



Oklahoma Department of Transportation Planning & Research Division FFY 2014 Request for Proposals

Research Problem Statement Title:

Assessment of Limited Scope Construction Activities on Cliff and Barn Swallow Nesting Behavior and Synthesis of current Methods to prevent Cliff and Barn Swallows from Nesting on Bridges and Culverts

Problem Statement:

Cliff and Barn Swallows are small colonial nesting birds protected by the federal Migratory Bird Treaty Act (MBTA) of 1918. It is a violation of the federal law to harm these birds, which is defined in the regulation to include "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering". These species commonly use bridges and culverts for nesting. In Oklahoma, The nesting season runs from April 1 to August 31. As this is prime construction season, projects schedules can be impacted in order to avoid the nesting season, which increases project costs to the Department. Current practice includes using netting to restrict the birds access to nesting sites, or delaying work that requires destruction of nests to outside the nesting season. More limited scope projects such as resurfacing and guardrail installation have not been assessed to determine if those activities may disturb the birds to the point of causing harm. More information is needed to determine which construction activities do not cause harm to the birds, and which activities should be avoided.

Proposed Research:

Research is needed to determine which construction activities may occur during the nesting season without causing harm to the protected birds, and to gather and synthesize effective methods to prevent birds from nesting on transportation structures prior to construction activities that will cause the destruction of the nests.

Suggested Tasks (to include but not limited to):

- Perform literature search
- Monitor and document the behavior of swallows before and during construction on limited scope projects , including but not limited to Resurfacing and/or Guardrail installation over and near Reinforced Concrete Boxes, Guardrail attachment to bridges, surface patching or overlays of bridges, joint seal and repair of bridges. Sample size shall be proposed by the researcher and shall be of adequate size to provide confidence in the results. Submit Report.
- Determine methods and specifications that successfully prevent swallows from nesting on bridge and culvert structures. Submit Report.

Implementation:

Results of this study can be used to expand work on multiple multi-year research projects in this area. These findings should provide an appropriate, more economical and sustainable way in which repair and construction of bridges and culverts can be made without the disruption of the nesting patterns of the Cliff and Barn Swallows here in Oklahoma. An implementation plan with a time schedule should be developed by the contractor contained within the final report for this project.

Benefits:

The monitoring and documentation of the impacts of limited scope projects on swallows will enable those projects not likely to cause harm to proceed with less project development time and costs, and unnecessary seasonal restrictions which increase construction costs. The determination of swallow nest prevention specifications will aid ODOT in determining the most effective method for a particular construction project. Results will be implemented by ODOT's Environmental Programs Division in the project review process.

Deliverables:

All projects require the submission of the following reports:

- Monthly Progress Reports
- Multi-Year Projects require a Year-end Annual Report
- Copies of the project Draft Final Report in Microsoft Word and ADA accessible Adobe Acrobat pdf electronic formats
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The Year-end Annual Report, Draft Final Report, Final Report and Color Article should be submitted to satisfy all federal and state requirements pertaining to the accessibility of documents including but not limited to:

- Oklahoma State Statute 62 § 41.5e and the Americans with Disability Act (ADA) of 1990, 42 USC 12.01 et seq.

The PI must also participate in the following project meetings:

- New project initiation meeting
- Semi-annual project meeting
- Close-out project meeting
- Continuing project meeting

Existing Research:

The following information has been provided as a convenience only and does not constitute a thorough literature review.

Swallows Damage Prevention and Control methods, Prevention and Control of Wildlife Damage, 1994, W. Paul Gorenzel

Cliff or Barn Swallow Information, Biology and Control, Arizona Wings-N-Stings, 2010, Bird and Bee Control

Pests of Homes, Structures, People and Pets-Cliff Swallows, University of California Agriculture and Natural Resources, June 2012, T. P. Salmon

Living with Wildlife, Washington Department of Fish and Wildlife, 2012, Russell Link