

# WERC on Migratory Bird Studies

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The **Western Ecological Research Center (WERC)** is a USGS science center serving California, Nevada and the greater Pacific Southwest — the most ecologically diverse geographic region in the U.S. and a key corridor for many migratory birds in the Americas.

WERC researchers collaborate with local, state, federal and international partners to explore timely topics in migratory bird research, providing independent science on topics including avian influenza transmission, wind energy interactions, climate change impacts, mercury effects on avian reproduction and endangered species status and trends. From DNA microsatellite analyses to field methodology development, WERC applies sound science to today's migratory bird research questions.



## WERC Migratory Bird Research Highlights

- Describing movements and home range of **Greater and Lesser Sandhill Cranes** wintering in central California and the San Joaquin Delta. (Dixon Field Station)
- Monitoring landbird migration at **Cabrillo National Monument**, California. (San Diego Field Station)
- Determining **mercury bioaccumulation** and toxicity of breeding birds in San Francisco Bay and the Great Basin. (Davis Field Station)
- Scientific support to Central Valley, SF Bay, Pacific Coast, Arctic Goose and Intermountain West **Joint Venture** programs. (Dixon Field, SF Bay Field Stations)
- Comprehensive studies on **Northern Pintail** migration and habitat via satellite tracking, and on other waterfowl movements along the **Southern Oregon-Northeastern California (SONEC)** region. (Dixon Field Station)
- Evaluating the effects of projected **sea level rise** on SF Bay tidal marsh habitats. (SF Bay Estuary Field Station)
- Working with international researchers to assess **avian influenza (H5N1) transmission risk** through migratory corridors of Bar-Headed Goose, Northern Pintails and other species via satellite tracking, with partners in Egypt, Mongolia, Japan, China, Bangladesh, Kazakhstan, India, Turkey and United Nations FAO. (SF Bay Estuary)
- Satellite tracking of trans-Pacific migration of **Sooty Shearwater** and collaborative studies on **Black-footed Albatross**. (SF Bay Estuary Field Station)
- Sea duck research, including post-rehabilitation monitoring and response of surf scoters after **oil spill exposure**. (SF Bay Estuary Field Station)
- Collaborative reporting on **spring shorebird migrations** from Mexico to Alaska. (SF Bay Estuary Field Station)
- Long-term banding and monitoring to assess avian productivity and survival at **USMC Camp Pendleton, CA**. (San Diego Field Station)
- Providing **statistical analysis support** for long-term survey and reporting on waterfowl migration on Klamath Basin National Wildlife Refuges. (WERC Headquarters)
- Statistical review and independent oversight of raptor mortality data from **Altamont Pass wind energy project** in California. (WERC Headquarters)
- **Stable isotope and population genetics** sampling and analysis for CA bird species. (San Diego Field Station)
- Long-term studies on population structure, genetics and habitat use of **Southwestern Willow Flycatcher** and **Least Bell's Vireo**. (San Diego Field Station)
- Life history studies of the endangered **Hawaiian Petrel**. (SF Bay Estuary Field Station)

## WERC Field Stations with Migratory Bird Studies

### Channel Islands Field Station

<http://www.werc.usgs.gov/channelislands>

Kevin D. Lafferty, [klafferty@usgs.gov](mailto:klafferty@usgs.gov)  
Kathryn McEachern, [kathryn\\_mceachern@usgs.gov](mailto:kathryn_mceachern@usgs.gov)

### Davis Field Station

<http://www.werc.usgs.gov/davis>

Josh T. Ackerman, [jackerman@usgs.gov](mailto:jackerman@usgs.gov)

### Dixon Field Station

<http://www.werc.usgs.gov/dixon>

Michael L. Casazza, [mike\\_casazza@usgs.gov](mailto:mike_casazza@usgs.gov)  
Joseph P. Fleskes, [joe\\_fleskes@usgs.gov](mailto:joe_fleskes@usgs.gov)  
Roger L. Hothem, [roger\\_hothem@usgs.gov](mailto:roger_hothem@usgs.gov)

### San Diego Field Station

<http://www.werc.usgs.gov/sandiego>

Robert N. Fisher, [rfisher@usgs.gov](mailto:rfisher@usgs.gov)  
Barbara E. Kus, [barbara\\_kus@usgs.gov](mailto:barbara_kus@usgs.gov)  
Amy Vandergast, [avandergast@usgs.gov](mailto:avandergast@usgs.gov)

### San Francisco Bay Estuary Field Station

<http://www.werc.usgs.gov/sfbe>

John Y. Takekawa, [john\\_takekawa@usgs.gov](mailto:john_takekawa@usgs.gov)

### WERC Headquarters

<http://www.werc.usgs.gov/>

Julie L. Yee, [julie\\_yee@usgs.gov](mailto:julie_yee@usgs.gov)

## Other WERC Field Stations

**Box Springs Field Station** <http://www.werc.usgs.gov/boxsprings>

**Las Vegas Field Station** <http://www.werc.usgs.gov/lasvegas>

**Point Reyes Field Station** <http://www.werc.usgs.gov/pointreyes>

**Redwood Field Station** <http://www.werc.usgs.gov/redwood>

**Santa Cruz Field Station** <http://www.werc.usgs.gov/santacruz>

**SAMO Field Station** <http://www.werc.usgs.gov/samo>

**SEKI Field Station** <http://www.werc.usgs.gov/seki>

**Yosemite Field Station** <http://www.werc.usgs.gov/yosemite>

## WERC Partners

- United Nations • Bureau of Land Management • National Park Service • CA Landscape Conservation Cooperative • U.S. Fish and Wildlife Service • CA Department of Fish and Game • PRBO
- Ducks Unlimited • U.S. Marine Corps • San Diego Association of Governments • International Sea Duck Conference • South Bay Salt Pond Restoration Project • CA Sea Grant • Army Corps of Engineers • Moss Landing Marine Laboratories • TNC

## WERC Research Highlights (Cont'd):

- **Snowy Plover** breeding and response to disturbance and restoration. (Channel Islands Field Station)
- Collaboration on PRBO San Francisco Bay Area State of the Birds Report. (Davis Field Station)
- Monitoring the movement and impact of **California Gull** colonies in SF Bay in support of the South Bay Salt Pond Restoration Project. (Davis Field Station)
- Creating a comprehensive **geospatial database** for seabird data. (Dixon and SF Bay Estuary Field Stations)
- Working with NPS on habitat restoration benefiting **Cassin's Auklet** colonies. (SF Bay Estuary Field Station)
- Incorporating oceanographic data and seabird diving and migration data to assess **climate change impacts** on food availability/access. (SF Bay Field Station)
- Developing a **rice availability assessment method** for post-harvest rice fields in CA. (Dixon Field Station)
- Analyzing the use of restored riparian habitat by endangered songbirds. (San Diego Field Station)
- Avian interactions with energy transmission corridors in the NV **sagebrush-steppes**. (Dixon Field Station)
- Management recommendations for seabird nesting in Palmyra Atoll NWR. (San Diego Field Station)

## Resources for Migratory Bird Managers

### WERC PUBLICATION BRIEFS

Academic findings published by WERC scientists delivered as concise, one-page briefings with management implications, written especially for resource managers. Full list online:

<http://www.werc.usgs.gov/PublicationBriefs.aspx>

### WERC EVENTS LISTING

Interact directly with WERC scientists at upcoming workshops and conferences. Search calendar online:

<http://www.werc.usgs.gov/Events.aspx>

### WERC RESOURCE MANAGERS PORTAL

Search for wind and solar energy topics in our Products Database, or learn more about WERC field stations. Online at:

<http://www.werc.usgs.gov/OutreachForResourceManagers.aspx>

### FOR MORE INFORMATION, CONTACT:

#### WERC Center Director

Steven E. Schwarzbach, [steven\\_schwarzbach@usgs.gov](mailto:steven_schwarzbach@usgs.gov)

#### WERC Outreach and Communications Coordinator

Ben Young Landis, [blandis@usgs.gov](mailto:blandis@usgs.gov)

To propose collaborations, projects and workshop invitations, or to inquire about specific research findings and products, please feel free to contact the lead scientist or field station directly.