

**Montana's Colonial-nesting Waterbird Inventory
2009 Annual Report**



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By Catherine Wightman¹ and Fred Tilly²

¹Montana Fish, Wildlife and Parks

²Montana Audubon

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Waterbird conservation planning requires coordinated range-wide inventory and monitoring programs (Kushlan et al. 2002). In Montana, eleven colonial-nesting waterbird species are identified as high priority species for conservation action or monitoring (Casey 2000; Montana Natural Heritage Program and Montana Fish, Wildlife and Parks 2009). The wetland habitats on which these birds depend are classified as a Tier 1 habitat, or habitat in greatest need of conservation (Montana Fish, Wildlife and Parks 2005). Determining priority areas for maintaining wildlife diversity, and especially diverse assemblages of Species of Concern, is one of the primary conservation needs for wetland habitats. However, waterbirds will often move breeding colonies as wetland conditions change making localized surveys of limited value without regional comparisons. Thus, participation in a region-wide colonial-nesting waterbird inventory may provide critical information for conservation of Montana's waterbirds.

Montana Audubon has been collecting information on bird populations in wetlands and other habitats as part of their Important Bird Area program. Biologists at the National Wildlife Refuges and some of the Wildlife Management Areas in the state have fairly comprehensive local data on wetland birds. There have also been several regional surveys for waterbirds over the previous 10 years (e.g., Casey 2004; Begley 2007). Much of this information is stored in the Montana Natural Heritage database.

In 2009, Montana Fish, Wildlife and Parks and Montana Audubon partnered with the U.S. Fish and Wildlife Survey (USFWS) and American Bird Conservancy on a west-wide colonial-nesting waterbird inventory to complement the existing work on waterbirds in the state. This report details implementation of this program in Montana. We focused on nine colonial-nesting waterbird identified in the USFWS program that are also Species of Concern in Montana for the 2009 field season. Other colonial-nesting species were recorded incidentally.

Methods

We identified wetlands with previously confirmed breeding by our focal species in the Montana Natural Heritage Program database. We attempted to survey all of those sites between May 22 and July 24, 2009, plus as many locations with unconfirmed breeding as time permitted. Staff from National Wildlife Refuges, Wildlife Management Areas, Tribal lands, and the Bureau of Land Management, along with local volunteers, participated in the program. Montana Audubon hired two staff to coordinate with participating biologists and volunteers, obtain

necessary permits, conduct surveys, enter data, and assist with summaries and reporting. We followed USFWS protocols for colony counts (http://www.fws.gov/mountain-prairie/species/birds/western_colonial/index.html). Data were entered in to the WCWS database developed by USFWS.

Results

We surveyed 123 sites, of these 55 (45%) had at least one colony of nesting waterbirds (Appendix 1). Of the 40 historical records of confirmed breeding by at least one target species, 18 (45%) had ≥ 1 colony in 2009. We documented breeding of ≥ 2 colonies of target species at 11 sites. An additional 13 sites had ≥ 2 target species observed, but breeding was not documented. Eight sites had over 200 colonial nesting waterbirds recorded. These were Benton Lake NWR, Bowdoin – Lakeside unit, Lake Bowdoin, Canyon Ferry WMA, Manning Lake, Medicine Lake NWR, Red Rock Lake NWR, and Warm Springs WMA.

Colony counts ranged from 1 – 2867 nesting pairs, depending on species and location (Table 1). Detailed species accounts are provided in Appendix 2. In general, birds were in relatively small colonies, with the exception of American White Pelicans and the gull species. When compared with counts from 2002 (Casey 2004), we detected fewer birds for all target species except Common Terns, even though we surveyed over 100 more sites this year than in 2002. Of particular notice is the relatively large decrease in numbers for birds nesting in emergent vegetation (Franklin's Gulls, Forster's Terns, and Black Terns). The 86% decline in numbers of Franklin's Gulls is particularly striking.

Survey methods varied by species and local conditions, but in general, we found nest counts within a colony were the most accurate (Appendix 2). Exceptions to this were some colonies of marsh nesting species (Forster's Tern, Black Tern, and Franklin's Gull), where nests were easier to locate with an incubating bird on the nest. In these cases, perimeter counts often appeared to be more accurate. Counts of Franklin's Gull nests were especially problematic because colonies were so large and numbers were estimated from fly-out counts of adults at some sites. Within colony counts of American White Pelicans were relatively efficient and did not appear to cause undue disturbance to this sensitive species. We had one site where Clark's and Western Grebes were nesting together and we were unable to estimate the proportion of Clark's to Western Grebe within the colony because the distances were too great.

Table 1. Summary of Montana's colonial-nesting waterbird inventory in 2009 and a comparison with a survey of key sites in 2002.

Species	Sites visited ^a	Sites with confirmed breeding	Total breeding pairs	Mean colony size (pairs)	Colony size range (pairs)	2002 Breeding Pairs ^b	% Change	Direction of change
Species of Concern								
Clark's Grebe	4	1	<77 ^c	n/a	n/a	15	n/a	
American White Pelican	14	5	5,963	852	25 - 1907	8,000	0.25	-
Black-crowned Night-heron	20	7	91	13	1 - 36	100	0.09	-
White-faced Ibis	5	3	115	38	1 - 95	135	0.15	-
Franklin's Gull	17	3	7,775	2587	16 - 2867	54,300	0.86	-
Caspian Tern	10	3	31	11	1 - 18	34	0.09	-
Forster's Tern	20	6	66	11	2 - 30	157	0.58	-
Common Tern	16	2	43	22	1 - 42	30	0.43	+
Black Tern	33	13	92	7	2 - 15	180+	0.49	-
Non-target Species^c								
Red-necked Grebe	-	5	-	3	1 - 5			
Horned Grebe	-	1	-	n/a	n/a			
Eared Grebe	-	9	-	9	1 - 45			
Western Grebe	-	2	-	n/a	2 - <77 ^d			
Double-crested Cormorant	-	11	-	73	3 - 225			
Great Blue Heron	-	20	-	18	4 - 50			
Ring-billed Gull	-	6	-	603	27 - 2045			
California Gull	-	4	-	182	6 - 683			

^a Sites visited to target these species based on historical confirmed and unconfirmed information or potentially appropriate habitat. Some sites had more than one colony.

^b Casey 2004: Table 2.

^c Data was collected opportunistically for these species. Estimates of total breeding pairs are not reported as many colonies were not surveyed.

^d Clark's and western grebes were nesting together at one site; observers could not determine the proportion of CLGR:WEGR

Discussion and Future Plans

Only one-third of the sites identified in the Montana Natural Heritage database had nesting waterbirds in 2009, but we found nesting activity at more sites than in the database total. These results support the assumption that breeding colonies of some waterbird species within Montana are ephemeral, presumably in response to wetland conditions. We were unable to visit all potential wetlands in 2009, so it is likely we missed some colonies of waterbirds. However, we believe we missed relatively small colonies of marsh-nesting species (e.g., Black Terns) and not large colonies of Franklin's Gulls or island nesting Species of Concern. The ephemeral nature of waterbird colony locations will be an important consideration when developing a monitoring program.

Our relatively low numbers of waterbirds overall, and marsh-nesting species in particular, suggest wetland conditions may have been relatively poor in 2009. In lieu of these results, our focus for 2010 is to survey sites missed this year and resurvey sites with marsh-nesting Species of Concern to determine if 2009 was a representative year. To accomplish this with limited resources, we are planning to focus on Species of Concern, plus Double-crested Cormorants and Great Blue Herons in 2010. We will collect only incidental information on grebes (except Clark's Grebe) and gulls (except Franklin's Gull).

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