



Illinois Wesleyan University Digital Commons @ IWU

John Wesley Powell Student Research
Conference

2011, 22nd Annual JWP Conference

Apr 9th, 9:00 AM - 10:00 AM

Winter Abundance of Red-Tailed Hawks (*Buteo jamaicensis*) and American Kestrels (*Falco sparverius*) in Human-Altered Landscapes in Northeastern and Central Illinois

Anna Groves

Illinois Wesleyan University

Vic Berardi, Faculty Advisor

Illinois Beach State Park Hawk Watch

Paul Sweet, Faculty Advisor

Illinois Beach State Park Hawk Watch

Angelo Capparella, Faculty Advisor

Illinois State University

Gretchen Knapp, Faculty Advisor

Illinois State University

See next page for additional authors

Follow this and additional works at: <http://digitalcommons.iwu.edu/jwprc>

 Part of the [Environmental Sciences Commons](#)

Groves, Anna; Berardi, Faculty Advisor, Vic; Sweet, Faculty Advisor, Paul; Capparella, Faculty Advisor, Angelo; Knapp, Faculty Advisor, Gretchen; and Harper, Faculty Advisor, Given, "Winter Abundance of Red-Tailed Hawks (*Buteo jamaicensis*) and American Kestrels (*Falco sparverius*) in Human-Altered Landscapes in Northeastern and Central Illinois" (2011). *John Wesley Powell Student Research Conference*. 10.

<http://digitalcommons.iwu.edu/jwprc/2011/posters/10>

This Event is brought to you for free and open access by The Ames Library, the Andrew W. Mellon Center for Curricular and Faculty Development, the Office of the Provost and the Office of the President. It has been accepted for inclusion in Digital Commons @ IWU by the faculty at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.

©Copyright is owned by the author of this document.

Presenter Information

Anna Groves; Vic Berardi, Faculty Advisor; Paul Sweet, Faculty Advisor; Angelo Capparella, Faculty Advisor; Gretchen Knapp, Faculty Advisor; and Given Harper, Faculty Advisor

Poster Presentation P19

WINTER ABUNDANCE OF RED-TAILED HAWKS (*BUTEO JAMAICENSIS*) AND AMERICAN KESTRELS (*FALCO SPARVERIUS*) IN HUMAN-ALTERED LANDSCAPES IN NORTHEASTERN AND CENTRAL ILLINOIS

Anna Groves¹, Vic Berardi², Paul Sweet³, Janice Sweet³, Angelo Capparella⁴, Gretchen Knapp⁴,
and Given Harper*⁵

¹Environmental Studies Program, Illinois Wesleyan University

²Hawk Migration Association of North America, Illinois Beach State Park Hawk Watch, Zion, IL

³Illinois Beach State Park Hawk Watch, Zion, IL

⁴School of Biological Sciences, Illinois State University, Normal, IL

⁵Department of Biology, Illinois Wesleyan University

Though Red-tailed Hawks and American Kestrels are among the most common raptors found across North America, no study has examined their winter abundance in Illinois since 1967. This study investigated their winter abundance using five years (2004-05 through 2008-09) of winter (December-March) automobile survey results (201 surveys) in northeastern and central Illinois using a standardized survey technique. In northeastern Illinois, red-tails were most abundant in 2004-05 (145.6 median/1000 km) and least abundant in 2006-07 (63.8); the highest number was observed in March and the lowest in February. In central Illinois, red-tails were most abundant in 2008-09 (228.3 median/1000 km) and least abundant in 2004-05 (112.4); the highest number was observed in February and the lowest in December. There were no significant effects of year (northeast, $P=0.14$; central, $P=0.44$) or month (northeast, $P=0.58$; central, $P=0.51$) on red-tail abundance in either region. Adults were observed 9.0 times more frequently than immatures. In northeast Illinois, kestrels were most abundant in 2006-07 (38.8 median/1000 km) and least abundant in 2004-05 (15.2); abundance was highest in January and lowest in March. In central Illinois, kestrels were most abundant in 2005-06 (88.8 median/1000 km) and least abundant in 2004-05 (35.5); abundance was highest in February and lowest in January. There was no significant effect of month (northeast, $P=0.87$; central, $P=0.40$) on kestrel abundance, or of year ($P=0.21$) in northeast Illinois. In contrast, there was a significant effect of year ($P=0.003$) on kestrel abundance in central Illinois. In all surveys males were observed 1.7 times more frequently than females