

Illinois Barn Owl (*Tyto alba*) Recovery Plan – Year 1 (2011) Review of Accomplishments



Photo Credit: Carol Freeman

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Summary

The United States Fish and Wildlife Service (USFWS) State Wildlife Grant (SWG) project (T-35-P-1) supported development of the *Illinois Barn Owl (Tyto alba) Recovery Plan* and initial implementation activities. Segment 1 of the project was conducted from January 2006 – June 2011 and all project objectives were completed. During this time, a recovery team made up of representatives from the Illinois Department of Natural Resources (IDNR), Illinois Endangered Species Protection Board (ESPB), The Nature Conservancy in Illinois, and Illinois Natural History Survey, was convened; a recovery plan was drafted and approved by the IDNR and the ESPB; and, implementation of the plan began. In August 2011, a final report for the SWG project was submitted to the USFWS to complete all grant obligations.

Implementation efforts since 2010 have included evaluation and identification of suitable and priority habitat areas, protection of at least 200 acres of grassland habitat, enhancement/restoration of several thousand acres of grassland habitat, placement of 90 new nest boxes, monitoring of 124 nest boxes, and reporting of 36 new nesting occurrences. Outreach about the project has included posting to the ESPB's

webpage a copy of the recovery plan and an informational brochure entitled “Help Bring Back the Barn Owl”; publishing articles in the IDNR’s *OutdoorIllinois* magazine and the Meadowlark; and recovery team members presenting talks at meetings of scientific organizations and interest groups and making contact with individual landowners and conservation organizations. These efforts have resulted in support from and coordination of activities with the Illinois Audubon Society, the Clifftop Alliance in southwestern Illinois, a volunteer group in central Illinois led by researchers from Illinois Wesleyan University and Illinois State University, and the placement of 54 nest boxes on private properties where suitable habitat exists and landowners are willing to manage it in a manner that is compatible for the barn owl.

Beyond the timeframe of the SWG project, the recovery plan calls for a first year and then biennial reviews of accomplishments where the recovery team will produce and post to the ESPB’s webpage progress reports relative to the Prioritized Recovery Strategies identified in the recovery plan. The recovery team holds an annual plan-of-work meeting each January to review accomplishments and the plan and to plan activities for the next year. Additionally, IDNR Division of Wildlife Resources is seeking to assist with recovery activities with a possible Pittman-Robertson funded project over the next couple of years that will also be coordinated with the recovery team.

The barn owl has been listed as Illinois-endangered since 1977. The recovery plan recommends that the ESPB evaluate the status of the barn owl and consider a change in status from *Endangered* to *Threatened* when 40 active nest sites distributed among at least 15 counties are reported within a 5-year period. A change in status from *Threatened* to recovered should be considered when 80 active nest sites distributed among at least 30 counties are reported in a 5-year period, and other threats to the population are low. The ESPB reviews the *Illinois List of Endangered and Threatened Species* at least every five years and the next scheduled review will end in 2014. For the 5-year period ending in 2011, the recovery team had documented 44 unique active nests in at least 24 counties (one box is on a county line) and will make recommendation to the ESPB to evaluate the status of the barn owl and consider a change in status from Endangered to Threatened.

Acknowledgements

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Introduction

This current report reviews first-year accomplishments toward the Prioritized Recovery Strategies, Outputs, and Outcomes and the Status Review Triggers established in the *Illinois Barn Owl (Tyto alba) Recovery Plan (2010)*. Note – Most reporting is for the first year of recovery plan implementation (2011), but some reporting includes measures from years prior to completion of the plan. The information presented here is derived from reports received from IDNR staff and volunteer coordinators and may not include all data for the reporting period; information submitted to the recovery team after the publication of this report will be incorporated into subsequent biennial reports of accomplishments. For more detailed information about species biology and the process and prescriptions behind items reviewed in this document, please consult the recovery plan itself. The recovery plan, this first-year performance report, and a brochure entitled “Help Bring Back the Barn Owl” can be found on the Illinois Endangered Species Protection Board’s webpage at <http://www.dnr.state.il.us/ESPB/recovery.html> .

Prioritized Recovery Strategies

1. Deploy and monitor nest boxes within plausible nesting areas.
2. Do not interfere with young barn owls during fledging.
3. Expand dedicated grassland conservation areas.
4. Encourage land use practices that support populations of voles (*Microtus* spp.) and other small mammals.
5. Build public awareness of barn owls & support for barn owl conservation.
6. Research of barn owl ecology & behavior.

Status Review Triggers

1. That the ESPB evaluate the status of the barn owl and consider a change in status from *Endangered* to *Threatened* when 40 active nest sites distributed among at least 15 counties are reported within a 5-year period.
2. That the ESPB evaluate the status of the barn owl and consider a change in status from *Threatened* to recovered when 80 active nest sites distributed among at least 30 counties are reported in a 5-year period, and other threats to the population are low.

Recovery Strategy 1: Deploy and monitor nest boxes within plausible nesting areas. The near-term objective of this strategy is to increase the number of known barn owl nests in Illinois. Longer-term, monitoring nest boxes will serve as a proxy for monitoring barn owl population changes.

Outputs:

a. Install at least 25 new nest boxes per year in plausible nesting areas (Years 1-5). Focus the deployment of additional nest boxes in the vicinity of occupied nest boxes or incidentally-discovered barn owl nests to help define the extent of local populations. Nest box locations scoring >7 on factors described in Appendix II are most likely to benefit barn owls.

Year 1 Performance Reporting

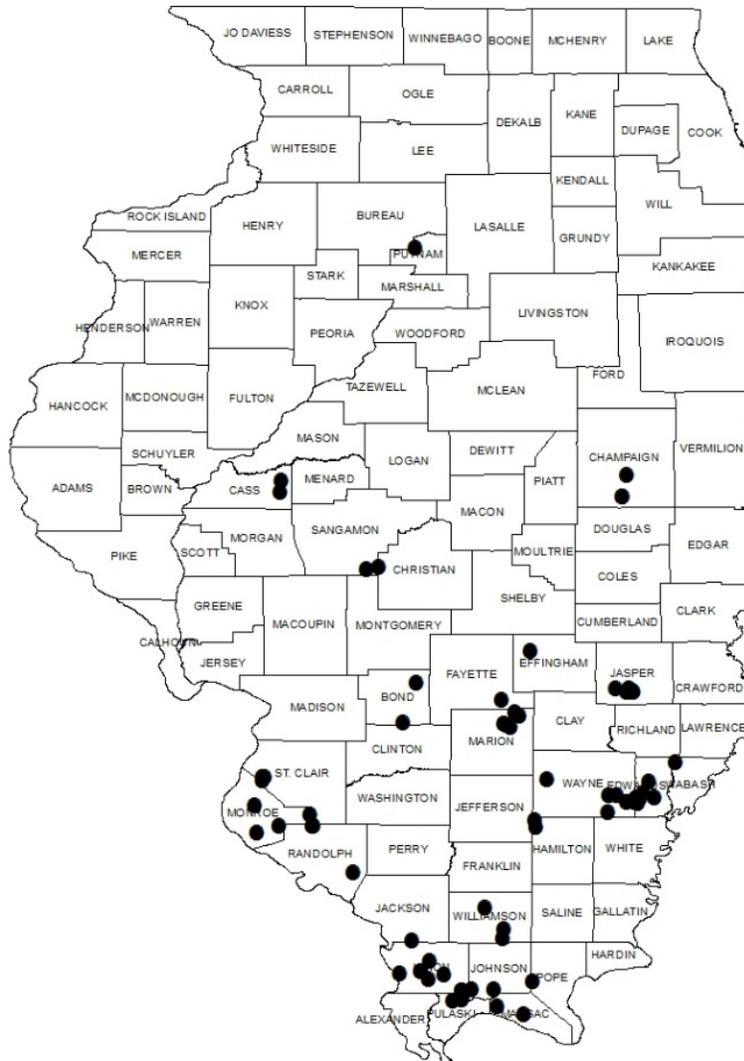
Prior to 2009 – IDNR had placed 107 boxes in 18 counties.

2009 – The barn owl recovery team placed one new box in one county.

2010 – The barn owl recovery team placed 37 new boxes in 13 counties, bringing the total number of counties with boxes to 23. Twenty of the boxes were free-standing models; ten were donated to the project by the Illinois Audubon Society and ten were purchased by IDNR

2011 - Appendix II of the recovery plan provides guidance for evaluating habitats and sites (page 67; *Guidance and suggested scoring of various factors affecting the feasibility and probability of success of barn owl conservation. Conservation actions in areas scoring ≥ 7 are most likely to benefit barn owls.*) The barn owl recovery team, IDNR staff, and volunteers, used this guidance in placing 53 new boxes. Eight new counties were added bringing the total number of counties with boxes to 31. In addition, the Illinois Audubon Society donated another 6 and IDNR purchased (via the W76D program) another 10 free-standing boxes during 2011. These free-standing models will be deployed in 2012.

	Prior to 2009	2009	2010	2011
Boxes placed	107	1	37	53
# of Counties	18	1	13	15
# of New Counties	18	0	5	8
Running Total Boxes	107	108	145	198
Running Total Counties	18	18	23	31



Nest boxes placed in 2010 and 2011

b. Revisit an additional 25 nest boxes (deployed prior to 2009) to find evidence of use (pellets, feathers), determine nest box condition, and replace if damaged/destroyed as appropriate, based on local conditions (Years 1-5).

Year 1 Performance Reporting

Prior to 2009 – IDNR had placed 107 boxes in 16 counties. There is no record of systematic box monitoring prior to 2009.

2009 – The barn owl recovery team monitored 14 existing boxes for activity.

2010 – The barn owl recovery team monitored 8 boxes deployed prior to 2009 for activity.

2011 – The barn owl recovery team, IDNR staff, and volunteers, monitored 32 boxes deployed prior to 2009 for activity.

c. Monitor nest boxes considered in (a) and (b) above annually (50 boxes in Year 2 and an additional 50 boxes/year until 250 boxes are monitored annually in Year 6 and after).

Year 1 Performance Reporting

Prior to 2009 – There is no record of systematic box monitoring prior to 2009.

2009 – The barn owl recovery team monitored 14 total boxes for activity.

2010 – The barn owl recovery team monitored 43 total boxes for activity.

2011 – The barn owl recovery team, IDNR staff, and volunteers, monitored 81 total boxes for activity.

	Prior to 2009	2009	2010	2011
# of boxes deployed prior to 2009 monitored	N/A	14	8	32
# of boxes deployed during or after 2009 monitored	N/A	0	35	49
Total number of boxes monitored	N/A	14	43	81

d. Report evidence of barn owl nesting in nest boxes and other situations to the Illinois Department of Natural Resources Biotics 4 database (Annual).

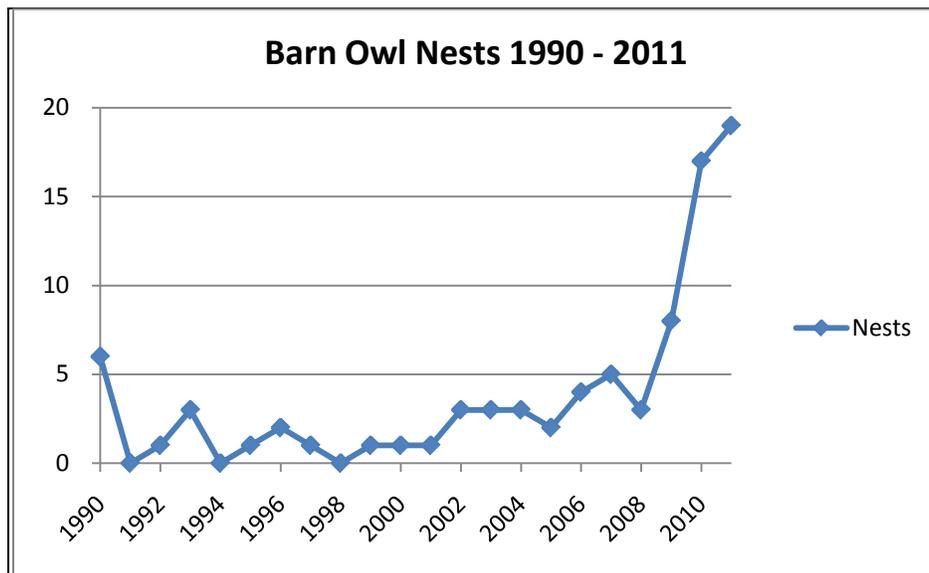
Year 1 Performance Reporting

Prior to 2009 – For the period of 1990-2009, there were 38 barn owl nesting records from 31 counties.

2009 – Initial monitoring efforts by the recovery team documented 8 nesting records in 5 counties.

2010 – The barn owl recovery team documented 17 nesting records in 13 counties.

2011 – The barn owl recovery team, IDNR staff, and volunteers, documented 19 nesting records in at least 13 counties (one nest location is on a county line).



Outcomes:

Number of occupied barn owl nest boxes (Annual). 2010 (6); 2011 (16)

Number of counties with nesting barn owls (Annual). 2010 (13); 2011 (13)

Number of Element Occurrence Reports of nesting barn owls (Annual). 2010 (17); 2011(19)

Outcome:

Number of uninjured juvenile owls brought to wildlife rehabilitators and reported to the Illinois Department of Natural Resources (Annual).

In 2011 three uninjured barn owls were brought to rehabilitators and later released.

Recovery Strategy 3: Expand dedicated grassland conservation areas.

Outputs:

a. Protect additional areas (and restore to grassland habitat if necessary) at dedicated grassland conservation areas, as opportunities become available, averaging 200 acres protected per year (Years 1-5). Protection may include acquisition, permanent easement, or dedication as a Nature Preserve or Land & Water Reserve.

Year 1 Performance Reporting

In 2011, the Illinois Audubon Society acquired the 200-acre Maxine Loy Estate, which provides special protection to additional grassland habitat associated with the existing 12-Mile Prairie Natural Area Inventory Site. Three barn owl nest boxes were placed in existing barns on this property in 2011. The IDNR also approved a FY2012 \$7,000 Wildlife Preservation Fund grant for habitat restoration of the property.

b. Install additional barn owl nest boxes at grassland conservation areas (Annual).

Year 1 Performance Reporting

In 2010, 26 barn owl nest boxes were placed at IDNR and partner grassland conservation areas. In 2011, 11 barn owl nest boxes were placed at IDNR and partner grassland conservation areas.

c. Monitor barn owl nest boxes at grassland conservation areas (Annual).

Year 1 Performance Reporting

In 2010, four barn owl nest boxes were monitored at IDNR and partner grassland conservation areas. In 2011, 40 barn owl nest boxes were monitored at IDNR and partner grassland conservation areas.

d. Report evidence of barn owl nesting in nest boxes at grassland conservation areas to the Illinois Department of Natural Resources Biotics 4 database (Annual).

Year 1 Performance Reporting

Barn owl recovery team members and IDNR staff assisting with the project, as well as cooperating partner and volunteer groups, are reporting to the IDNR Biotics 4 database evidence of barn owl nesting from all locations, including at IDNR and partner grassland conservation areas.

Outcome:

Number of Element Occurrence Reports of nesting barn owls at grassland conservation areas (Annual).

In 2011, there were 10 barn owl nesting occurrences at grassland conservation areas reported to the IDNR Biotics 4 database. This represents 53% of nesting occurrences in 2011.

Recovery Strategy 4: Encourage land use practices that support populations of voles (*Microtus spp.*) and other small mammals.

Outputs:

a. Establish or enhance (through prescribed fire, re-seeding, invasive species control, improved grazing practices, or mechanical disturbance) 2,000 acres of grassland on private lands each year (Years 1-5). Acreages established to grasslands through Farm Bill programs (e.g., Conservation Reserve Program)

may greatly exceed this objective, but should be focused in areas most likely to benefit barn owls (i.e., locations scoring >7 on factors described in Appendix II).

Year 1 Performance Reporting

IDNR administered contracts for grassland habitat enhancement work on private lands totaling approximately 8,800 acres in the USDA Conservation Stewardship Program (from 2008 – 2010) and 670 acres in the USDA Landowner Incentive Program (from 2007 – 2010). Through 2010, the IDNR also assisted with enrolling approximately 5,880 acres across 21 counties of the Grand Prairie Project Area and approximately 640 acres across 7 counties of the Southern Till Plain Project Area in the USDA State Acres for Wildlife Enhancement program. This program establishes new grassland and enhances existing grassland habitat.

b. Enhance (through prescribed fire, re-seeding, invasive species control, improved grazing practices, or mechanical disturbance) 1,000 acres of grassland on public lands each year (Years 1-5). Habitat enhancement in locations scoring >7 on factors described in Appendix II are most likely to benefit barn owls.

Year 1 Performance Reporting

2011 – IDNR conducted 1,100 acres of grassland prescribed burns on IDNR properties in Region 5 during 2011.

Outcomes:

Number of occupied barn owl nest boxes (Annual). 2010 (6); 2011 (16)

Number of counties with nesting barn owls (Annual). 2010 (13); 2011 (13)

Number of Element Occurrence Reports of nesting barn owls (Annual). 2010 (17); 2011(19)

Recovery Strategy 5: Build Public Awareness of Barn Owls & Support for Barn Owl Conservation.

Outputs:

a. Develop an informational brochure on barn owls and barn owl conservation in Illinois for distribution to the public (Year 1). A print version could be available for venues such as the Illinois State Fair and the U. S. Department of Agriculture’s county Service Centers. Post an electronic version on the Illinois Department of Natural Resources’ and Illinois Endangered Species Protection Board’s websites.

Year 1 Performance Reporting

2011 – The recovery team published to the Illinois Endangered Species Protection Board’s webpage a brochure entitled “Help Bring Back the Barn Owl” that advises what to do and who to contact if landowners have questions about the recovery plan and activities, reporting barn owl occurrences, placing barn owl boxes, and reporting injured barn owls. There is currently a moratorium on printing for State of Illinois agencies, so no print versions of any items are being produced by the team. Additionally, Dr. Jeff Walk, the primary author of the recovery plan, gave a presentation about the recovery plan and efforts to the Illinois Chapter of the Wildlife Society, Terry Esker gave a presentation to the Illinois Audubon Society, Mike Blackowicz (IDNR) gave four presentations at the Dixon Springs Sustainable Living Expo, and Dr. T.J. Benson gave a presentation to the Springfield Audubon Society.

b. Publish biennial reports on barn owl recovery progress on the Illinois Department of Natural Resources’ and Illinois Endangered Species Protection Board’s websites (Years 1, 3, 5).

Year 1 Performance Reporting

2011 – The recovery team is in the process of developing its first-year report that will be published to the ESPB webpage sometime after the beginning of calendar year 2012.

c. Publish an article on barn owls and barn owl conservation in Illinois through a popular outlet, such as *OutdoorIllinois* (Year 2).

Year 1 Performance Reporting

2011 – The barn owl recovery team published the following articles in 2011:

Walk, J. W., A. Mankowski, T. L. Esker, M. Cole, and M. G. Alessi. 2011. Status of the Barn Owl in Illinois. *Meadowlark: A Journal of Illinois Birds* 20:2-5.

Walk, J. W., A. Mankowski, T. L. Esker, M. Cole, and M. G. Alessi. 2011. A Brighter Future for a Bird of the Night. *OutdoorIllinois*. June 2011.

Outcomes:

Number of reports of barn owls from citizens to the Illinois Department of Natural Resources (Annual).

In 2010, there were five reports and in 2011, there were three reports of nesting barn owls from citizens to the Illinois Department of Natural Resources.

Number of nest boxes installed on private lands at the landowner's request (Annual). In 2010, 12 boxes were installed on private lands and in 2011, 42 boxes installed on private lands.

Number of nest boxes monitored by volunteer cooperators (Annual). In 2010, no boxes were monitored by volunteers and in 2011, 10 boxes were monitored by volunteers.

Number of Element Occurrence Reports of nesting barn owls on private lands (Annual). In 2011, there were nine element occurrence reports of nesting barn owls on private lands, representing 47% of nests for that year.

Recovery Strategy 6: Research of Barn Owl Ecology & Behavior.

Outputs:

- a. Evaluate the effectiveness of playback recordings to attract barn owls to unoccupied nest boxes (Year 1-3). Attempt at >1 site per year.

Year 1 Performance Reporting

In the spring of 2011, an Illinois Audubon Society contract employee working at IDNR's Prairie Ridge State Natural Area, conducted some playback recording surveys with no success at several barns in Edwards County, including one barn where an owl had been observed. A more robust effort is planned in upcoming years.

- b. Solicit volunteers from at least 10 MOON routes in the southern ½ of Illinois (where barn owls are most likely to be encountered) to add barn owl vocalizations to the protocol (Years 1-5). If detections exceed >1 barn owl/10 routes/year, expand the protocol to include barn owls on other routes.

Year 1 Performance Reporting

In 2010, there was 1 detection in 11 routes that included playbacks for barn owls. In 2011, there were no detections in 6 routes that included playbacks for barn owl.

Outcomes:

Number of occupied barn owl nest boxes (Annual). 2010 (6); 2011 (16)

Number of Element Occurrence Reports of nesting barn owls (Annual). 2010 (17); 2011(19)

Number of barn owls detected on Monitoring of Owls and Nightjars, MOON, routes in Illinois (Annual).

In 2011, no barn owls were detected in 6 MOON routes surveyed in Illinois

(<http://www.inhs.uiuc.edu/research/MOON/>).

Status Review Triggers

Objectives & Criteria. We propose that measures of population size and distribution, as documented in the Illinois Department of Natural Resources' Biotics 4 database, be used to trigger a detailed review of the barn owl's status by the Illinois Endangered Species Protection Board. Achieving the levels of population size and distribution proposed in this plan shall not prompt an 'automatic' change in the status of the barn owl in Illinois. Other factors, including known threats, nest productivity, and extent and condition of protected habitat, should be considered with population size and distribution data to judge whether a change in status is warranted.

Change from Endangered to Threatened in Illinois – The ESPB shall thoroughly evaluate the status of the barn owl and consider a change in status from *Endangered* to *Threatened* when, over the past 5 years, the Biotics 4 database has Element Occurrence Records of 40 active nest sites distributed among at least 15 counties. A nest site active in >1 year of the 5-year interval is considered a single record. The ESPB should judge the threats to the population, to nesting sites, and to barn owl habitat are low to moderate, or manageable with existing conservation resources. The reverse of these conditions could be used to consider a change from *Threatened* to *Endangered* should the population's condition degrade at some future point following an improvement in status.

Removal from Threatened in Illinois (Recovered) - The ESPB shall thoroughly evaluate the status of the barn owl and consider a change in status from *Threatened* to recovered when, over the past 5 years, the Biotics 4 database has Element Occurrence Records of 80 active nest sites distributed among at least 30 counties. A nest site active in >1 year of the 5 year interval is considered a single record. The ESPB should judge that the threats to the population, nesting sites, and barn owl habitat are low. The population should be likely to persist at similar levels with sustainable conservation actions (e.g., nest box maintenance and monitoring program, with responsibility for program continuation assigned to one or more entities). The reverse of these conditions could be used to consider a change to *Threatened* should the population's condition degrade at some future point following recovery.

Year 1 Performance Reporting

After one full year of recovery plan implementation combined with recovery activities from previous years, a total of 44 unique nest records from at least 24 counties (one nest is on a county line) for the recent five-year interval of 2007-2011 are recorded in the IDNR Biotics 4 database. The recovery team will make recommendation to the ESPB to evaluate the status of the barn owl and consider a change in status from Endangered to Threatened.

5-Year Interval	# Nest Records	# Counties With Nest Records
1996-2000	5	5
2000-2004	11	11
2005-2009	19	18
2007-2011	44	24