



2011 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.

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).

Restoration Efforts

In hopes to reverse rangewide 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



An Osprey nest, containing one adult and one young, on a navigation light platform at Lake Barkley, during the 2011 Osprey survey.

Photo by: Tonya Mamnone

2009). Platform installations have continued in recent years, where needed, to provide safer nest sites. In 2009, two more stand-alone Osprey platforms were installed on the KDFWR Duck Island Waterfowl Refuge on Lake Barkley, and in 2010, four more nesting platforms were installed on Peabody Wildlife Management Area (WMA). These platforms were provided by KEEP and installed by KDFWR staff.

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).

LBL nest surveys were no longer conducted after LBL management responsibility was transferred from TVA to the USFS in 1996. However, 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 in recent years (Table 1). The number of occupied nests in the Lake Barkley vicinity grew from 23 in 1999 to 49 in 2008. (For the purpose of this report, occupied nests are defined as those with one or more Osprey observed at the nest during the nesting season). 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).

Table 1. Number of occupied Osprey nests recorded statewide for 1999-2011.

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

Note: Comprehensive survey efforts did not occur during 2007, 2009, or 2011.

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

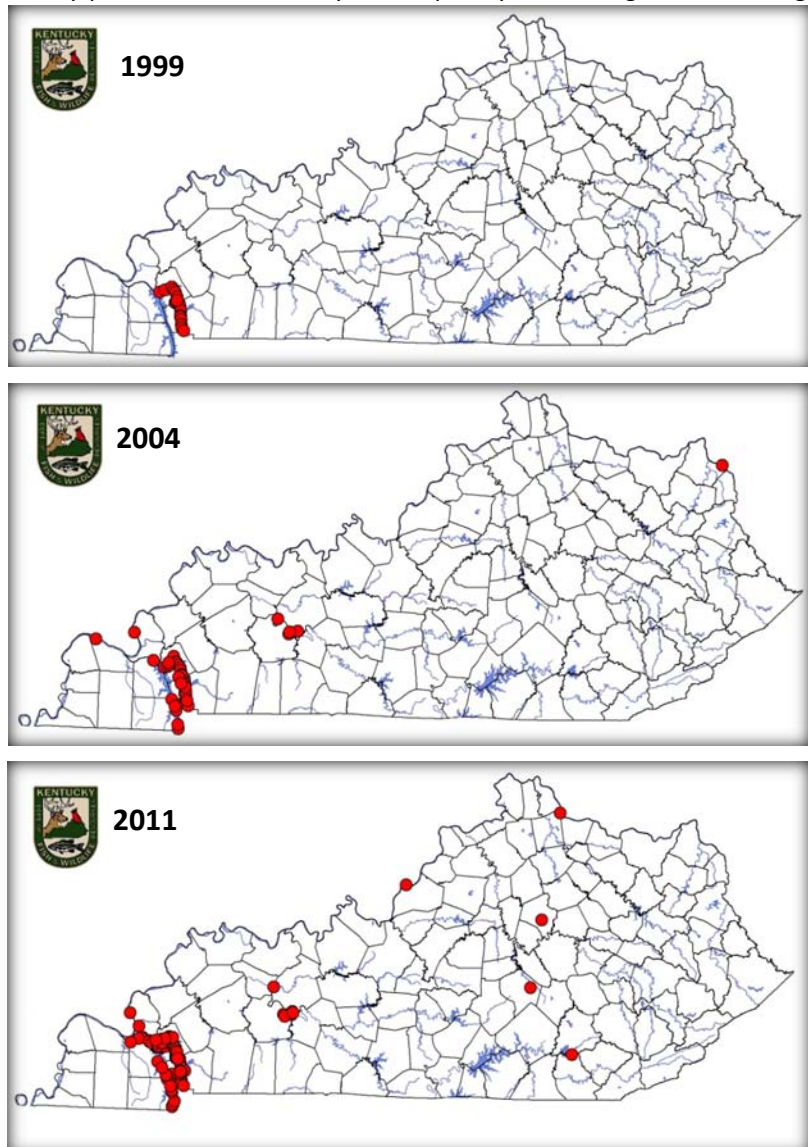


Figure 1. Distribution of occupied Osprey nests for 1999, 2004 and 2011.

East of LBL, nesting Osprey have started to slowly expand into other parts of western Kentucky. A hot-spot of nesting activity has developed in recent years along the Green River in Ohio and Muhlenberg Counties, starting with a nest at the TVA Paradise Power Plant in eastern Muhlenberg County around 2000 (Ray et al 2009). In addition to this nest, at least seven more have been documented in the general area during the last ten years including three on the Ken Hopewell Unit of Peabody Wildlife Management Area in southern Ohio County.

Nesting activity has been observed at scattered locations in the central and eastern portion of the state in recent years, near the Ohio River and a few larger reservoirs. In the last 10 years, Osprey nests on the Ohio River have been found in Jefferson, Pendleton and Greenup Counties- all on manmade structures. Nests have also been established at Cave Run Lake in Menifee County, Laurel River Lake in Laurel County and Cedar Creek Lake in Lincoln County- all in the past five years (Figure 1). A pair was also observed trying to build a nest in Fayette County, near the Lexington Reservoir in 2010-2011, but they were not successful in their efforts.

2011 Survey

Established nesting locations were gathered using data from Ray's surveys 1999-2008, Kentucky State Nature Preserves Commission (KSNPC), and KDFWR records. Known nesting locations statewide were checked, where possible, by ground and boat, during the nesting season (late March-July). The LBL area and lower Tennessee River between KY Dam and the Ohio River was surveyed by boat and ground by KDFWR personnel on June 29-July 1, 2011. When visible, young were counted, and aged. The dates of the LBL survey were chosen since nests usually contain larger young that can be easily counted from the boat/ground in late June/early July. 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

Table 2. Supporting Structure of Occupied Osprey Nests in Kentucky in 2011.

Nest Structure	Total Nests
<i>Navigation Light (most on platforms)</i>	21
<i>Live Tree or Snag</i>	19
<i>Power Transmission Tower</i>	16
<i>Bridge</i>	8
<i>Power Pole/Lines</i>	8
<i>Cell Tower</i>	6
<i>Building</i>	4
<i>Stand-alone Platform</i>	4
<i>Light Pole</i>	1
Total Nests	87

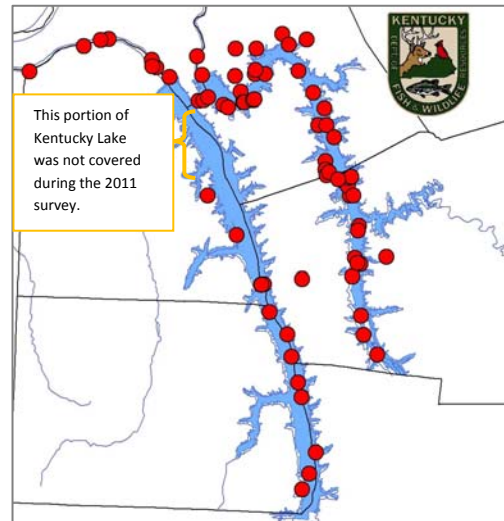
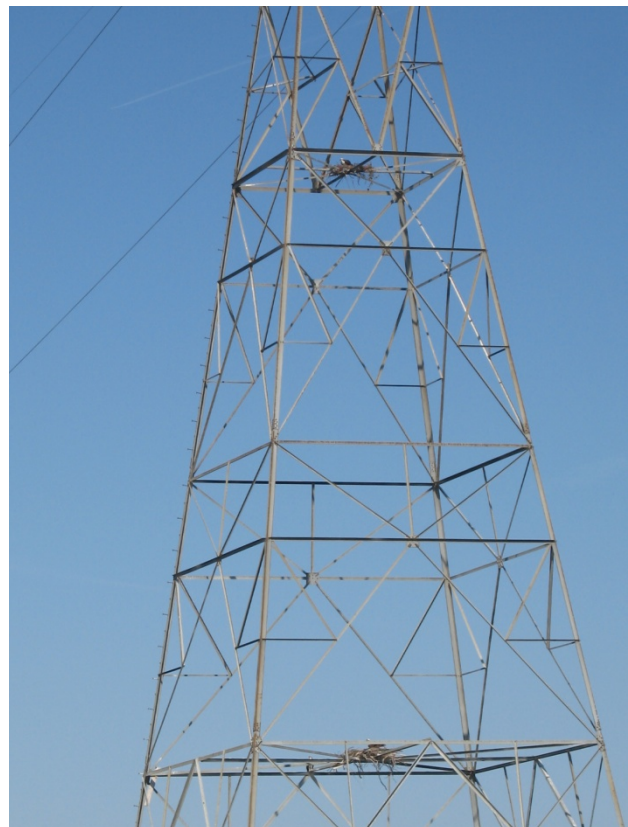


Figure 2. Occupied Nests in the LBL area documented during the 2011 Osprey Survey. All of the main channel of the Tennessee River, Kentucky Lake and Lake Barkley were searched for new nests, except where noted.



Two occupied Osprey nests were observed on one power transmission tower in Lake Barkley, during the 2008 Survey.

Photo by: Kate Heyden

Lake were searched by boat (Figure 2). Nests east of LBL were monitored from the ground by KDFWR personnel, volunteers and USFS personnel (at Cave Run and Laurel River Lake). Over 100 locations were checked for nesting activity statewide.

During 2011, 87 occupied Osprey nests were documented in Kentucky and a total of 60 young were observed. The majority of nests were on manmade structures (78%) such as navigation lights and transmission towers (Table 2). Suitable nesting structures now appear to be nearly saturated at Lake Barkley as evidenced by the observation of four occupied Osprey nests on four transmission towers over Lake Barkley in northern Trigg County in 2011. (One of these towers actually contains two nests, which supported two pairs of Osprey in 2008- see photo). The US-68 bridges over Lake Barkley and Kentucky Lake also host an abundance of nesting activity. There were 10 Osprey nests on these bridges in 2011, seven of which were occupied.



An Osprey nest on the US-68 Bridge over Kentucky Lake, taken during the 2011 Osprey survey.

Photo by: Tonya Mammone

Since 2004, the number of Osprey nests has remained relatively constant on Kentucky Lake, although a few new nests were located in trees or snags in 2011. Channel markers north of the US 68 Bridge over Kentucky Lake are fewer and designed differently. Most of the channel markers are located along the shoreline and lack the structure that makes them conducive to nesting. That in addition to a lack of transmission lines is probably limiting the number of Osprey nests on the north end of Kentucky Lake.

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 (Palmer-Ball 1996). The timing of nesting activity in 2011 at many nest locations within LBL seemed to be offset by severe spring storms and flooding. Moreover, spring flooding likely washed away several lower elevation nests which were on trees or snags on islands in Lake Barkley during years prior. Although a few Ospreys were observed at nests on island trees/snags, no young were observed in these nests and several nests were still in the building stage during the June 29-July 1 survey. Heavy rains and record pool levels in early May at Lake Barkley (USACE 2011) may have even affected a few nests on free-standing platforms and navigations lights since several of these nests contained unusually small young during the LBL survey. KDFWR personnel climbed nests at two navigation lights on the south end of Lake Barkley on June 29 and observed one chick, less than 3 days old and one egg at one nest, while the other nest contained one chick, less than 5 days old.

Plans for the Future

The statewide Osprey survey will be conducted at three-year intervals with the next survey in 2014. KDFWR will continue to keep track of new nest locations in between survey years. As needed, maintenance of nesting platforms will also remain a priority, through cooperation with relevant agencies.



An Osprey nest, containing three young on a navigation light platform at Lake Barkley, during the 2011 Osprey survey.

Photo by: Tonya Mammone

Continued growth of Kentucky's nesting Osprey population is expected. Since the current population occupies most suitable nesting structures in the LBL area, the number of nests built on problematic or unsafe structures, such as communication towers and utility poles, will no doubt increase. Most of these troublesome situations can be improved by providing an alternative nesting structure. For example, LG&E cooperated with KDFWR to install a platform on a utility pole where Ospreys were trying to nest at the Kuttawa Sewage Treatment Plant in Lyon County in 2008. Consequently, this nest platform provided a safe place for this pair of Osprey to nest in 2009-2011, without interfering with the utility line. KDFWR will continue to work with private companies to ensure Ospreys are provided safe nesting locations, while minimizing disruption of communications and utility service.

Kentucky's Osprey Web Cam

KEEP has an ongoing web camera project with live Osprey nest viewing available at <http://keepky.org/>.

Acknowledgments

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An Osprey nest on a cellular tower near Kentucky Lake, during the 2011 Osprey survey.

Photo by: Kate Heyden