



IWWR Report

April 2011

IWWR Reports provide information about research activities at Ducks Unlimited Canada's science arm, the Institute for Wetland and Waterfowl Research (IWWR). If you would like more information about the activities described below, please contact the researcher(s) identified at the end of the report or check out our website at: <http://www.ducks.ca/consERVE/research/index.html>

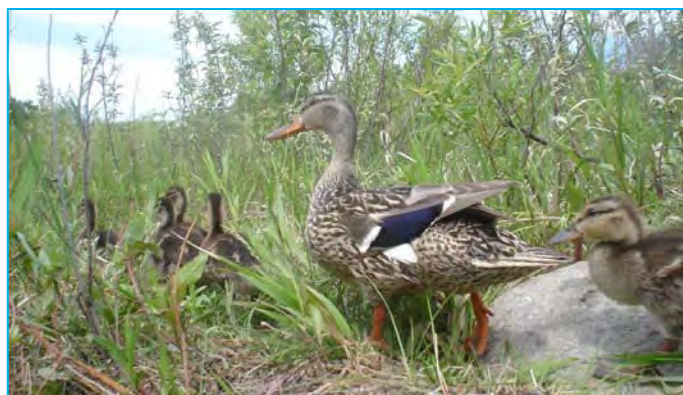
Duckling Survival on the Prairies

Ducks Unlimited Canada's (DUC) upland habitat management programs aim to increase duck *nesting success* (the per cent of nests that successfully hatch at least one egg). However, how these programs affect other population processes, like *duckling survival*,



hasn't been exactly clear. DUC Biologist Pauline Bloom (left) helped to address this information gap by using data from the Prairie Habitat Joint Venture (PHJV) Assessment study¹ during her M.Sc. research at the University of Saskatchewan. Overall, Pauline found that habitat management programs that target nesting success are either good or have no impact on duckling survival rates.

When considering the effects of uplands and wetlands on survival, Pauline's study determined that fewer ducklings survived in areas where they had to travel



further overland or in areas with a high number of semi-permanent wetlands. When grasslands were managed, duckling survival was good, but that wasn't the case in

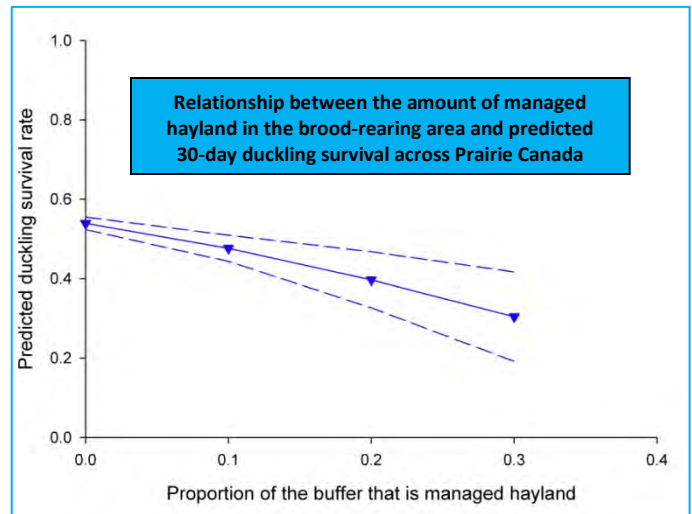
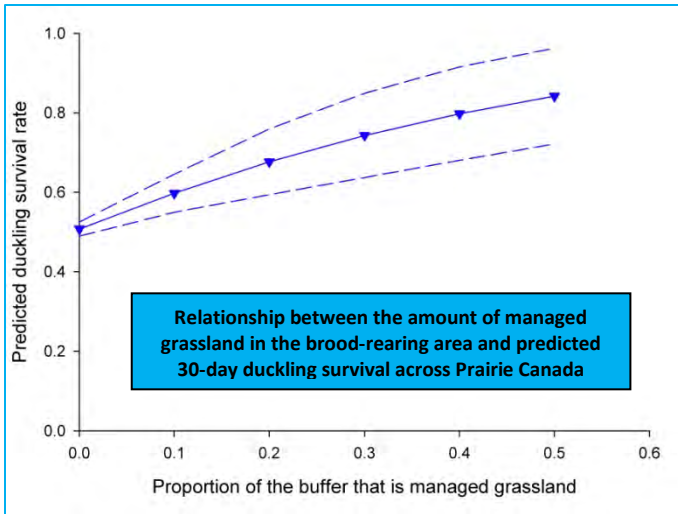
¹ The [Prairie Habitat Joint Venture \(PHJV\) Assessment](http://www.ducks.ca/consERVE/research/publications/phjv/) was designed to evaluate the cost-effectiveness of PHJV conservation activities. The objectives were to: (1) test whether waterfowl reproductive success increased in response to the full suite of PHJV upland habitat treatments; (2) assess the effectiveness of individual habitat interventions; and (3) test and improve the model that was used to develop implementation plans. You can learn more about the PHJV Assessment study at:

<http://www.ducks.ca/consERVE/research/publications/phjv/>



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managed haylands (see above). The negative effect of managed haylands needs to be explored further.

The study also found that management approaches that protect and enhance grasslands can benefit both nesting success and duckling survival, which should lead to greater waterfowl productivity.

Based on the results of these studies, DUC recommends continuing efforts to protect the native grasslands that remain in the Canadian Prairie Pothole region; converting annual cropland back into perennial grassland, and encouraging and helping farmers and ranchers to practice good pasture management.

Surprisingly, mallard females that selected brood-rearing areas of high wetland density had poorer duckling survival than those females that did not. This pattern has been observed during nesting too. Mack and Clark (2006)² found that females that successfully hatched nests were in areas with relatively fewer wetlands than the average for the study site.

Females that avoided areas with abundant trees and shrubs also had a better chance of successfully raising their broods. This suggests that focusing wetland management in areas with less woody cover could have a positive impact on waterfowl productivity. However, trees and shrubs are common features of landscapes in the Canadian Aspen Parklands, and avoiding these areas may not be feasible or cost-effective.

Continued knowledge of how habitat selection influences adult female duck survival, nesting success and duckling survival is important for DUC's future management planning.

For further information on this study, please contact Dave Howerter at d_howerter@ducks.ca or (204) 467-3292.

²Mack GG and Clark RG. 2006. [Home-range characteristics, age, body size, and breeding performance of female mallards \(*Anas platyrhynchos*\)](#). *The Auk* 123:467-474. (For a full article, please contact IWWR Librarian Ian Glass at i_glass@ducks.ca)