

**ANNUAL REPORT of the
CENTRE FOR WILDLIFE ECOLOGY
2008-2009**



**Department of Biological Sciences
Simon Fraser University**

<http://www.sfu.ca/biology/wildberg/index.html>

Dr. Ron Ydenberg, Director

I. HISTORY

Under the Migratory Birds Convention and Canada Wildlife Acts, the mandate of the Canadian Wildlife Service is to protect and conserve migratory bird populations. In the 21st century, this historical mandate is broadening to encompass other environmental concerns such as species at risk, biodiversity, sustainability and endangered habitats. To meet these broad and varied responsibilities, Environment Canada depends on sound science, and participates in cooperative ventures. In 1993, the Natural Sciences and Engineering Research Council of Canada, Simon Fraser University, and Environment Canada signed a ten year agreement to create the NSERC/CWS Chair in Wildlife Ecology at SFU. The Centre for Wildlife Ecology (CWE)

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B. Steering Committee

<i>Name</i>	<i>Position</i>	<i>Affiliation</i>
Elizabeth Elle	Assistant Professor	SFU
Arne Mooers	Assistant Professor	SFU
Robert Elner	Head, Migratory Birds Conservation	CWS
David Green	CWE faculty (non-voting)	SFU
Paul Kluckner	Regional Direg 636.48 Tm [(P) L 0 cm(f)-4.60236(a)8.38316(cT7(P)0.450.958 2m BT	

The 2008 season was remarkable for the strong breeding season experienced by Rhinoceros Auklets and Tufted Puffins – the best in the 16 year time series. Cassin’s Auklets also had a good season, which was poor only for Common Murres and Pelagic Cormorants. But this had nothing

3. Behavioural, Distributional, and Physiological Responses of Scoters to Herring Spawn

Reservoir, near Revelstoke, in 2004. We have shown that Yellow warblers prefer territories containing a high proportion of willow habitat, and that this cue predicts subsequent productivity (Quinlan and Green 2006, Green and Quinlan 2007). We have also shown that current water use decisions have limited impact on productivity and survival of yellow warblers, but that advancing when water levels rise by as little as two weeks would triple nest mortality (6 vs 18%; Green and Quinlan 2007, 2008, Green and Rock 2009). Christine Rock (MSc) initiated a project in 2008 to examine how water-use and cowbirds influence the demography of yellow warblers in Revelstoke. She will use Program Mark to estimate juvenile and adult survival and develop a population model to determine whether the habitat in Revelstoke Reach functions as a source or a sink.

Habitat selection mechanisms in Brewer's sparrow

The Brewer's sparrow is a provincially red-listed species that is restricted to the sagebrush steppe, an ecosystem type that is under intense pressure from agricultural and residential development. Research on Brewer's sparrows was initiated by the Canadian Wildlife Service (Pam Krannitz, Nancy Mahony, and Kathy Martin) in 1997 and extended to include multiple sites within the Okanagan in 2003. Megan Harrison (MSc) examined how habitat characteristics and conspecifics influence settlement decisions in 2007 and 2008. She found that habitat characteristics have only a small effect on habitat occupancy and the order in which territories are settled. However a large scale playback experiment demonstrated that the conspecific song can attract birds to areas of unoccupied sagebrush habitat. Megan defended her thesis in Fall 2008.

Impacts of changing agricultural land use on the distribution and breeding performance of barn owls

Land used for agriculture provides habitat for a diversity of wildlife. However, the intensification of agricultural practises, increased use of pesticides and encroachment of urban centres have been linked to the widespread decline of many species associated with agricultural land in Europe. Less is known about the extent to which recent changes to agricultural land use and practices in the Fraser Valley have impacted wildlife. Sofi Hindmarch (MSc) with Elsie Krebs and John Elliott of the Canadian Wildlife Service, and Markus Merkens of Delta Farmland and Wildlife Trust has investigated how land use patterns influence the distribution of barn owls. She has found that the most important factor influencing change in barn occupancy since the 1990's and current barn occupancy is the traffic volume and the length of major highway in the 3km² surrounding a barn. She is currently investigating how land use influences barn owl diet, nestling growth rates and productivity. She will defend her thesis in the Fall 2009.

Impacts of grazing induced changes to rangeland on grassland birds.

Native grasslands ads r t 89()-0.4794308(r)-7.65013(a)3.15789(s)-1.7465(s)-1.7465(l)-831(t)-2.536

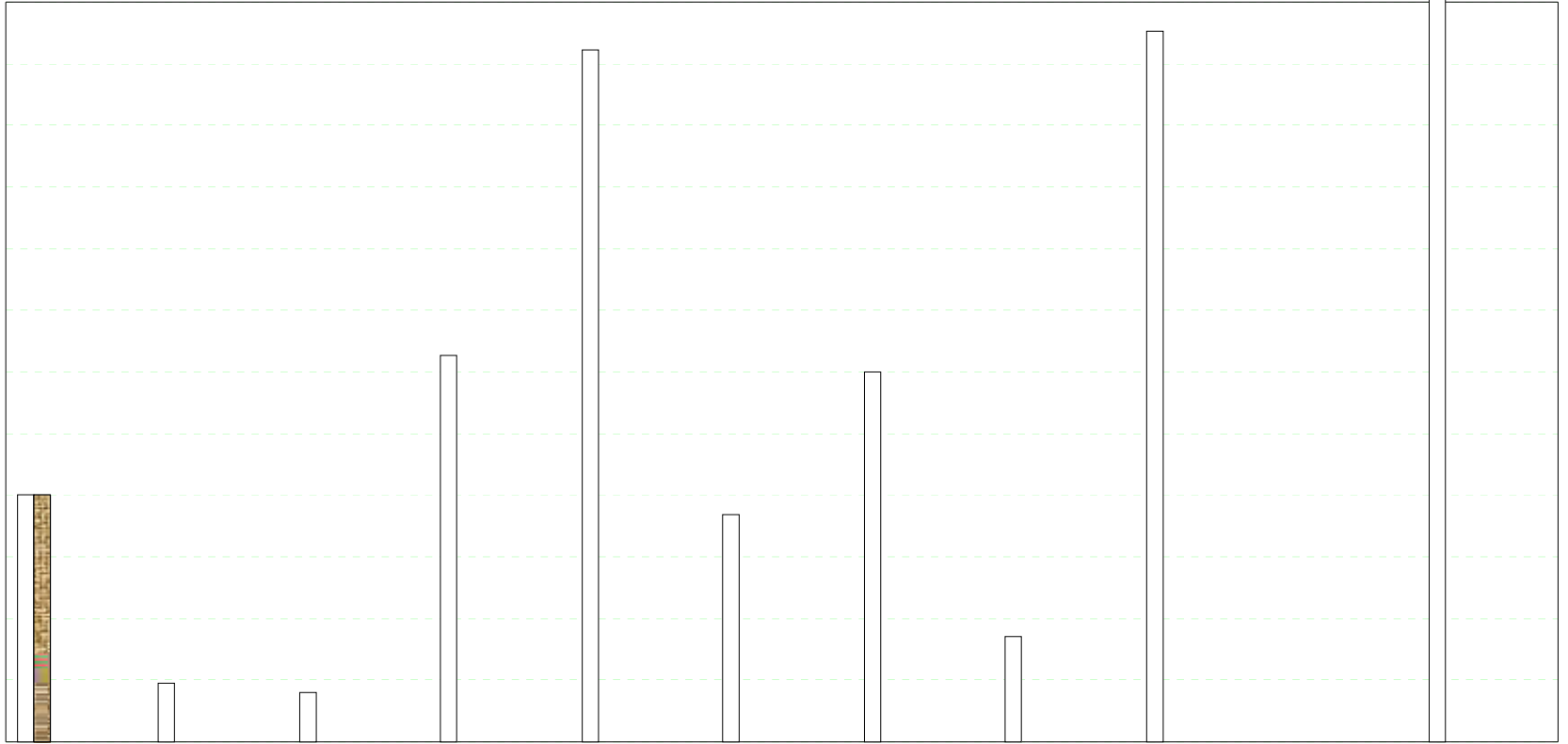
changes to the grassland influence nest success and productivity. This project is intended to inform rangeland management decisions in the Cariboo region of BC.

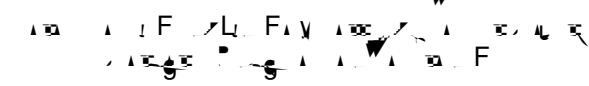
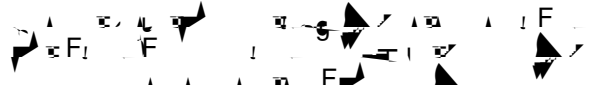
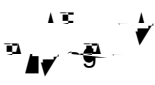
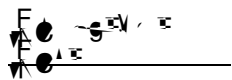
VI FUNDING

Budget

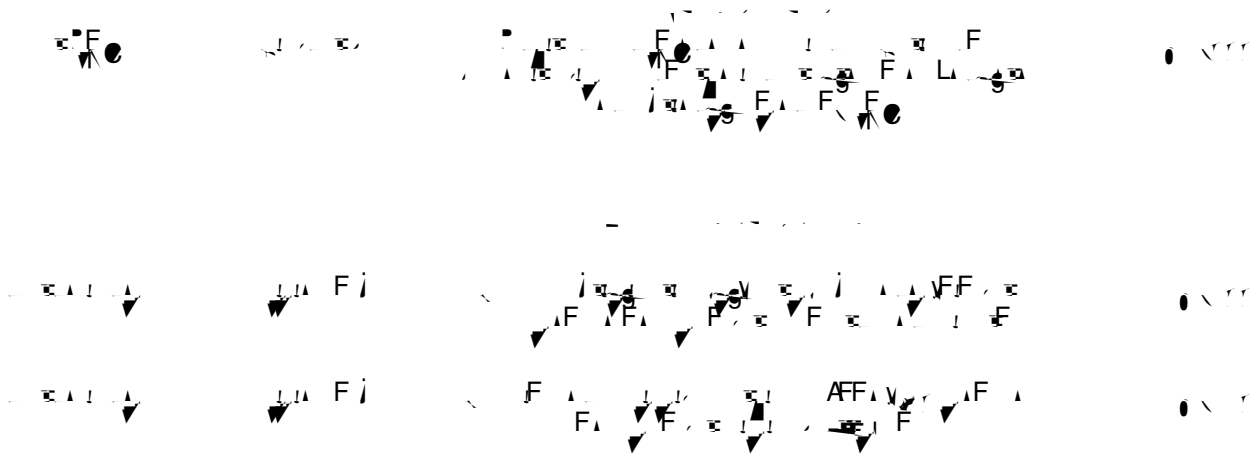
During this fiscal year, 1 April 2008 to 31 March 2009, Simon Fraser University (the Centre for Wildlife Ecology) and Environment Canada (the Canadian Wildlife Service PYRC) had a one year funding agreement that was only finalized in October 2008. . This Contribution Agreement provided \$200,000 as core support for the research activities of the Centre for Wildlife Ecology.

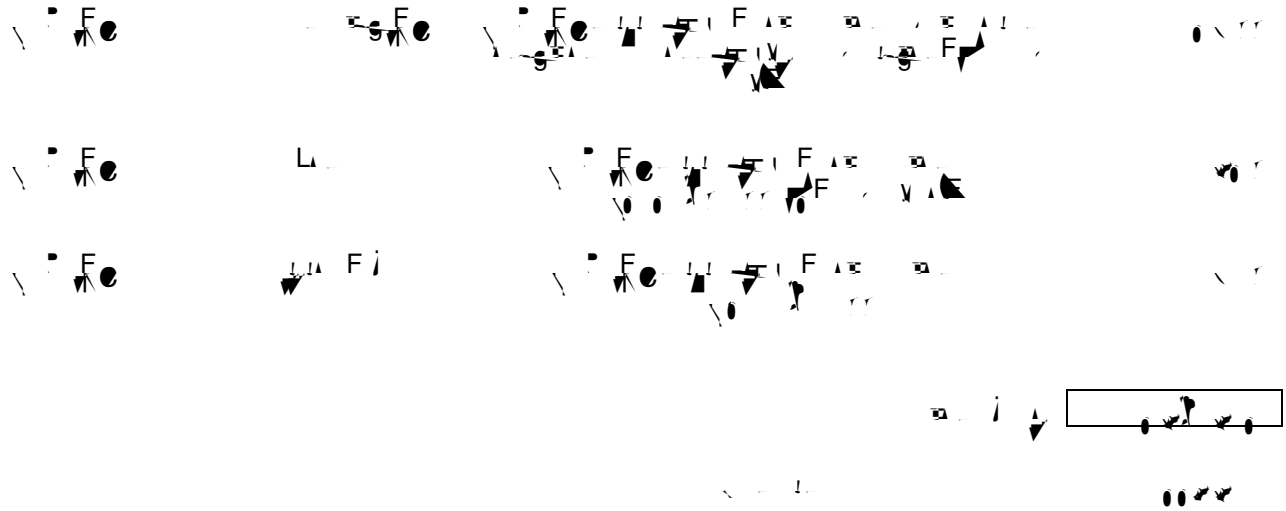
The chart has been revised from the format of previous years to compare revenue projections (formulated for this third agreement) to actual revenue from Environment Canada, SFU and other industrial, provincial, federal and international sectors.





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VII. PUBLICATIONS

This list reflects those publications produced sinc

- Gorman, K.B., D. Esler, R.L. Walzem and T.D. Williams. 2009. Plasma yolk precursor dynamics during egg production by female Greater Scaup (*Aythya marila*): characterization and indices of reproductive state. *Physiological and Biochemical Zoology* 82: doi: 10.1086/589726.
- Green, D.J., I.B. Whitehorne, A. Taylor and E.L. Drake. 2009. Wing morphology varies with age but not migratory habit in American Dippers. *Wilson Journal of Ornithology* 121: 141-147.
- Schamber, J.L., D. Esler and P.L. Flint. 2009. Eval

B. Other Publications

Butler, R. 2008. Peregrine Fear. In: *BirdWatch Canada*, pp. 4-7.

Green, D.J. and C. Rock. 2009. Monitoring breeding performance and return rates of Yellow Warblers in the Revelstoke Reach Wetlands, BC. Report to: Columbia Basin Fish and Wildlife Compensation Program.

Fernández, G., N. Warnock, D.B. Lank and J.B. Buchanan. 2008. Conservation plan for the Western Sandpiper. Report to: Manomet Center for Conservation Science. 44 pp.

Green, D.J. and S. Quinlan. 2008. Reservoir operati