

Project Name: Hay-Zama Wetland Monitoring

Wildlife Program Manager: Doug Manzer

Project Leader: Ken Wright

Primary ACA staff on project:

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Partnerships

Hay-Zama Committee
NuVista Energy Ltd.
PENGROWTH CORPORATION

Key Findings

- Monitored waterfowl concentrations at 15 active well sites during spring and fall periods.
- Observed the highest numbers of staging waterfowl during the first week of May in spring, and during the third week of September in fall.
- Northern pintail was the most common duck species observed during spring and mallard was the most common during fall.
- Observed six active bald eagle nests with a total of nine eaglets on the complex in 2009. Broods ranged from one to two eaglets.

Introduction

The Hay-Zama Lakes complex is a 48,000 ha collection of lakes, rivers and wetlands with oil and gas well sites located within the complex boundaries. To mitigate the potential impact of this industrial activity, stakeholders devised a program to monitor waterfowl numbers near well sites and suspend extraction activities when particularly high concentrations of waterfowl occur. The Alberta Government defined the threshold as 600 individuals (ducks/geese) within 30 m of a well site. Alberta Conservation Association's role in this program is to monitor waterfowl numbers and advise the Energy Resources Conservation Board (ERCB) in the event this threshold limit occurs. The ERCB has the regulatory role and the authority to initiate cessation of well production activities.

The main objectives of this project were to: 1) survey waterfowl concentrations at producing oil and gas wells within the complex during spring and fall migration periods and report waterfowl congregations to the ERCB if the threshold was exceeded; 2) estimate the number of staging waterfowl within the complex during spring and fall migration periods; and 3) conduct a one-day survey of bald eagle nests within the complex.

Methods

We flew aerial surveys weekly during spring and fall migration periods (April 29 to May 27 and August 26 to October 7, 2009). Surveys occurred at approximately 30 m altitude at 60 to 100 km/h over each well site and along established transects (Saxena et al. 1995, Schaffe and Wright 1997) over the wetland complex. We counted waterfowl observed within a 30-m radius of well sites and identified these to species, where possible. The protocol includes an immediate notification to ERCB if the threshold concentration of waterfowl is observed. ERCB then determines whether well suspension procedures should be initiated. For staging waterfowl estimates, we recorded all waterfowl observed within 200 m of the survey route for a cumulative number of waterfowl observed per survey.

We flew a one-day survey searching for bald eagle nests by covering all areas of the complex presumed to have suitable eagle nesting habitat. We recorded the number of adults, young and eggs, as well as the status of the nest: brooding (eggs or brooding adults present); rearing (young in nest); empty (no evidence of current year use); absent (nest not found at historical location).

Results

We monitored 15 well sites in 2009, with 14 of these having waterfowl within 30 m on at least one survey date. Waterfowl concentrations did not exceed threshold limits over the spring or fall period. The highest numbers recorded at a well site were 591 ducks during spring migration and 480 ducks during fall migration.

We observed the maximum number of staging waterfowl within the complex in spring during the first week of May (n = 41,064 ducks and 6,354 geese), and during the third week of September in fall (n = 49,550 ducks and 99 geese).

The most abundant species identified during the spring was northern pintail (*Anas acuta*) and during the fall was mallard (*A. platyrhynchos*) (Figure 1). Unidentified ducks accounted for 10.3% of ducks observed in spring flights and 21.2% during fall flights.

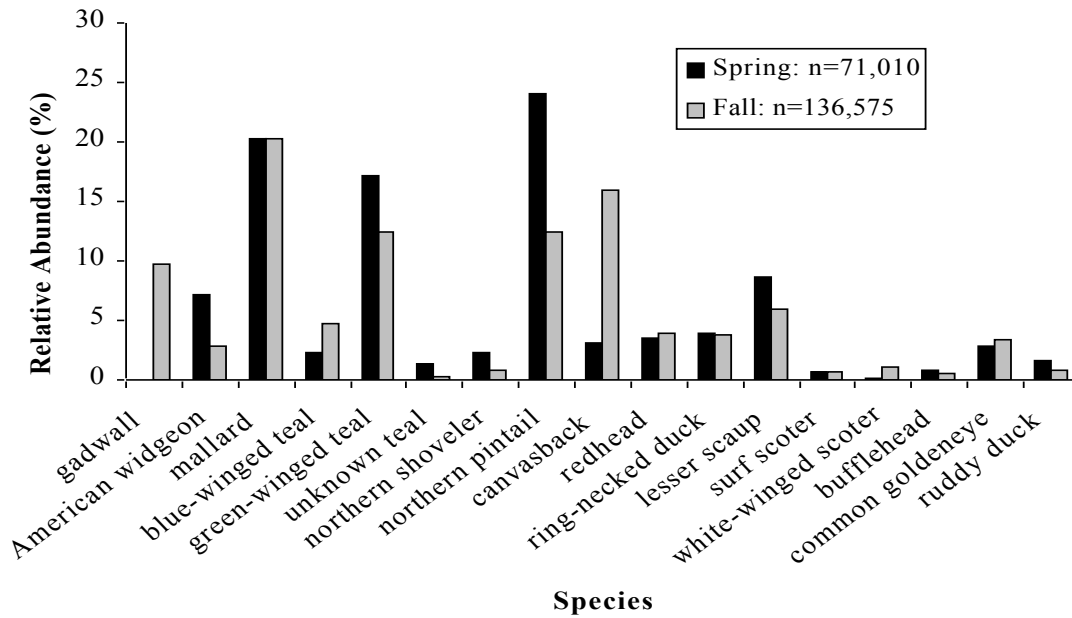


Figure 1. Relative abundance of identified duck species observed during the 2009 spring and fall monitoring flights in the Hay-Zama survey area in Alberta (10.3% during spring and 21.2% during fall were unidentified).

We located six active bald eagle nests during the eagle nest survey on June 3. Brood size ranged from one to two eaglets and at least one adult eagle was present at each of the six active nests. Two nests commonly used by nesting pairs in past years were absent during the survey on June 3.

Conclusions

Waterfowl densities at well sites remained below threshold levels for the 2009 migration periods. Consequently, ERCB did not require suspension of production for any well site on the complex in 2009. The number of active bald eagle nests observed was within the range of past observations (3 – 7 nests).

Communications

- Presentation to the Hay-Zama Committee at their annual spring and fall meetings.

Literature Cited

Saxena, A.J., A. Bentz, and D. O'Leary. 1995. Wildlife monitoring program, 1994, Hay-Zama Lakes, Alberta. Prepared by Geowest Environmental Consultants Ltd. for Granisko Resources Inc., Edmonton, Alberta, Canada. 99 pp.

Schaffe, C.M., and K.D. Wright. 1997. Hay-Zama Lakes biological study. Alberta Environmental Protection, Peace River, Alberta, Canada. 16 pp.

Photos



Pilot, Matt Schefter (right), aligning his R-44 aircraft for project leader, Ken Wright (left), to count waterfowl on a well site during an aerial survey of the Hay-Zama Lakes complex. (Photo: Lyle Fullerton)



Ducks taking flight at an offshore well site on the Hay-Zama Lakes complex. (Photo: Ryan Hermanutz)



Offshore oil wells on the Hay-Zama Lakes complex. (Photo: Lyle Fullerton)



Wood bison grazing on a levee which separates Omega River and Hay Lake. (Photo: Lyle Fullerton)