Wisconsin Bald Eagle and Osprey Surveys - 2013

2013 Project Staff:

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Bald Eagle near Star Lake, WI Credit: Michele Woodford

Summary

Wisconsin Department of Natural Resources (WDNR) staff from the Natural Heritage Conservation, Wildlife Management and Remediation and Redevelopment programs completed aerial nesting surveys for bald eagles and ospreys in cooperation with WDNR pilots in spring and early summer 2013. This marked the 41st consecutive year that these important wildlife surveys have been completed in Wisconsin, which makes it one of longest running surveys of its kind in North America. Surveys found 1,344 occupied eagle nests and 535 occupied osprey nests, both of which were record highs in the state. Observers reported 1,057 bald eagle nestlings and a statewide nest success rate of 63% during productivity surveys that occurred in May and June. Nest success by survey area for eagles ranged from 52-100%. Occupied eagle nests were found in 67 of 72 (93%) counties, and 57 of 72 (79%) counties had occupied osprey nests. Additional project work included nest management guidance, construction project reviews, forest management guidance, and winter eagle roost counts along the lower Wisconsin River.

Acknowledgments

Local eagle and osprey nest information was provided by Rebecca Key (NPS), Patrick Ready, Sergei Postupalsky, Rex Runke, and numerous WDNR field staff. Bald eagle nest data for many of the nests within the Upper Mississippi River National Wildlife and Fish Refuge was provided by Brian Stemper (US Fish and Wildlife Service - La Crosse).

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Bald Eagles

All nest surveys were completed using a WDNR aircraft and pilot and at least one other trained observer. The first bald eagle survey was flown in early April to locate occupied nests and the second survey was flown in late May and June to count young and determine nest success. Additional ground observations were provided by landowners, birders, volunteers, and raptor banders; this information is used to supplement and check aerial data. Regional reports were developed by area observers (Appendix 1) that detail bald eagle and osprey nest locations and provide summarized information on productivity rates by county.

There were 1,344 eagle nests occupied by breeding adults in 2013 (Figure 1). This was an increase of 7 pairs from 2012 and the highest ever recorded in Wisconsin (Figure 2). An occupied nest was defined as a nest where one or more of the following was observed: incubation, eggs, young, or a repaired nest. Vilas (*n* = 144) and Oneida (*n* = 134) counties had the highest number of occupied eagle nests. These two counties represent most of the Northern Highland Ecological Landscape, which has one of the highest concentrations of lakes in the world. Bald eagles occupied nests in 67 of the state's 72 counties (93%; Figure 1), and the number of occupied nests continued to increase in the southern, eastern, and west-central portions of the state (survey areas 2, 3, 5, 6, and 7; Appendix 1). The number of occupied eagle nests decreased slightly in the central and northwestern portions of the state (survey areas 1 and 4; Appendix 1).

Observers were able to record productivity observations at 1,187 of the occupied eagle nests in Wisconsin (Table 1) during the second survey. The other 157 nests reported as occupied during the first survey either were not checked or were obscured from view. This normally occurred in nests located in deciduous trees that had fully leafed-out. At least 1,057 young were observed in 748 successful nests, which resulted in an average of 0.89 young per occupied nest for those nests with known outcomes and 1.41 young per successful nest. Nest success for those nests with known outcomes was 63%. For successful nests, 60% produced one young, 38% two young, and 2% three young.

Along the Mississippi and lower St. Croix rivers it can be difficult to determine the total number of occupied territories. Eagles nest close together in these areas and pairs may nest in Wisconsin one year and move across the river channel to Minnesota or Iowa for the next. Surveys in the counties along the Mississippi and lower St. Croix rivers (St. Croix, Pierce, Pepin, Buffalo, Trempealeau, La Crosse, Vernon, Crawford, and Grant) resulted in the observation of 47 more occupied eagle nests than were observed in 2012.

In 2013, the most marked decrease in occupied bald eagle nests occurred in survey area 1 (Appendix 1; Ashland, Barron, Bayfield, Burnett, Douglas, Polk, Rusk, Sawyer, and Washburn counties), where there were 28 fewer occupied nests than in 2012. Nest success was lower in the two northern survey areas (52-62%) than in the rest of the state (range = 73-100%; Table 1). It is likely that the unusually late winter and cool spring experienced in northern Wisconsin in 2013, with several large snow storms occurring into early May, may have caused increased nest abandonment or failure.

The Federal Bald and Golden Eagle Protection Act provides protection for all eagle nests, nest trees, and adjacent habitat. Throughout the state project staff are commonly contacted by private landowners and public land managers for recommendations to protect bald eagle and osprey nests from disturbance. On public properties, habitat is managed to promote tall snags and large, super-canopy white pines for nest trees. Project staff make recommendations to protect nests where major disturbances such as timber sales, utility and telecommunication projects, housing development, and road construction were planned. From February 1, 2013 to September 30, 2013 project staff provided information on nest tree locations, management recommendations, and outreach for well over 150 different requests. In the past 25 years WDNR staff made management recommendations that protected over 80% of all known eagle and osprey nests. Accurate nest locations, nesting activity, and management guidance continue to be important factors in the long term conservation of Wisconsin's bald eagle and osprey populations.

Wintering Eagles

One survey for over-wintering bald eagles was flown on January 10, 2013 on the lower Wisconsin River between the Petenwell Dam at Highway 82 and the Mississippi River at Highway 18/35. A total of 434 bald eagles (267 adults and 167 immature) were observed. This was 2.3 times the number of bald eagles observed during the same survey completed in January 2012. The 20-year average for this survey is 196 eagles, but the numbers recorded have varied widely from year to year based on the ice conditions on the river in January.

Table 1. Summary of 2013 bald eagle productivity surveys in Wisconsin.

Survey Area (Appendix 1)	Occupied Territories	Successful Territories*	Total Young	Young Per Occupied Territory	Young Per Successful Territory	Percent Nest Success**
Area 1	317	192	260	0.82	1.35	62
Area 2	474	245	324	0.68	1.32	52
Area 3	141	103	172	1.22	1.67	77
Area 4	38	27	38	1.00	1.41	77
Area 5	243	131	178	0.73	1.36	73
Area 6	116	43	72	0.62	1.67	81
Area 7	15	7	13	0.87	1.86	100
Total Territories	1,344					
Territories with Known Outcome	1,187	748	1,057	0.89	1.41	63

*Successful territories included those where one or more young were present at the time of the productivity flight.
**Percent nest success calculated only for those territories with known outcome.

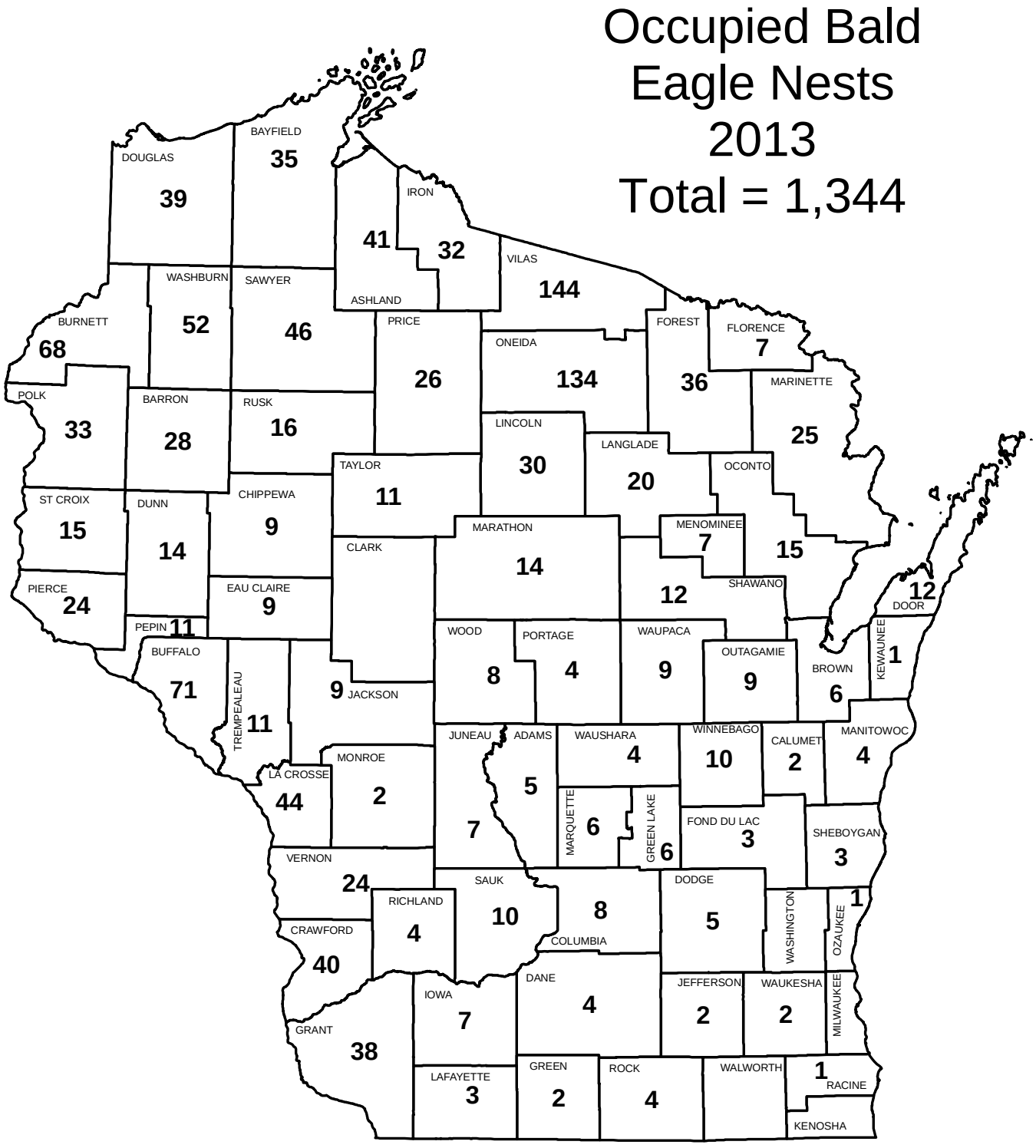

Figure 1. Occupied eagle nests where the observer recorded at least one of the following: a repaired nest, an incubating adult, eggs, or young in the nest.

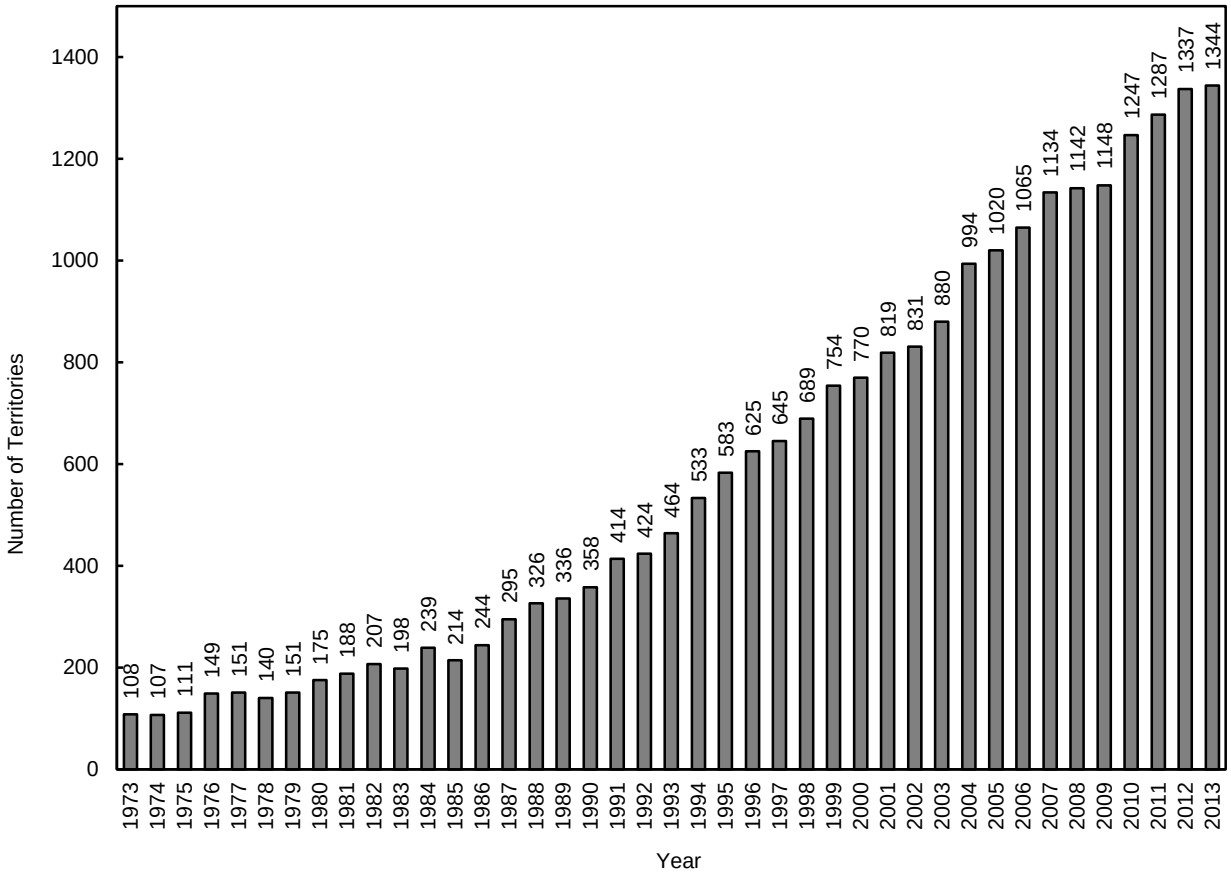

Figure 2. Occupied bald eagle nests in Wisconsin, 1973-2013. Bald eagle information for the years 1973 to 1989 was summarized from annual surveys completed by Charles Sindelar, Waukesha, WI.

Ospreys

The first osprey flight was completed in May to locate occupied nests. There were 535 occupied osprey nests found statewide in 2013 (Figure 3). This was an increase of 13 pairs from 2012 (Figure 4), and the highest ever recorded in Wisconsin. Oneida county had the most occupied nests (*n* = 99), and ospreys nested in 57 of the state's 72 counties (79%; Figure 3). The number of occupied osprey nests increased throughout survey areas 1, 3, 4, and 5 (Appendix 1) but decreased in north-central and southeast Wisconsin (survey areas 2 and 7; Appendix 1).

Funding constraints limited the extent of the second osprey nest survey to only Iron and Oneida counties, which was completed in mid-July to count young. The productivity of 143 osprey pairs was determined in 2013 (Table 2). This included an additional 20 nests in survey area 2 and 9 nests in survey area 6 where productivity data was opportunistically collected in 8 counties. These 147 pairs produced at least 142 young, averaging 1.54 young per successful nest, and 63% nest success (Table 2). Of the 92 successful nests, 51% had one young, 44% had two young, and 5% had three young.

Osprey nest success was high in Iron County, with 89% of 19 nests successfully producing young at the time of the productivity flight. In Oneida County, the nest success rate was much lower, with 54% of 99 nests successfully producing young at the time of the productivity flight.

Table 2. Summary of 2013 osprey productivity surveys in Wisconsin.

Survey Area (Appendix 1)	Occupied Territories	Successful Territories*	Total Young	Young Per Occupied Territory with Known Outcome	Young Per Successful Territory
Area 1	122				
Area 2	189	83	128	0.93	1.54
Area 3	120				
Area 4	60				
Area 5	19				
Area 6	17	9	14	1.00	1.56
Area 7	8				
Total Territories	535				
Territories with Known Outcome	147	92	142	0.97	1.54

*Successful territories included those where one or more young were present at the time of the productivity flight. Only two counties in Area 2, Iron and Oneida counties, were surveyed in their entirety for osprey productivity. No other aerial productivity surveys were conducted; additional productivity data was opportunistically collected.

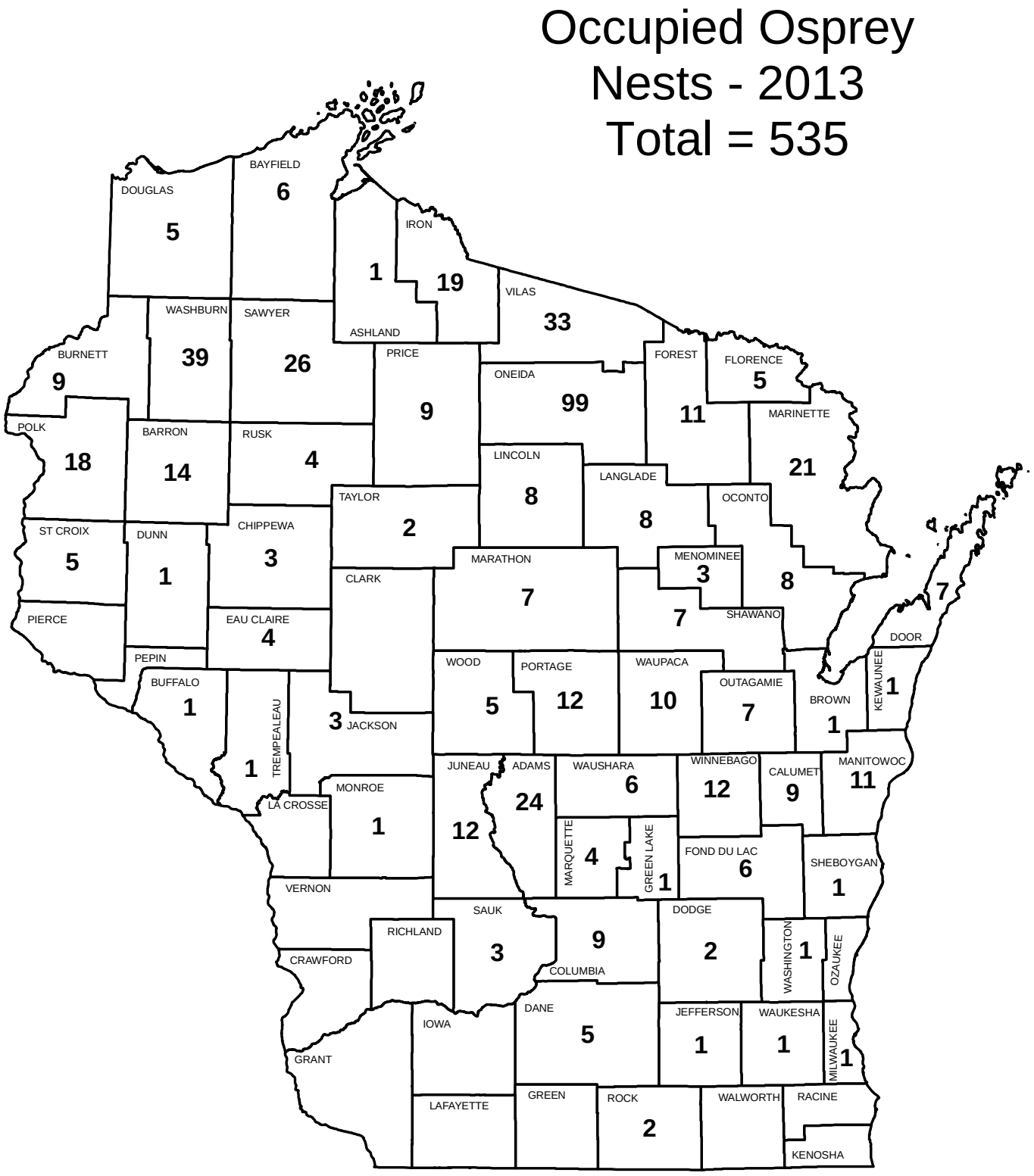

Figure 3. Occupied osprey nests where the observer recorded at least one of the following: one or more adults at a repaired nest, an incubating adult, eggs, or young in the nest.

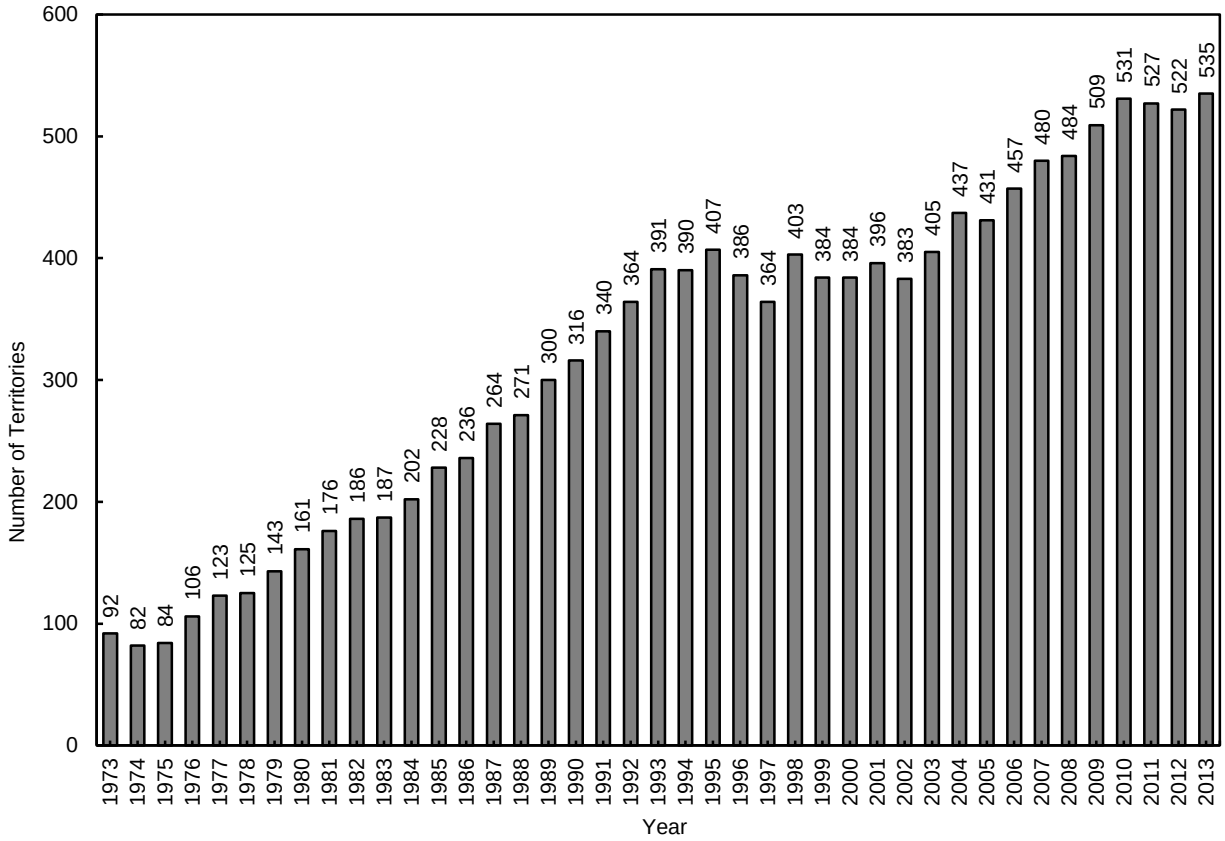

Figure 4. Occupied osprey nests in Wisconsin, 1973-2013.

Appendix 1. Wisconsin Natural Heritage Inventory (NHI) eagle and osprey contact list.

DNR Area Eagle/Osprey Survey Contacts

For the latest and most complete information on the location of eagle and osprey nests (rev. 3/2013)

Area 1
Ryan Magana, 715-635-4153
DNR, 810 Maple Street
Spooner, WI 54801
Ryan.Magana@wisconsin.gov

Area 2
Ron Eckstein, 715-365-8927
DNR, 107 Sutliff Ave
Rhinelander, WI 54501
Ronald.Eckstein@wisconsin.gov

Area 3
Steve Easterly, 920-303-5427
625 E County Road Y, Suite 700
Oshkosh, WI 54901
Stephen.Easterly@wisconsin.gov

Area 4
Erin Grossman, 715-421-7814
DNR, 8310 CTH F
Bancroft, WI 54921
Erin.Grossman@wisconsin.gov

Area 5a
Dean Edlin, 608-789-5514
DNR, 3550 Mormon Coulee Rd
La Crosse, WI 54601
Dean.Edlin@wisconsin.gov

Area 5b
Jim Woodford, 715-365-8856
DNR, 107 Sutliff Ave
Rhinelander, WI 54501
James.Woodford@wisconsin.gov

Area 6
Dan Goltz, 608-375-4231
DNR, 5350 Hwy 133E
Boscobel, WI 53805
Daniel.Goltz@wisconsin.gov

Area 7
Seth Fisher, 262-878-5605
DNR, N6078 Co Hwy O
Elkhorn, WI 53121
Seth.Fisher@wisconsin.gov

Eagle Carcass Submissions:
Necropsy Required for:
**Banded Eagles*
**Within 1 mile of Great Lakes*
** LE cases*
**Suspicious die offs*
Repository:
**Remaining Eagles go to The National Repository*