3 (12)	2 (8)	2 (8)
	37 females	15 (41)	13 (35)	9 (24)	7 (19)	4 (11)	2 (5)	2 (5)	4 (11)	1 (3)
Total:	81	45 (56)	34 (42)	28 (35)	22 (27)	14 (17)	10 (12)	11 (14)	12 (15)	10 (12)
	30 males	17 (57)	10 (33)	9 (30)	7 (23)	4 (13)	3 (10)	3 (10)	3 (10)	5 (17)
	51 females	28 (55)	24 (47)	19 (37)	15 (29)	10 (36)	7 (14)	8 (16)	9 (18)	5 (10)
Yunaska	16 adults	15 (94)	9 (56)	7 (44)	5 (31)	6 (38)	4 (25)	1 (6)	1 (6)	4 (25)
	4 males	4 (100)	1 (25)	1 (25)	1 (25)	1 (25)	0	0	0	1 (25)
	12 females	11 (92)	8 (67)	6 (50)	4 (33)	5 (33)	4 (33)	1 (8)	1 (8)	3 (25)
	71 locals	34 (48)	10 (14)	7 (10)	5 (7)	4 (6)	2 (3)	0	2 (3)	0
	26 males	10 (38)	2 (8)	2 (8)	1 (4)	1 (4)	2 (8)	0	0	0
	45 females	24 (53)	8 (18)	5 (11)	4 (9)	3 (7)	0	0	2 (4)	0
Total:	87	49 (56)	19 (22)	14 (16)	10 (11)	10 (11)	6 (7)	1 (1)	3 (3)	4 (5)
	30 males	14 (47)	3 (10)	3 (10)	2 (7)	2 (7)	2 (7)	0	0	1 (3)
	57 females	35 (61)	16 (28)	11 (19)	8(14)	8 (14)	4 (7)	1 (2)	3 (5)	3 (5)

Appendix A7. Summary of sightings of color marked Aleutian Canada geese banded in Alaska during August 1991-1995.

			Number resighted (%)										
Year	Release Location	Number released	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
1991	Little Kiska	53	10 (19)	6 (11)	4 (8)	6 (11)	4 (8)	2 (4)	2 (4)	0	0	0	0
	Nizki	91	35 (38)	20 (22)	10 (11)	13 (14)	7 (8)	5 (5)	2 (2)	1 (1)	0	0	0
	Agattu	31	18 (58)	14 (45)	10 (32)	9 (29)	4 (13)	3 (10)	2 (6)	0	0	0	0
	Kiliktagik	24	15 (63)	12 (39)	10 (42)	10 (42)	10 (42)	10 (42)	12 (50)	10 (42)	6 (25)	5 (21)	6 (25)
	Anowik	14	9 (64)	5 (36)	4 (29)	3 (21)	3 (21)	3 (21)	0	0	2 (14)	2 (14)	2 (14)
1992	Little Kiska	60		40 (67)	23 (38)	32 (53)	15 (25)	15 (25)	7 (12)	0	1 (2)	0	0
	Nizki	70		22 (31)	9 (13)	17 (24)	11 (16)	11 (16)	8 (11)	0	4 (6)	3 (4)	0
	Chagulak	5		3 (60)	2 (40)	2 (40)	0	0	0	0	0	0	0
1993	Chagulak	9			7 (78)	6 (67)	0	0	0	0	1 (11)	1 (11)	0
1994	Skagul	70				24 (34)	15 (21)	12 (17)	13 (19)	8 (11)	6 (9)	4 (6)	3 (4)
	Yunaska	81				40 (49	28 (35)	25 (31)	17 (21)	7 (9)	10 (12)	6 (7)	4 (5)
1995	Skagul	81					45 (56)	34 (42)	28 (35)	22 (27)	14 (17)	10 (12)	11 (14)
	Yunaska	87					49 (56)	19 (22)	14 (16)	10 (11)	10 (11)	6 (7)	1 (1)
	Kiliktagik	4					3 (75)	3 (75)	3 (75)	2 (50)	1 (25)	1 (25)	1 (25)
	Anowik	1					1 (100)	1 (100)	0	0	0	0	0

			Number resighted (%)	
Year	Release Location	Number released	2002-03	2003-04
1991	Little Kiska	53	0	0
	Nizki	91	0	0
	Agattu	31	0	0
	Kiliktagik	24	4 (17)	0
	Anowik	14	2 (14)	0
1992	Little Kiska	60	0	0
	Nizki	70	4 (6)	0
	Chagulak	5	0	0
1993	Chagulak	9	0	0
1994	Skagul	70	7 (10)	4 (6)
	Yunaska	81	6 (7)	8 (12)
1995	Skagul	81	12 (15)	10 (12)
	Yunaska	87	3 (3)	4 (5)
	Kiliktagik	4	1 (25)	0
	Anowik	1	0	0

Appendix A8. Summary of sightings by age and sex class of color marked Aleutian Canada geese translocated in 1991 and 1992.

Year banded	Translocation Island	Number translocated	Number resighted (%)										
			1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02 through 2003-04
1991	Little Kiska	10 adults	5 (50)	4 (40)	2 (20)	4 (40)	3 (30)	1 (10)	1 (10)	0	0	0	0
		5 males	3 (60)	3 (60)	1 (20)	3 (60)	2 (40)	1 (20)	1 (20)	0	0	0	0
		5 females	2 (40)	1 (20)	1 (20)	1 (20)	1 (20)	0	0	0	0	0	0
		43 locals	5 (12)	2 (5)	2 (5)	2 (5)	1 (2)	1 (2)	1 (2)	0	0	0	0
		18 males	2 (11)	2 (11)	2 (11)	1 (6)	1 (6)	1 (6)	1 (6)	0	0	0	0
		25 females	3 (12)	0	0	1 (4)	0	0	0	0	0	0	0
	Total:	53	10 (19)	6 (11)	4 (8)	6 (11)	4 (8)	2 (4)	2 (4)	0	0	0	0
		23 males	5 (22)	5 (22)	3 (13)	4 (17)	3 (13)	2 (9)	2 (9)	0	0	0	0
		30 females	5 (17)	1 (3)	1 (3)	2 (7)	1 (3)	0	0	0	0	0	0
	Nizki	10 adults	7 (70)	6 (60)	3 (30)	5 (50)	3 (30)	2 (20)	2 (20)	1 (10)	0	0	0
		4 males	3 (75)	3 (75)	2 (50)	3 (75)	2 (50)	1 (25)	1 (25)	0	0	0	0
		6 females	4 (67)	3 (50)	1 (17)	2 (33)	1 (17)	1 (17)	1 (17)	1 (17)	0	0	0
		81 locals	28 (35)	14 (17)	7 (8)	8 (10)	4 (5)	3 (4)	0	0	0	0	0
		34 males	14 (41)	6 (18)	3 (8)	3 (9)	2 (6)	1 (3)	0	0	0	0	0
		47 females	14 (30)	8 (17)	4 (9)	5 (11)	2 (4)	2 (4)	0	0	0	0	0
	Total:	91	35 (38)	20 (22)	10 (11)	13 (14)	7 (8)	5 (5)	2 (2)	1 (1)	0	0	0
		38 males	17 (45)	9 (24)	5 (13)	6 (16)	4 (11)	2 (5)	1 (3)	0	0	0	0
		53 females	18 (34)	11 (21)	5 (9)	7 (13)	3 (6)	3 (6)	1 (2)	1 (2)	0	0	0
	Agattu	5 adults	4 (80)	4 (80)	3 (60)	3 (60)	1 (20)	2 (40)	0	0	0	0	0
		2 males	2 (100)	2 (100)	1 (50)	2 (100)	0	0	0	0	0	0	0
		3 females	2 (67)	2 (67)	2 (67)	1 (33)	1 (33)	2 (67)	0	0	0	0	0
		26 locals	14 (54)	10 (38)	7 (27)	6 (23)	3 (12)	1 (4)	2 (8)	0	0	0	0
		14 males	8 (57)	6 (43)	4 (29)	3 (21)	2 (14)	1 (7)	1 (7)	0	0	0	0
		12 females	6 (50)	4 (33)	3 (25)	3 (25)	1 (8)	0	1 (8)	0	0	0	0
	Total:	31	18 (58)	14 (45)	10 (32)	9 (29)	4 (13)	3 (10)	2 (6)	0	0	0	0
		16 males	10 (63)	8 (50)	5 (31)	5 (31)	1 (6)	1 (6)	1 (6)	0	0	0	0
		15 females	8 (53)	6 (40)	5 (33)	4 (27)	3 (20)	2 (13)	1 (7)	0	0	0	0
1992	Little Kiska	10 adults		10 (100)	8 (80)	10 (100)	3 (30)	4 (40)	2 (20)	0	0	0	0
		4 males		4 (100)	3 (75)	4 (100)	2 (50)	1 (25)	1 (25)	0	0	0	0
		6 females		6 (100)	5 (83)	6 (100)	1 (17)	3 (50)	1 (17)	0	0	0	0
		50 locals		30 (60)	15 (30)	22 (44)	13 (26)	11 (22)	5 (20)	0	1 (2)	0	0
		22 males		12 (55)	7 (32)	9 (41)	7 (32)	5 (23)	2 (9)	0	0	0	0
		28 females		18 (64)	8 (29)	13 (46)	6 (21)	6 (21)	3 (11)	0	1 (4)	0	0

Appendix A8. (Continued).

Year banded	Translocation Island	Number translocated	Number resighted (%)										
			1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02 through 2003-04
1992 (cont.)	Little Kiska (cont.)												
	Total:	60		40 (67)	23 (38)	32 (53)	16 (27)	15 (25)	7 (12)	0	0	0	0
		26 males		16 (62)	10 (38)	13 (50)	9 (35)	6 (23)	3 (12)	0	0	0	0
		34 females		24 (71)	13 (38)	19 (56)	7 (21)	9 (26)	4 (12)	0	0	0	0
	Nizki	9 adults		6 (67)	1 (11)	2 (22)	1 (11)	2 (22)	1 (11)	0	0	0	0
		3 males		2 (67)	0	0	0	0	0	0	0	0	0
		6 females		4 (67)	1 (17)	2 (33)	1 (17)	2 (33)	1 (17)	0	0	0	0
		61 locals		16 (26)	8 (13)	15 (25)	7 (11)	9 (15)	7 (11)	0	4 (7)	3 (5)	0
		38 males		10 (26)	3 (8)	10 (26)	5 (13)	5 (13)	4 (11)	0	4 (11)	2 (5)	0
		23 females		6 (26)	5 (22)	5 (22)	2 (9)	4 (17)	3 (13)	0	0	1 (4)	0
	Total:	70		22 (31)	9 (13)	17 (24)	8 (11)	11 (16)	8 (11)	0	4 (6)	3 (4)	0
		41 males		12 (29)	3 (7)	10 (24)	5 (12)	5 (12)	4 (10)	0	4 (10)	2 (5)	0
		29 females		10 (34)	6 (21)	7 (24)	3 (10)	6 (21)	4 (14)	0	0	1 (3)	0

Appendix A9. Sightings of color marked Aleutian Canada geese banded and released on Kiliktagik and Anowik Islands (Semidi Islands) in August 1991 and 1995.

			Number resighted (%)												
Year banded	Translocation Island	Number translocated	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
1991	Kiliktagik	8 adults	8 (100)	6 (75)	6 (75)	6 (75)	7 (88)	7 (88)	8 (100)	6 (75)	3 (38)	2 (25)	3 (38)	1 (13)	0
		3 males	3 (100)	2 (67)	2 (67)	2 (67)	2 (67)	2 (67)	3 (100)	2 (67)	1 (33)	1 (33)	1 (33)	0	0
		5 females	5 (100)	4 (80)	4 (80)	4 (80)	5 (100)	5 (100)	5 (100)	4 (80)	2 (40)	1 (20)	2 (40)	1 (20)	0
		16 locals	7 (44)	6 (38)	4 (25)	4 (25)	3 (19)	3 (19)	4 (25)	4 (25)	3 (19)	3 (19)	3 (19)	3 (19)	0
		10 males	6 (60)	5 (50)	3 (30)	3 (30)	2 (20)	2 (20)	2 (20)	2 (20)	2 (20)	2 (20)	2 (20)	2 (20)	0
		6 females	1 (17)	1 (17)	1 (17)	1 (17)	1 (17)	1 (17)	2 (33)	2 (20)	1 (17)	1 (17)	1 (17)	1 (17)	0
	Total:	24	15 (63)	12 (50)	10 (42)	10 (42)	10 (42)	10 (42)	12 (50)	10 (42)	6 (25)	5 (21)	6 (25)	4 (17)	0
		13 males	9 (69)	7 (54)	6 (46)	6 (46)	7 (54)	7 (54)	5 (38)	4 (31)	3 (23)	3 (23)	3 (23)	2 (22)	0
		11 females	6 (55)	5 (45)	4 (36)	4 (36)	3 (27)	3 (27)	7 (64)	6 (55)	3 (27)	2 (18)	3 (27)	2 (18)	0
1995		3 adults					2 (67)	2 (67)	3 (100)	2 (67)	1 (33)	1 (33)	1 (33)	1 (33)	0
		1 male					0	0	1 (100)	1 (100)	0	0	0	0	0
		2 females					2 (100)	2 (100)	2 (100)	1 (50)	1 (50)	1 (50)	1 (50)	1 (50)	0
		1 local					1 (100)	1 (100)	0	0	0	0	0	0	0
		1 female					1 (100)	1 (100)	0	0	0	0	0	0	0
	Total:	4					3 (75)	3 (75)	3 (75)	2 (50)	1 (25)	1 (25)	1 (25)	1 (25)	0
		1 male					0	0	1 (100)	1 (100)	0	0	0	0	0
		3 females					3 (100)	3 (100)	2 (67)	1 (33)	1 (33)	1 (33)	1 (33)	1 (33)	0
1991	Anowik	6 adults	5 (83)	4 (67)	3 (50)	2 (33)	2 (33)	2 (33)	0	0	1 (17)	1 (17)	1 (17)	1 (17)	0
		3 males	2 (67)	2 (67)	1 (33)	1 (33)	1 (33)	1 (33)	0	0	0	0	0	0	0
		3 females	3 (100)	2 (67)	2 (67)	1 (33)	1 (33)	1 (33)	0	0	1 (33)	1 (33)	1 (33)	1 (33)	0
		8 locals	4(50)	1 (13)	1 (13)	1 (13)	1 (13)	1 (13)	0	0	1 (13)	1 (13)	1 (13)	1 (13)	0
		4 males	2 (50)	0	0	0	0	0	0	0	0	0	0	0	0
		4 females	2 (50)	1 (25)	1 (25)	1 (25)	1 (25)	1 (25)	0	0	1 (25)	1 (25)	1 (25)	1 (25)	0
	Total:	14	9 (64)	5 (36)	4 (29)	3 (21)	3 (21)	3 (21)	0	0	2 (14)	2 (14)	2 (14)	2 (14)	0
		7 males	4 (57)	2 (29)	1 (14)	1 (14)	1 (14)	1 (14)	0	0	0	0	0	0	0
		7 females	5 (71)	3 (43)	3 (43)	2 (29)	2 (29)	2 (29)	0	0	2 (29)	2 (29)	2 (29)	2 (29)	0
1995		1 adult male					1 (100)	1 (100)	0	0	0	0	0	0	0

Appendix A10. Sightings of color marked Aleutian Canada geese banded and released on Chagulak Island in August 1992 and 1993 [a].

			Number resighted (%)						
Year banded	Translocation Island	Number translocated	1992-93	1993-94	1994-95	1995-96 to 1998-99	1999-2000	2000-01	2001-02 through 2003-04
1992	Chagulak	1 adult	1 (100)	1 (100)	1 (100)	0	0	0	0
		1 male	1 (100)	1 (100)	1 (100)	0	0	0	0
		4 locals	2 (50)	1 (25)	1 (25)	0	0	0	0
		2 males	1 (50)	0	0	0	0	0	0
		2 females	1 (50)	1 (25)	1 (25)	0	0	0	0
	Total:	5	3 (60)	2 (40)	2 (40)	0	0	0	0
		3 males	1 (33)	1 (33)	1 (33)	0	0	0	0
		2 females	2 (100)	1 (50)	1 (50)	0	0	0	0
1993		2 adults		2 (100)	1 (50)	0	0	0	0
		1 male		1 (100)	1 (100)	0	0	0	0
		1 female		1 (100)	0	0	0	0	0
		7 locals		5 (71)	5 (71)	0	1 (14)	1 (14)	0
		3 males		3 (43)	3 (43)	0	1 (33)	0	0
		4 females		2 (29)	2 (29)	0	0	1 (25)	0
	Total:	9		7 (78)	6 (67)	0	1 (11)	1 (11)	0
		4 males		4 (100)	4 (100)	0	1 (25)	0	0
		5 females		3 (60)	2 (40)	0	0	1 (20)	0

[a] Assumes all sightings are from the 1992 and 1993 releases and not duplicate bands released in 1975 and 1984.

Appendix A11. Numbers of Aleutian Canada geese banded in Alaska and California, 1971-2003.

		Male		Female					
Year	Location	Adult	Immature	Adult	Immature	Unknown	Total male	Total female	Total
1971	Amchitka Island	44	0	30	0	0	44	30	74
1974	Agattu Island	30	3	19	2	0	33	21	54
	Buldir Island	17	39	17	39	1	56	56	113
1975	Buldir Island	8	26	11	21	11	34	32	77
1976	Amchitka Island	19	0	9	1	0	19	10	29
	Buldir Island	4	65	14	44	1	69	58	128
	Crescent City	27	0	29	0	0	27	29	56
1977	Crescent City	85	0	73	0	0	85	73	158
1978	Agattu Island	72	0	64	0	0	72	64	136
	Crescent City	3	0	11	0	0	3	11	14
1979	Agattu Island	83	20	97	28	17	103	125	245
	Buldir Island	6	3	10	4	6	9	14	29
	Crescent City	3	0	17	0	1	3	17	21
1980	Agattu Island	5	33	11	59	0	38	70	108
	Amchitka Island	76	0	45	0	0	76	45	121
	Buldir Island	13	24	16	14	0	37	30	67
	Semidi Islands	3	5	4	1	3	8	5	16
	Crescent City	30	0	42	0	0	30	42	72
1981	Nizki Island	104	89	71	95	0	193	166	359
	Semidi Islands	5	0	1	1	0	5	2	7
	Crescent City	24	0	58	0	1	24	58	83
1982	Agattu Island	66	126	86	143	0	192	229	421
	Buldir Island	0	2	2	3	0	2	5	7
	Crescent City	25	0	29	0	0	25	29	54
1983	Agattu Island	12	37	16	40	0	49	56	105
	Buldir Island	0	1	0	1	0	1	1	2
	Crescent City	71	0	52	0	0	71	52	123
1984	Agattu Island	12	22	16	34	0	34	50	84
	Chagulak Island	2	10	2	6	0	12	8	20
	Crescent City	48	0	41	0	0	48	41	89
1985	Amchitka Island	10	48	16	48	0	58	64	122
	Buldir Island	0	0	1	0	0	0	1	1
	Crescent City	65	0	56	0	0	65	56	121
1986	Crescent City	67	0	72	0	0	67	72	139
	El Sobrante	2	0	2	0	0	2	2	4
1987	Amchitka Island	21	41	33	34	0	62	67	129
	Semidi Islands	0	0	1	0	5	0	1	6
	Crescent City	48	0	58	0	0	48	58	106
1988	Buldir Island	18	4	8	4	4	22	12	38
	Little Kiska Island	7	54	10	39	3	61	49	113
	Nizki Island	2	2	2	6	0	4	8	12
	Crescent City	29	0	37	0	0	29	37	66

Appendix A11. (Continued).

Year	Location	Male Adult	Male Immature	Female Adult	Female Immature	Unknown	Total male	Total female	Total
1989	Little Kiska Island	2	10	0	14	0	12	14	26
	Nizki Island	8	41	15	52	0	49	67	116
	Semidi Islands	0	0	0	0	3	0	0	3
	Crescent City	55	0	61	0	0	55	61	116
1990	Buldir Island	1	33	1	12	0	34	13	47
	Little Kiska Island	2	9	4	10	0	11	14	25
	Nizki Island	4	14	3	17	0	18	20	38
	Semidi Islands	1	2	2	2	0	3	4	7
	Crescent City	25	0	35	0	0	25	35	60
1991	Agattu Island	2	14	3	12	0	16	15	31
	Buldir Island	5	0	6	0	0	5	6	11
	Little Kiska Island	5	18	5	25	0	23	30	53
	Nizki Island	4	34	6	47	0	38	53	91
	Semidi Islands	6	17	8	10	2	23	18	43
1992	Buldir Island	0	0	1	0	0	0	1	1
	Chagulak Island	1	2	0	3	0	3	3	6
	Little Kiska Island	4	22	6	28	0	26	34	60
	Nizki Island	3	38	6	23	0	41	29	70
	Crescent City	32	18	24	13	0	50	37	87
1993	Chagulak Island	1	3	1	4	0	4	5	9
1994	Skagul Island	4	26	14	26	0	30	40	70
	Yunaska Island	6	23	12	40	0	29	52	81
1995	Semidi Islands	0	1	2	1	4	1	3	8
	Skagul Island	5	25	14	37	0	30	51	81
	Yunaska Island	4	26	12	45	0	30	57	87
	Crescent City	0	1	0	0	0	1	0	1
	Modesto	60	0	72	0	0	60	72	132
1996	Buldir Island	7	30	17	20	0	37	37	74
	Modesto	38	24	39	28	0	62	67	129
1997	Buldir Island	10	17	16	20	0	27	36	63
	Modesto	53	44	68	38	2	97	106	205
1998	Modesto	74	51	74	60	0	125	134	259
1999	Modesto	97	41	106	41	0	138	147	285
2000	Modesto	58	43	71	59	0	101	130	231
2001	Kiliktagik Island	11	0	19	0	0	11	19	30
2002	Modesto	33	22	56	33	1	55	89	145
2003	Modesto	58	63	79	52	0	121	131	252
	Total	1,845	1,369	2,047	1,439	65	3,211	3,486	6,762

Appendix A12. Distribution of multiple observations of color banded Aleutian Canada geese from 1991-92 to 2003-2004.

	Times Observed - Number of individuals (%)															
Year	1	2	3	4	5	6-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90	Total
1991-92	47 (8.9)	24 (4.5)	20 (3.8)	35 (6.6)	37 (7.0)	152 (28.7)	137 (25.8)	62 (11.7)	15 (2.8)	1 (0.2)	0	0	0	0	0	530 (100)
1992-93	91 (17.1)	90 (16.9)	70 (13.2)	45 (8.5)	32 (6.0)	88 (16.5)	86 (16.2)	18 (3.4)	12 (2.3)	0	0	0	0	0	0	532 (100)
1993-94	105 (31.2)	64 (19.0)	35 (10.4)	22 (6.5)	22 (6.5)	57 (16.9)	13 (3.9)	0	0	0	0	1 (0.3)	12 (3.6)	6 (1.8)	0	337 (100)
1994-95	41 (7.6)	21 (3.9)	42 (7.7)	47 (8.7)	52 (9.6)	168 (31.0)	66 (12.2)	41 (7.5)	48 (8.8)	14 (2.6)	2 (0.4)	0	0	0	0	542 (100)
1995-96	111 (20.0)	50 (9.0)	40 (7.2)	25 (4.5)	26 (4.7)	97 (17.5)	184 (33.3)	20 (3.6)	0	0	0	0	0	0	0	553 (100)
1996-97	84 (17.5)	38 (7.9)	16 (3.3)	21 (4.4)	22 (4.2)	103 (21.5)	173 (36.1)	21 (4.4)	1 (0.1)	0	0	0	0	0	0	479 (100)
1997-98	65 (10.9)	35 (5.8)	20 (3.3)	19 (3.2)	26 (4.3)	174 (29.0)	228 (38.0)	33 (5.5)	0	0	0	0	0	0	0	600 (100)
1998-99	100 (18.0)	85 (15.3)	97 (17.5)	81 (14.6)	78 (14.1)	110 (19.8)	4 (0.7)	0	0	0	0	0	0	0	0	555 (100)
1999-00	70 (11.0)	40 (6.3)	35 (5.5)	63 (9.9)	49 (7.7)	222 (35.0)	151 (23.8)	3 (0.6)	1 (0.2)	0	0	0	0	0	0	634 (100)
2000-01	129 (24.0)	97 (18.1)	82 (15.3)	63 (11.7)	53 (9.9)	105 (19.5)	8 (1.5)	0	0	0	0	0	0	0	0	537 (100)
2001-02	107 (16.5)	104 (16.0)	51 (7.9)	38 (5.9)	23 (3.5)	39 (6.0)	40 (6.2)	38 (5.9)	35 (5.4)	31 (4.8)	30 (4.6)	30 (4.6)	28 (4.3)	27 (4.2)	27 (4.2)	648 (100)
2002-03	131 (22.7)	80 (13.8)	65 (11.2)	70 (12.1)	37 (6.4)	156 (27.0)	39 (6.8)	0	0	0	0	0	0	0	0	578 (100)
2003-04	187 (27.9)	84 (12.5)	75 (11.2)	59 (8.8)	52 (7.7)	141 (21.0)	63 (9.4)	10 (1.5)	0	0	0	0	0	0	0	671 (100)

OBSERVATIONS OF

NECK BANDED CACKLING CANADA GEESE

Progress Report - July 2004

prepared for

U. S. Fish and Wildlife Service
Alaska Department of Fish and Game
Washington Department of Fish and Wildlife
Oregon Department of Fish and Wildlife
California Department of Fish and Game

INTRODUCTION:

This progress report summarizes data collected during fall-spring 2003-2004. The specific objectives of the observation program to monitor cackling Canada geese are as follows: (1) estimate annual and periodic survival rates, (2) verify population estimates and trends with the use of mark-recapture methodology, and (3) describe the current distribution of cacklers and factors that may influence distribution. As usual, annual survival rates, based on neck band observations, will be presented for nine years post-resumption of hunting in 1994-95 as well as the latest mark-recapture population information. Changes in the focus of objective (3) will be discussed. A detailed summary of the observation program is presented in Appendix B.

PROGRESS: Survival

Survival rates were calculated with models and computer software described by Pollock et al. 1990. This year we will continue our past approach of presenting the final results of the survival analysis only. We will be happy to provide additional details concerning the calculation of the survival estimates to those desiring such information per individual request.

Survival rates were measured from the midpoint of a given time period to the midpoint of the next time period. The three time periods were defined as 15 October - 15 November (Fall), 15 January - 15 February (Winter), and 15 March - 30 April (Spring). We limited the analysis to geese banded as adults and preformed the analysis based on banding cohorts for each of the individual banding years from 1989 through 2003. Estimates were determined separately for adult males and females. In instances where goodness-of-fit-tests indicated lack of fit for survival models, variances for period survival were inflated as described in Burnham et al. 1987: 243-254.

Results: Survival estimates by period and banding cohort are presented in Table 1. Once again, no differences were detected between male and females survival rates and they were combined for the purposes of this analysis.

Survival has varied annually since hunting resumed in 1994 but we have detected no difference in overall survival among the two periods pre and post-harvest restrictions (Fig. 1). This result indicates harvest does not appear to be influencing survival of adult cackling Canada geese. An analysis of juvenile survival will be conducted as soon as possible and results will be presented in a future progress report. We will continue to monitor survival rates in order to determine if changes in harvest regulations alter long-term trends.

MARK-RECAPTURE POPULATION ESTIMATE:

In 2003-04, the indirect estimate increased for the first time since 1999-2000 whereas there was slight decrease in the breeding pair index during spring 2003 (Fig. 2, Table 2). Despite the shift in annual trends, the two indices remain highly correlated ($r = 0.88$). This reaffirms our belief that in future years winter population estimates will likely continue to mirror changes in the breeding ground survey results. To this end, we will continue to conduct mark-recapture studies

on cackling Canada geese to obtain an independent measure of the population trend as mandated by the cooperating agencies.

WINTER DISTRIBUTION TRENDS:

There was no change in the overall winter distribution of cacklers in 2003-2004 as geese continue to winter in Oregon and Washington (Fig. 3). Only a small number of marked cackling Canada geese were observed in California; however, unlike 2003, two marked geese previously observed in the Willamette Valley during winter 2003 were resighted in California during winter 2004 (Table 4).

LITERATURE CITED:

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Pollock, K. H., J. D. Nichols, C. Brownie, and J. E. Hines. 1990. Statistical inference for capture-recapture experiments. Wildl. Monogr. 107:1-97.

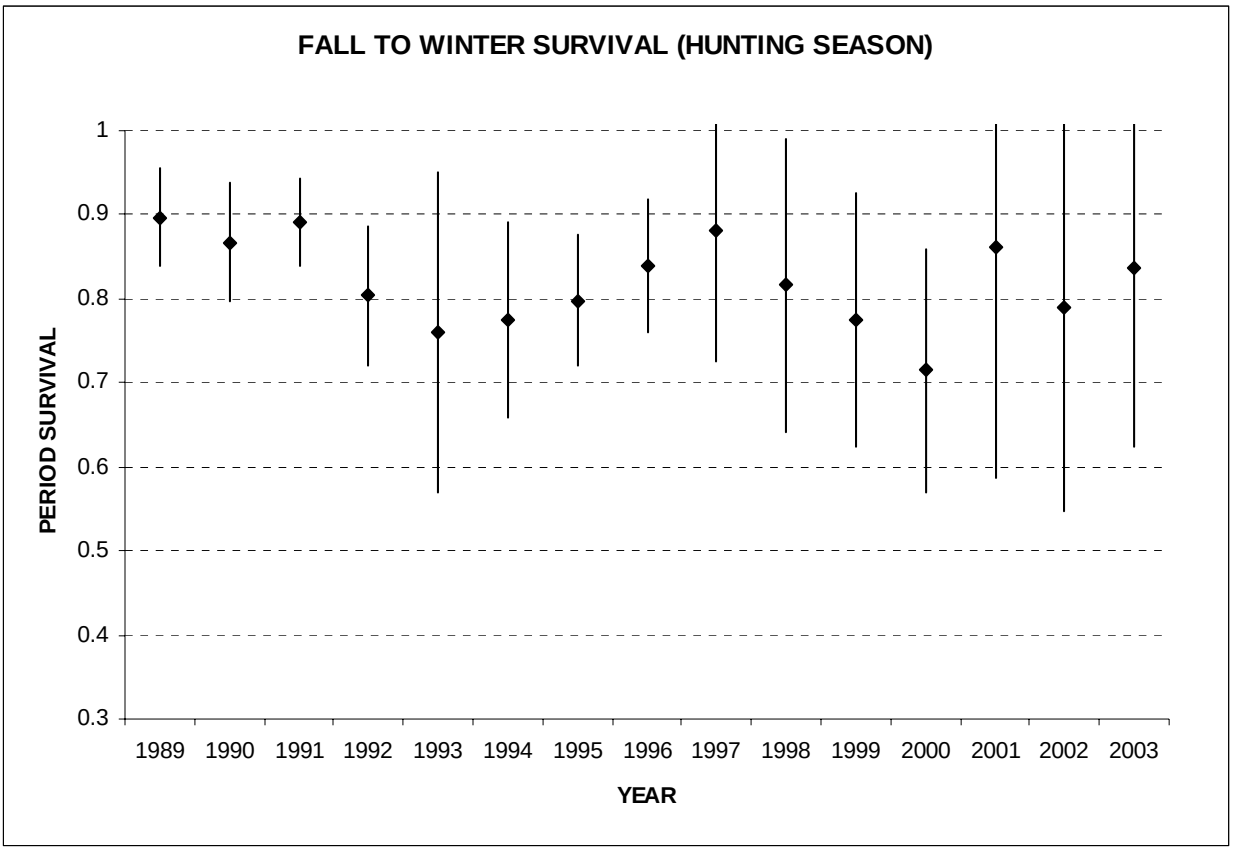

Figure 1. Fall to winter (hunting season) survival rates for adult cackling Canada geese, 1989-2003.

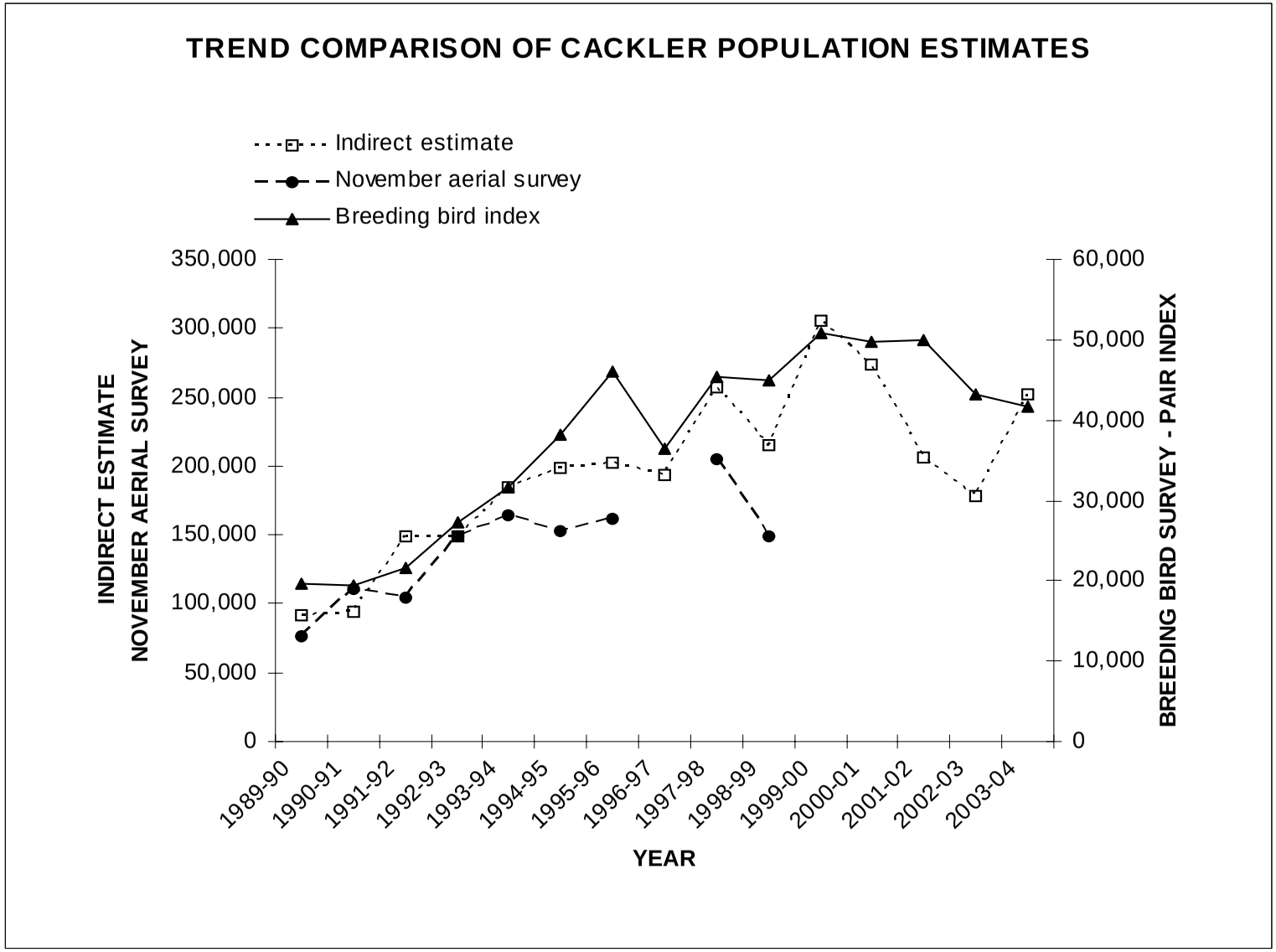

Figure 2. Trend comparison of 3 population estimates for cackling Canada geese, 1989-90 to 2003-04.

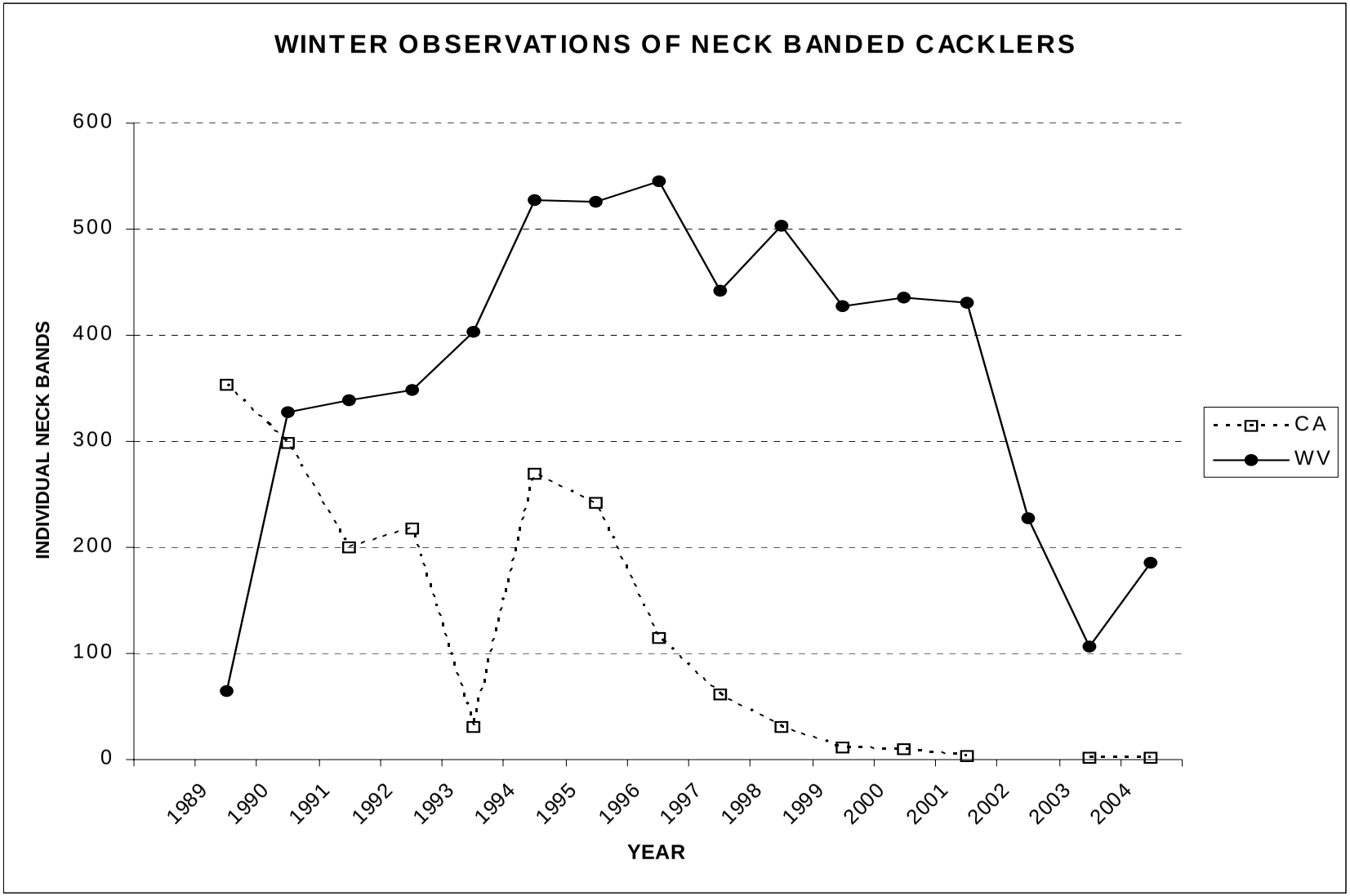

Figure 3. Mid-winter (Jan. 15 - Feb. 15) observations of individual neck banded cackling Canada geese from Oregon and Washington (WV) and California (CA), 1989-2004.

Table 1. Estimated period survival rates of adult male and female cackling Canada geese, 1992 to 2004. Survival was estimated from the midpoint of one observation period to the middle of the following observation period. Periods were defined as Fall (October 15 - November 15), Winter (January 15 - February 15), and Spring (March 20 - April 30).

Year		1992	1993			1994			1995			1996			1997			1998			1999			2000			2001			2002			2003			2004
banded	Sex	F	W	S	F	W	S	F	W	S	F	W	S	F	W	S	F	W	S	F	W	S	F	W	S	F	W	S	F	W	S	F	W	S	F	W
MALES																																				
1992	M	0.8362	0.8574	1.1290	0.7241	0.8999	1.0050	0.6926	0.9579	1.1089	0.6774	1.0348	0.9135	0.9970	0.8204	1.0665	0.7651	0.9000	1.0473	0.6667	1.0694	1.3897	0.4000	0.9780	1.4805	0.3333	0.9556	1.0286	0.3333	1.7500	0.9248	0.9303	0.9232	0.9303	0.9314
		0.0450	0.0464	1.0073	0.0961	0.0604	1.0079	0.1038	0.0647	1.1224	0.1164	0.1096	1.1392	0.1416	0.1437	1.1995	0.1987	0.1763	1.3808	0.2658	0.1228	0.9467	0.2995	0.1514	1.5210	0.3691	0.2145	0.9715	0.3620	0.2709	0.2789	0.2939	0.3012	0.3101	0.3101
1993	M				0.8770	0.8955	1.0233	0.8169	0.9793	0.8979	0.9646	0.9305	1.0257	0.8088	0.9956	0.9753	0.8644	0.8835	1.0752	0.8448	0.6469	0.9604	0.7143	0.9172	1.3853	0.4141	0.9444	0.6818	0.5000	1.2083	1.0476	0.3333	0.8790	1.0000	0.8776
					0.0649	0.0737	0.0901	0.1113	0.0832	0.1079	0.1063	0.1187	0.1685	0.1680	0.1224	0.1828	0.2266	0.2541	0.3866	0.5226	0.4243	0.4714	0.3191	0.2973	1.4917	0.5133	0.8647	1.3271	0.9203	0.9786	2.1422	0.4644	0.4792	0.4942	0.5244
1994	M							0.8065	0.9061	1.0158	0.7610	1.0236	0.8932	0.8907	0.8710	1.1387	0.7960	0.9370	0.9271	0.6244	0.8167	1.1591	0.7475	0.8399	0.8565	0.6364	0.9861	0.7500	1.0000	0.6667	1.0000	1.0000	1.0000	1.5000	0.5833
								0.0578	0.0570	0.0802	0.0893	0.0790	0.1165	0.1239	0.0998	0.1231	0.1682	0.2121	0.2824	0.2227	0.1922	0.2192	0.2862	0.3314	0.3258	0.2389	0.2167	0.2613	0.1802	0.1860	0.1922	0.1975	0.2088	1.5500	0.2333
1995	M										0.7839	0.9676	1.0251	0.7833	0.9347	0.9816	0.8580	0.9198	0.9750	0.8697	0.6435	0.8699	0.7692	0.8947	1.2588	0.5714	1.0308	1.1394	0.5000	0.8830	0.7292	0.6667	0.8609	0.5417	0.6667
											0.0665	0.0536	1.1223	0.1261	0.0942	1.1112	0.1210	0.1297	0.3306	0.4495	0.3030	0.2359	0.1877	0.1134	0.4968	0.2984	0.2831	0.8384	0.2423	0.2521	0.4492	0.2904	0.3019	0.6190	0.4329
1996	M													0.7839	0.9676	1.0251	0.7833	0.9347	0.9816	0.8580	0.9198	0.9750	0.8697	0.6435	0.8699	0.7692	0.8947	1.2588	0.5714	1.0308	1.1394	0.5000	0.8830	0.9375	0.3333
														0.0413	0.0333	0.0759	0.0783	0.0585	0.0690	0.0751	0.0805	0.2052	0.2790	0.1881	0.1464	0.1165	0.0704	0.3084	0.1852	0.1757	0.5204	0.1504	0.1585	0.6384	0.1739
1997	M																0.9039	0.7769	0.9716	0.7500	1.0115	0.9813	0.8485	0.9328	1.0501	0.6667	0.7596	0.9920	1.2821	0.9175	2.1750	1.0306	1.0540	1.0575	0.6667
																	0.0765	0.0817	0.0947	0.0882	0.0611	1.1199	0.1233	0.1206	0.2252	0.1798	0.1599	0.2595	0.1325	0.1372	0.1418	0.1510	0.1592	0.1592	0.2687
1998	M																			1.0312	1.0996	0.9164	0.6667	1.1130	1.0816	0.5556	1.0461	0.9329	0.6250	1.1778	0.6667	1.0000	0.9375	0.9333	1.0000
																				0.0340	1.0059	1.0222	0.0819	1.0174	3.1129	0.1647	0.0887	2.2399	0.1701	0.1337	0.1354	0.1414	0.0605	0.0644	0.1472
1999	M																						1.0484	0.9570	0.8882	0.7500	0.9006	1.0308	0.5000	1.4231	0.5833	0.5000	0.8581	0.8370	0.5000
																							0.0557	0.1041	0.1465	0.1246	0.0762	0.4683	0.2468	0.9256	0.4718	0.2911	0.3439	0.3685	0.3432
2000	M																									1.0000	1.0622	1.0532	0.5098	0.6250	0.8933	0.9939	0.6000	1.8889	0.9585
																										0.3174	0.0938	0.5425	0.3317	0.2566	0.1771	0.3999	0.2507	0.2932	0.3217
2001	M																												1.0000	1.1731	0.6546	0.5556	1.0000	1.4167	1.0000
																													0.1954	0.2104	0.2118	0.1641	0.2997	0.6130	0.1954
2002	M																															1.0000	1.2436	0.8631	0.6667
																																0.1900	0.2400	0.2558	0.1563
MEAN	M	0.7977	0.8616	1.1020	0.7552	0.9283	0.9591	0.7768	0.9365	0.9846	0.7849	0.9851	0.9870	0.8446	0.8694	1.0566	0.8856	0.8591	0.9346	0.7844	0.8606	1.0840	0.7237	0.9142	1.0246	0.6505	0.9749	0.9595	0.7294	1.0389	0.9592	0.7971	0.9200	1.0395	0.7740
(SE)		0.1361	0.1320	0.2865	0.1797	0.1583	0.1912	0.1519	0.1253	0.1832	0.1620	0.1324	0.2158	0.2261	0.1807	0.2500	0.3394	0.3189	0.3609	0.3058	0.2421	0.5056	0.2512	0.2167	0.5214	0.2772	0.2581	0.5227	0.3106	0.3554	0.4481	0.2755	0.2818	0.4659	0.3057
FEMALES																																				
1992	F	0.8195	0.9010	1.0247	0.7818	0.9758	0.9577	0.8372	0.9952	0.9287	0.7891	0.9730	0.8648	0.8816	1.0286	0.7558	0.9675	1.0778	0.6970	0.9091	1.0774	0.9013	1.1791	0.4938	0.6667	0.5000	0.8571	1.5000	0.9015	0.9046	2.0000	0.9469	0.9458	0.5000	1.0000
		0.0508	0.0585	1.1147	0.1033	0.0559	0.0857	0.0841	0.0515	0.1165	0.1219	0.1341	1.1495	0.1210	0.1369	1.1644	0.1728	0.2667	2.0092	0.1293	0.1450	0.2160	1.1961	0.5433	0.6977	0.5176	0.1976	0.2246	0.2313	0.2380	0.2427	0.2557	0.2557	0.5281	0.2794
1993	F				0.8671	0.9451	1.0031	0.7846	0.9536	1.0897	0.7726	0.9045	0.9888	0.8267	0.9735	0.9634	0.9180	0.9574	0.9844	0.5833	0.9338	0.9754	1.0500	0.5217	1.3900	0.5000	0.8667	1.6538	0.2500	0.9063	0.8571	1.0000	0.8333	0.8000	1.0000
					0.0484	0.0458	0.0717	0.0828	0.0502	0.0824	0.1024	0.0871	1.1119	0.1124	0.0666	0.0895	0.1171	0.1415	2.0657	0.1824	0.1604	2.0408	0.6713	0.3528	0.6924	0.3181	0.1597	2.2908	0.2727	0.2923	0.2406	0.3087	0.2766	0.3254	0.3381
1994	F							0.7652	0.8482	0.9699	0.9782	0.7936	1.0553	0.7750	0.9500	0.8841	0.8710	1.0069	0.9350	0.7143	1.0000	1.1774	0.6429	0.8750	1.6667	0.4000	0.8487	0.7500	1.2500	0.9162	0.9231	0.9265	0.9220	0.9281	0.9281
								0.0822	0.0911	0.0738	0.1115	0.1177	1.1394	0.1470	0.1561	1.1578	0.1119	0.1515	2.2877	0.2238	0.1424	3.0063	0.2370	0.1255	1.5116	0.4020	2.6189	0.5619	0.2507	0.2587	0.2667	0.2759	0.2920	0.2920	0.2993
1995	F										0.7768	0.9652	0.9153	0.9590	0.9112	0.9878	0.7241	1.0682	0.9249	0.7565	0.9333	0.9488	0.8125	1.0509	0.8279	0.8571	0.9895	0.7941	1.4333	0.5000	0.8409	0.8148	0.5833	0.8571	1.1667
											0.0445	0.0425	0.0563	0.0652	0.0798	1.1025	0.0829	0.0867	1.1700	0.1602	0.1427	1.1207	0.0974	0.0608	1.1418	0.1320	0.0751	1.1092	0.9435	0.3704	0.3747	0.4188	0.2480	1.1323	0.3118
1996	F													0.7768	0.9652	0.9283	0.9287	0.9107	0.9833	0.7241	1.0651	0.9189	0.7558	0.9323	0.9436	0.8125	1.0492	0.8187	0.8571	1.0309	0.6400	1.4167	0.7121	0.5370	0.7937
														0.0445	0.0425	0.0591	0.0691	0.0795	1.1015	0.0829	0.0859	1.1683	0.1597	0.1420	1.1194	0.0974	0.0590	1.1409	0.1320	0.1024	1.1304	0.9145	0.5722	0.3173	0.3939
1997	F																0.7917	0.8519	1.0671	0.8830	0.8315	0.9696	0.9543	0.8830	1.0649	0.7273	0.9142	0.8438	1.7284	0.9624	0.7500	1.0000	1.0000	1.5833	0.4643
																	0.0842	0.0856	1.1233	0.1722	0.1384	0.0879	0.1266	0.1407	2.2417	0.1909	0.1053	0.1631	0.1383	0.1428	0.1545	0.1482	0.1491	1.6928	0.2829
1998	F																			1.0527	0.9529	1.0676	0.6478	1.0944	0.9402	0.7192	0.8000	0.9618	0.8519	0.7294	0.6538	0.7500	1.4000	0.4375	0.8706
																				0.0415	0.0940	1.0449	0.0975	0.1401	2.0074	0.1595	0.1260	2.0043	0.3692	0.3389	0.2453	0.2150	0.5422	0.2090	0.2307
1999	F																						1.0000	0.8947	1.1765	0.7332	0.8542	0.6429	1.0000	0.9002	1.0000	0.9010	0.8831	0.8879	0.8879
																							0.2078	0.0704	2.2238	0.2581	0.2701	1.1671	0.1979	0.2234	0.2233	0.2164	0.2056	0.2133	0.2164
2000	F																									1.0491	0.8654	0.9363	1.2941	1.0362	0.7900	0.6667	0.8310	1.1000	0.6667
																										0.1116	0.1332	0.2491	0.1646	0.1823	0.2857	0.2340	0.2599	0.3683	0.2874
2001	F																												1.0000	0.9500	1.2105	0.5455	0.9265	0.8788	0.7143
																													0.1356	0.0487	0.2110	0.1299	0.1299	0.1478	0.1388
2002	F																															1.0000	1.3958	0.7500	0.6867
																																0.3159	0.4450	0.3609	0.2765
MEAN	F	0.7999	0.8551	1.1489	0.7623	0.9042	1.0046	0.7817	0.9374	1.0069	0.8166	0.9554	0.9569	0.8615	0.8783	0.9519	0.8876	0.9573	0.8686	0.8090	0.9398	0.9503	0.8784	0.7951	1.0738	0.7103	0.8553	0.8977	0.9867	0.8805	0.9444	0.8976	0.9309	0.8475	0.8404
(SE)		0.1163	0.0957	0.3487	0.1746	0.0979	0.1360	0.1264	0.0923	0.1500	0.1359	0.1172	0.1983	0.2014	0.1536	0.1615	0.1793	0.3493	0.3054	0.3216	0.3114	0.2857	0.4776	0.2676	0.4597	0.2842	0.2100	0.4224	0.2941	0.2462	0.2619	0.3196	0.3164	0.4045	0.2962

Table 2. Mark-Recapture population estimates of cackling Canada geese in the Pacific Flyway, 1989-1990 through 2003-2004. Estimates were based on the number of unique neckbands observed during the winter observation period (Jan. 15 - Feb. 15), the average estimated probability of detection, and the unmarked to marked ratio of cackling Canada geese obtained by field observers while collecting neckband observations.

	A	B	A/B	C	(A/B)*C		
Year	Number of unique neckbands observed	Probability of detection	Estimate total number of neckbands	Unmarked to mark ratio	Population estimate	November count [a]	Breeding pair index [b]
1989-90	522	0.5919	881.91	104.39	92,062	76,800	19,736
1990-91	522	0.5653	923.36	102.06	94,237	110,200	19,372
1991-92	557	0.5521	1,008.84	147.32	148,628	104,600	21,588
1992-93	433	0.4145	1,044.73	143.14	149,542	149,300	27,216
1993-94	793	0.6057	1,309.27	141.18	184,844	164,300	31,556
1994-95	767	0.6623	1,158.16	171.44	198,558	152,500	38,172
1995-96	659	0.5338	1,234.53	164.41	202,969	161,400	46,024
1996-97	503	0.5297	949.53	203.82	193,531	No Survey	36,390
1997-98	535	0.4792	1,116.44	229.94	256,715	205,087	45,416
1998-99	439	0.4621	950.01	226.99	215,644	148,564	44,868
1999-00	446	0.4195	1,063.25	287.86	306,065	Surv. discont.	50,738
2000-01	434	0.5517	786.68	347.17	273,108	--	49,749
2001-02	277	0.4192	541.56	380.84	206,249	--	50,056
2002-03	145	0.3599	402.86	441.32	177,794	--	43,141
2003-04	187	0.3587	521.34	482.59	251,594	--	41,665

[a] Washington, Oregon, and California. Survey was discontinued in 1999-2000 because of logistics and use of breeding ground survey data.
[b] Yukon River Delta, Alaska. Breeding pair index based on number of paired and single birds observed.

Table 3. Winter resighting locations/percentages of neck collared cackling Canada geese originally observed in California during the previous winter period (15 January - 15 February).

	Location resighted				
Year	California (%)	Willamette Valley (%)	Total number resighted	Number seen previous winter	Percent resighted
1990	94 (73)	34 (27)	128	358	36
1991	69 (66)	36 (34)	105	300	35
1992	53 (72)	20 (27)	73	230	32
1993	7 (14)	43 (86)	50	223	22
1994	9 (50)	9 (50)	18	30	60
1995	48 (46)	57 (54)	105	265	40
1996	27 (44)	35 (56)	62	167	37
1997	17 (46)	20 (54)	37	115	32
1998	12 (44)	15 (56)	27	61	44
1999	5 (29)	12 (71)	17	30	57
2000	1 (33)	2 (67)	3	11	27
2001	0 (0)	8 (100)	8	17	47
2002	0 (0)	7 (100)	7	8	88
2003	No marked	Cackling Canada geese	were observed	in CA during	winter 2002.
2004	0 (0)	6 (100)	6	6	100
Total	342 (53)	304 (47)	646	1,821	35

Table 4. Winter resighting locations/percentages of neck collared cackling Canada geese originally observed in Oregon or Washington (Willamette Valley) during the previous winter period (15 January - 15 February).

	Location resighted				
Year	Willamette Valley (%)	California (%)	Total number resighted	Number seen previous winter	Percent resighted
1990	21 (68)	10 (32)	31	60	52
1991	73 (80)	18 (20)	91	219	42
1992	81 (65)	44 (35)	125	294	43
1993	121 (98)	3 (2)	124	330	38
1994	174 (87)	26 (13)	200	402	50
1995	244 (97)	7 (3)	251	522	48
1996	247 (96)	9 (4)	256	598	43
1997	202 (95)	10 (5)	212	544	39
1998	270 (95)	13 (5)	283	442	64
1999	279 (99)	2 (1)	281	505	56
2000	152 (97)	4 (3)	156	428	36
2001	134 (99)	2 (1)	136	640	21
2002	365 (100)	0 (0)	365	759	48
2003	120 (100)	0 (0)	120	309	39
2004	78 (98)	2 (2)	80	139	58
Total	2,561 (94)	150 (6)	2,721	6,187	44

APPENDIX B

DETAILED SUMMARY OF THE 2003-2004

COLLAR OBSERVATION PROGRAM

FOR CACKLING CANADA GEESE

Note: Analysis of the neckband observation data was conducted with the following divisions of wintering locations: (1) southern Puget Sound, including Nisqually NWR (Washington above 46º 50'), (2) the lower Columbia River/Willapa Bay (Washington and Oregon between 45º 30' and 46º 50'), (3) the Willamette Valley (Oregon between 43º 00' and 45º 30'), (4) the Klamath Basin (northern California above 41º 00' and southern Oregon below 43º 00'), (5) the Sacramento Valley (California between 38º 00' and 41º 00'), (6) Modesto (California below 38º 00'), (7) Crescent City (northwestern California between 41º 50' and 42º 00') and the Oregon Coast (Oregon between 44º 00' and 46º 00', west of 123º 50'). Observations were also summarized by State Wildlife Area and Federal Refuge based on field observers' reports of "on-refuge" locations.

Appendix B1. Comparison of numbers of valid observations of cackling Canada geese by official and unofficial observers for 1991-1992 through 2003-2004.

	Number of observations		
	Source		
Year	Official Observers	Unofficial Observers	Total
1991-92	4,710	4,814	9,524
1992-93	4,594	1,606	6,200
1993-94	7,974	1,664	9,638
1994-95	7,699	788	8,477
1995-96	5,434	--	5,434
1996-97	4,549	--	4,549
1997-98	4,756	--	4,756
1998-99	3,667	--	3,667
1999-00	3,798	--	3,798
2000-01	3,138	–	3,138
2001-02	1,356	--	1,356
2002-03	680	--	680
2003-04	995	--	995

Appendix B2. Comparison of numbers of valid observations and unique individual cackling Canada geese seen by official observers for 1991-1992 through 2003-2004.

	Data from Official Observers					
	Number of observations			Number of individuals seen		
Year	Washington	Oregon	California	Washington	Oregon	California
1991-92	559	1,541	2,590	256	468	593
1992-93	1,333	2,122	1,139	444	619	398
1993-94	1,615	3,544	2,815	534	928	488
1994-95	1,498	3,697	2,504	505	984	319
1995-96	1,165	3,298	970	519	997	212
1996-97	1,065	3,091	393	519	933	105
1997-98	1,500	2,707	549	531	960	97
1998-99	744	2,784	139	352	876	28
1999-00	981	2,748	69	335	866	28
2000-01	553	2,565	20	223	671	8
2001-02	362	994	0	161	446	0
2002-03	309	355	16	122	225	2
2003-04	203	771	21	88	313	4

Appendix B3. Comparison of numbers of days of valid observations of cackling Canada geese seen by official observers for 1991-1992 through 2003-2004.

	Data from Official Observers		
	Number of days of observation		
Year	Washington	Oregon	California
1991-92	56	114	97
1992-93	84	137	71
1993-94	76	152	126
1994-95	94	153	131
1995-96	67	138	102
1996-97	70	127	68
1997-98	110	153	62
1998-99	97	149	38
1999-00	99	155	60
2000-01	77	138	12
2001-02	72	91	0
2002-03	70	72	11
2003-04	58	89	15

Appendix B4. Numbers of cackling Canada geese banded with a neck band by cooperators in Alaska during June - August, 1982-2003 and in California during October - November, 1982-84.

		Male		Female			
Year	State	Adult	Immature	Adult	Immature	Unknown	Total
1982	Alaska	33	75	40	75	2	225
1982	California	227	39	208	44	2	520
1983	Alaska	21	33	18	38	0	110
1983	California	313	76	312	75	1	777
1984	Alaska	25	43	22	29	0	119
1984	California	154	41	166	33	6	400
1985	Alaska	183	75	234	93	0	585
1986	Alaska	79	128	88	118	1	414
1987	Alaska	74	184	97	182	1	538
1988	Alaska	59	109	81	96	0	345
1989	Alaska	148	98	166	107	0	519
1990	Alaska	179	113	189	92	2	575
1991	Alaska	141	121	192	90	0	544
1992	Alaska	152	151	139	146	1	589
1993	Alaska	227	163	201	182	1	774
1994	Alaska	163	160	151	127	0	601
1995	Alaska	104	203	101	163	1	572
1996	Alaska	79	173	67	147	1	467
1997	Alaska	78	219	74	178	0	549
1998	Alaska	96	200	99	190	0	585
1999	Alaska	47	153	21	132	3	356
2000	Alaska	52	134	45	106	3	340
2001	Alaska	46	121	34	90	1	292
2002	Alaska	53	83	39	65	0	240
2003	Alaska	6	9	4	2	0	21
Total - Alaska		2,045	2,748	2,102	2,448	17	9,360
Total - California		694	156	686	152	9	1,697
Total - Flyway		2,739	2,904	2,788	2,600	26	11,057

Appendix B5. Numbers of cackling Canada geese banded with a neck band by cooperators in Alaska and California, 1982-2003, at each banding location by state, latitude, and longitude.

		Male		Female					
Year	Location (Lat.-Long.)	Adult	Imm.	Adult	Imm.	Unknown	Total Male	Total Female	Total
1982	AK: 605-1650	5	10	8	12	1	15	20	36
	614-1655	28	65	32	63	1	93	95	189
	CA: 415-1212	227	39	208	44	2	266	252	520
							374	367	745
1983	AK: 611-1650	13	10	13	17	0	23	30	53
	611-1651	0	0	1	0	0	0	1	1
	614-1653	5	10	3	8	0	15	11	26
	614-1655	3	13	1	14	0	16	14	30
	CA: 415-1212	158	55	136	52	1	213	188	402
	392-1211	155	21	176	23	0	176	199	375
							443	443	887
1984	AK: 610-1644	4	5	2	3	0	9	5	14
	610-1645	3	5	4	1	0	8	5	13
	611-1644	1	0	0	0	0	1	0	1
	611-1645	5	0	2	0	0	5	2	7
	613-1653	0	0	0	1	0	0	1	1
	613-1655	5	23	5	13	0	28	18	46
	614-1654	7	10	9	11	0	17	20	37
	CA: 415-1212	154	41	166	33	6	195	199	400
							263	250	519
1985	AK: 611-1645	12	6	10	11	0	18	21	39
	611-1650	29	31	30	42	0	60	72	132
	613-1653	23	38	26	40	0	61	66	127
	613-1654	93	0	135	0	0	93	135	228
	613-1655	15	0	25	0	0	15	25	40
	614-1652	11	0	8	0	0	11	8	19
							258	327	585
1986	AK: 611-1645	7	17	8	13	0	24	21	45
	611-1653	1	0	0	0	0	1	0	1
	612-1652	27	42	27	30	0	69	57	126
	612-1653	10	0	11	3	0	10	14	24
	613-1653	3	5	4	6	0	8	10	18
	613-1654	5	10	5	5	0	15	10	25
	614-1653	20	41	28	52	1	61	80	142
	614-1654	6	13	5	9	0	19	14	33
							207	206	414
1987	AK: 610-1645	12	22	19	38	0	34	57	91
	611-1650	2	9	3	2	0	11	5	16
	612-1652	24	79	36	64	0	103	100	203
	613-1653	5	9	5	15	0	14	20	34
	614-1653	31	65	34	63	1	96	97	194
							258	279	538

Appendix B5. (Continued)

		Male		Female					
Year	Location (Lat.-Long.)	Adult	Imm.	Adult	Imm.	Unknown	Total Male	Total Female	Total
1988	AK: 611-1645	18	0	22	0	0	18	22	40
	612-1652	25	89	44	81	0	114	125	239
	613-1654	7	0	4	0	0	7	4	11
	614-1653	9	20	11	15	0	29	26	55
							168	177	34
1989	AK: 611-1652	1	0	1	0	0	1	1	2
	612-1652	37	98	41	107	0	135	148	283
	613-1654	110	0	124	0	0	110	124	234
							246	273	519
1990	AK: 612-1652	44	112	41	92	1	156	133	290
	613-1654	134	1	148	0	1	135	148	284
	614-1654	1	0	0	0	0	1	0	0
							292	281	575
1991	AK: 612-1652	37	121	48	90	0	158	138	296
	613-1654	104	0	144	0	0	104	144	248
							262	282	544
1992	AK: 612-1652	36	151	21	146	0	187	167	354
	613-1654	116	0	118	0	1	116	118	235
							303	285	589
1993	AK: 612-1652	69	163	75	182	1	232	257	490
	613-1654	158	0	126	0	0	158	126	284
							390	383	774
1994	AK: 611-1650	7	7	6	3	0	14	9	23
	612-1652	69	153	57	124	0	222	181	403
	613-1654	87	0	88	0	0	87	88	175
							323	278	601
1995	AK: 611-1650	8	6	7	9	6	14	16	30
	612-1652	62	197	55	154	0	259	209	468
	613-1654	34	0	39	0	1	34	39	73
							307	264	571
1996	AK: 612-1652	79	173	67	147	1	252	214	466
1997	AK: 612-1652	78	219	74	178	0	297	252	549
1998	AK: 612-1652	96	200	99	190	0	296	289	585
1999	AK: 612-1652	47	153	21	132	2	201	153	356
2000	AK: 612-1652	52	134	45	106	3	186	151	340
2001	AK: 612-1652	46	121	34	90	1	167	124	292
2002	AK: 612-1652	53	83	39	65	0	136	104	240
2003	AK: 612-1652	6	9	4	2	0	6	15	21

Appendix B6. Total number of valid neck band observations, number of unique individual cackling Canada geese seen, total number of days cackling Canada geese were observed, and number of days neck bands were sighted by official observers from September 20 to May 1 during 2002-2003 and 2003-2004.

	Number of neck bands		Number unique		Number of days geese were observed		Number of days neck bands were sighted	
Area	2002-03	2003-2004	2002-03	2003-2004	2002-03	2003-2004	2002-03	2003-2004
Flyway	680	995	320	361	143	132	113	122
Washington	309	203	122	88	113	90	70	62
Oregon	355	771	225	313	102	98	72	95
California	16	21	2	4	11	21	11	21
Lower Columbia River	396	372	163	160	135	109	91	87
Lower Willamette Valley	266	600	173	241	74	79	49	75
Southern Puget Sound	2	2	2	2	2	2	2	1
Klamath Basin	0	0	0	0	0	0	0	0
Sacramento Valley	0	2	0	2	0	0	0	0
San Joaquin Valley (Modesto)	2	11	1	3	2	6	2	6
Crescent City	14	8	2	1	9	7	9	7
Oregon Coast	0	0	0	0	0	8	0	8
Refuges:								
Ankeny	99	116	63	58	18	15	16	15
Arena Plains	0	0	0	0	0	0	0	0
Baskett Slough	84	120	55	65	18	13	11	13
Colusa	0	0	0	0	0	0	0	0
Delevan	0	0	0	0	0	0	0	0
Finley	21	135	20	61	17	21	6	19
Grays Harbor	0	0	0	0	1	0	0	0
Humboldt	2	0	2	0	2	0	2	0
Julia Butler Hansen	0	0	0	0	0	0	0	0
Lake Earl	0	0	0	0	0	0	0	0
Lower Klamath	0	0	0	0	0	0	0	0
Merced	0	0	0	0	0	0	0	0
Miller Island	0	0	0	0	0	0	0	0
Nisqually	2	2	2	2	2	2	2	1
Ridgefield	274	165	105	65	78	70	56	47
Sacramento	0	0	0	0	0	0	0	0
Sauvie Island	38	84	26	53	21	29	15	25
Shillapoo	0	3	0	3	1	1	0	1
San Joaquin River	0	10	0	3	0	6	0	6
San Luis	0	0	0	0	0	0	0	0
Steigerwald	13	8	8	5	23	22	7	8
Sutter	0	0	0	0	0	0	0	0
Tualatin River	8	7	8	5	6	4	4	4
Tule Lake	0	0	0	0	0	0	0	0
Vancouver	3	21	3	13	2	8	2	6
Willapa	0	0	0	0	6	0	0	0

Appendix B7. Number of valid neck band observations and number of unique individual cackling Canada geese seen during the 3 official observation periods, 2002-2003 and 2003-2004, in Washington, Oregon, and California.

	15 Oct - 15 Nov				15 Jan - 15 Feb				20 Mar - 1 May			
	2002-03		2003-04		2002-03		2003-04		2002-03		2003-04	
Area	Number of neck bands	Number unique	Number of neck bands	Number unique	Number of neck bands	Number unique	Number of neck bands	Number unique	Number of neck bands	Number unique	Number of neck bands	Number unique
Flyway	69	63	107	79	145	107	267	187	154	115	177	125
Washington	32	31	44	33	63	45	46	28	51	37	23	22
Oregon	37	32	62	49	76	63	220	168	101	79	151	103
California	0	0	1	1	6	2	1	1	2	2	3	1
Lower Columbia River	46	43	105	77	86	59	84	48	64	44	34	31
Lower Willamette Valley	23	20	1	1	53	46	182	142	88	69	140	93
Southern Puget Sound	0	0	0	0	0	0	0	0	0	0	0	0
Klamath Basin	0	0	0	0	0	0	0	0	0	0	0	0
Sacramento Valley	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley (Modesto)	0	0	1	1	2	1	0	0	0	0	0	0
Crescent City	0	0	0	0	4	2	1	1	2	2	3	1
Oregon Coast	0	0	0	0	0	0	0	0	0	0	0	0
Refuges:												
Ankeny	0	0	0	0	21	18	40	31	23	20	20	16
Arena Plains	0	0	0	0	0	0	0	0	0	0	0	0
Baskett Slough	3	3	0	0	6	3	18	18	54	38	44	32
Colusa	0	0	0	0	0	0	0	0	0	0	0	0
Delevan	0	0	0	0	0	0	0	0	0	0	0	0
Finley	0	0	0	0	12	12	41	31	7	7	53	29
Grays Harbor	0	0	0	0	0	0	0	0	0	0	0	0
Humboldt	0	0	0	0	0	0	0	0	0	0	0	0
Julia Butler Hansen	0	0	0	0	0	0	0	0	0	0	0	0
Lake Earl	0	0	0	0	0	0	0	0	0	0	0	0
Lower Klamath	0	0	0	0	0	0	0	0	0	0	0	0
Merced	0	0	0	0	0	0	0	0	0	0	0	0
Miller Island	0	0	0	0	0	0	0	0	0	0	0	0
Nisqually	0	0	0	0	0	0	0	0	0	0	0	0
Ridgefield	29	28	35	26	52	35	45	27	48	35	16	15
Sacramento	0	0	0	0	0	0	0	0	0	0	0	0
Sauvie Island	8	7	7	7	12	11	33	26	2	2	8	7
Shillapoo	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin River	0	0	0	0	0	0	0	0	0	0	0	0
San Luis	0	0	0	0	0	0	0	0	0	0	0	0
Steigerwald	1	1	0	0	3	3	1	1	3	2	0	0
Sutter	0	0	0	0	0	0	0	0	0	0	0	0
Tualatin River	3	3	0	0	0	0	3	3	0	0	0	0
Tule Lake	0	0	0	0	0	0	0	0	0	0	0	0
Vancouver	0	0	9	7	3	3	0	0	0	0	7	7
Willapa	0	0	0	0	0	0	0	0	0	0	0	0

Appendix B8. Number of days cackling Canada geese were observed and the number of days neck bands were sighted during the 3 official observation periods, 2002-2003 and 2003-2004 in Washington, Oregon, and California.

	15 Oct - 15 Nov				15 Jan - 15 Feb				20 Mar - 1 May			
	2002-2003		2003-2004		2002-2003		2003-2004		2002-2003		2003-2004	
Area	Days geese observed	Days neck bands sighted	Days geese observed	Days neck bands sighted	Days geese observed	Days neck bands sighted	Days geese observed	Days neck bands sighted	Days geese observed	Days neck bands sighted	Days geese observed	Days neck bands sighted
Flyway	18	16	22	19	27	23	25	24	25	19	23	20
Washington	12	10	18	12	23	16	13	9	19	12	14	8
Oregon	13	11	9	9	21	15	21	21	15	9	13	13
California	0	0	5	5	2	2	1	1	1	1	3	3
Lower Columbia River	18	13	22	18	24	17	17	15	22	15	17	11
Lower Willamette Valley	3	6	1	1	17	1	19	18	14	8	12	12
Southern Puget Sound	0	0	0	0	0	0	0	0	0	0	0	0
Klamath Basin	0	0	0	0	0	0	0	0	0	0	0	0
Sacramento Valley	0	0	4	4	0	0	0	0	0	0	0	0
San Joaquin Valley (Modesto)	0	0	1	1	0	0	0	0	0	0	0	0
Crescent City	0	0	0	0	2	2	1	1	1	1	3	3
Oregon Coast	0	0	0	0	0	0	0	0	0	0	0	0
Refuges:												
Ankeny	0	0	0	0	5	4	3	3	5	4	4	4
Arena Plains	0	0	0	0	0	0	0	0	0	0	0	0
Baskett Slough	1	1	0	0	4	2	2	2	5	4	4	4
Colusa	0	0	0	0	0	0	0	0	0	0	0	0
Delevan	0	0	0	0	0	0	0	0	0	0	0	0
Finley	0	0	0	0	5	2	4	4	4	2	6	6
Grays Harbor	0	0	0	0	0	0	0	0	0	0	0	0
Humboldt	0	0	0	0	0	0	0	0	0	0	0	0
Julia Butler Hansen	0	0	0	0	0	0	0	0	0	0	0	0
Lake Earl	0	0	0	0	0	0	0	0	0	0	0	0
Lower Klamath	0	0	0	0	0	0	0	0	0	0	0	0
Merced	0	0	0	0	0	0	0	0	0	0	0	0
Miller Island	0	0	0	0	0	0	0	0	0	0	0	0
Nisqually	0	0	0	0	0	0	0	0	0	0	0	0
Ridgefield	11	9	12	9	15	12	10	8	13	10	14	7
Sacramento	0	0	0	0	0	0	0	0	0	0	0	0
Sauvie Island	4	2	3	3	5	4	8	7	3	1	3	3
Shillapoo	0	0	0	0	0	0	0	0	1	0	1	0
San Joaquin River	0	0	0	0	0	0	0	0	0	0	0	0
San Luis	0	0	0	0	0	0	0	0	0	0	0	0
Steigerwald	3	1	5	1	4	2	3	1	4	2	3	0
Sutter	0	0	0	0	0	0	0	0	0	0	0	0
Tualatin River	1	1	0	0	0	0	2	2	0	0	0	0
Tule Lake	0	0	0	0	0	0	0	0	0	0	0	0
Vancouver	0	0	2	2	2	2	0	0	0	0	2	2
Willapa	2	0	0	0	0	0	0	0	2	0	0	0

Appendix B9. Total numbers of cackling Canada geese marked, examined, and present in groups counted in Washington, Oregon, and California, 2002-2003 and 2003-2004.

Area	2002-03				2003-04			
	Groups of geese observed [a]	Total number marked [b]	Total number examined [b]	Total number present [b]	Groups of geese observed [a]	Total number marked [b]	Total number examined [b]	Total number present [b]
Flyway	934 (861)	748	330,111	449,404	907 (201)	1,008	486,455	581,513
Washington	675 (275)	336	150,415	184,321	568 (27)	230	130,624	162,244
Oregon	259 (574)	412	179,696	265,083	332 (159)	767	355,378	418,816
California	0 (12)	0	0	0	7 (15)	11	453	453
Lower Columbia River	714 (529)	416	169,233	211,297	613 (83)	361	163,193	212,371
Lower Willamette Valley	214 (320)	330	160,202	236,382	279 (103)	634	318,307	364,139
Southern Puget Sound	6 (0)	2	676	1,725	8 (0)	2	4,502	4,550
Klamath Basin	0	0	0	0	0	0	0	0
Sacramento Valley	0	0	0	0	0 (6)	0	0	0
San Joaquin Valley (Modesto)	0	0	0	0	7 (1)	11	453	453
Crescent City	0	0	0	0	0 (8)	0	0	0
Oregon Coast	0	0	0	0	0	0	0	0
Refuges:								
Ankeny	66 (3)	141	70,776	110,568	32 (0)	127	60,155	75,355
Arena Plains	0	0	0	0	0	0	0	0
Baskett Slough	64 (0)	116	50,196	67,037	29 (0)	127	55,630	58,460
Colusa	0	0	0	0	0	0	0	0
Delevan	0	0	0	0	0	0	0	0
Finley	59 (0)	44	22,523	35,158	44 (0)	143	73,017	85,777
Grays Harbor	1 (0)	0	2	2	0	0	0	0
Humboldt	0	0	0	0	0	0	0	0
Julia Butler Hansen	0	0	0	0	0	0	0	0
Lake Earl	0	0	0	0	0	0	0	0
Lower Klamath	0	0	0	0	0	0	0	0
Merced	0	0	0	0	0	0	0	0
Miller Island	0	0	0	0	0	0	0	0
Nisqually	5 (0)	2	674	1,723	8 (0)	2	4,502	4,555
Ridgefield	602 (42)	303	136,843	168,520	481 (15)	187	102,667	130,036
Sacramento	0	0	0	0	0	0	0	0
Sauvie Island	19 (58)	40	8,301	10,243	29 (31)	53	13,219	19,328
Shillapoo	0	0	0	0	3 (0)	3	1,208	1,208
San Joaquin River	0	0	0	0	7 (0)	11	453	453
San Luis	0	0	0	0	0	0	0	0
Steigerwald	41 (3)	20	9,640	10,744	41 (4)	11	6,974	8,518
Sutter	0	0	0	0	0	0	0	0
Tualatin River	6 (1)	8	6,052	6,509	5 (0)	9	4,557	5,429
Tule Lake	0	0	0	0	0	0	0	0
Vancouver	0 (2)	0	0	0	14 (2)	20	9,722	11,103
Willapa	7 (0)	0	1,463	1,497	0	0	0	0

[a] Groups for which complete information was recorded. The number in parentheses represents additional groups for which the number marked, examined, and present was not counted.
[b] Totals from groups for which complete information was recorded.

Appendix B10. Total number of valid observations and total number of unique individual cackling Canada geese observed during 1990-1991 to 2003-2004 in Washington, Oregon, and California.

Area	Number of observations												
	1990-91	1991-92	1992-93	1993-94 [a]	1994-95 [a]	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03
Flyway	8,734	9,524	6,200	7,974	7,699	5,434	4,549	4,756	3,667	3,798	3,138	1,356	680
Washington	884	843	1,586	1,615	1,498	1,165	1,065	1,500	744	981	553	362	309
Oregon	2,499	2,296	2,616	3,544	3,697	3,298	3,091	2,707	2,784	2,748	2,565	994	355
California	5,351	6,385	1,988	2,815	2,504	970	393	549	139	69	20	0	16
Lower Columbia River	1,988	2,392	2,800	2,722	2,956	2,241	2,575	2,494	1,314	1,224	830	516	396
Lower Willamette Valley	1,395	747	1,402	2,040	2,061	2,118	1,502	1,708	2,206	2,495	2,281	837	266
Southern Puget Sound	--	--	--	--	--	--	--	--	8	4	2	3	2
Klamath Basin	4,478	4,626	1,350	1,683	1,176	476	170	233	0	0	0	0	0
Sacramento Valley	--	--	--	--	--	--	--	--	4	7	0	0	0
San Joaquin Valley (Modesto)	726	1,252	537	1,529	1,506	597	302	311	135	62	20	0	2
Crescent City	–	–	–	–	–	–	–	6	0	0	0	0	14
Oregon Coast	--	--	--	--	--	--	--	--	--	2	5	0	0

Area	Number of observations
	2003-04
Flyway	995
Washington	203
Oregon	771
California	21
Lower Columbia River	372
Lower Willamette Valley	600
Southern Puget Sound	2
Klamath Basin	0
Sacramento Valley	2
San Joaquin Valley (Modesto)	11
Crescent City	8
Oregon Coast	0

Continued

Appendix B10. Continued.

Area	Number of individual neck bands												
	1990-91	1991-92	1992-93	1993-94 [a]	1994-95 [a]	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03
Flyway	1,140	1,241	1,202	1,319	1,303	1,300	1,156	1,295	1,060	1,033	797	560	320
Washington	332	343	536	534	505	519	464	531	352	335	223	161	122
Oregon	606	528	685	928	985	997	933	960	876	866	671	446	225
California	628	728	474	488	319	212	105	97	28	28	8	0	2
Lower Columbia River	481	532	681	700	815	783	768	762	503	413	349	227	163
Lower Willamette Valley	404	291	419	557	610	668	557	687	692	768	570	362	173
Southern Puget Sound	--	--	--	--	--	--	--	--	1	3	1	3	2
Klamath Basin	525	563	361	362	200	120	53	41	0	0	0	0	0
Sacramento Valley	--	--	--	--	--	--	--	--	3	6	0	0	0
San Joaquin Valley (Modesto)	313	435	232	407	288	168	99	80	26	27	8	0	1
Crescent City	–	–	–	–	–	–	–	1	0	0	0	0	2
Oregon Coast	--	--	--	--	--	--	--	--	--	1	1	0	0

Area	Number of individual neck bands
	2003-04
Flyway	361
Washington	88
Oregon	313
California	4
Lower Columbia River	160
Lower Willamette Valley	241
Southern Puget Sound	2
Klamath Basin	0
Sacramento Valley	2
San Joaquin Valley (Modesto)	3
Crescent City	1
Oregon Coast	0

[a] The data for these periods are reported for official observers only.

Appendix B11. Distribution of multiple observations of neck banded cackling Canada geese from 1989-1990 to 2003-2004.

	Times Observed - Number of individuals (%)								
Year	1	2	3	4	5	6-10	11-20	21-30	Total
1989-90	167 (16.5)	55 (5.4)	81 (8.0)	70 (6.9)	81 (8.0)	366 (36.1)	186 (18.4)	7 (0.7)	1,013 (100)
1990-91	177 (16.1)	104 (9.4)	96 (8.7)	111 (10.1)	116 (10.5)	394 (35.8)	101 (9.2)	3 (0.2)	1,102 (100)
1991-92	231 (18.6)	86 (6.9)	89 (7.2)	90 (7.3)	92 (7.4)	339 (27.3)	238 (19.2)	76 (6.1)	1,241 (100)
1992-93	202 (16.8)	137 (11.4)	119 (9.9)	128 (10.7)	134 (11.1)	387 (32.2)	95 (7.9)	0 (0)	1,202 (100)
1993-94	165 (12.5)	117 (8.9)	142 (10.8)	145 (11.0)	119 (9.0)	444 (33.7)	180 (13.6)	7 (0.5)	1,319 (100)
1994-95	192 (14.7)	146 (11.2)	144 (11.1)	137 (10.5)	117 (9.0)	397 (30.5)	146 (11.2)	24 (1.8)	1,303 (100)
1995-96	255 (19.6)	203 (15.6)	183 (14.1)	177 (13.6)	129 (9.9)	303 (23.3)	49 (3.8)	1 (0.1)	1,300 (100)
1996-97	258 (22.3)	194 (16.8)	166 (14.4)	142 (12.3)	120 (10.4)	240 (20.8)	35 (3.0)	1 (0.1)	1,156 (100)
1997-98	338 (26.1)	253 (19.5)	204 (15.8)	132 (10.2)	100 (7.7)	217 (16.8)	49 (3.8)	2 (0.1)	1,295 (100)
1998-99	622 (45.5)	241 (17.6)	154 (11.3)	128 (9.4)	69 (5.1)	129 (9.4)	23 (1.9)	0 (0)	1,366 (100)
1999-00	256 (24.8)	177 (17.1)	159 (15.4)	121 (11.7)	107 (10.4)	190 (18.4)	22 (2.1)	1 (0.1)	973 (100)
2000-01	187 (23.5)	141 (17.7)	109 (13.7)	100 (12.5)	77 (9.7)	151 (18.9)	32 (4.0)	0 (0)	797 (100)
2001-02	225 (40.2)	139 (24.8)	79 (14.1)	53 (9.5)	25 (4.5)	38 (6.8)	1 (0.2)	0 (0)	560 (100)
2002-03	178 (55.6)	67 (20.9)	31 (9.7)	12 (3.8)	11 (3.4)	17 (5.3)	4 (1.3)	0 (0)	320 (100)
2003-04	127 (35.2)	74 (20.5)	58 (16.1)	44 (12.2)	22 (6.1)	35 (9.7)	1 (0.1)	0 (0)	361 (100)

Appendix B12. The number of groups of cackling Canada geese examined for neck bands and the number and percentage of these groups for which the number marked and the number examined were recorded, 1989-1990 to 2003-2004.

	Flyway			Washington			Oregon			California		
Year	Number of groups examined	Number of groups counted	Percent counted	Number of groups examined	Number of groups counted	Percent counted	Number of groups examined	Number of groups counted	Percent counted	Number of groups examined	Number of groups counted	Percent counted
1989-90	1,169	1,059	90.6	178	168	94.4	690	669	97.0	301	222	73.8
1990-91	1,718	1,541	89.7	296	286	96.6	1,098	1,056	96.2	324	199	61.4
1991-92	1,883	1,758	93.4	310	306	98.7	1,166	1,135	97.3	407	317	77.9
1992-93	1,720	1,469	85.4	343	256	74.6	1,107	1,026	92.7	270	187	69.3
1993-94	2,164	1,726	79.8	355	259	73.0	1,188	1,018	85.7	621	449	72.3
1994-95	2,453	2,040	83.2	546	455	83.3	1,267	1,096	86.5	640	489	76.4
1995-96	1,769	1,417	80.1	314	243	77.4	1,083	913	84.3	372	261	70.2
1996-97	1,596	1,238	77.6	339	245	72.3	943	703	77.0	314	290	92.3
1997-98	2,311	2,157	93.3	930	882	94.8	1,258	1,164	92.5	123	111	90.2
1998-99	2,284	1,978	86.6	777	753	97.0	1,386	1,126	81.2	121	99	81.8
1999-00	1,908	1,654	86.7	797	745	93.5	1,032	836	81.0	79	73	92.4
2000-01	1,565	1,447	92.5	693	646	93.2	854	785	91.9	18	16	88.9
2001-02	846	732	86.5	596	556	93.3	250	176	70.4	0	0	0
2002-03	1,016	934	91.9	722	675	93.5	282	259	91.8	12	0	0
2003-04	1,108	907	81.9	595	568	95.5	491	332	67.6	22	7	31.8

ESTIMATED HARVEST OF CACKLING CANADA GEESE USING TAIL RECTRIX MEASUREMENTS OBTAINED FROM THE PARTS COLLECTION SURVEY

JULY 2004

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INTRODUCTION: The cackling Canada goose harvest for 2003-2004 was estimated based on the "Tolerance Limit" approach (R. E. Trost, Div. of Migr. Bird Manage., unpubl. rep. to the Pacific Flyway Study Committee 1994). Harvest is calculated by first determining the percentage of cacklers in the harvest from goose tails measured at the wingbee. This is done by dividing the "known" number of goose tail lengths <118.25 mm by the percentage of all tails expected to be <118.25 mm, which equals 18.275%, and then dividing again by the total number of tails measured. This result is multiplied by the total estimated Canada goose harvest.

RESULTS: Results are presented in the tables below.

Table 1. Number of adult tail rectrices measured by state and year, 1992-2003.

Year	Alaska	Washington	Oregon	California	Total Pacific Flyway
1992	66	568	464	363	2,837
1993	32	600	573	213	2,659
1994	51	516	395	164	2,028
1995	30	412	377	147	1,989
1996	68	373	303	148	1,850
1997	0	485	352	143	1,840
1998	41	371	275	89	1,317
1999	17	463	345	64	1,269
2000	44	407	283	99	1,520
2001	30	457	352	115	969
2002	26	444	353	113	980
2003	30	386	415	96	927

Table 2. Number of adult tail rectrices <118.25 mm by state and year, 1992-2003.

Year	Alaska	Washington	Oregon	California	Total Pacific Flyway
1992	2	1	0	1	5
1993	0	3	1	0	4
1994	1	2	3	1	7
1995	1	2	6	0	10
1996	0	5	2	1	9
1997	0	3	12	0	17
1998	1	12	20	4	39
1999	2	8	23	1	34
2000	2	7	22	1	32
2001	3	2	12	1	18
2002	3	11	23	1	38
2003	0	6	17	0	23

Table 3. Estimated Canada goose harvest by state and year, 1992-2003.

Year	Alaska	Washington	Oregon	California	Total Pacific Flyway
1992	4,090	48,500	43,474	28,647	198,990
1993	4,889	48,952	63,399	21,066	224,585
1994	6,158	62,683	46,923	28,467	258,870
1995	9,780	68,636	37,009	21,480	240,358
1996	8,986	69,873	39,213	25,330	270,029
1997	13,274	66,473	49,206	23,586	242,471
1998	10,165	62,953	59,048	23,178	276,784
1999	3,913	57,058	65,653	13,550	240,331
2000	4,409	68,359	64,199	25,881	315,925
2001	6,213	55,390	67,055	25,293	272,963
2002	4,875	48,860	58,345	37,762	241,865
2003	6,207	69,008	53,526	41,946	325,923

Table 4. Estimated cackling Canada goose harvest by state and year, 1992-2003.

Year	Alaska	Washington	Oregon	California	Total [a] Pacific Flyway	Total [b] Pacific Flyway
1992	678	467	0	430	1,575	1,899
1993	0	1,339	605	0	1,944	1,839
1994	605	1,329	1,950	950	4,834	4,893
1995	1,784	1,823	3,223	0	6,830	6,613
1996	0	5,125	1,416	937	7,478	7,188
1997	0	2,250	9,179	0	11,429	12,258
1998	1,357	11,142	23,499	5,700	41,698	44,850
1999	2,519	5,395	23,950	1,159	33,022	35,235
2000	1,097	6,433	27,309	1,431	36,270	36,394
2001	3,399	1,396	12,509	1,203	18,438	27,746
2002	3,078	6,624	20,802	1,829	32,332	51,318
2003	0	5,870	11,998	0	17,868	44,249
Total	14,517	49,123	136,440	13,638	213,718	274,482

[a] Estimated as the sum of individual State estimates.
[b] Estimated from the Flyway totals.

Table 5. Regulatory changes in cackling Canada goose harvest, 1995-2003.

	Bag/Possession Limit			
Year	Alaska[a]	Washington[b]	Oregon[c]	California
1995	1/2	2/4	2/4	1/2
1996	2/4	2/4	2/4	1/2
1997	3/6	3/6	3/6	1/2
1998	3/6	4/8	4/8	1/2
1999	4/8	4/8	4/8	1/2
2000	4/8	4/8	4/8	1/2
2001	4/8	4/8	4/8	1/2
2002	4/8	4/8	4/8	1/2
2003	4/8	4/8	4/8	1/2

[a] Units 9(E) and 18.
[b] Southwest Special Permit Zone.
[c] Northwest Special Permit Zone.

ESTIMATED NUMBER OF DUSKY CANADA GEESE

JANUARY 2004

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INTRODUCTION AND METHODS: A modified Lincoln-Peterson mark-recapture study was conducted to estimate the total population size of dusky Canada geese (*Branta canadensis occidentalis*). This was the tenth consecutive winter that this approach has been employed by the Division of Migratory Bird Management to produce an indirect population estimate of dusky Canada geese on the wintering grounds.

Observations of dusky geese were collected throughout the known winter range of the population on December 17-18, 2003 and January 13-14, 2004. The second survey period, originally scheduled for January 7-8, was postponed to the later date because of a severe winter storm that came through the Pacific Northwest on January 6, which made roads impassable for several days. Sampling periods were divided into 2-day segments to allow observers to fully cover survey areas. Field observers recorded individual neck band codes and counted numbers of marked and unmarked geese in all flocks observed.

RESULTS: A total of 268 flocks of dusky geese were observed during the survey. From these flocks, 635 neck bands were seen and 12,994 dusky geese were examined for the presence of neck bands. Observers recorded 541 complete neck band codes; however, 23 codes during sampling period 1 and 22 codes during period 2 were observed more than once. After duplicate codes were removed, 276 complete codes were seen during sampling period 1 and 220 were seen during sampling period 2; 83 codes were seen during both sampling periods.

The estimated number of neck-banded dusky geese in the population was estimated with the following equation based on the Peterson Index as modified to reduce bias using the hypergeometric model of Chapman (1951 - in Seber 1973: 60).

$$N^* = [(n_1 + 1)(n_2 + 1) / (m_2 + 1)] - 1$$

where N^* is the estimated number of neck-banded dusky geese in the population, n_1 and n_2 are the number of neck-banded dusky geese observed during sampling periods 1 and 2, respectively, and m_2 is the number of neck-banded dusky geese seen during both sampling periods.

The population estimate of 14,892 was obtained by multiplying the estimated number of neck-banded dusky geese by the ratio of unmarked to marked geese (Table 1).

Table 1. Estimated total population size of dusky Canada geese, January 2004.

Estimated number of neck-banded dusky geese (SE)	Number unmarked / Number marked (SE)	Estimated total population size of dusky geese (SE)
727.77 (46.43)	20.46 (2.05)	14,892 (1,767)

The indirect estimate for 2003/2004 of 14,892 dusky Canada geese was lowest since the previous low of 13,447 in 1998/1999 (Table 2). However, this years estimate was within 95% confidence intervals of estimates from the past 6 years. Correlation between the winter indirect estimate and the spring breeding survey continues to be poor (r = 0.16), but, in 2004, unlike prior years, all population parameters (see Table 2) changed similarly. Unfortunately, all were down in 2003/2004 (Table 2). A graph of the indirect estimate and breeding bird index since 1995-96 is shown in Figure 1.

It is unclear if the winter storm that struck between observation periods impacted the 2004 estimate. The last similar occurrence was in 1997/1998 and the estimate derived was the largest (21,280) during the current ten-year period (Table 2). At that time, we speculated that the storm caused birds to move within the study area allowing observers to record more individual neck collar codes. The low number of codes common to both sampling periods (m_2, relative to n_1 and n_2) supported our opinion and resulted in a larger N^*. The 2004 storm did not have the same mixing effect and the number of common codes was high, which may have resulted in an underestimation of the number of neck-banded duskys.

Table 2. Population indices and % young for dusky Canada geese, 1986/1987 - 2003/2004.

	Winter [a]	Spring/summer [b]		
Year	Indirect estimate (SE)	Breeding bird index	Total goose index	%Young
1986/1987	--	2,418	4,946	10.7
1987/1988	--	2,121	4,528	9.8
1988/1989	--	2,182	4,194	22.8
1989/1990	12,438 (997) [c]	2,208	5,896	8.6
1990/1991	19,768 (2,001) [c]	2,259	4,591	23.5
1991/1992	17,996 (1,580) [c]	1,367	2,985	21.5
1992/1993	--	2,250	5,637	21.3
1993/1994	--	2,015	5,618	5.9

Continued

Table 2. Continued

1994/1995	7,948 (2,292)[d]	2,092	5,129	7.0
1995/1996	18,175 (5,880)	1,668	3,199	3.9
1996/1997	11,198 (1,711)	1,520	2,919	21.6
1997/1998	21,280 (3,642)	1,759	3,587	10.8
1998/1999	13,447 (1,679)	1,830	4,519	11.9
1999/2000	15,459 (2,459)	1,569	2,809	14.7
2000/2001	17,346 (2,719)	1,276	2,343	22.7
2001/2002	17,191 (2,820)	1,451	2,754	25.4
2002/2003	16,724 (1,856)	1,599	3,444	30.5
2003/2004	14,892 (1,767)	1,148	2,819	7.2

[a] survey conducted during the winter of the second year in the series (i.e. 1987 for 1986/87).
[b] survey conducted during the spring/summer of the first year in the series (i.e. 1986 for 1986/87).
[c] from Sheaffer 1993.
[d] this survey was conducted mid-March 1995 and may have resulted in a low estimate because of the onset of migration. All other surveys were conducted mid-winter.

LITERATURE CITED:

Sheaffer, S. E. 1993. Population ecology of the dusky Canada goose (*Branta canadensis occidentalis* Baird). Ph.D. Thesis, Oregon State Univ., Corvallis. 127 pp.

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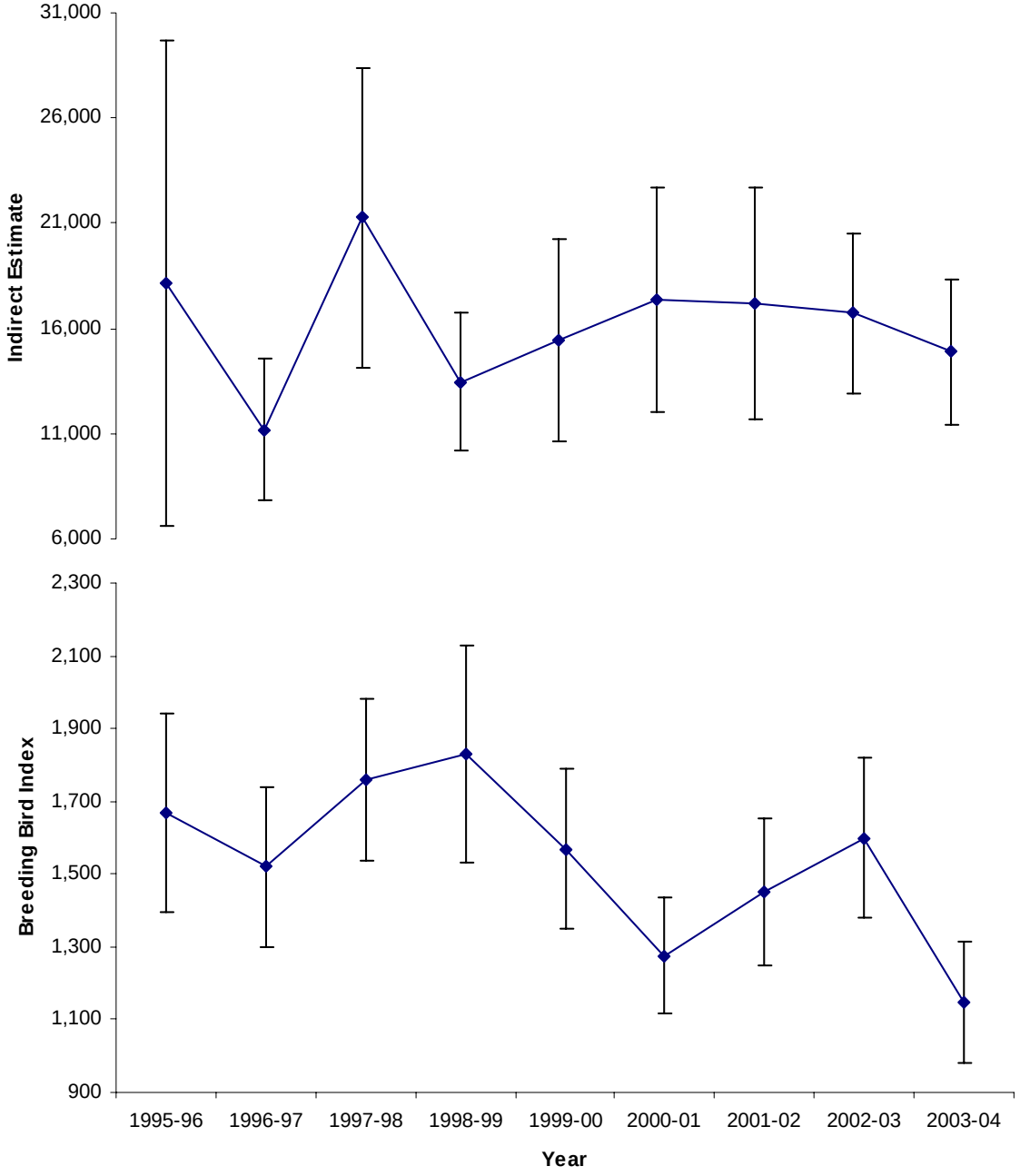
Figure 1. Dusky Canada Goose Population Estimates



OBSERVATIONS OF NECK BANDED SNOW GEESE, 2003-2004

This report briefly summarizes the collar observation program for snow geese marked with neck bands on Banks and Wrangel Islands for 2003-2004. The field work for the avian cholera study conducted by the USGS-BRD was completed in spring 1998. More details and extensive results relating to the specific objectives of this program are obtainable from Mike Samuel, USGS-BRD, National Wildlife Health Center, Madison, WI. We continue to monitor snow geese in some areas on an informal basis. Primary sites in 2003-2004 were southwestern Washington/northwestern Oregon (Ridgefield NWR and Sauvie Island WA); Central Valley, California; and western Montana.

Neck band observation totals for 2003-2004 are summarized in Tables S1a and S1b (data from previous years are presented for comparison). Because of the completion of the avian cholera field work, no observer network was in place to observe snow geese in the Pacific Flyway on a regular basis. Observations of neck banded geese continue to be well below numbers that occurred during the cholera study and decreased from 2002-03. No marked snow geese were seen in Washington or Oregon. Observations from western Montana continued to come in because of the efforts of Mike Schwitters. The number of days marked geese were observed (Table S2) and the distribution of multiple neck band sightings (Table S3) also reflect these trends.

Table S1a. Total number of complete snow goose neck band observations from October 1 to April 30 during 1996-97 through 2003-2004.

	Number of neck bands															
	1996-97		1997-98		1998-99		1999-00		2000-01		2001-02		2002-03		2003-04	
Area	Banks Island	Wrangel Island	Banks Island	Wrangel Island	Banks Island	Wrangel Island	Banks Island	Wrangel Island	Banks Island	Wrangel Island	Banks Island	Wrangel Island	Banks Island	Wrangel Island	Banks Island	Wrangel Island
Flyway	6,259	8,066	4,550	6,523	23	345	90	338	30	17	488	156	403	103	55	3
Pacific [a]	261	1,865	326	2,698	9	332	7	187	0	13	0	11	0	4	0	0
California	5,073	5,422	3,557	3,050	14	13	0	1	9	2	6	0	39	7	21	3
Central [b, d]	925	779	667	775	--	--	83	150	21	2	482	145	364	92	34	0
Alberta [c]	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alaska [c]	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-
British Columbia	-	4	-	25	-	-	-	-	-	-	-	-	-	-	-	-
California	5,073	5,422	3,557	3,050	14	13	0	1	9	2	6	0	39	7	21	3
Colorado [c]	83	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Idaho [d, e]	73	8	21	3	-	-	-	-	-	-	-	-	-	-	-	-
Montana [d]	493	569	645	770	-	-	83	150	21	2	482	145	364	92	34	0
New Mexico [c]	55	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oregon	261	1,835	324	1,881	9	328	7	182	0	8	0	6	0	0	0	0
Saskatchewan [d]	201	193	1	2	-	-	-	-	-	-	-	-	-	-	-	-
Texas [c]	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Washington	-	14	2	792	0	4	0	5	0	5	0	5	4	4	0	0

[a] Comprises Alaska, British Columbia, Washington, and Oregon.
[b] Comprises Alberta, Colorado, Idaho, Montana, New Mexico, Saskatchewan, Texas.
[c] Not surveyed since 1997-98.
[d] Not surveyed in 1998-99.
[e] Not surveyed since 1999-00.

Table S1b. Total number of unique snow goose neck bands observed from October 1 to April 30 during 1996-97 through 2003-2004.

	Number unique															
	1996-97		1997-98		1998-99		1999-00		2000-2001		2001-02		2002-03		2003-04	
Area	Banks Island	Wrangel Island	Banks Island	Wrangel Island	Banks Island	Wrangel Island	Banks Island	Wrangel Island	Banks Island	Wrangel Island	Banks Island	Wrangel Island	Banks Island	Wrangel Island	Banks Island	Wrangel Island
Flyway	1,108	962	682	1,111	21	190	59	198	25	12	242	81	197	48	34	3
Pacific [a]	147	612	160	919	8	180	6	127	0	7	0	6	0	4	0	0
California	929	812	631	531	13	12	0	1	8	6	6	0	36	7	15	3
Central [b, d]	504	394	319	304	--	--	53	99	17	5	238	75	169	38	19	0
Alberta [c]	1	4			-	-	-	-	-	-	-	-	-	-	-	-
Alaska [c]	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
British Columbia	-	4	-	25	-	-	-	-	-	-	-	-	-	-	-	-
California	929	812	631	531	13	12	0	1	8	2	6	0	36	7	15	3
Colorado [c]	60	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Idaho [d, e]	59	8	18	3	-	-	-	-	-	-	-	-	-	-	-	-
Montana [d]	303	329	305	300	-	-	53	99	17	2	238	75	169	38	19	0
New Mexico [c]	22	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oregon	147	591	159	456	8	180	6	123	0	4	0	5	0	0	0	0
Saskatchewan [d]	141	132	1	2	-	-	-	-	-	-	-	-	-	-	-	-
Texas [c]	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Washington	-	14	2	450	0	2	0	5	0	5	0	4	0	4	0	0

[a] Comprises Alaska, British Columbia, Washington, and Oregon.
[b] Comprises Alberta, Colorado, Idaho, Montana, New Mexico, Saskatchewan, Texas.
[c] Not surveyed since 1997-98.
[d] Not surveyed in 1998-99.
[e] Not surveyed since 1999-00.

Table S2. Total number of days neck banded snow geese were observed from October 1 to April 30 during 1996-97 through 2003-2004.

Area	Number of days neck banded snow geese observed							
	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04
Flyway	185	171	47	54	18	19	26	17
Pacific [a]	97	80	40	25	7	6	2	0
California	131	133	8	1	6	1	8	9
Central [b, d]	97	38	--	29	5	12	16	8
Alberta [c]	1	0	0	0	0	0	0	0
Alaska [c]	3	0	0	0	0	0	0	0
British Columbia	1	1	-	-	-	-	-	-
California	131	133	8	1	6	1	8	9
Colorado [c]	9	0	0	0	0	0	0	0
Idaho [d, e]	3	3	0	0	0	0	0	0
Montana [d]	29	33	0	29	5	12	16	8
New Mexico [c]	3	0	0	0	0	0	0	0
Oregon	90	74	38	23	4	3	0	0
Saskatchewan [d]	15	2	0	0	0	0	0	0
Texas [c]	2	0	0	0	0	0	0	0
Washington	8	5	2	2	3	3	2	0

[a] Comprises Alaska, British Columbia, Washington, and Oregon.
[b] Comprises Alberta, Colorado, Idaho, Montana, New Mexico, Saskatchewan, Texas.
[c] Not surveyed since 1997-98.
[d] Not surveyed in 1998-99.
[e] Not surveyed since 1999-00.

Table S3. Distribution of multiple observations of neck banded snow geese for 1995-96 to 2003-2004.

	Year								
	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
Number of times observed	Number of individuals (%)	Number of individuals (%)	Number of individuals (%)	Number of individuals (%)	Number of individuals (%)	Number of individuals (%)	Number of individuals (%)	Number of individuals (%	Number of individuals (%
1	256 (19.9)	477 (23.4)	473 (26.4)	122 (57.8)	168 (65.4)	31 (83.8)	155 (48.0)	134 (54.7)	19 (54.3)
2	101 (7.9)	172 (8.4)	244 (13.6)	47 (22.2)	41 (16.0)	2 (5.4)	83 (25.7)	51 (20.8)	12 (34.3)
3	80 (6.2)	163 (8.0)	174 (9.7)	24 (11.3)	27 (10.5)	4 (10.8)	47 (14.6)	25 (10.2)	3 (8.6)
4	87 (6.8)	118 (5.8)	87 (4.9)	11 (5.2)	12 (4.7)	0	23 (7.1)	9 (3.7)	1 (2.8)
5	84 (6.5)	113 (5.5)	62 (3.4)	6 (2.8)	6 (2.3)	0	6 (1.9)	15 (6.1)	0
6-10	390 (30.4)	490 (24.0)	373 (20.8)	1 (0.7)	3 (1.1)	0	9 (2.8)	9 (3.7)	0
11-20	276 (21.5)	429 (21.0)	323 (18.0)	0	0	0	0	2 (0.8)	0
21-30	10 (0.8)	72 (3.5)	55 (3.1)	0	0	0	0	0	0
31-40	0	5 (0.2)	2 (0.1)	0	0	0	0	0	0
Total	1,284 (100)	2,039 (100)	1,793 (100)	211 (100)	257 (100)	37 (100)	323 (100)	245 (100)	35 (100)

OBSERVATIONS OF NECK BANDED TULE WHITE-FRONTED GEESE, 2003-2004

This report briefly summarizes the collar observation program for Tule white-fronted geese marked with neck bands on Delevan NWR in California and the Kahiltna Valley in Alaska for 2002-2003. More details and extensive results relating to the specific objectives of this program are obtainable from USGS-BRD, Dixon Field Station, Dixon, CA.

No formal observation program took place in 2003-2004. Efforts are underway by the Pacific Flyway to establish a new program in the very near future. Data from previous years are presented for reference (Tables WF1 and WF2). Preliminary population estimates from prior years were provided by USGS and used with permission (Table WF3).

Table WF1. Total number of neck band observations, number of complete neck band codes, number of unique individual Tule white-fronted geese seen, and total number of days Tule white-fronted geese were surveyed from September to May during 1996-97 to 1998-99.

	1996-97				1997-98				1998-99			
Area	Total observations	Number of complete neck bands	Number unique	Survey days	Total observations	Number of complete neck bands	Number unique	Survey days	Total observations	Number of complete neck bands	Number unique	Survey days
Flyway	87	65	45	20	281	249	149	56	44	32	25	9
Washington	2	2	2	1	8	8	4	5	0	0	0	0
Oregon	54	37	26	9	106	78	57	15	42	30	24	7
California	31	26	19	10	165	161	110	38	2	2	1	2
Saskatchewan	-	-	-	-	2	2	2	1	0	0	0	0

Table WF2. Total numbers of Tule white-fronted geese marked, examined, and present in groups counted in Oregon and California, 1996-97 to 1998-99.

	1996-97				1997-98				1998-99			
Area	Groups of geese observed [a]	Total number marked [b]	Total number examined [b]	Total number present [b]	Groups of geese observed [a]	Total number marked [b]	Total number examined [b]	Total number present [b]	Groups of geese observed [a]	Total number marked [b]	Total number examined [b]	Total number present [b]
Flyway	85 (16)	66	2,944	4,154	107 (88) [c]	120	4,267	5,860	34 (5)	39	1,432	2,419
Washington	-	-	-	-	3 (3)	4	209	217	0	0	0	0
Oregon	69 (3)	51	1,451	1,839	95 (11) [d]	102	3,365	5,138	34 (3)	39	1,432	2,419
California	15 (13)	13	1,418	2,240	9 (72) [e]	14	693	693	0 (2)	0	0	0

[a] Groups for which complete information was recorded. The number in parentheses represents additional groups for which complete information was not recorded.
[b] Totals from groups for which complete information was recorded.
[c] The number in parentheses includes 40 groups of incidental neck band observations for which no count data was recorded.
[d] The number in parentheses includes 5 groups of incidental neck band observations for which no count data was recorded.
[e] The number in parentheses includes 33 groups of incidental neck band observations for which no count data was recorded.

TableWF3. Population estimates for Tule white-fronted geese by 3 methods, 1995 - 1998[a].

	Source		
	Direct estimate	Indirect estimate	
Year	Total count (95% CI)	Neck band observations (95% CI)	Radio telemetry (95% CI)
1998	No count	No estimate	No estimate
1997	3,430	5,459 (5,393 - 5,564)	5,100 (4,485 - 6,012)
1996	No count	No estimate	7,981 (7,200 - 10,989)
1995	4,269	5,489 (5,365 - 5,534)	6,286 (5,244 - 6,938)

[a] Information provided by USGS (BRD) - Dixon Field Station, Dixon, CA. These data are preliminary and should not be cited without permission from the source.