

# THE BARN OWL PROJECT

By Tom & Jack Henry

Barn Owls (*Tyto alba*) are a threatened species in Ohio. Barn Owl population size is believed to be limited primarily by the lack of foraging habitat. The availability of secure (predator free) cavity nesting sites or nesting boxes and the importance they play in determining annual levels of barn owl productivity is also poorly understood. An abundance of secure nesting sites close to quality foraging habitat appears to be essential for Barn Owls to establish a self-sustaining population.

The Division of Wildlife (DOW), Ohio Department of Natural Resources (ODNR), accumulated 14 years of productivity data on Barn Owls from 1990 through 2003. This information was obtained through capture and banding at Barn Owl nest and roost sites; in that period over 1600 chicks and 250 adults were banded. In 2003 the Division reduced its banding activities due to manpower constraints. The current Barn Owl banding project was started in 2007 to supplement that reduced effort. The project collects data on Barn Owls in a portion of their breeding range which had earlier been identified as having high to medium productivity. During the six study years to date (2007 - 2012), we have banded a total of 1251 barn owl chicks and 189 adults (119 females, 69 males, and one of undetermined sex). We have also recaptured an additional 213 adult owls (96 females, 116 males, and one of undetermined sex) which had been banded in previous years. Table 1 gives the yearly results.

TABLE 1

Year	Chicks Banded	Adults Banded	Sex (F - M - ?)	Adults Recaptured	Sex (F - M - ?)
2007	174	22	11 - 11 - 0	8	4 - 4 - 0
2008	242	43	28 - 15 - 0	31	15 - 16 - 0
2009	247	42	26 - 15 - 1	30	13 - 17 - 0
2010	234	29	18 - 11 - 0	57	25 - 31 - 1
2011	161	24	12 - 12 - 0	43	21 - 22 - 0
2012	196	29	24 - 5 - 0	44	18 - 26 - 0
<b>Totals</b>	<b>1251</b>	<b>189</b>	<b>119 - 69 - 1</b>	<b>213</b>	<b>96 - 116 - 1</b>

Sex, age, and other data were recorded for the newly banded birds, and longevity and geographic distribution information were obtained from the recaptured ones. We provide an annual data report to the ODNR Olentangy Wildlife Research Station, the DOW District 3 Wildlife Management Section, and the USGS Bird Banding Laboratory in Patuxent, Maryland, for their "Bandit" program. Our project, which has monitored from 62 to 111 nest boxes per year so far, has allowed wildlife management personnel at the Olentangy Research Station and Wildlife District 3 to concentrate monitoring efforts at more nest boxes in other counties across the state.

Additionally, banding of Barn Owls by experienced biologists in the study area has also provided a service to concerned landowners who seek information about the Barn Owls on their properties.

Table 2 presents the results of the 2012 monitoring season. We inspected 109 nest boxes for Barn Owl activity in portions of seven counties in north-central and northeast Ohio. We found 83 active nests (nests with either eggs or chicks), representing an active nest box rate of 76%. Eighty-one of these active nests were successful in hatching chicks. This is the highest nest success rate we've seen in Ohio since we've been banding Barn Owls. We found four nests which had been abandoned; two contained a total of five dead hatchlings and two had a total of four unhatched eggs. This is a much lower number of abandoned nests with eggs or chicks than in previous years.

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*Brothers Tom and Jack Henry each hold a BS in Wildlife Management and an MS in Zoology from The Ohio State University. Tom has worked as a wildlife biologist for the U.S. Forest Service and the Ohio Department of Natural Resources (ODNR) Division of Wildlife. He retired in 2006 as an Assistant Wildlife Management Supervisor with ODNR. Jack worked as the Upland Research Leader at the Olentangy Wildlife Research Station, and retired in 2005 as an Organizational Unit Leader with the ODNR. In addition to their volunteer Barn Owl Project both are active members of and have served in leadership roles in several wildlife-oriented organizations.*

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Table 2

County	Active Nest Sites	Nests	Un-hatched Eggs	Banded Young	Un-banded Young	Adults Banded		Adults Recaptured	
						Male	Female	Male	Female
Carroll	2	3	0	0	4	0	0	0	0
Coshocton	1	2	3	7	0	0	1	1	0
Knox	2	2	0	0	6	0	1	1	0
Holmes	44	46	5	119	88	4	14	17	14
Mahoning	1	1	0	2	0	0	0	1	1
Tuscarawas	8	9	0	3	29	0	0	1	1
Wayne	20	20	2	62	43	1	8	5	2
<b>Totals</b>	<b>78</b>	<b>83</b>	<b>10</b>	<b>193</b>	<b>170</b>	<b>5</b>	<b>24</b>	<b>26</b>	<b>18</b>

We banded 193 chicks in 42 of the 81 successful nests. We noted an additional 170 chicks in the other 39 active nests but did not band them. We captured 73 adult owls (31 males and 42 females). We banded 29 of them (40%); the others were recaptures of owls banded in previous years.

During our 2012 banding activities we found five chicks and one adult female which needed medical care or rehabilitation. Two of the chicks had leg injuries. One chick from Holmes County had to be euthanized while the other, from Wayne County, was fostered into another active nest in Wayne County following treatment. The other 3 chicks, from a Holmes County nest box, apparently had been abandoned by the adults. They were recovered dehydrated and starving after they fledged prematurely; they did not respond to treatment and died while in rehabilitation. The adult female, a 14 year old bird in Holmes County, had a leg injury that caused swelling around her original leg band. The band was removed and the injury successfully treated. She was rebanded and replaced into the nest box with her clutch of two chicks. This female was originally banded as a chick in 1998 from a nest in Berlin, Ohio. This 14 year old female is the oldest wild Barn Owl documented in Ohio. She has been recaptured a total of 13 times over the last 11 years at two nest sites in the Holmes County Amish community.

Table 3 details the clutch sizes in the study area.

TABLE 3

County	Clutch Size Range	Average Clutch Size
Carroll	0 to 4	4
Coshocton	0 to 7	7
Holmes	1 to 9	4.5
Knox	2 to 4	2
Mahoning	2	2
Tuscarawas	2 to 6	3.6
Wayne	1 to 8	5.25
<b>Seven County Study Area</b>	<b>0 to 9</b>	<b>4.3</b>

The largest clutch we found in 2012 was in Holmes County, where one nest successively fledged 9 chicks. (The largest successful clutch that I have recorded in Ohio fledged 10 chicks.) However, in 2008 we had a nest in Wayne County where one female barn owl laid a clutch of 14 eggs, but only succeeded in hatching and fledging four. This unusually large clutch of eggs and low hatch rate probably resulted from disturbance at the nest box which repeatedly flushed the female during the egg laying period.

As we continue this project, we expect our data will assist efforts to maintain or increase Ohio's Barn Owl population.