

2004 PATUXENT NWR WATERBIRD CENSUS
Dec. 2003- Dec. 2004

Intensive surveys of waterbird use of the Patuxent Research Refuge have been conducted weekly since 1997. Originally surveys covered 53 wetland units encompassing approximately 560 acres, plus segments of the Patuxent and Little Patuxent Rivers. The amount of habitat has varied considerably over the years because of artificial drawdowns and drought. Lake Redington was the only impoundment drawdown through most of 2004. Tables for common waterbird species by Quarter and Tract are attached. Purposes and methodology did not change. (See 1997 Report)

Weather

2004 was the first normal precipitation year since the counts began in 1997. There was no drought or excessively heavy precipitation. The year ended about four inches over the annual average. The Winter quarter was the fourth year in a row of mostly frozen impoundments. Freeze-up lasted from the second week of December until the second week of February. It was the coldest January in 10 years. This contrasts to the very open winters of 1997 through 1999.

Results

General comments

Most species rebounded from the low counts of 2003. The trouble with last year was the presence of so much water that the counts were probably low and not entirely comparable to other years. With some exceptions most species still did not exceed the 1997-98 highs preceding the first drought. Numbers refer to days-use (number of birds seen on weekly count multiplied by seven to give total for the week).

Waterfowl

Total waterfowl use of Patuxent impoundments declined steadily from 2001 through 2003. In 2004 use rebounded to 280,000 days, almost back to the 1999 peak of 304,000. This is still below the 8 year average of 266,000 days-use. Numbers were up for all species, except black ducks. Most of the increase was from Canada geese and wood ducks. Another hard winter kept the winter count down, except for Canada geese which congregated during the day around the bubblers on Cash Lake. Spring quarter counts were particularly good with all species at their highest levels since 1998. Fall counts did recover somewhat from the very low 2003 counts, but fell well short of the years from 1997 to 2002.

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280,000 is > 266,000

Canada Goose

Canada geese had the most spectacular turn-around of any species. After a seven year low of 77,600 in 2003, days-use increased to 165,500. The peak was 194,000 in 1999 and the eight year average is 144,000. The Winter quarter recorded a new high of 74,000, almost entirely restricted to Cash Lake. The Winter quarter of 2003 recorded only 14,000 days. Excellent reproduction produced a new Summer high of 22,000, slightly above the 21,000 of 1999. Spring and Fall were about average. The lead shot die-off on South Tract continued for the

fifth year. We find about 20 carcasses each year.

Wood Duck

Wood ducks also made a spectacular comeback from the record low of 28,800 in 2003 to 41,600 in 2004. The eight year average is 38,100. A continued increase in the breeding population and an excellent production year made for very substantial increases in the Spring and Summer Quarters. The Spring count increased from a low of 7350 in 2000 to 13,000; just below the 1999 peak of 14,700. The Summer count increased to 17,000; from a 1999 low of 9750 and just below the 1997 peak of 17,700. It appears that that the impacts of the drought years may finally be over! The fall count of 11,000 days was below the eight year average of 12,630, apparently because of fewer migrants.

Mallard

Mallards increased from a 2003 low of 19,600 days to 23,200, but still the second lowest on record. The record high was 37,300 in 2002 and the eight year average is 32,300. The hard winters continue to keep numbers below normal. An uptick in broods provided a substantial increase in the spring and summer counts over the last two years.

Black Duck

The black duck continued its slide into oblivion. A new record low of 5100 days-use was recorded in 2004. The high was 13,100 in 1998 and the eight year average is 9350. The decline was particularly marked in the Fall Quarter with only 1500 days. The second low, as 2520 in 2002. It was not present in the Summer.

Hooded Merganser

After a substantial downturn in 2003, the Hooded returned to its long-term average of 8000 days in 2004. It is primarily a migrant so winter weather significantly impacts populations. However, it reached a new Spring high of over 3000 days and a second Fall high of 1600.

Ring-neck Duck

This species is a migrant and populations depend on fall, winter and spring water conditions and winter weather. Total days-use was 32,250; below the last two years and only slightly above 2001. The peak was 38,250 in 2002 and the eight year average is 31,600. Winter use was well below average, but spring use reached a new high of 13,800. Fall use was almost double that of 2003 and was near average.

Other Waterfowl

The green-wing teal made a substantial comeback to 2150 days from its low of 450 in 2003. The peak was 3800 in 2000. Other species of waterfowl included small numbers of pintail, redhead, gadwall, bufflehead, ruddy duck, lesser scaup, mallard/black hybrid, tundra swan, domestic goose, blue-wing teal, and canvasback

Pied-billed Grebe

Grebe use rebounded to 1570 days from a 2003 low of 150 days; the highest since the peak of 1575 in 2000. The eight year average is 740. We had the second brood recorded in the last eight years.

Belted Kingfisher

Kingfishers increased somewhat over the record low of 2003; up from 800 to 1160, but still well below the eight year average of 1570. The peak was 1920 in 2002.

Shorebirds

Normal rainfall plus the drawdown of only two units (Redington and Merganser), resulted in very little shorebird habitat in 2004. Killdeer only registered 1500 use days, second lowest to the 2003 count of 1170 days. The eight year average is 4300 days. There was limited use by common snipe, yellowlegs, spotted sandpipers, solitary sandpipers and least sandpipers. Total shorebird use in 2004 was 2500 days compared with the eight year average of 7400 days,

Wading Birds

Blue Heron

Blue heron numbers decreased every year from a high of 7700 days in 1998 to a low of 4700 in 2003. 2004 resulted in a slight increase to 5150 days. The eight year average is 6200 days.

Green Heron

Green herons also made a slight rebound from last year's low figure of 1400 days to 1700. This was still well below the long term average of 2000 days. The peak was 2900 in 1999.

Great Egret

Use was the second highest on record; 1760 days, although nowhere near the 1998 record of 3800. Use substantially exceeded the long term average of 1300 days. Great egrets are present on the refuge after their breeding season, from late summer until early fall.

Other Waders

A few immature little blue herons put in an appearance. We had none in 2003. There were a few records of American bittern in the spring. We also had one record of glossy ibis.

Raptors

Bald Eagle

Bald eagles continued to be widely dispersed over time and units of the refuge. In earlier years when they nested on the Refuge, they concentrated on Lake Redington. The 245 days of use matched the long term average.

Osprey

Use was by far the highest ever at 500 days compared with the long term average of 180. This was primarily due to a nest and first successful fledging of young on Cash Lake. However, we also had more records over the rest of the Refuge than in the past.

Mammals

Aquatic mammals are recorded as seen or as signs of activity.

Beaver

The return of normal water levels has been very beneficial to our beaver population. They are more widespread than ever on the Refuge. Although they have not returned to Rogue Harbor or Midway, they have moved back into Range Pond and Schangri-la and built a new pond near Schangri-la. They have also created two new impoundments along Millrace Road. A beaver baffle was placed on Merganser Pond to eliminate the flooding problem.

Muskrat

The only muskrat recorded was on Range Pond.

Otter

Two otter were seen in March on Wood Duck Pond. This is the first sighting since one was trapped on Knowles 3 in 2001.

WATERBIRD DAYS USE BY QUARTER 1997-2004
PATUXENT NATIONAL WILDLIFE RESEARCH REFUGE

SPECIES	WINTER								
	97	98	99	00	01	02	03	04	
CAGO	25571	53837	61516	32165	33166	36890	14168	74028	
WODU	581	637	581	1106	1008	364	203	721	
MALL	6792	11459	13895	15309	11298	19331	7112	7560	
ABDU	2237	5838	4823	4788	3927	6664	2884	2226	
HOME	3073	4326	4389	4165	4032	5082	1995	3038	
RNDU	15875	16149	5880	11060	9625	20580	21196	10752	
AGWT	-----	7	280	1736	98	973	77	35	
RUDU	-----	560	980	364	7	35	175	7	
OTHERS	84	336	185	238	70	448	140	469	
TOTAL WATER FOWL	54214	93156	92529	70931	63231	90367	47950	98836	.
AMCO	21	-----	14	-----	56	-----	-----	35	
PRBR	49	63	91	168	14	98	-----	7	
BEKI	196	238	301	126	231	371	56	35	
KILL	644	3283	1715	602	231	1449	-----	322	
SOSA	-----	105	-----	-----	-----	-----	-----	-----	
COSN	-----	231	532	133	7	511	-----	63	
TOTAL SHORE BIRDS	644	3619	2247	735	238	1500	0	385	
GBHE	252	441	721	399	343	861	294	168	
BAEA	7	42	63	28	21	98	7	42	

SPRING

SPECIES	97	98	99	00	01	02	03	04
CAGO	40624	39991	53305	31857	33047	31787	29798	36874
WODU	13797	14714	12082	7350	9926	9009	9163	12824
MALL	8988	9395	13895	9394	12047	8547	6245	7980
ABDU	1351	1694	1232	1764	1099	1134	1162	1309
HOME	1855	2870	2926	1939	2989	2611	2394	3031
RNDU	10087	11116	5936	7007	9492	6293	11263	13794
AGWT	42	658	546	945	350	385	294	1869
RUDU	-----	7	14	-----	7	-----	14	14
OTHER	560	854	168	322	231	245	483	1393
TOTAL WATER FOWL	77266	81320	90104	60578	69762	60011	60810	79088

AMCO	735	21	14	147	161	21	7	105
PBGR	665	112	406	980	483	350	133	469
BEKI	210	413	308	385	420	287	287	154

KILL	602	1295	1519	812	420	245	56	294
S0SA	315	252	588	560	567	238	7	84
SPSA	84	140	252	273	91	77	7	21
YELE	105	70	385	966	126	21	7	-----
COSN0	294	553	2170	2450	154	308	14	350
OTHER	----	----	105	567	231	140	----	98
TOTAL	1407	2310	5019	5628	1589	1029	91	847

SPRING – CONT

SPECIES	97	98	99	00	01	02	03	04
GBHE	2324	1281	2170	994	1358	1232	875	1204
GNHE	----	21	343	322	357	217	154	196
GREG	----	21	---	42	14	28	54	7
LBHE	----	----	14	28	---	7	---	-----
OTHER	42	35	35	91	35	7	42	7
TOTAL WADER	2590	1631	2632	1477	1764	1491	1125	1414

BAEA	----	7	49	35	70	49	84	84
OSPR	63	42	35	49	70	105	168	252

SUMMER

SPECIES	97	98	99	00	01	02	03	04
CAGO	16002	19103	20895	13188	13636	16891	9072	21954
WODU	17731	13692	9756	13979	14966	11865	10885	17136
MALL	4606	2940	3010	2849	3472	1915	553	2660
ABDU	595	826	287	357	196	140	7	42
HOME	350	210	21	238	210	7	77	273
AGWT	----	14	---	14	---	---		14
OTHER	-----	7	-----	---	7	----	60	---
TOTAL	39284	36792	33971	30625	32487	30818	20664	42079

AMCO	7	14	-----	-----	----	-----	-----	-----
PBGR	119	56	----	14	21	7	7	154
BEKI	462	448	504	567	455	693	287	392
KILL	1498	4368	2751	1057	1211	434	35	574
SOSA	231	567	413	105	63	154	7	14
SPSA	21	91	231	35	42	49	42	7
YELE	21	154	189	14	7	----	-----	14
COSN	7	7	----	---	----	63	-----	----
OTHER	70	1015	511	504	477	7	-----	245
TOTAL SHORE	1778	6251	5019	1715	1800	707	84	854

SUMMER – CONT.

SPECIES	97	98	99	00	01	02	03	04
GBHE	3108	4025	3185	2310	2786	2671	2324	2534
GNHE	630	1064	2464	1526	1652	1190	965	1323
GREG	630	2709	28	490	322	623	231	1442
LBHE	14	203	21	70	----	140	----	105
OTHER	7	7	---	7	14	28	----	35
TOTAL WADER	4998	8932	6356	4403	4774	4652	3520	5439

BAEA	21	35	7	63	63	42	14	7
OSPR	14	21	7	42	21	35	147	245

SPECIES	FALL							
	97	98	99	00	01	02	03	04
CAGO	57512	57099	58492	53067	56287	50120	24675	32669
WODU	17353	10934	6839	12719	22190	11529	8545	10920
MALL	9331	9142	5320	7980	9121	7497	5761	5019
ABDU	6146	4802	4697	2954	2856	2520	2653	1505
HOME	868	1624	2191	1848	770	1477	1309	1638
RNDU	10682	6223	6580	8379	12089	11375	3969	7705
AGWT	553	1981	1680	1104	637	420	84	224
RUDU	1890	406	840	70	91	329	---	70
OTHER	2562	616	1120	63	336	280	91	161
TOTAL WATER FOWL	105014	92421	86919	88184	104377	85547	47087	59911

AMCO	133	7	133	35	56	—	84	7
PBGR	644	273	581	385	252	126	133	322
BEKI	679	721	490	791	735	567	161	581

KILL	1687	3178	756	658	1029	448	1015	259
SOSA	56	70	7	21	49	63	210	7
SPSA	28	14	---	---	39	35	14	----
YELE	133	385	21	7	14	70	252	77
COSN	21	679	203	105	91	63	210	---
OTHER	28	112	14	14	259	7	---	140
TOTAL SHORE	1974	4438	1001	805	1481	686	1701	483

FALL (Cont.)

SPECIES	97	98	99	00	01	02	03	04
GBHE	1253	1967	1050	1596	1706	1575	1211	1246
GNHE	329	196	112	294	546	203	315	175
GREG	203	1064	175	609	308	385	189	315
LBHE	7	42	---	112	28	49	---	21
OTHER	---	---	---	14	0	7	---	---
TOTAL WADER	1792	3269	1337	2618	2588	2219	1715	1757

BAEA	63	154	14	98	105	84	112	112
OSPR	7	42	14	14	14	7	7	---

TOTAL WATERBIRD DAYS USE 1997-2004

SPECIES	97	98	99	00	01	02	03	04
CAGO	139707	170030	194208	132150	136136	135688	77623	165525
WODU	49462	39977	29258	35154	48090	32767	28796	41601
MALL	29717	32936	36120	35532	35938	37290	19671	23219
ABDU	10329	13160	11039	9863	8078	10458	6776	5082
HOME	6146	9030	9527	8190	8001	9583	5705	7980
RNDU	36644	33488	18396	26432	31206	38248	36428	32251
AGWT	595	2660	2506	3799	1085	1778	455	2142
RUDU	1890	973	1834	434	105	364	175	91
OTHERS	3206	1813	1351	623	644	742	896	2013
TOTAL WATER FOWL	277698	304067	304239	252191	269283	267660	176525	279904

AMCO	896	42	161	182	273	21	91	147
PBGR	147	504	1078	1574	770	581	280	952
BEKI	1547	1820	1603	1869	1841	1918	791	1162

KILL	4431	12124	6741	3129	2891	2576	1169	1449
SOSA	602	994	1008	686	679	455	28	105
SPSA	133	245	483	308	172	161	210	28
YELE	259	609	637	987	147	140	259	91
COSN	322	1470	2905	2688	252	945	210	350
OTHER	56	1176	630	1085	967	147	----	483
TOTAL SHORE	5803	16618	12404	8883	5108	5880	1876	2506

TOTAL WATERBIRD DAYS USE 1997-2004 (CONT.)

SPECIES	97	98	99	00	01	02	03	04
GNHE	1799	2387	2919	2142	2555	1610	1434	1694
GREG	833	3794	889	1141	644	959	474	1764
LBHE	21	245	35	210	28	196	---	126
OTHER	70	42	35	105	49	35	42	42
TOTAL WADER	9639	14301	10423	8792	9469	9286	6654	8778

BAEA	266	364	133	224	259	259	210	245
OSPR	84	112	56	105	105	140	322	497