



2014 Osprey Update

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Life History and Historical Distribution

The Osprey (*Pandion haliaetus*), or “fish-hawk” is a migratory, fish-eating bird of prey, which nests on trees and other structures near water. Ospreys nest throughout North America during the spring and summer, but migrate south to Central and South America for the winter. Kentucky Osprey generally nest from late March-July. Eggs are usually laid during March-April and young usually leave the nest by the end of July.

In Kentucky, Osprey historically nested along the floodplains of the lower Ohio and Mississippi rivers. However, by the 1950s, the species was considered to be a very rare summer resident in the extreme western part of the state (Mengel 1965). Ospreys, like many other fish-eating birds and raptors, declined significantly in numbers during the 1960s and early 1970s, due their productivity being hindered by the pesticide DDT. In fact, there were no confirmed Osprey nests in Kentucky between 1949 and 1986 (Ray et al 2009).



Several osprey nests were recorded in 2014 on fallen snags.

Photo by: Loren Taylor

Restoration Efforts

In hopes to reverse range-wide declines, both state and federal agencies implemented restoration programs beginning in the early 1980s. In Kentucky, hacking, or the release of young birds, occurred during the 1980's and early 1990's in hopes to accelerate recovery of populations. The Tennessee Valley Authority (TVA) hacked Osprey at the Land Between the Lakes (LBL) from 1981 to 1989, releasing 61 young Ospreys which were obtained from wild nests in Chesapeake and Delaware bays. In addition, the Kentucky Department of Fish and Wildlife Resources (KDFWR) coordinated the hacking of six young at three additional sites at LBL in 1982. Then, in 1983 and 1984, KDFWR hacked 20 more young at eight sites in central and western Kentucky. In the eastern part of the state, a partnership between KDFWR and the U.S. Forest Service (USFS) resulted in the release of 10 individuals at Laurel River Lake during 1988-1989, an effort the USFS continued during 1990-1991 (Ray et al 2009).

Restoration efforts also included providing nesting platforms to increase the quality of nesting habitat. In the mid-1990's, TVA coordinated the installation of 12 stand-alone Osprey nest platforms on Lake Barkley, and the U.S. Coast Guard (USCG), in cooperation with KDFWR, installed approximately a dozen nesting platforms above navigation lights on channel markers in Lake Barkley and Kentucky Lake. The channel marker platforms allowed Ospreys to build nests without blocking the navigation lights and hindering boat/barge safety. During the early

2000s, the non-profit organization, Kentucky Environmental Education Projects, Inc. (KEEP) worked with KDFWR, USCG, Caldwell County Elementary School, and the Caldwell County Kentucky Technical Vocational School to build and install an additional 20 channel marker nest platform extensions and five stand-alone nest platforms on Lake Barkley and Kentucky Lake (Ray et al 2009). Platform installations, using platforms donated or purchased from KEEP, have continued in recent years, where needed, to provide safer nest sites. In 2009, two more stand-alone Osprey platforms were installed by KDFWR on the KDFWR Duck Island Waterfowl Refuge on Lake Barkley, and in 2010, four nesting platforms were installed on Peabody Wildlife Management Area (WMA). In 2012-2013, KDFWR installed eight additional platforms near the US-68-80 Bridges over Kentucky Lake and Lake Barkley to provide alternate nests sites for the Osprey on those bridges during reconstruction. The KY Transportation Cabinet (KYTC) funded this work.



An Osprey nest, under the Lawrence Memorial Bridge containing two young in late June, 2014.

Photo by: Kate Heyden

Documenting Population Recovery

As a result of hacking efforts and the ban on DDT in 1972, Kentucky's nesting population started to reestablish in the western part of the state in the mid-1980's. In 1986, three nests were recorded: one on the Ohio River in Livingston County; one on Lake Barkley in Trigg County; and one on Kentucky Lake in Calloway County (Stamm 1986). In 1991, seven nests were documented: six on Lake Barkley and the nest on the Ohio River (Stamm and Monroe 1991; Palmer-Ball 1996). The nesting population on Lake Barkley continued to grow during the early 1990s, with several new nests established on channel markers. By 1995, a total of 14 active Osprey nests were documented on Lake Barkley, including nests on stand-alone platforms, utility poles and trees (Ray et al 2009).

From 1999-2008, Ed Ray of KEEP, with support from KDFWR, conducted an annual survey of Osprey nests on the Kentucky portion of Lake Barkley. Consequently, the resurgence of nesting Osprey has been well-documented. The number of occupied nests in the Lake Barkley vicinity grew from 23 in 1999 to 49 in 2008 (Table 1). While the increasing Osprey population had been surveyed on Lake Barkley since reestablishment, little was known about the nesting status on Kentucky Lake until 2004, when Ray first surveyed the area and found eight active nests, all on channel markers (Ray et al 2009).

In recent years, nesting Osprey have started to slowly expand into other parts of the state. West of LBL, McCracken and Ballard Counties now support a few Osprey nests. Nesting activity has been observed at scattered locations in the central and eastern portion of the state as well, near the Ohio River, Green River and a few larger reservoirs. In the last five years, notable Osprey nests have been documented on the Ohio River in Jefferson and Pendleton Counties, Cedar Creek Lake in Lincoln County and between the Lexington Reservoir and Kentucky River in Fayette County (Figure 1).

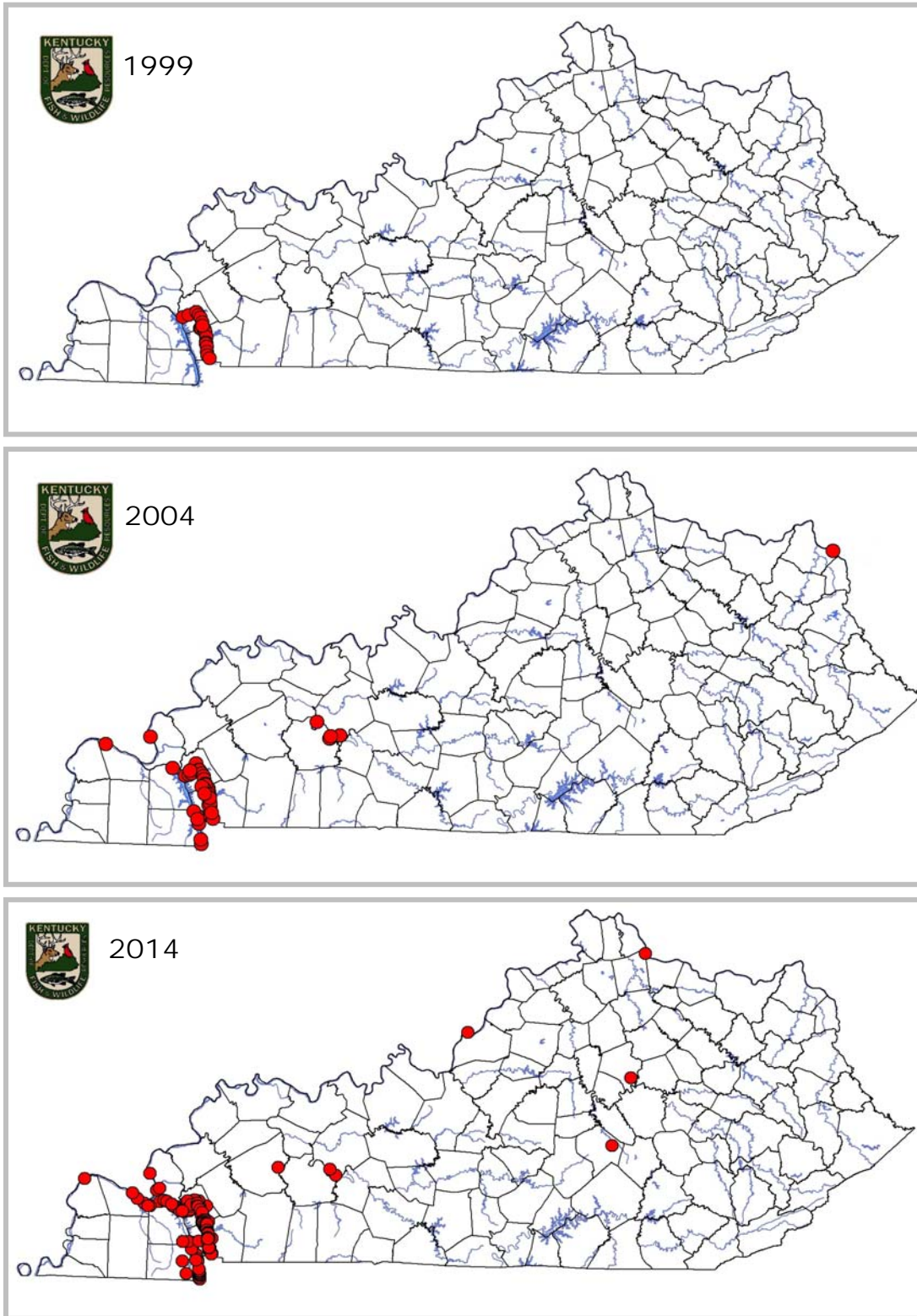


Figure 1. Distribution of occupied Osprey nests for 1999, 2004 and 2014.

2014 Survey

Established nesting locations were gathered using 2011 survey data and more recent reports from the public. Known nesting locations statewide were checked, where possible, by ground and boat, during the nesting season (late March-July). The LBL area and the Tennessee River between KY Dam and the Ohio River were surveyed by boat and ground by KDFWR personnel on June 3-5, 2014. The Cumberland River, north of Barkley Dam, was surveyed on June 24. When visible, young were counted, and aged. The dates of the LBL survey were a little too early for counting young at most nests since they were too small to be seen. Nests were considered occupied if one or more Osprey were observed at the nest during the nesting season. In hopes to find new nests, the entire main channel at Lake Barkley and all, but the northernmost portion of the main channel of Kentucky Lake were searched by boat (Figure 2). Suitable nest sites are thought to be limited the north of the US 68 Bridge on Kentucky Lake because transmission lines are fewer and channel markers are designed in a way that is not conducive to nesting. Nests east of LBL were monitored from the ground by KDFWR personnel, volunteers and USFS personnel (at Laurel River Lake). At least 164 locations were checked for nesting activity statewide.

During 2014, 128 occupied Osprey nests were documented in Kentucky and a total of 42 young were observed. Since most nests were checked early in the nestling period, this is a gross undervaluation of young produced. The majority of nests were on manmade structures (76%) such as navigation lights and transmission towers (Table 2). The US-68 bridges over Lake Barkley and Kentucky Lake again hosted an abundance of nesting activity. There were seven nests on the bridge over Kentucky Lake and five nests on the bridge over Lake Barkley. This was an increase from the seven total nests these bridges supported in 2011.

Much of the increase in the statewide nest count can be accounted for by the swelling of nesting pairs in the LBL area. Nests on or near Kentucky Lake and Lake Barkley increased from 66 in 2011 to 102 in 2014. The Tennessee and Ohio Rivers in McCracken and Marshall Counties was another area of notable population expansion. Due to the density of Osprey nests observed on the Tennessee River, north of Kentucky Dam, it was

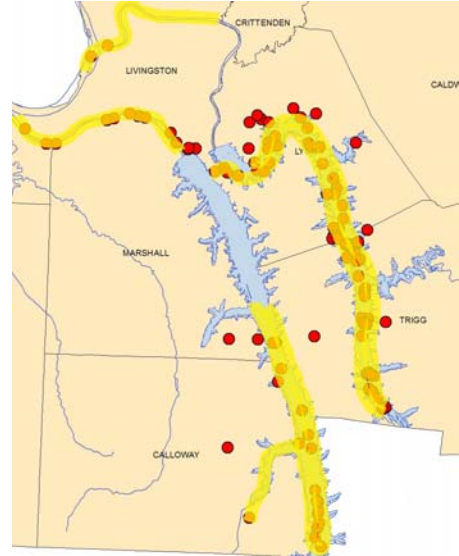


Figure 2. Occupied Nests in the LBL, Tennessee River and Cumberland River area documented during the 2014 Osprey Survey. Areas surveyed by boat in 2014 are highlighted in yellow.

Table 1. Number of occupied Osprey nests recorded statewide for 1999-2014.

Year	Occupied Nests
1999	23
2000	22
2001	21
2002	30
2003	40
2004	55
2005	50
2006	50
2008	52
2011	87
2014	128

Note: Comprehensive survey efforts did not occur during 2007, 2009, or 2012-13.

Data sources: Ray unpubl. report, KSNPC, KDFWR.

Table 2. Supporting Structure of Occupied Osprey Nests in Kentucky in 2014.

Nest Structure	Total Nests
Bridge	17
Building	5
Cell Tower	9
Light Pole	1
Live Tree (14) or Snag (17)	31
Navigation Light (11 on platforms)	23
Power Pole/Lines (3 on platforms)	13
Power Transmission Tower	12
Stand-alone Platform	9
Other (cranes, docks, mooring cells, etc.)	8
Total Nests	128

decided to survey the Cumberland River, north of Barkley Dam. This area had not been surveyed previously by KDFWR staff for Osprey. Surprisingly, despite the presence of suitable nesting structures in this area, no nests were found outside of the vicinity of Smithland.

Low level nests were unusually prevalent this year- mostly on fallen snags surrounded by water. Eight nests at Lake Barkley were on snags at heights of less than 10 ft above water, one nest on Kentucky Lake was in a live cypress tree at five ft and another nest on Kentucky Lake was found on a duck-hunting blind frame just two feet above the water. Four of the low lying nests on Lake Barkley were in a cluster- within ½ mile of each other. Strangely, there were several unoccupied nesting platforms in this vicinity. Luckily, water levels were relatively average and constant in spring/summer 2014 and most of these nests were able to produce young. However, one nest on a snag in Lake Barkley became dislodged in June and floated downstream at least several hundred feet. The nest remained above water and the adult osprey followed the nest to its new location. Nonetheless, this nest was not successful.



This nest on a fallen snag in Lake Barkley floated downstream in June. The adults were seen at the nest after it moved several hundred feet from its original location.

Photo by: Eric Williams

Four nestlings (less than 1 week old) were observed in two nests (one on Lake Barkley and one on Kentucky Lake) during the early June 2014 boat survey. This is an exceptional brood size for Osprey. Unfortunately, both of these nests were checked later in June, and neither nest was successful in fledging four young.

The accessibility of these low nests made banding of young possible. Nestlings (14) in accessible nests at Lake Barkley were banded on June 24, 2014. Most of the young appeared healthy, though two young had to be cut free of fishing line that was entangling them in the nest. These young would likely have not survived without intervention.

Plans for the Future

The statewide Osprey survey will be conducted at three-year intervals with the next survey in 2017. KDFWR will continue track new nest locations, reported by the public, in between survey years. KDFWR will also continue to work with utility and industrial companies when Ospreys nest in problematic locations to ensure safe nesting locations for the Osprey, while minimizing disruption of communications and utility service.

Acknowledgments

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Fishing line was removed from this chick's leg during banding efforts in June 2014. The line was embedded in the skin of the bird and attached the bird to the nest.

Photo by: Kate Heyden

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This nest was on a duck blind frame on Kentucky Lake. It contained 3 chicks and one actively hatching egg during the survey. This nest was later predated.

Photo by: Kate Heyden