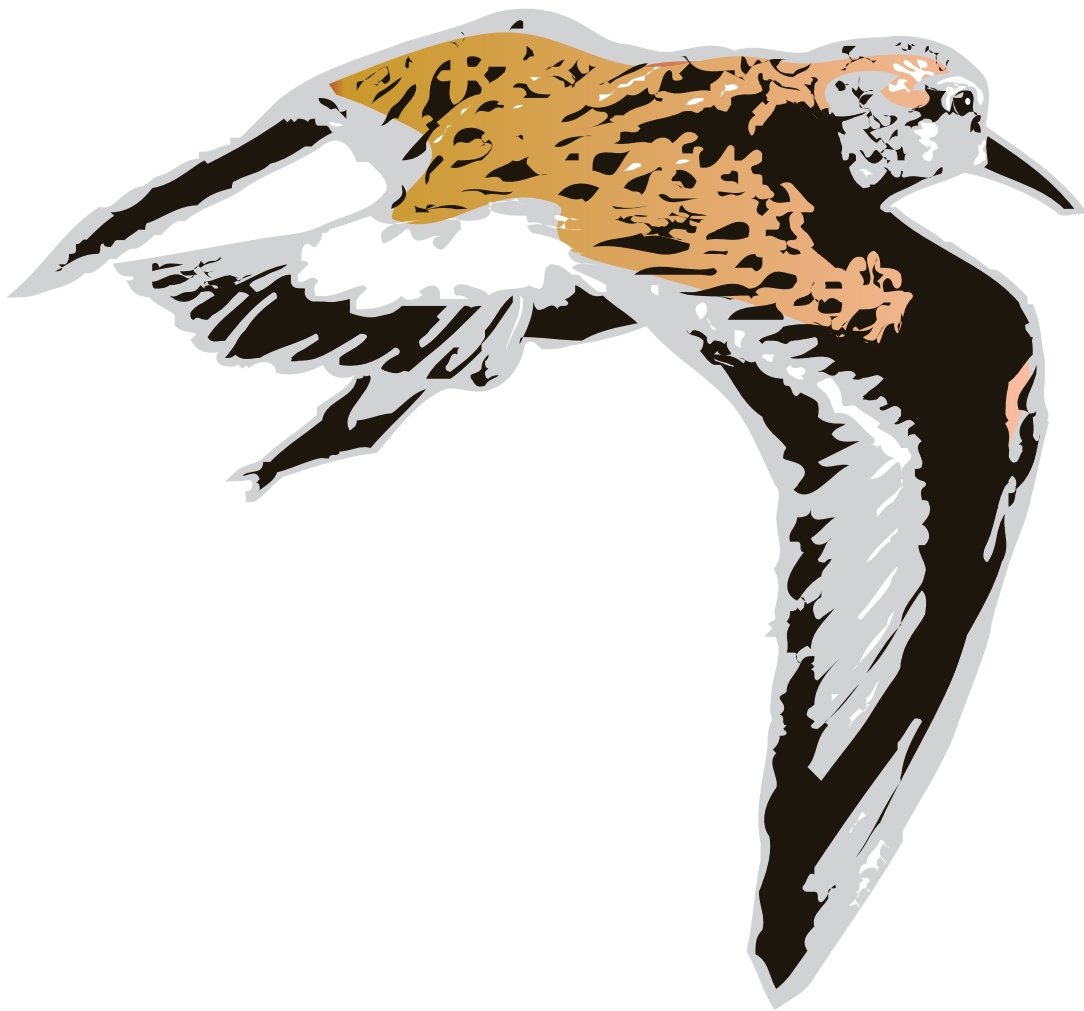


KANSAS SHOREBIRD SURVEY

2003



FEBRUARY 2004

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2003 KANSAS SHOREBIRD SURVEY PRELIMINARY RESULTS

Currently, we have received data for 39 sites (78%) surveyed in spring 2002, 33 sites (70%) surveyed in summer-fall 2002, 33 surveyed in spring 2003 (68%), and 30 surveyed in summer-fall 2003 (62%) (Fig. 1). Most volunteers conducted one survey per survey period, 5 in spring and 8 in summer-fall. However, up to 54 surveys were conducted per site. To minimize bias due to differences in number of surveys, when analyzing data for statewide comparisons the maximum count for each species per site per 2-week survey period was selected.

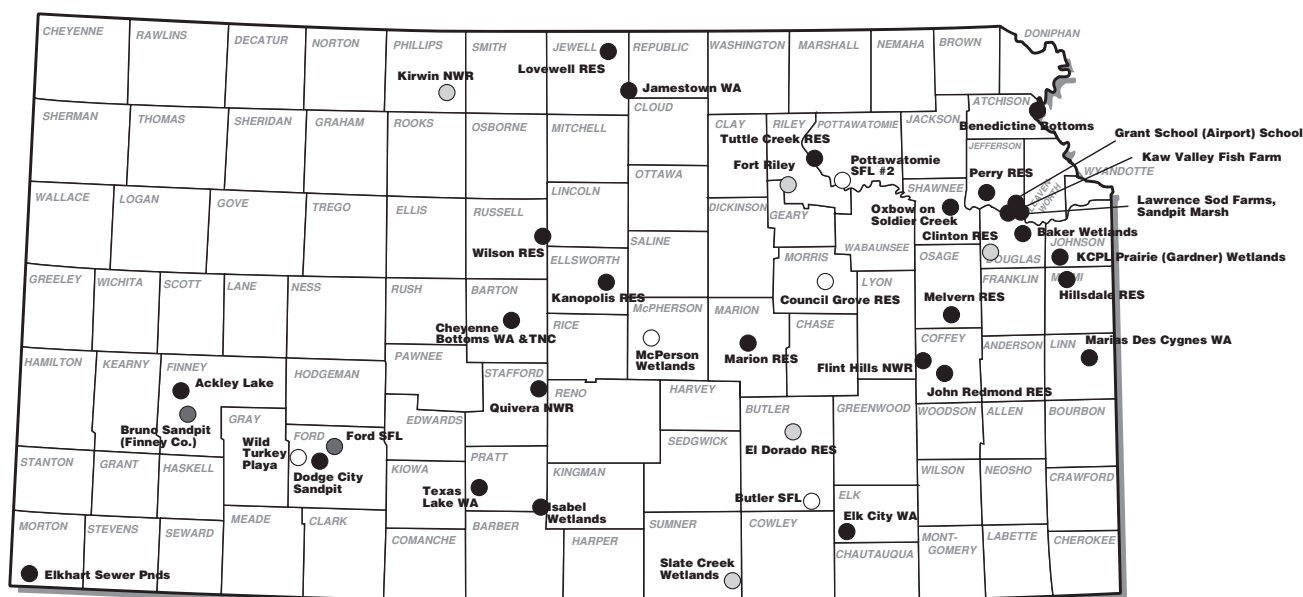
In spring 2003, 45,922 shorebirds were reported, less than half of the spring 2002 total (Fig. 2). Not surprisingly, Quivira National Wildlife Refuge (QNWR, 46% of the statewide total) and Cheyenne Bottoms Wildlife Area (CBWA, 34%) accounted for the highest proportions of shorebirds in spring 2003. After these traditional hotspots came the Cheyenne Bottoms preserve (5%) and Slate Creek Wetlands (3%).

During summer-fall 2003, 30,575 shorebirds were reported;

less than half of the summer-fall 2002 total (Fig. 2). Shorebird numbers were again highest at QNWR (38%) and CBWA (34%), followed by the Flint Hills National Wildlife Refuge (9%) and Marais des Cygnes Area (4%). Because the number of shorebirds at CBWA and QNWR comprised such a large proportion of shorebirds reported in this survey during spring and summer-fall, species composition and migration chronology for 3 groups of sites were analyzed: CBWA, QNWR, and the rest of the sites.

During both spring and summer-fall 2003, 32 species of shorebirds were recorded. Statewide, unidentified shorebirds comprised 16% of shorebirds recorded, however, most (79%) of these were from QNWR (Fig. 3). Of those shorebirds identified to at least a group, species composition varied between the 3 groups of sites during spring and summer-fall.

Kansas Shorebird Survey Site Locations



Seasons Site Has Been Surveyed

○ 1 Season ● 2 Seasons ● 3 Seasons ● 4 or more Seasons

FIGURE 1

SURVEY FINDINGS

At CBWA in spring 2003, dowitchers (62%) and “peeps” (30%) were the most common shorebirds reported, followed by white-rumped sandpipers (18%) and Wilson’s phalaropes (12%). Of the small calidrids (i.e., peeps) identified, white-rumped, semipalmated (4%), and Baird’s sandpipers (4%) were recorded most often. Wilson’s phalaropes (56%), stilt sandpipers (11%), and semipalmated sandpipers (9%) were the most common species at QNWR. However, note that no unidentified shorebirds were recorded as “peeps” at QNWR. Most of the unidentified shorebirds probably were “peeps” during spring and summer-fall. Throughout the rest of the state, peeps (22%) were the most common species reported, followed by lesser yellowlegs (12%), Wilson’s phalaropes (8%), and pectoral sandpipers (8%).

During summer-fall 2003, dowitchers (49%) were the predominant species at CBWA. Peeps (19%), least sandpipers (12%), and American avocets (11%) also were common. At QNWR, dowitchers (25%) and American avocets (20%) were the most common species, followed by least (15%) and stilt sandpipers (12%). Killdeer (29%) and pectoral sandpipers (21%) were the most commonly reported species throughout the rest of the state, distantly followed by peeps (8%).

Statewide, shorebird numbers in spring peaked during the first and second weeks of May (50% of shorebirds), followed by the third and fourth weeks of May (19%) and the third and fourth weeks of April (18%). Migration timing was similar among the 3 groups of sites (Fig. 4).

During summer-fall, statewide shorebird numbers were highest during the third and fourth weeks of September (22%) and first and second weeks of October (17%). The summer-fall peak was much less dramatic than in spring, except at CBWA, and migration timing was very different among the 3 groups of sites. Shorebird numbers peaked during the last half of September and first half of October at CBWA (Fig. 4). At QNWR, shorebirds peaked during the second half of August. Throughout the rest of the state, shorebird numbers peaked during August.

These results are very preliminary and it is too early to reach conclusions. Patterns in shorebird migration such as site use, species composition, and timing vary annually in response to many factors, including weather and habitat conditions. Rainfall

was below average throughout most of the state before and during the survey periods. Thus, water levels in most marshes were relatively low and availability of shorebird habitat at such sites was probably below average to non-existent. However, some reservoirs including Kanopolis in spring and summer-fall and Hillsdale in summer-fall experienced high water levels during portions of 2003. Below-average precipitation probably increased habitat availability for shorebirds at large reservoirs. However, reservoirs are difficult to survey because of the large area of shoreline; much of which is not accessible by roads.

It is premature to conclude that Cheyenne Bottoms and QNWR are the only important shorebird areas in the state. Surveys need to continue for a few more years (at least 3) to adequately assess the value of other shorebird areas in the state. Surveys conducted during different weather patterns are necessary to make this assessment.

The size of Cheyenne Bottoms and QNWR is one reason that they attract large numbers of shorebirds. To adequately compare shorebird use among all the sites in this survey, the density of shorebird use will be calculated in addition to the number of shorebirds. This will require maps of all sites surveyed.

Currently, maps of the survey area are available for 38 of the 51 sites. The survey area is the portion of the site where searches for shorebirds actually occurred. Estimates of “percent of site suitable for shorebirds today” will be used to further refine density estimates and to track habitat availability at each site. However, these density estimates can only be calculated if survey area maps are available and there are enough estimates of habitat availability.

Figure 2. Number and percent of shorebirds reported from survey areas throughout Kansas in spring and summer-fall 2002 and 2003.

Location	2002						2003					
	Spring			Summer-fall			Spring			Summer-fall		
	n	Surveys	%	n	Surveys	%	n	Surveys	%	n	Surveys	%
Ackley Lake	5	5	0.01	8	3	0.00	5	8	0.02	8	0	0.00
Airport (Grant) Slough	4	25	0.03	6	2	0.00	5	3	0.01	8	3	0.01
Baker Wetlands	4	71	0.07	4	108	0.14	5	99	0.22	4	63	0.21
Benedictine Bottoms	5	39	0.04	7	35	0.05	5	58	0.13	8	9	0.03
Bruno (Finney Co.) Sandpit	5	76	0.08	8	70	0.09				8	179	0.59
Butler State Fishing Lake	1	2	0.00									
Cheyenne Bottoms TNC Preserve	5	4,630	4.73	7	295	0.39	5	2,523	5.49	5	137	0.45
Cheyenne Bottoms Wildlife Area	3	71,139	72.73	8	55,841	73.81	5	15,683	34.15	8	10,444	34.16
Council Grove Reservoir	5	26	0.03									
Clinton Reservoir	5	325	0.33	8	32	0.04						
Coblentz Marsh	3	206	0.21				4	16	0.03			
Dodge City Sandpit	5	64	0.07	7	283	0.37	5	82	0.18			
Elk City Reservoir	5	518	0.53	6	242	0.32	4	808	1.76	7	472	1.54
El Dorado Reservoir	4	209	0.21				5	39	0.08			
Elkhart Sewer Ponds	5	210	0.21	8	313	0.41	5	432	0.94	8	509	1.66
Flint Hills National Wildlife Refuge	5	1,429	1.46	7	1,712	2.26	5	814	1.77	8	2,663	8.71
Ford State Fishing Lake	3	16	0.02	6	46	0.06	1	7	0.02			
Fort Riley	4	170	0.17	3	1,596	2.11						
Hillsdale Reservoir	5	419	0.43	6	433	0.57	4	577	1.26	6	430	1.41
Isabel Wetlands	5	40	0.04	7	69	0.09	4	0	0.00	8	26	0.09
John Redmond Reservoir	5	139	0.14	7	426	0.56	5	384	0.84	6	498	1.63
Jamestown Wildlife Area	5	72	0.07	7	37	0.05	4	6	0.01	6	99	0.32
Kanopolis Reservoir	4	39	0.04	8	135	0.18	5	3	0.01	8	133	0.43
KCPL (Gardner) Wetlands	3	275	0.28	6	47	0.06	5	312	0.68	7	178	0.58
Kirwin National Wildlife Refuge	4	1,133	1.16	4	221	0.29						
Kaw Valley Fish Farm	4	68	0.07	8	4	0.01	5	3	0.01	8	129	0.42
Lawrence Sod Farm	3	1	0.00	8	9	0.01	5	0	0.00	8	127	0.42
Lawrence Sandpit Marsh	4	19	0.02	6	58	0.08	5	1	0.00	8	0	0.00
Lovewell Reservoir	5	18	0.02	8	76	0.10	4	22	0.05	3	47	0.15
Marion Reservoir	5	174	0.18	8	141	0.19	4	51	0.11	6	73	0.24
Marais des Cygnes Wildlife Area	4	1,443	1.48	4	204	0.27	5	912	1.99	2	1,185	3.88
Melvern Reservoir	5	136	0.14	8	350	0.46	5	77	0.17	8	238	0.78
Mc Pherson Wetlands	5	55	0.06									
Oxbow on Soldier Creek	5	84	0.09	8	98	0.13	5	34	0.07	8	100	0.33
Perry Reservoir	4	19	0.02	5	18	0.02	4	54	0.12	7	50	0.16
Pottawatomie Co. Lake #2	1	0	0.00									
Preheim Pond										1	97	0.32
Quivira National Wildlife Refuge	5	13,825	14.13	6	12,200	16.13	4	21,257	46.29	6	11,468	37.51
Slate Creek Wetlands							3	1,300	2.83	5	777	2.54
Tuttle Creek Reservoir	2	511	0.52	4	388	0.51	4	175	0.38	5	218	0.71
Texas Lake Wildlife Area	5	129	0.13	5	13	0.02	4	70	0.15	5	90	0.29
Wilson Reservoir	4	55	0.1	8	145	0.19	5	44	0.10	8	133	0.43
Wild Turkey Playa							2	18	0.04			
Yucca Rd. (Ford Co.)							1	50	0.11			
Total		97,814			75,650			45,922			30,575	

FIGURE 2

Figure 3. Number of shorebirds and percent of total shorebirds (excluding unidentified shorebirds) at Cheyenne Bottoms Wildlife Area (CBWA), Quivira National Wildlife Refuge (QNWR), and 35 other sites throughout Kansas during spring and summer-fall 2003.

Species	Spring			Summer-fall		
	CBWA	%	Rest of State	CBWA	%	Rest of State
Black-bellied plover	0	0.00	4	17	0.17	3
American golden-plover	0	0.00	40	0	0.00	3
Snowy plover	4	0.03	89	45	0.44	0
Semipalmated plover	11	0.08	54	26	0.26	28
Piping plover	0	0.00	4	3	0.03	1
Killdeer	112	0.83	102	699	6.88	2,515
Black-necked stilt	30	0.22	274	65	0.64	3
American avocet	140	1.04	379	1,124	11.07	53
Greater yellowlegs	65	0.48	73	511	5.69	64
Lesser yellowlegs	27	0.20	324	1,058	11.78	295
Unidentified yellowlegs	14	0.10	310	54	0.60	22
Solitary sandpiper	0	0.00	0	22	0.24	134
Willet	0	0.00	9	32	0.36	5
Spotted sandpiper	11	0.08	21	134	1.49	170
Upland sandpiper	1	0.01	0	2	0.02	28
Whimbrel	0	0.00	4	0	0.00	0
Long-billed curlew	0	0.00	1	0	0.00	0
Hudsonian godwit	8	0.06	31	22	0.24	22
Marbled godwit	0	0.00	6	1	0.01	0
Ruddy turnstone	27	0.20	17	4	0.04	4
Sanderling	47	0.35	13	6	0.07	3
Semipalmated sandpiper	639	4.76	1,552	479	5.33	325
Western sandpiper	114	0.85	1	16	0.18	13
Least sandpiper	22	0.16	60	366	4.07	1,300
White-rumped sandpiper	2,359	17.58	624	380	4.23	25
Baird's sandpiper	570	4.25	912	641	7.14	131
Pectoral sandpiper	3	0.02	11	721	8.03	1,791
Dunlin	16	0.12	10	13	0.14	4
Stilt sandpiper	336	2.50	1,740	618	6.88	264
Buff-breasted sandpiper	0	0.00	0	7	0.08	108
Peep	4,070	30.34	0	1,957	21.79	700
Short-billed dowitcher	0	0.00	0	0	0.00	0
Long-billed dowitcher	0	0.00	0	72	0.80	19
Unidentified dowitcher	8,374	62.42	1,153	440	4.90	212
Wilson's snipe	2	0.01	1	161	1.79	194
American woodcock	0	0.00	0	0	0.00	0
Wilson's phalarope	1,656	12.34	9,204	752	8.37	386
Red-necked phalarope	0	0.00	0	9	0.09	24
Unidentified <i>Charadrius</i> plover	0	0.00	112	0	0.00	0
Unidentified <i>Pluvialis</i> plover	0	0.00	4	1	0.01	0
Unidentified godwit	0	0.00	0	0	0.00	0
Unidentified shorebirds	2,268		4,900	286		1
Total shorebirds	15,683		21,257	10,444		8,663

Kansas Shorebird Survey Migration Chronology 2003

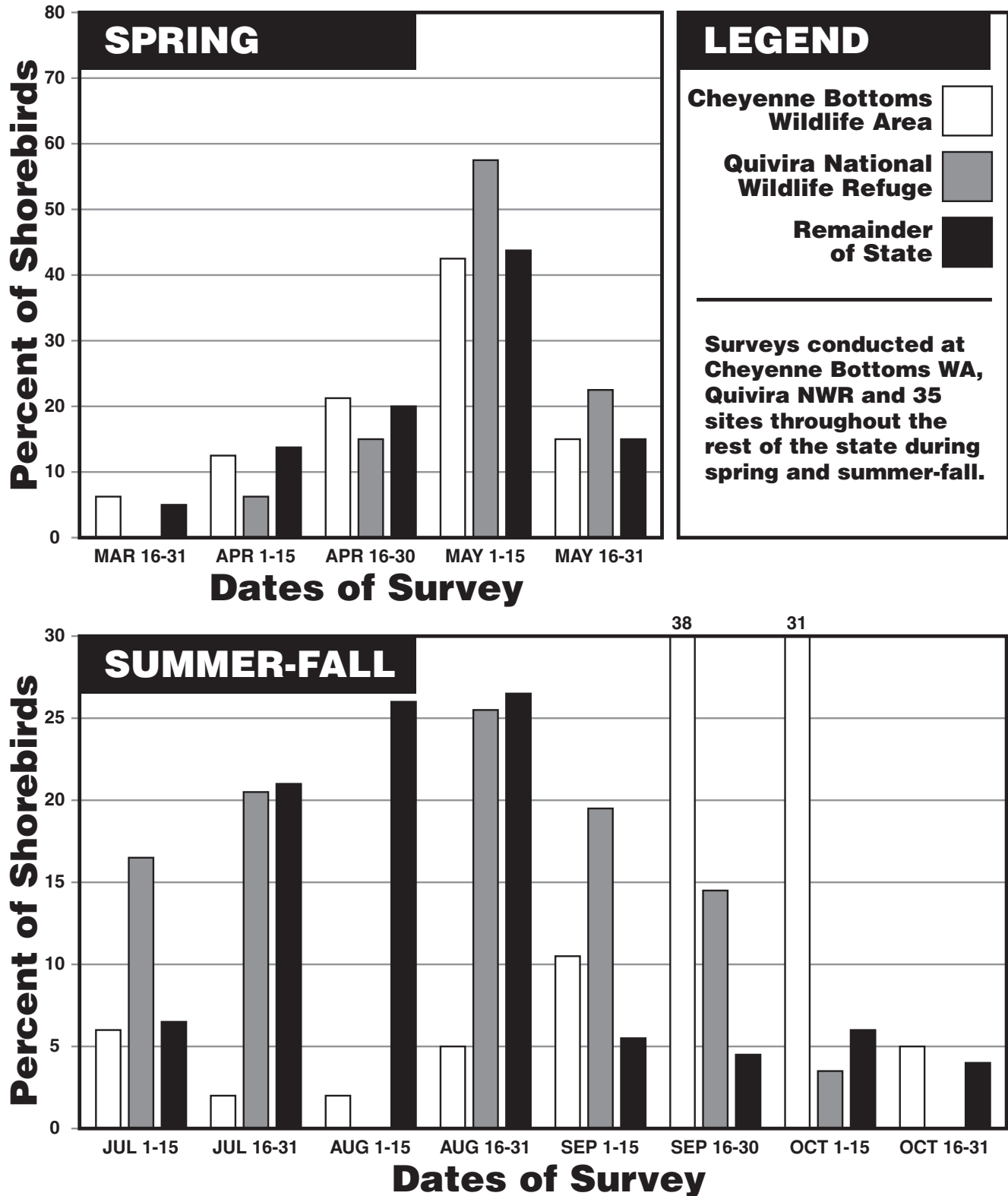


FIGURE 4

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