

Wisconsin Bald Eagle and Osprey Surveys 2011

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Summary

DNR Wildlife Management and Endangered Resource staff conducted breeding survey flights using DNR pilots and aircraft. U.S. Fish & Wildlife Service pilots surveyed certain nests along the Upper Mississippi National Wildlife & Fish Refuge. The first bald eagle flight was flown in early April to locate active nests and the second eagle flight was flown in June to count young. Funding constraints allowed only the April eagle flight in most of the state. The June bald eagle flight occurred in selected areas and covered about one half of the state's bald eagle territories. The first osprey flight was flown in mid May to locate active nests and the second osprey flight was flown in mid July to count young. Ground observations by volunteers and banders supplemented the aerial checks. Regional reports were developed that detailed all bald eagle and osprey nest locations and summarized eagle and osprey productivity by county.

Throughout the state, DNR staff contacted private landowners and made recommendations to protect eagle and osprey nests from disturbance. On public properties all nests are fully protected from disturbances and habitat is managed to promote tall snags and large, super canopy white pines. In 2011 DNR staff made protection recommendations for over 75 nests where major disturbances such as timber sales, power line construction, housing development, and road construction were planned. In the last 25 years DNR staff made recommendations that protected over 80% of all known eagle and osprey nests. Nest protection and management continue to be important in the long term conservation of Wisconsin's bald eagle and osprey population.

Bald Eagles

There were 1,287 known eagle nest territories occupied by breeding adults in 2011. This was an increase of 40 pairs from 2010. Occupied means the observer recorded one or more of the following: incubation, eggs, young, or a repaired nest. New territories were located throughout the state and, in particular, along the Mississippi River and along the Lake Superior shoreline (Figure 1).

A June productivity flight recorded observations at 637 occupied eagle nests in Wisconsin (Table 1). At least 618 young were observed in 426 successful nests. The 637 nests had an average 0.97 young per occupied territory and 1.45 young per successful territory. Nest success was 66%. In a sample of 426 successful nests, 51% had one young, 47% had two young, and 2% had three young.

Along the Mississippi and St. Croix Rivers it is sometimes difficult to determine the total number of occupied territories. Eagle pairs nest close together in some areas and nest locations move back and forth across the river channel from Wisconsin to Minnesota or Iowa. Additional flight time spent searching the Mississippi River and its tributaries in Pierce, Pepin, Buffalo, and Trempealeau Counties resulted in the discovery of 25 additional pairs of eagles.

In 2011, the nesting eagle population in far southeastern Wisconsin (Sheboygan, Ozaukee, Dodge, Jefferson, and Waukesha Counties) increased from 11 to 15 pairs while the far southern Wisconsin eagle population (including the Lower Wisconsin River) remained stable.

In southwestern Wisconsin more eagle territories are being established up small tributary streams of the Mississippi River and in agricultural areas near large chicken farms. Eagles are scavenging dead chickens disposed of in agricultural fields.

Eagles nesting along the Lake Michigan shore and the Fox River near Green Bay have made a remarkable recovery since 1989. In 1989 only one pair of eagles was known to nest in this entire area (at Kaukauna). Along the Menominee River on the Michigan border, eagles have established territories along "every major bend in the river" or about one occupied nest every four miles.

A June productivity flight was conducted for all occupied eagle pairs nesting within one mile of the Lake Superior shoreline in Douglas, Bayfield, Ashland, and Iron Counties and on the Apostle Islands. A total of 64 breeding pairs were located (60 in 2010). Thirty-one of these 64 nests were successful and produced 47 young (0.73 young per occupied nest) and had a brood size of 1.51. Nest success was 48% (Table 1). These productivity statistics are down from 2010 but not unusual for eagles nesting in the harsh environment of the Lake Superior shore. These results are from the aerial check and Bill Route, National Park Service, has more detailed information from his research at nest sites on the Apostle Islands.

Eagles had very poor success in a stretch of the Wisconsin River between Rhinelander and Merrill in Oneida and Lincoln Counties. Of 15 occupied territories only six (40%) were successful with a brood size of 1.67 and only 0.67 young per occupied nest. This stretch of river experienced similar poor results in 2009 and 2010. The cause of the poor showing is unknown.

Eagles nest very close to one another on the Rainbow Flowage in Oneida County. In 2010, five pairs nested in an area less than one square mile. Three of these pairs could see each other from their nests on two adjacent islands and a peninsula. All five pairs were successful and

raised nine young in 2010. However, in 2011 only three of five pairs were present and only two pairs were successful. This is representative of the dense eagle population that nests in Vilas and Oneida Counties where there is a lot of year to year reorganizing of closely packed territorial pairs. In 2011 the total number of occupied eagle territories dropped from 283 to 265 in Vilas and Oneida Counties. The eagle population appears to be close to the carrying capacity of the habitat in Vilas and Oneida Counties. There is a similar situation along portions of the Mississippi River and in portions of Burnett, Washburn, and Sawyer Counties. In Burnett, Washburn, and Sawyer Counties the territorial count fell from 184 pairs to 169 pairs between 2010 and 2011.

Statewide, eagle nest success was excellent in northeast, east central, and southeastern Wisconsin; moderate in north central Wisconsin; and below average in Iron County, on the Lake Superior shore, and in central Wisconsin. Table 1 provides a regional summary of productivity and success for those areas of the state where the productivity survey was conducted.

Wintering Eagles

A winter eagle survey was flown in January on the lower Wisconsin River between the Petenwell Dam at Highway 82 and the Mississippi River at Highway 18/35. On January 5, 2011 473 bald eagles (310 adult and 163 immatures) were observed. On January 17, 2012 a total of 186 eagles (128 adults and 58 immatures) were observed on this same stretch of river. The number of wintering eagles varies from year to year based on the ice conditions on the river. The 20 year average for this survey is 196 eagles in January.

In recent years, concentrations of wintering bald eagles have been observed in new areas of the state. For example, in January of 2012, people reported 24 eagles on Lake Monona in Madison, 68 eagles at Kaukauna, 45 at Green Bay, and 50 to 100 at various agricultural fields in southwestern Wisconsin.

Eagle Deaths & Injuries in Wisconsin

DNR staff and volunteers recovered all sick, injured, or dead eagles in 2011. The leading cause of death was collision with a vehicle. Most vehicle collisions occurred when eagles were scavenging car-killed deer. Other common causes of eagle mortality include lead poisoning, electrocution, eagle versus eagle territorial fights, and unspecified wing injuries. Eagle carcasses were sent to the National Eagle Repository at Rocky Mountain Arsenal National Wildlife Refuge near Denver, Colorado. From this repository eagle feathers and carcasses were sent on request to Native Americans for religious purposes.

One incident of interest occurred at the Vilas County Sanitary Landfill on April 9, 2011. At the landfill one eagle was found dead and seven others (3 adults and 4 immatures) were found very sick. DNR staff and Marge Gibson from the Raptor Education Group, Inc. (REGI) quickly recovered the sick eagles. Marge treated the sick birds and, remarkably, released all seven to the wild on June 1, 2011. These eagles had ingested portions of domestic animals that had been euthanized with a fast acting poison. The landfill now immediately buries all animal carcasses. Aerial checks of the occupied eagle nests within 10 miles of the landfill recorded eight of the nine nests were successful and produced 11 young.

Ospreys

There were 527 osprey nest territories occupied by breeding adults in 2011. This is a decrease of four pairs from 2010. Oneida County had the most ospreys with 85 pairs (down four pairs from 2010). Ospreys nested in 57 of the state's 72 counties (Figure 2). Some counties lost a few pairs of ospreys because, in most cases, the nest blew out and the new nest location could not be found. Osprey breeding territories increased in east central, northeast, and southeast Wisconsin but declined in north central and northwest Wisconsin.

The productivity of 519 osprey pairs was determined. These 519 pairs produced at least 531 young with 1.02 young per occupied nest, 1.58 young per successful nest, and 64% nest success (Table 2). In a sample of 336 successful nests, 47% had one young, 47% had two young, and 6% had three young.

Some northern Wisconsin counties had very poor nest success in 2011 including Vilas (32%), Florence (40%), Sawyer (50%), Washburn (50%), and Bayfield (50%). A huge blow down and tornado event hit over 100,000 acres in portions of Burnett and Douglas Counties during the first week of July. This storm blew down many osprey (and eagle) nests and resulted in very poor osprey nest success in Burnett and Douglas Counties. On the other hand the northern counties of Barron, Washburn, and Langlade had young per occupied nest totals greater than 1.50.

Bald eagles continue to push ospreys out of suitable nest habitat in areas of the state with dense populations of breeding eagles. In addition, in southwestern Wisconsin, most ospreys nest on cranberry farm flowages. These large flowages offer excellent habitat for ospreys but in recent years bald eagles have set up territories on these flowages. The very poor osprey nest success (27%) for 11 osprey territories on southwestern Wisconsin cranberry flowages may be attributed to competition and disturbance by breeding eagles.

Osprey nest success was remarkably high in northeast and east central Wisconsin with a region-wide average of 88%. More than 90% of these pairs nested on poles with platforms, power lines with platforms, and on communication towers. Ospreys are doing very well in this portion of the state.

Statewide, nest success and productivity was best in southern, northeast, and east central Wisconsin; was slightly below average in central, north central, and northwestern Wisconsin; and was very poor in west central and southeast Wisconsin

In central Wisconsin most osprey pairs nest on manmade structures:

	Occupied	Successful
Stumps	2	0
Highline with Platform	30	22
Metal Highline	4	3
Platform on a Pole	14	8
Platform on a Tree	2	0
Natural Nest in Snag	1	0
Communication Tower	7	5
Rec Field Light Pole	2	2
Total	62	40

Tall electric transmission lines continue to be a common nest site for ospreys. Various power and transmission companies including the American Transmission Company, the Wisconsin Public Service Corporation, WE Energies, and the Wisconsin River Power Company continue to provide secure nest sites through installation of osprey platforms on transmission line poles. Ospreys have excellent productivity and nest success on transmission lines outfitted with platforms. These nest sites are secure and appear not to be compromised by predators such as raccoons and Great Horned owls.

Osprey Platforms

DNR Wildlife Biologists erected over 200 osprey nest platforms between 1972 and 1993. The platforms provide secure nest sites. Since 1993, various conservation organizations and power companies erected additional nest platforms on power lines and other structures. In 2011, the American Transmission Company, WE Energies, Wisconsin Public Service Corporation, DNR, individual landowners, and various conservation groups erected 10 additional nest platforms. The American Transmission Company operates most of the large electric transmission lines in Wisconsin and has a policy to secure all new osprey nests on their transmission lines with platforms. Electric power companies such as the Wisconsin Public Service Corporation and WE Energies routinely secure osprey nests on their electric distribution lines. These conservation efforts have allowed ospreys to increase in central and southern Wisconsin and pioneer into many areas of east central and southeast Wisconsin. Statewide, about 87% of the state's breeding osprey population nest on artificial structures.

The situation is different in many areas of far northern Wisconsin away from the electric transmission lines and platforms on poles. Many of the osprey platforms that were installed by DNR staff in the 1970s and 1980s were placed in live trees, particularly tall white pines. These platforms are now 25 to 30 years old. Some are deteriorating and many white pines have grown branches over the platform. As these historic platforms decline, ospreys will seek out new nest sites. These new sites may be in poor locations or on insecure snags. DNR survey staff locate very few potential natural nest sites in the inland lakes region of northern Wisconsin. Forest management practices tend to remove dead and dying large pines and the current beaver population is well down from levels during the 1970s and 1980s. A combination of deteriorating platforms, the lack of suitable natural nest sites and, quite possible, the large bald eagle population caused the osprey population to decline in some northern forest counties.

Osprey Translocation

Wisconsin entered the sixteenth year of the osprey translocation project. Seven young ospreys were taken from nests in Barren and Washburn Counties and sent to hack sites in the state of Iowa. These young were taken in July from nests with multiple young (always leaving one). Since 1996, 224 young were removed from nests in northwestern Wisconsin for the Iowa osprey project. Iowa had 16 pairs of nesting ospreys in 2011. An overview of the Iowa osprey reintroduction work can be found at the Iowa DNR website.

Table 1. Summary of the 2011 Bald Eagle Survey in Wisconsin.

Locality in Wisconsin	Occupied Territories	Successful Territories	Total Young	Young Per Occupied	Young Per Successful	Percent Nest Success
Northwest	435					
Iron County*	(36)*	20	23	0.64	1.15	55
Lake Superior**	(64)**	31	47	0.73	1.51	48
North Central	344	230	350	1.02	1.52	67
NE & East	138	114	145	1.05	1.27	82
Central	50	27	44	0.88	1.62	54
West Central	251					
Southern	64					
Southeast	5	4	9	1.80	2.25	80
Total Territories	1,287					
Territories with Known Outcome	637	426	618	0.97	1.45	66

*A subset of Northwest Wisconsin territories with known outcome.

**A subset of Northwest Wisconsin territories including all territories on the Apostle Islands and along the Lake Superior shoreline.

Table 2. Summary of the 2011 Osprey Survey in Wisconsin.

Locality in Wisconsin	Occupied Territories	Successful Territories	Total Young	Young Per Occupied	Young Per Successful	Percent Nest Success
Northwest	157	86	149	0.95	1.73	54
North Central	142	85	140	0.98	1.65	60
NE & East	126	111	150	1.19	1.35	88
Central	62	40	64	1.03	1.60	64
West Central	11	3	8	0.27	1.00	27
West Central	8*					
Southern	16	9	17	1.06	1.89	56
Southeast	5	2	3	0.60	1.50	40
Total Territories	527					
Territories with Known Outcome	519	336	531	1.05	1.58	64

*Eight territories presumed active, but not checked for productivity.

Active Osprey Territories 2011 Total = 527

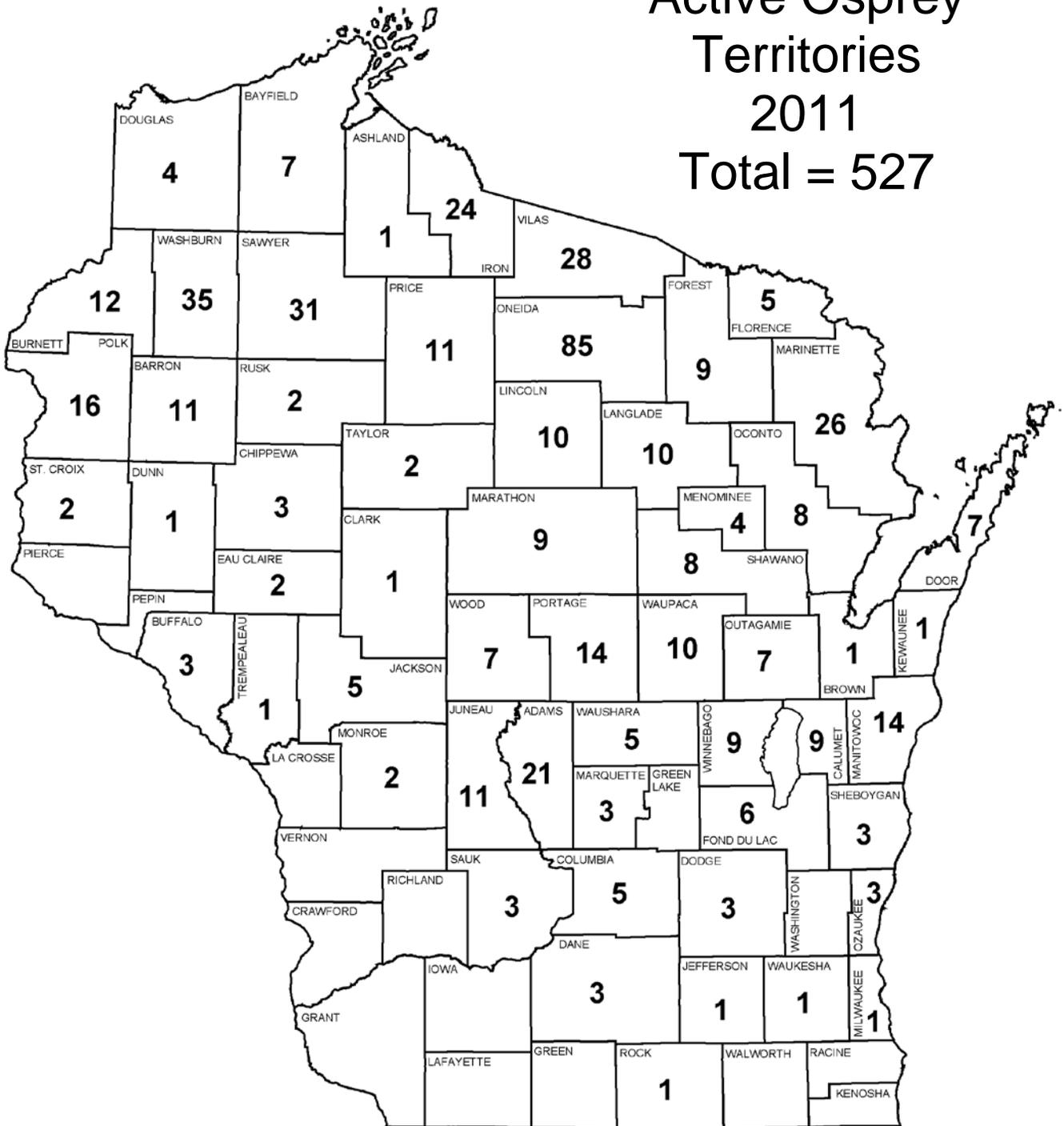


Figure 2. Active osprey territories are those territories where the observer recorded at least one of the following: at least one adult at a repaired nest, an incubating adult, eggs or young in the nest.

WISCONSIN EAGLE NEST SURVEY, 1973 - 2011

Occupied Territories

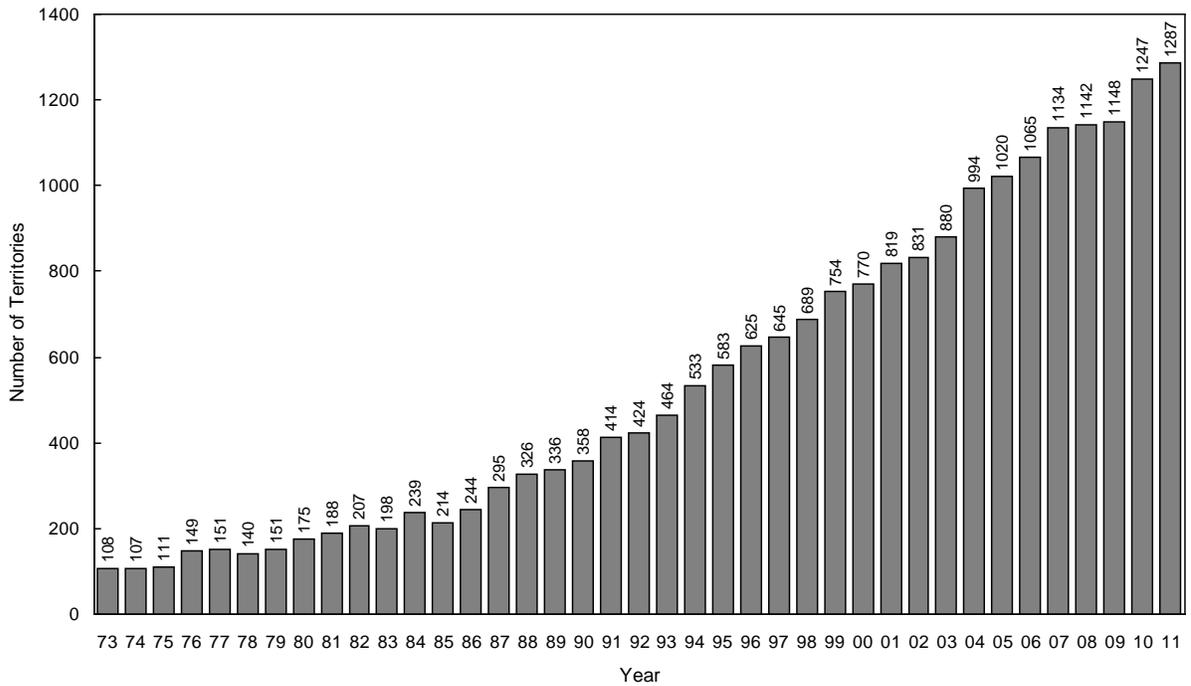


Figure 3. Number of occupied eagle territories in Wisconsin, 1973-2011.

WISCONSIN OSPREY NEST SURVEY, 1973 - 2011

Active Territories

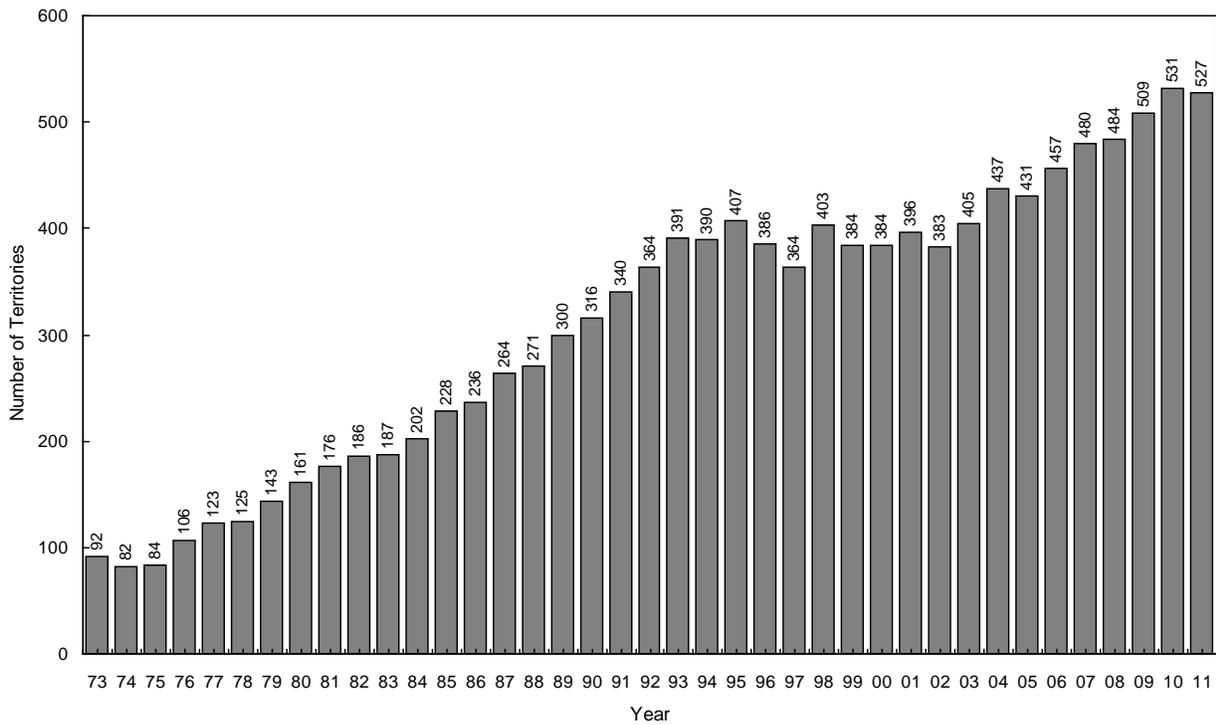


Figure 4. Number of active osprey territories in Wisconsin, 1973-2011.

Wisconsin Natural Heritage Inventory (NHI)

DNR Regional Eagle/Osprey Survey Contacts

For the latest and most complete information on the location of eagle and osprey nests (rev. 4/2012)

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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*

