

Environmental Services for
RAPTORS

ABR's staff combines field and analytical skills with practical knowledge of raptor ecology to produce a powerful research team capable of handling existing and emerging issues for industry and resource agency clients. Since 1976, we have conducted hundreds of studies in 19 US states, Mexico, and Europe. Our scientists have been involved with a wide variety of raptor research including endangered species studies, radio telemetry, migration studies, aerial and ground surveys, banding, stable isotope and contaminant analysis, and population monitoring studies. We have designed and analyzed data to assess spatial and temporal activity patterns, collision potential, and fatality estimates of birds at wind turbines, meteorological towers, and transmission lines. Our research has been published in numerous peer-reviewed journals. We provide both broad coverage and experience with a wide range of species and topics. Services include:

- » Eagle Conservation Plans (ECPs) and permitting
- » Bald and Golden Eagle Protection Act surveys
- » Mitigation plans, NEPA documents, Section 7 Consultations, etc.
- » Endangered species surveys and risk assessment
- » Collision risk modeling
- » Post-construction fatality monitoring
- » Raptor nest surveys (aerial, land, water)
- » Raptor abundance and behavior studies at wind projects in the US and Mexico
- » Raptor migration studies in the US, Mexico, and Spain
- » Raptor disturbance studies: Bald Eagle and Peregrine Falcon studies at road, pipeline, and timber construction projects
- » Northern Spotted Owl protocol surveys
- » Northern Goshawk protocol surveys
- » Long-term population monitoring studies (e.g., Peregrine Falcon)
- » Raptor banding (mist nets, dho-gaza, bal-chatri, baited traps)
- » Satellite and VHF transmitter tracking techniques



Research Team

ROBERT J. RITCHIE, Principal/Senior Scientist, Raptor Biologist. Over 40 years experience working with Peregrine Falcons, Bald and Golden eagles, and other raptors.

JOHN SHOOK, Senior Scientist, Raptor Biologist. MS in Raptor Biology. Over 20 years experience in population dynamics, predator/prey relationships, and behavioral and dietary studies of raptors.

ROBERT M. BURGESS, Senior Scientist, Research Coordinator. MS in Wildlife Management. Nearly 40 years' experience with bird and mammal studies, NEPA, and management of utility-related projects.

GERALD V. FROST, JR., Senior Scientist. PhD in Environmental Sciences. Nearly 16 years' experience including habitat-use relationships for breeding birds.



REPRESENTATIVE PROJECTS



Todd Mabee (center) at La Venta II Wind Project, Mexico



Swainson's Hawk



Young Golden Eagle

BALD AND GOLDEN EAGLE RESEARCH

Eagle Conservation Plan Studies and Permitting

- » Prepared eagle take permits and conducted associated field studies: migration point counts, aerial nest surveys and nest monitoring, collision modelling, and fatality searches (Eva Creek Wind, 2010–Present; Susitna-Watana 2012–Present).

Distribution and Abundance Studies

- » Conducted year-round eagle point-count surveys at wind-energy and restoration sites in Alaska, Oregon, and California (2011–Present).

Nesting and Migration Studies

- » Mapped and monitored Golden Eagle nest sites in central and southern Oregon as part of a statewide survey effort (Oregon Eagle Foundation, 2010–Present).
- » Bald and Golden Eagle nesting and migration surveys (Golden Valley Electric Association, Alaska, 2009–2011).
- » Golden Eagle nesting and migration surveys (Delta River Windfarm, Alaska, 2009–2010).
- » Nesting surveys for Bald Eagle (Alaska Railroad, 2007–2009).
- » Aerial nesting surveys for Golden Eagles, Northern Goshawks, Bald Eagles, and other raptors (US Air Force Interior Alaska Military Operations Area, 1995–2004).
- » Mapped raptor nest distribution (including Golden Eagles) by conducting aerial surveys in the National Petroleum Reserve (BLM and USFWS, Alaska, 1977 and 1999).

Disturbance Studies

- » Monitored nesting Bald Eagle reproductive parameters and behaviors during disturbance events such as blasting, land clearing, road construction, wind-energy project development, and powerline construction at several projects throughout Alaska, including the Fire Island Windfarm. Proposed temporal and spatial mitigation plans. (2007–2010).

Banding Studies

- » Assisted with capture and banding of Golden Eagles and other raptors in western Montana (Raptor View Research Institute, 2005).
- » Golden Eagle banding and nest monitoring on the Porcupine River, Alaska (USFWS, Alaska, 1979–2009; Denali National Park, Alaska, 2001).
- » Long-term banding and nest monitoring of Bald Eagles along the Tanana River, Alaska (USFWS and Alaska Department of Fish and Game, 1976–1994).

RAPTOR STUDIES

Aerial and Ground-based Raptor Nest Surveys in the Western and Central US, 2005–Present

- » Conducted aerial and ground-based raptor nest surveys for Golden Eagle, Bald Eagle, Swainson's Hawk, Red-tailed Hawk, Prairie Falcon and other raptors at proposed wind-energy projects in Alaska, Washington, Oregon, California, Wyoming, Colorado, & Texas.

Raptor Abundance and Movement Pattern Studies, Alaska, Washington, Oregon, California, Colorado, 2002–Present

- » Conducted point count surveys for raptors and mapped raptor flight paths at proposed wind-energy projects.

Broadcast Acoustical Surveys for Raptors in Southeastern Alaska, 2010

- » Performed extensive surveys for goshawks and Bald Eagles in high priority old-growth nesting habitats for a timber sale on Wrangell Island as part of a land management plan for the US Forest Service.

Northern Hawk Owl Research, Alaska, 2000–2001

- » Conducted behavioral observations, videography, and dietary analysis of nesting owls.

Collision Avoidance Studies

- » Observed Turkey Vultures, Swainson's Hawks, Broad-winged Hawks and other raptors detecting and avoiding wind turbines and meteorological towers during fall migration (Oaxaca, Mexico, 2008).
- » Observed raptors interacting with wind turbines during winter migration, measured bird mortality, and developed mitigation plan (Tarifa, Spain, 1994–1996).

ENDANGERED SPECIES STUDIES

Spotted Owl Surveys in the Pacific Northwest, 1997–2012

- » Conducted Spotted Owl surveys in several large industrial tree farms in Oregon, using USFWS survey protocols.

Surveys for Endangered Peregrine Falcons (Tanana River, 1996–Present, Yukon-Tanana Uplands, 1995–2004)

- » Monitored behavioral responses of Peregrine Falcons nesting along the Alyeska Pipeline to helicopter and US Air Force overflights and vehicle and pedestrian traffic. Used results to minimize stress and improve nesting success of birds.



Peregrine Falcon



ABR, Inc.—Environmental Research and Services, is a growing and diverse firm founded in 1976. It specializes in fish and wildlife studies, aquatic sciences, ecological restoration, wetland sciences, impact assessment, ecological support for risk assessment, and GIS mapping and analyses. Our efforts to seek practical solutions for our clients' needs—within the framework of company resource stewardship, community support, and economic viability—have been prominent in our evolution. For more information visit our website www.abrinc.com or contact us directly.

Clients

Alaska Department of Fish and Game
• Alaska Department of Transportation
• Alaska Railroad • Alyeska Pipeline Company • Bureau of Land Management
• Chuitna Coal • CIRI (Cook Inlet Region Inc.)—Fire Island Wind • ConocoPhillips Alaska Inc. • David Evans & Associates • Dryden & LaRue, Inc. • E.ON Climate & Renewables • Ester Dome mine • Golden Valley Electric Association • Iberdrola Renewables • Invenergy • Jualin Mine
• National Park Service • Office of the Federal Inspector • Oregon Eagle Foundation • Patrick Engineering Inc. • Pebble Mine • Plum Creek Timber Company
• POGO mine • RES-Americas • Seneca Jones Timber Company • Shell Wind Energy
• SWCA • Weyerhaeuser • Willamette Industries • US Fish and Wildlife • US Air Force • US Forest Service



Spotted Owl

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