In this installment of Raptor Science Digest, we review new raptor research developments across a diversity of subjects, including nest and perch management, wind power, road mortality, and survey techniques.

Nest and Perch Management

Recently published research from the Uintah Basin of Utah suggests Ferruginous Hawks nested in areas proximate to more active oil and gas wells, perhaps due to overlap between development and productive prey habitats (Keough and Conover 2012). However, the authors do acknowledge that overall breeding activity in the basin has declined over the last two decades. HawkWatch previously conducted research in Wyoming that suggested a positive association between Ferruginous Hawk nest activity and natural gas development, also likely driven by prey resources (see BLM Tech Note 434).

Long-term research from the Snake River Birds of Prey National Conservation Area (SRBPNCA) has provided valuable new insights into Golden Eagle nest management (Kochert and Steenhof 2012). With 45 years of data to draw upon, the authors report that time between reuse ranged from 1 to 39 years; further, protecting unused nests for 10 years would have protected only 66% of all 300 nests observed to be reused during the study (typically, land management agencies prescribe only 3-7 years of nest protection for inactive nests...). Most adjacent alternate nests within territories were within 500 meters of each other, but the maximum distance recorded was 1,822 m. Additional information is provided by the authors on nest deterioration, nest switching, etc.

Research in southeastern Colorado suggests deterrent devices can be effective in reducing Chihuahuan Raven nesting on H-frame transmission line structures (Dwyer and Leiker 2012). Ravens are a concern throughout the West given their increasing abundance and propensity to prey on species of concern, such as sage-grouse. Similarly, HawkWatch research (see Slater and Smith 2010) and other publications support the premise that deterrent devices can be a useful tool for the management of raptor and raven use of power line structures.

Wind Power and Raptors

A publication is now available summarizing the working group conclusions of 30 scientists convened in 2009 to identify research priorities for birds and bats in relation to wind power development (Piorkowski et al. 2012). The bottom line: We need to improve impact evaluation through standardized methods, development of new methods for predicting risk, chronicling of effects at existing wind facilities, and improved access to existing wind facilities and their impact data.

Representatives of The Nature Conservancy and World Wildlife Fund recently identified areas within the northern Great Plains suitable for wind development and with minimal potential for impact on wildlife (Fargione et al. 2012). The authors report abundant opportunities for wind development on already disturbed lands: ~1,000 GW!
For perspective, consider that total wind energy production across the entire U.S. is currently ~52 GW. Of course, actual siting of wind facilities is dependent on more than just the wind and wildlife resources...

Golden Eagle telemetry research in eastern North America has shed additional light on the potential for conflict with wind facilities during migration in relation to local topography (Katzner et al. 2012). Not surprisingly, the authors found that birds engaged in active migration flew at higher altitudes relative to birds making more localized movements. Additionally, eagles flew higher over relatively flat topography (where thermals can develop) compared to ridges and cliffs. So, birds flying locally over ridgelines are likely at greater risk of turbine strikes relative to migrating birds or birds flying over flatter areas.

Road Mortality

A sobering study from southern Idaho documented 812 dead Barn Owls along a 248-km stretch of I-84 in just 2 years of survey (Boves and Belthoff 2012). The authors estimate owl mortality rates approached 6 owls/km/year! Unfortunately, the contributing factors are not entirely clear, but likely include vegetation management and prey abundance near the road.

Survey Techniques

Locating and monitoring nesting raptors can be challenging and time consuming work. Recent research in the Mojave Desert suggests broadcast surveys may be used to locate occupied Peregrine Falcon territories quickly and with high success, especially during the courtship stage (Barnes et al. 2012). If you’re involved in falcon work, see this publication for details.

Literature Cited


If you have any questions about raptors or the Raptor Science Digest, please contact us:

Steven Slater, Ph.D.
Conservation Science Director
801-484-6808 ext 108
sslater@hawkwatch.org

HawkWatch International
2240 S 900 E
Salt Lake City, UT 84106
(801) 484-6808
1-800-726-HAWK
www.hawkwatch.org