Testing the Efficacy of Predator Reduction to Increase Dabbling Duck Nest Success in Alberta

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Fifty years of work in the U.S. and Canadian Prairie Pothole Region has shown that indirect management strategies that attempt to make nest inaccessible to predators has been unsuccessful – with the exception of some types of nesting structures. Most management techniques have either proven ineffective at reducing predation of eggs or prohibitively costly to implement on a scale that can impact many nesting pairs.

In recognition of that sobering reality, Delta Waterfowl began research more than two decades ago on direct methods to manage predation. We started lethal predator reduction. The approach we tested involved seasonally trapping mammalian nest predators by hiring professional trappers during the nesting season. Delta initiated Predator Management in spring 1994, along with a rigorous research evaluation. Since the initial study, Delta has funded many university research teams to test the efficacy of predator reduction as a means to increase nest success. The results have been conclusive: Trapping dramatically increases hatch rates.

Western Canadian Parklands
The Canadian parkland region comprises a large portion of the best duck nesting habitat in the Canadian PPR, but nesting ducks in this broad ecoregion typically suffer from stifling (high) predation rates. Most
of Delta’s extensive research on predator reduction has occurred in the prairies of North Dakota and Saskatchewan. We have only tested Predator Management in parkland habitats in the eastern segment of the PPR — namely Manitoba and eastern Saskatchewan.

True to our science foundation, we believe it is important to test Predator Management in western Canadian parkland. While Alberta supports duck densities similar to Manitoba and Saskatchewan, differences in predator species composition, land use and human population density warrant a comprehensive study to determine the effectiveness of direct Predator Management there.

**Trapping in Alberta**

Recent research has suggested that hotspot trapping — targeting the best cover in a large landscape — is the most cost-efficient way to implement a predator reduction program in the U.S. prairies. Using this approach, Delta can substantially increase nest success in fields that attract most of the nesting ducks. We used this hotspot approach in Alberta because there are multiple isolated patches of excellent nesting cover established and managed by various conservation groups.

**Primary Objective**

We are testing whether predator trapping increases success of ducks nesting in upland cover in parkland habitat. We began nest searching in May 2016 and monitored nests until late July 2016. Upland nests were found by dragging a light chain between two ATVs. We searched for nests on two distinct sites of 10 quarter-section-sized plots where mammalian predators were reduced. We also nest searched on two blocks that each had 10 non-trapped quarter-sections.

In 2017, we will reverse the treatment and non-treatment sites, so areas that were not trapped in 2016 will be trapped this spring. Likewise, last year’s trapped sites will now be the non-trapped comparison sites.