

Alberta Conservation Association 2010/11 Project Summary Report

Project Name: *Hay Zama Wetland Monitoring*

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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 survey week in spring, and during the fourth survey week in fall.
- Northern pintail was the most common duck species observed during spring and mallard during fall.
- Observed eight active bald eagle nests with a total of 12 eaglets on the complex in 2010. These broods ranged from one to three eaglets.

Introduction

The Hay-Zama Lakes complex is a 48,000-hectare 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 (ACA) role in this program is to monitor waterfowl numbers and advise the Energy Resources Conservation Board (ERCB) in the event this threshold limit occurs. ERCB has the regulatory role and the authority to initiate cessation of well production activities.

Our 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 ERCB if the thresholds are 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 28 to May 26 and September 2 to October 14). Surveys were flown 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. The ERCB would then determine 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. The number of adults, young and eggs were recorded, 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); and absent (nest not found at historic geographic location).

Results

We monitored 15 well sites in 2010, with 12 of 15 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 38 ducks during spring migration and 535 ducks during fall migration.

We observed the maximum number of staging waterfowl within the complex in spring during the first spring survey date (April 28; n = 34,708 ducks and 104 geese), and during the fourth survey date in fall (September 23; n = 40,481 ducks and 2,133 geese).

Northern pintail (*Anas acuta*) was the most abundant species identified during spring, and mallard (*A. platyrhynchos*) was the most abundant species identified during fall (Figure 1). Unidentified ducks accounted for 8.1% of ducks observed in spring and 11.6% of ducks observed during fall flights.

We located eight active bald eagle nests on the June 9 eagle nest survey. Brood size ranged from one to three eaglets, and at least one adult eagle was present at each of the eight active nests. Two nests commonly used by nesting pairs in past years were absent on the June 9 survey and we found one additional nest which had not been observed in past surveys.

Conclusions

Waterfowl densities at the well sites remained below threshold levels for 2010 migration periods. Consequently, ERCB did not require suspension of production for any well sites in 2010. The number of active bald eagle nests observed exceeded all past observations (range = 3 – 7).

Communications

- Presentations to the Hay-Zama Committee at their annual spring and fall meetings.
- Hay-Zama Lakes Monitoring Program reports from 1995 – 2009 and a summary of 2010 results are posted on the Hay-Zama Committee website (www.hay-zama.org).

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.