

## **Alberta Conservation Association 2013/14 Project Summary Report**

**Project Name:** Hay-Zama Wetland Monitoring

**Wildlife Program Manager:** Doug Manzer

**Project Leader:** Ken Wright

**Primary ACA staff on project:**

Ken Wright

### **Partnerships**

Hay-Zama Committee  
NuVista Energy Ltd.

### **Key Findings**

- We monitored waterfowl concentrations at 13 active well sites over 13 weekly visits in spring and fall 2013.
- We observed the highest number of staging waterfowl during mid-May in spring and during late September in fall.
- Mallard was the most common duck species observed in spring and fall.
- We observed nine active bald eagle nests with a total of 15 eaglets on the complex in 2013. Broods ranged from one to two eaglets.

### **Introduction**

The Hay-Zama Lakes complex (HZLC) is a 48,000 ha collection of lakes, rivers and wetlands with active 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 monitors waterfowl numbers and advises Alberta Energy Regulator (AER) in the event this threshold limit occurs. AER has the regulatory role and authority to initiate cessation of well production activities.

The main objectives of this project are 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 AER if 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 (May 9 to 31 and September 5 to October 18). Surveys were flown in a rotary aircraft over each well site and along established transects over the wetland complex. We counted waterfowl observed within a 30 m radius of well sites and identified species where possible. The protocol includes an immediate notification to AER if the threshold concentration of waterfowl is observed. AER would then determine whether well suspension procedures should be initiated. For staging waterfowl estimates, we flew around the perimeter (approximately 200 m from the shoreline) of all major wetlands in the HZLC to count the number of waterfowl 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); or absent (nest not found at historical location).

## Results

We monitored 13 well sites in 2013/14 and found that waterfowl were within 30 m on at least one survey date for 10 of the 13 well sites. Waterfowl concentrations did not exceed threshold limits over the spring or fall period. The highest numbers recorded at a well site were 195 ducks during spring migration and 215 ducks during fall migration.

We observed the maximum number of staging waterfowl within the complex during the first survey date in spring (May 9;  $n = >18,000$  ducks and 5,000 geese) and the third survey date in fall (September 20;  $n = >46,000$  ducks and 20,000 geese).

Mallard (*Anas platyrhynchos*) was the most abundant species identified during spring and fall (Figure 1). Unidentified ducks accounted for 4.7% of ducks observed during spring and 4.5% observed during fall.

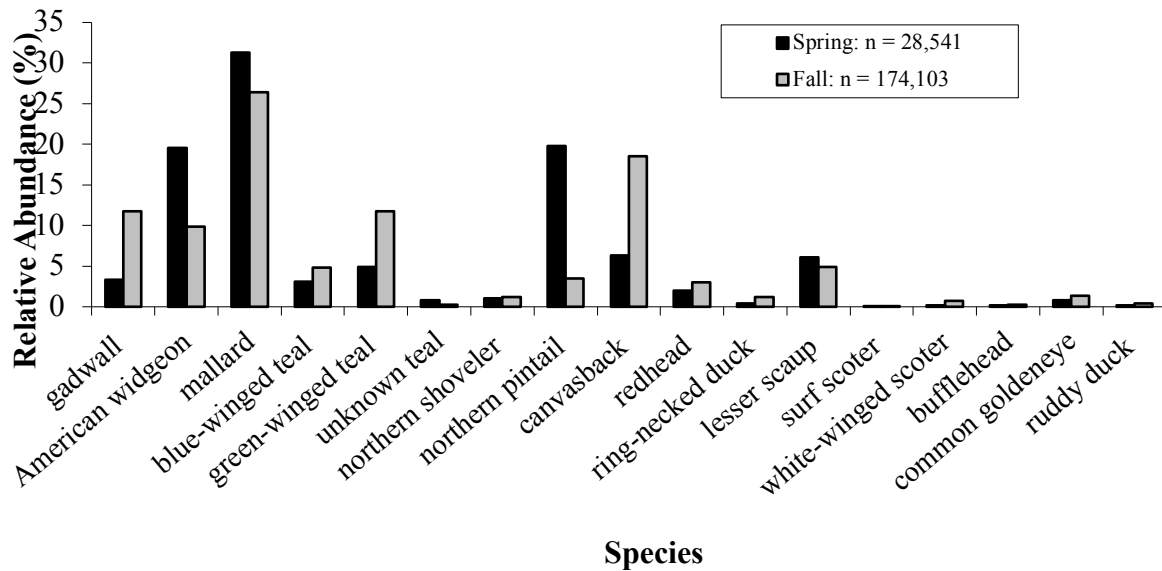


Figure 1. Relative abundance of identified duck species observed during the 2013 spring and fall migration periods in the Hay-Zama Lakes complex (4.7% during spring and 4.5% during fall were unidentified).

We located nine active bald eagle nests with a total of 15 eaglets during the eagle nest survey on June 6. Brood size ranged from one to two eaglets. Seven nests commonly used by nesting pairs in past years were absent during the survey.

## Conclusions

Waterfowl densities at the well sites remained below threshold levels for 2013 migration periods. Consequently, AER did not suspend production of any well site in 2013. The number of active bald eagle nests observed was greater than for past observations (range = 3 – 7).

## Communications

- Posted Hay-Zama Lakes Monitoring project reports from 1995 to 2012 and a summary of 2013 results on the Hay-Zama Committee website ([www.hay-zama.org](http://www.hay-zama.org)).

## Photo Captions



Hay-Zama Lakes complex. Photo: Lyle Fullerton  
[filename: Photo1\_Hay-Zama\_2013-14\_Lyle Fullerton.jpg]



Alberta Conservation Association staff member Ken Wright and pilot approach an offshore well site. Photo: Lyle Fullerton  
[filename: Photo2\_Hay-Zama\_2013-14\_Lyle Fullerton.jpg]





Offshore well cluster and helipad. Photo: Lyle Fullerton  
[filename: Photo3\_Hay-Zama\_2013-14\_Lyle Fullerton.jpg]