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](http://digitalcommons.iwu.edu/jwprc)

Part of the [Environmental Sciences Commons](http://digitalcommons.iwu.edu/jwprc)

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.

WINTER ABUNDANCE OF RED-TAILED HAWKS (*Buteo Jamaicensis*) AND AMERICAN KESTRELS (*Falco Sparverius*) IN HUMAN-ALTERED LANDSCAPES IN NORTHEASTERN AND CENTRAL ILLINOIS

Anna Groves\(^1\), Vic Berardi\(^2\), Paul Sweet\(^3\), Janice Sweet\(^3\), Angelo Capparella\(^4\), Gretchen Knapp\(^4\), and Given Harper\(^5\)

\(^1\)Environmental Studies Program, Illinois Wesleyan University
\(^2\)Hawk Migration Association of North America, Illinois Beach State Park Hawk Watch, Zion, IL
\(^3\)Illinois Beach State Park Hawk Watch, Zion, IL
\(^4\)School of Biological Sciences, Illinois State University, Normal, IL
\(^5\)Department 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.