

Alberta Conservation Association 2011/12 Project Summary Report

Project Name: *Waterfowl Nesting Habitat Enhancement*

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Partnerships

Alberta Fish and Game Association
Delta Waterfowl
Ducks Unlimited Canada
Syncrude Canada
Wildlife Habitat Canada
Windsor Plywood

Key Findings

- Nesting success was 97% for the proportion of nest tunnels that were used in summer 2011.
- Three new volunteers signed up to install nest tunnels in 2011/12. These volunteers installed 14 nest tunnels in the county of Vermilion River and three in the Pine Lake area.
- Hosted two presentations and three field trips in local communities to discuss waterfowl habitat needs with over 300 participants.
- Monitored 35 existing nest boxes and installed three new boxes bringing the total number of nest boxes installed by ACA to 1,300 since 1989. We provided 21 nest boxes to industry and interested individuals for installation this year.
- Provided over 400 copies of the *Nest Box Guide for Waterfowl, Alberta Edition* to interested groups and individuals in 2011/12.

Introduction

Enhancing waterfowl nesting habitat through the use of artificial nesting structures improves nesting success for mallards (*Anas platyrhynchos*) in the case of nest tunnels (Eskowich et al. 1998), and increases potential nesting sites for common goldeneye (*Bucephala clangula*) and bufflehead (*B. albeola*) in the case of nest boxes (Corrigan 2007). We partner with Delta Waterfowl and Wildlife Habitat Canada to install and maintain waterfowl nesting tunnels in areas where secure waterfowl nesting habitat limits ground-nesting waterfowl production. Similarly, we partner with Ducks Unlimited Canada (DUC) to install and maintain nest boxes on ponds in

the central parkland area that lack mature aspen needed for cavity nests. Since 2009, Syncrude Canada has provided funding to both of these components of our project.

Another important aspect of this work is the involvement of landowners and other volunteers in the process of hands-on conservation. We engage landowners to allow installation of nest tunnels and nest boxes on their lands and encourage these individuals to maintain and monitor these nesting structures or to allow other volunteers to do so on their properties.

Our primary objectives over this past year included securing new nesting structure locations and maintaining existing locations to increase nest success of mallards, bufflehead and common goldeneye, increasing awareness of habitat requirements for waterfowl species, and encouraging landowners to retain wetlands and associated riparian habitat including the wooded margins of wetlands.

Methods

We installed nest tunnels in conjunction with Alberta Fish and Game Association clubs, volunteers, and interested landowners in small (0.2 – 2.0 ha), semi-permanent or permanent wetlands on the water edge of the emergent vegetation zone. We concentrated our tunnel installation efforts in northeastern Alberta to compliment the Alternative Land Use Services (ALUS) pilot project being delivered by Delta Waterfowl in the County of Vermilion River. We completed nest tunnel monitoring and maintenance in late winter and determined the number of nest tunnels used during the preceding breeding season and the number of these tunnels that successfully hatched. Presence of a nest bowl and down are used as indicators of nest use, while eggshell fragments and egg membranes indicate a successfully-hatched nest. We encouraged volunteers through regular communication, including annual reminders for maintenance and monitoring, as well as providing them with summary results from the previous breeding season. We provided modest incentive payments to volunteer groups and individuals for tunnel maintenance once we received their monitoring reports.

We completed nest box maintenance opportunistically throughout the year, excluding the waterfowl nesting period. Nest boxes do not require annual maintenance; however, annual monitoring is encouraged. In 2011/12, we transferred responsibility of nest boxes to the landowners where the boxes are located. We sent packages to these landowners containing a letter explaining the change in project direction and rationale for it, a “how to” sheet on nest box monitoring and maintenance, a data submission form, air photos of their property with nest box locations indicated, and a copy of the *Nest Box Guide for Waterfowl, Alberta Edition* to assist with nest box occupant identification.

We opportunistically hosted field trips, nest box building workshops and presentations for interested groups, individuals and landowners to improve their understanding of waterfowl habitat requirements. Some field trips also provided the opportunity to view previously-installed nest structures and install new nest structures.

Results

We provided 17 nest tunnels to volunteers for installation, bringing our total number of installed tunnels to 256 since 2005. We engaged two conservation groups and seven landowners to participate in maintenance and monitoring of approximately half of these nest tunnels. In 2011/12, 62 of 85 nest tunnels monitored were available for breeding by waterfowl. The remaining 23 were either flooded or missing. Of the 62 nest tunnels available, ducks used 55% (n = 34) during the 2011/12 breeding season. The majority (n = 31) of nest tunnels that successfully hatched ducklings contained one nest; however, three contained two successfully-hatched nests resulting in an overall nest success rate of 97%. We sent a summary of 2010 breeding season nest tunnel monitoring and instructions for monitoring and maintenance to our volunteers in early November to encourage them to complete monitoring and maintenance of their tunnels and to keep them engaged.

We maintained 35 nest boxes and installed three new boxes. We provided 20 nest boxes to Imperial Oil for installation in their Kearl Oil Sands lease area and one nest box to a private landowner. We mailed or delivered cavity nesting waterfowl habitat information to approximately 300 landowners who currently have nest boxes located on their properties. The reprinted booklet, *Nest Box Guide for Waterfowl, Alberta Edition*, proved to be popular with over 400 booklets distributed to individuals and groups in 2011/12.

We hosted two presentations and three field trip/tours on waterfowl habitat needs to approximately 166 adults and 157 youth.

Conclusions

This project provides an ideal opportunity to connect with the public, increase awareness of the importance of waterfowl habitat, and to develop a committed volunteer base. Project activities allow participants to do something tangible and immediate for conservation. Our partnership with Delta Waterfowl is providing an opportunity to participate in the evolution of Alberta's pilot ALUS project and to cultivate partnerships with municipal and provincial government, industry and other non-government organizations.

Although we do not know the total number of nest boxes used for breeding in 2011/12, we did receive correspondence this year indicating that nest boxes built from our plans were being used by white-fronted parrots (*Amazona albifrons*) in Belize. These cavity nesting parrots began using the nest boxes within a week of installation.

Communications

- Highlighted nest boxes on ACA's website. The web page included videos of bufflehead chicks hatching and leaving the nest box.
- Provided annual summary report to Delta Waterfowl, DUC and Syncrude Canada.
- Presentation of video documentary "Inside the Box" to the Alberta Wilderness Association; attended by 43 adults and two youth, April 5, 2011.
- Presented waterfowl habitat information to the Iron Creek Watershed Council; attended by 12 adults and 155 youth, Killam, Alberta, May 2, 2011.
- Hosted field trip to check nest boxes; attended by 10 adults, May 2, 2011.

- Hosted field trip with “Duck University”, a DUC-sponsored event, to observe natural cavities and waterfowl nesting boxes; attended by 51 participants from across North America, May 13, 2011.
- Full page article in the *Red Deer Advocate* by Myrna Pearman on cavity nesting ducks, June 22, 2011. Included in the article was ACA’s website for downloading the booklet, *Nest Box Guide for Waterfowl, Alberta Edition*.
- Provided over 400 copies of the *Nest Box Guide for Waterfowl, Alberta Edition* to DUC, Battle River Watershed, Kerry Wood Nature Centre, Milk River Wildlife Centre, Red Deer River Naturalists, Windsor Plywood, Ellis Bird Farm, Alberta Wilderness Association, and ALUS Partnership Advisory Committee. We also mailed approximately 50 copies of the booklet to interested individuals and made copies available to interested individuals at ACA tradeshow booths.
- Provided a demonstration on how to locate and install a nest tunnel on an ALUS field trip; attended by approximately 50 people, June 21, 2011.
- Distributed 300 nest box information packages to landowners of properties where nest boxes are located.
- Distributed nest tunnel information packages to seven landowners and two conservation groups.

Literature Cited

- Corrigan, R.M. 2007. Effectiveness of nest boxes in influencing population trends for common goldeneye (*Bucephala clangula*) and bufflehead (*B. albeola*) in the Buffalo Lake moraine. M. Sc. Thesis, University of Alberta, Edmonton, Alberta. 120 pp.
- Eskowich, K., D. McKinnon, G. Brewster, and K. Belcher. 1998. Preference and use of nest baskets and nest tunnels by mallards in the parkland of Saskatchewan. *Wildlife Society Bulletin* 26: 881–885.

Caption for Photo: DMooreStuffingTunnel:



Alberta Sustainable Resource Development partner, Dave Moore, replenishing flax straw in outer covering of nest tunnel. (Photo: Velma Hudson)

Caption for Photo Nest remains, duck-squirrel-owl”:



Saw-whet owl nesting on remains of old duck and squirrel nests. (Photo: James Potter)

Caption for Photo: Shells & Membranes:



Volunteers look for eggshell fragments and membranes in nest tunnels to indicate that duck eggs have successfully hatched. (Photo: Andy Murphy)