

Manitoba's Owl Survey



Annual Report 2010

Northern Saw-whet Owl photographed on 8 March 2011 near Molson, Manitoba, by Gerry Geall

Manitoba's Nocturnal Owl Survey 2010 Annual Report

By Jim Duncan

It is a pleasure to share 20 years of owl survey data with you in this report. Ninety-four people volunteered to go out into the dark to listen for calling owls in 2010. For some it was their first experience with owls in the wild. For others, it has become something of a lifestyle!

I think that regardless how puzzling our behaviour as owl surveyors must appear to others, we can be proud to continue this tradition. Why do we do this? I think because it is fun, rewarding, and helps us understand owls. Maybe doing so also helps us better understand ourselves? We are, after all, as much a natural part of Manitoba's vibrant biological diversity as are the owls that we seek!

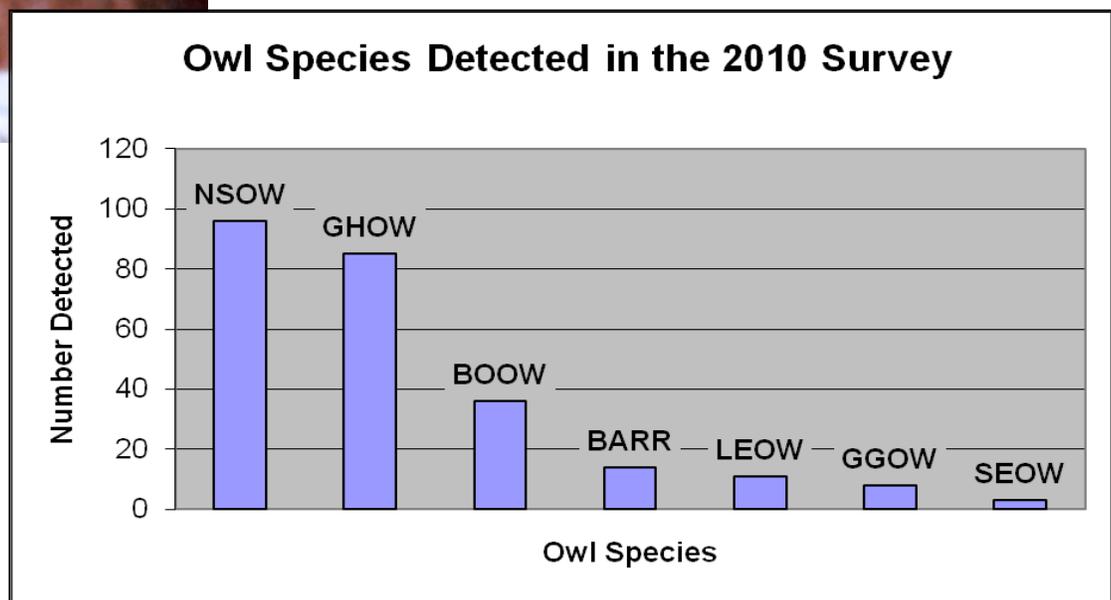
Included further below are updates on two Manitoba owl studies by graduate students Alex Froese and Todd Whiklo.

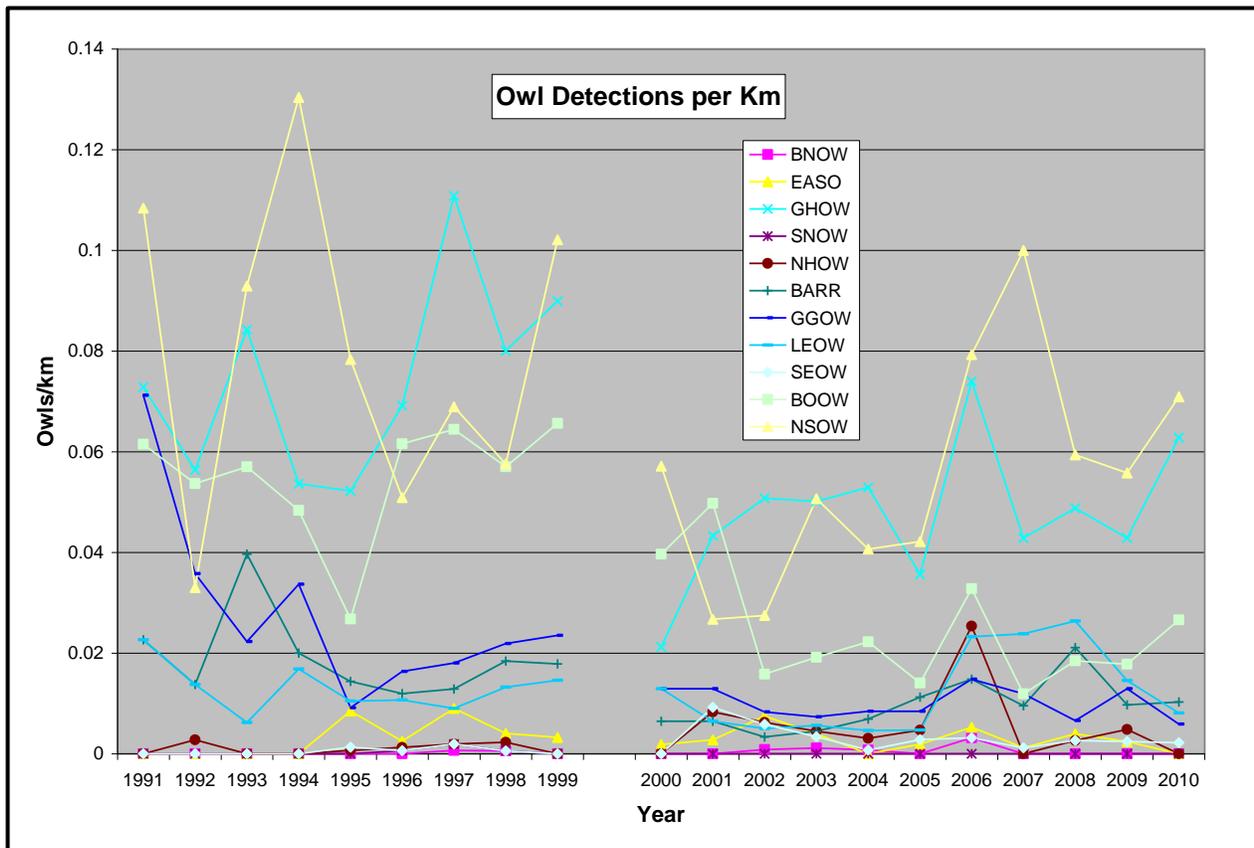
Please note an important addition regarding data recording and submission for the 2011 Nocturnal Owl Survey. Complete and mail in the usual data sheets, but please also record UTM coordinates for survey stops and enter this and your data as per the online data instructions document that will be available at <http://www.birdatlas.mb.ca/>. This additional step was made to ensure that your survey efforts will be incorporated into the Manitoba Breeding Bird Atlas. Please visit the Atlas website for more information on the atlas project, or call Dr. Christian Artuso at 204-945-6816 or toll-free at 1-800-214-6497.



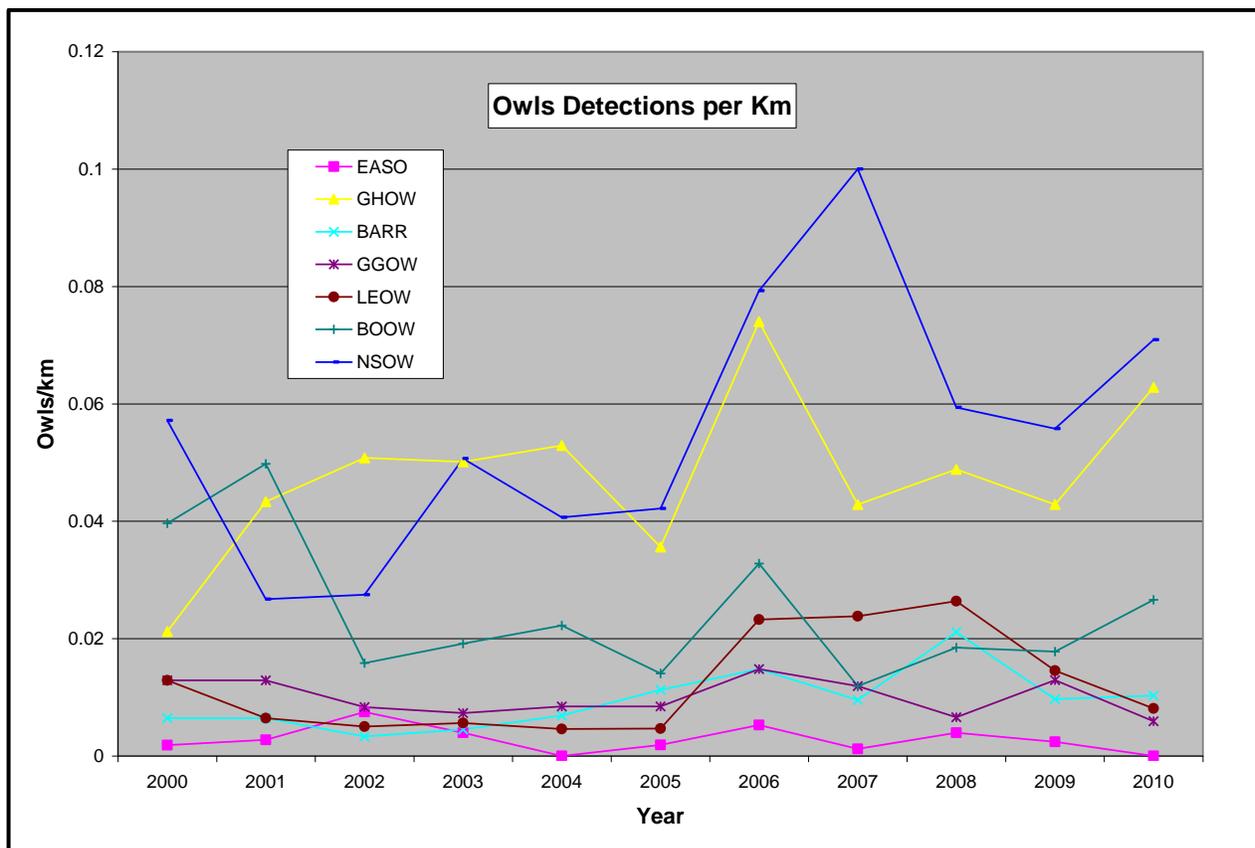
Barred Owl hovering over the snow near East Braintree, Manitoba, by Jim Duncan.

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|------------------------------|
| NSOW – Northern Saw-whet Owl |
| GHOW – Great Horned Owl |
| BOOW – Boreal Owl |
| BARR – Barred Owl |
| LEOW – Long-eared Owl |
| GGOW – Great Gray Owl |
| SEOW – Short-eared Owl |





NSOW = Northern Saw-whet Owl, GHOW = Great Horned Owl, BOOW = Boreal Owl, NHOW = Northern Hawk Owl, LEOW = Long-eared Owl, BARR = Barred Owl, GGOW = Great Gray Owl, EASO = Eastern Screech Owl, SEOW = Short-eared owl, BNOW = Barn Owl, SNOW = Snowy Owl



| Year | # Volunteers | Distance Surveyed (Km) | # Routes | Total Owl Detections | # Owl Detections per Km |
|------|--------------|------------------------|----------|----------------------|-------------------------|
| 2000 | 106 | 1085 | 57 | 165 | 0.15 |
| 2001 | 91 | 1070 | 57 | 180 | 0.17 |
| 2002 | 198 | 2403 | 115 | 315 | 0.13 |
| 2003 | 162 | 1776 | 107 | 267 | 0.15 |
| 2004 | 150 | 1304 | 94 | 183 | 0.14 |
| 2005 | 102 | 1067 | 74 | 135 | 0.13 |
| 2006 | 91 | 946 | 65 | 262 | 0.28 |
| 2007 | 68 | 856 | 52 | 170 | 0.20 |
| 2008 | 78 | 1213 | 73 | 144 | 0.19 |
| 2009 | 92 | 1237 | 77 | 204 | 0.17 |
| 2010 | 94 | 1514 | 94 | 254 | 0.19 |



A Comparison of the Breeding Biology of Wild and Captive Released Burrowing Owls in Southwestern Manitoba – 2010 Summary Report
Alex Froese, M.Sc. Candidate, University of Winnipeg.

Nesting Results - Captive Released Owls:



In 2010, a total of five pairs of Burrowing Owls were placed in pens at three different sites in southwestern Manitoba (Broomhill, Lyleton, and Pierson). The plan was to release pairs after at least four eggs were laid, but extreme wind resulted in the early ‘release’ of two pairs. One pair remained together and moved to a nearby artificial nest burrow and produced 2 young. The other pair separated and only the female was recovered 2 km

away from the release site. Two of the other three pairs produced a total of 13 eggs (five and eight eggs per nest). Extreme flooding resulted in the abandonment of the nest burrows. Both pairs remained near their respective release burrows but did not re-nest. The remaining pair did not nest though copulation was observed on numerous occasions. Only one pair successfully raised two young in 2010. All unsuccessfully breeding owls were transferred back to the Assiniboine Park Zoo for the winter and will be paired and released in spring 2011. One of the two young produced was removed from the site and is also being held over winter at the Assiniboine Park Zoo.

Nesting Results – Wild Owls: Five wild pairs and one unpaired male were detected during the 2010 breeding season surveys in

southern Manitoba. These surveys covered over 12 townships and 20 ranges. Three pairs were located near the Pierson release site, one near Treesbank, and one pair near Cartwright. The lone male was located near the Broomhill release site. Four of the five pairs produced a total of 16 young (11, 4, and 2). Young were removed from all broods except at Cartwright for pairing/breeding in 2011. Young will be overwintered at the Assiniboine Park Zoo and at the FortWhyte Alive centre.

Other Data Collected: Direct observation, pellet collection, and images from Reconyx wildlife cameras were used during the 2010 breeding season to aid in identifying prey deliveries to nest sites. Pellets will be dissected and prey remains identified. Prey use data by wild pairs and captive-bred released pairs was collected at different stages throughout the season (e.g., pre-release/post release) and will be analyzed similarly. Prey use frequency and biomass will be estimated, and prey diversity indices calculated.

Two wild males, two wild females, and two captive released males were outfitted with GPS backpack-style dataloggers during the post hatch stage

of the breeding season to calculate home range and habitat use. The dataloggers were programmed to collect location data at regular intervals. Owls were trapped and re-trapped using a variety of traps. Only four dataloggers were recovered as one female lost the GPS out of the backpack prior to re-trapping. Another owl dispersed from the area prior to re-trapping. A new style of backpack will be used in 2011. Home ranges have not been analyzed for 2010 however the parameters will include distance from burrow, topography, habitat or cover type, and size/shape. Direct observations combined with camera images were used to monitor behaviours of all owls carrying dataloggers. Almost all wild and captive released owls (14 wild and 10 captive) were marked using Canadian Wildlife Service bands and alphanumeric colour bands. Basic measurements and data recorded included wing chord, tail length, and molt for all adults and young. Weights were monitored throughout the nesting season.



NEST STRUCTURE AND BREEDING HABITAT CHARACTERISTICS OF BARRED OWLS IN MANITOBA – 2009-2010 Summary Report by Todd Whiklo, M.Sc. Candidate, University of Manitoba.



Characteristics of Nest Trees and Nesting Structures:

Barred Owl nesting structures were located through audio playback surveying and diurnal nest searching in southern Manitoba. Sixty-one confirmed home ranges were located,

with 26 of these confirmed by presence of both male and female owls. Nine nest sites were located, all in tree cavities. There was little variation between nest sites, with diameter at breast height, diameter at nest height and tree height having the most influence on the data set analysis. Mean diameter at breast height and cavity depth and width from my study were found to be similar to results from other studies of Barred Owls, however there is generally a paucity of published data on Barred Owl nest trees and structures.

Habitat Use: Barred Owl habitat use was examined at two scales: immediately around nest trees and within estimated breeding and non-breeding home ranges. Nest tree habitat was highly variable. Estimated breeding and non-breeding home ranges data was gleaned from Forest Resource Inventory (FRI) and EOSD databases and analyzed. Barred Owl breeding home ranges had significantly more hectares of hardwood and mixed-wood habitat (conifers 26-50%) than random plots and Barred Owl non-breeding home ranges also had significantly more hectares of hardwood and mixed-wood (conifers 26-75%) than random plots, based on FRI data.

Barred Owl breeding home range plots had significantly more hectares of “broadleaf – dense” habitat than random plots, based on EOSD data. Variability in Barred Owl habitat use is best explained by its dependence on habitats with suitable nesting cavities.

Breeding Season Behaviour and Reproductive Success:

Barred Owl breeding phenology, reproductive success, clutch size, fledging rate and nest site fidelity were determined through visitation of active nest sites in Manitoba. Barred Owl breeding season commenced in early March, egg laying in early April, incubation period spanned from early April until early May, and young fledging at the start of June. Mean and standard deviation of clutch size was 1.91 +/- 0.83, mean and standard deviation of number of young fledged was 1.36 +/- 1.29, mean and standard deviation of total proportion of young fledged was 0.64 +/- 0.50. Fifty-eight percent of active nests were successful and 66.7% of successful nest sites were reused in the following year.



Acknowledgements

Doug Collicutt continues to host Manitoba owl survey information and associated documents on his wonderful website www.NatureNorth.com – thanks Doug! Hats off to Patsy Duncan, my wife and co-founder of the Manitoba Owl Survey, for her continued assistance with the survey. A thank you to all the volunteer surveyors in 2010 including Christian Artuso, Ron Austin, Devon Baete, Peter Baete, Ron Bazin, Dean Berezanski, Rob Berger, Neil Butchard, David Cabernel, David Cabernel, Bonnie Chartier, Heather Clarn, Lewis Cocks, Cal Cuthbert, Peter Douglas, Jim Duncan, Patsy Duncan, Bev Dunlop, Alvin Dyck, Don Dyck, Gloria Dyck, Kyle Elliott, Richard Ervick, Glenn Flye, Tiffany Flye, Diane Gagnon, Rob Gagnon, Donna Gamache, Luc Gamache, Laura Groening, Tom Groening, Melanie Guigeno, Gordon Hammell, Cheryl Harris, Harry Harris, Heather Hinam, Lars Jansson, Walfried Jansen, Lars Jansson, Scott Johnstone, Joel Kayer, Ken Kingdon, Brian Kiss, Leslie Klaassen, Rudolf Koes, Christian Lavergne, Josee Lavergne, Jack Lee, Frank Machovec, Jacque Machovec, Deana Martz, Kurt Mazur, Alex McIlraith, Patti McIntyre, Bonnie McLeod, David McLeod, Marilyn Meyer, Al Mickey, Albert Mickey, Lorelie Mitchell, Greg Naylor, Justin Paille, Danielle Papin, Charlotte Pedwell, Morley Pedwell, Les Pelletier, Barbara Pettinger, Raymond Pettinger, Emily Pipher, Ryan Porteous, Sherry Punak-Murphy, Amelia Reid, Dave Roberts, Lois Robertson, Alex Robinson, Barbara Robinson, John Robinson, Alex Sanderson, Marianne Schutz, Nienke Schutz-Kolster, Ken Schykulski, Bob Shettler, Patrick Shields, Rosalie Sigurdson, Dan Stirling, Jo Swartz, Peter Taylor, Sharon Taylor, Dave Uhrynivk, Piet van Dijken, Liis Veelma, Glen Walley, Margaret Yorke, and Reto Zach. Note that many of the above surveyors did more than one route! Thanks to Gerry Geall, Todd Whiklo and Alex Froese for photos for this report.

For more information, or if you participated in the 2010 owl survey and your name is not included above, please contact me!

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