



Marla Steele, Ph.D.

Senior Ecologist & Project Manager

Qualifications

Dr. Steele is a highly skilled ecologist with a decade of experience managing large and small projects in wildlife ecology, governmental environmental policies, wind industry mitigation, wetland restoration plans, and endangered species assessments in North America, Central America, and Asia. Marla has utilized a wide range of GIS and statistical software programs to complete project objectives efficiently and accurately. She has also worked extensively with large birds of prey throughout Asia and North America, including species such as Golden Eagle, Pallas's Fish Eagle, and Cinereous Vulture. Marla has a proven track record of seeing complex projects through to completion, whether they involve the challenging logistics of conducting field work in a third-world country, or the development of analytical models to address complex ecological questions.

Professional Experience

With Bloom Biological, Inc. and Bloom Research, Inc.

Environmental Consultant, February – June 2017

- Served as grant writer for a multi-year endangered species project
- Managed and analyzed data for various on-going research using Microsoft Office and R programming
- Assisted with client reporting and technical recommendations for construction projects.

Raptor Biologist, December 2016 – June 2017

- Mastered techniques to safely capture and handle eagles, hawks, vultures, falcons, and owls, including bal-chatri, noose carpets, and bow nets
- Assisted in the processing of >150 adult and nestling raptors, including banding, drawing blood, collecting morphological measurements and fitting with Teflon ribbon backpacks or patagial wing tags for multiple projects
- Conducted surveys for breeding raptors in California and Nevada

Denver Zoological Foundation, Denver, CO

Research Associate, April – August 2018

- Create a spatially explicit, three-dimensional wind turbine risk assessment model for non-obligate, semi-obligate, and obligate soaring migrant raptors in the East Asia Flyway to create a risk probability map that will be made available to the general public
- Coordinate and develop curriculum for educational raptor conservation Workshops and Denver Zoo staff
- Instruct representatives in wind industry, government, and non-government conservation organizations to develop region-specific risk probability maps and facilitate communication between stakeholders via educational workshops

- Provide a modelling tool that informs management decisions to reduce take/mortality of migrant raptors
- Attend an eight-week online course on ArcGIS 10.0 – 10.6 Linkage Mapper to learn techniques for wildlife connectivity analyses to automate mapping and prioritization of wildlife habitat corridors.

Hawk Mountain Sanctuary Association, Kempton, PA

Research Associate, February – August 2018

- Collaborate with the Royal Government of Bhutan's Department of Forest and Park Services to develop a monitoring and conservation program for Pallas's Fish Eagles in Bhutan
- Provide training to forestry officers in raptor research management and field techniques

Idaho Cooperative Research Unit, Las Vegas, NV

Burrowing Owl Field Assistant, March – July 2018

- Installed and maintained 29 Burrowing Owl nest cameras for an on-going study on breeding behavior, thermal ecology, life history variation and demography
- Reviewed, transcribed, and managed nest videos into Microsoft Excel and VLC (video software)
- Banded and collected blood samples from adults and nestlings
- Facilitated communication with landowners and the public on matters pertaining to the study
- Independently managed day-to-day field operations, including equipment and government vehicle maintenance

National Institute of Ecology, Seocheon-gun, South Korea

International Cooperation Team, August – December 2017

Research Associate

- Developed a wetland restoration plan for inland and coastal wetlands in South Korea
- Provided environmental policy recommendations for an international treaty between multiple governments
- Studied shorebird migration ecology and staging site selection in the East Asia/Australasia flyway
- Conducted research on wetland restoration/management, Ramsar's CEPA program implementation, ecological disaster risk reduction (Eco-DRR) and climate change adaptation
- Presented a monthly seminar to the Bureau of Ecological Research staff

Organization for Tropical Studies, San Jose, Costa Rica

Independent Field Ecology Study, December 2015 – January 2016

Relationship between carbon assimilation rates and environmental light intensities in four species of *Miconia* (Melastomataceae).

- Collected vegetation samples of *Miconia* in rainforest habitat at La Selva Biological Research Station

- Assessed net photosynthetic rate response of four shade-resistant plant species in different light intensities (0 - 2000 $\mu\text{mol m}^{-2}\text{s}^{-1}$) by measuring Net CO_2 assimilation rates and gas (CO_2) exchange for individual, fully expanded leaves with a portable photosynthesis system (LI-6400/LI-6400XT, LI-COR Biosciences, Lincoln, Nebraska)
- Echolocation plasticity in a community of Neotropical bats
- Mist-netted for *Carollia sowelli*, *C. perspicillata*, *Dermanua watsonii*, and *Myotis keaysi* in forest and open habitat at Las Cruces Biological Research Station
- Recorded echolocation pulses of individuals released in “open” and “closed” habitat with Avisoft Ultrasound Gate 416 recording unit (Avisoft Bioacoustics, Glienicke, Germany) to measure and analyze maximum peak frequency (kHz) and duration (s) to determine variation in echolocation plasticity among species

University of Arkansas, Fayetteville, AR

Ph.D. candidate with Dr. Douglas James, August 2010 – May 2017

Migration and Ecology of Pallas’s Fish Eagle in Asia

- Organized international collaboration between research institutions in India, Mongolia, and the United States
- Successfully applied for funding through multiple sources to support four years of field research
- Supervised and trained local field crews in Mongolia and India
- Conducted population and nest surveys in Mongolia and India
- Gathered landscape data for habitat selection models
- Examined seasonal variation in home range size, habitat selection, and migration phenology by fitting Pallas’s Fish Eagles with 70 g GSM-GPS transmitter backpacks
- Described Pallas’s Fish Eagle populations from 1850 – 2017 by hierarchical site occupancy models
- Discovered a new Trans-Himalayan migration route for previously-considered resident Pallas’s Fish Eagles

Education

Ph.D., Biological Sciences, University of Arkansas

B.S., Natural Resource Ecology and Management, Oklahoma State University

Skills

Proficient with R, ArcGIS 10.3 – 10.6, QGIS 2.18, Trimble GPS, MaxEnt, Linkage Mapper, Movebank.org, VLC Video Software, Google Earth Pro, and Microsoft Office. Experience with Survey 1-2-3 for ArcGIS, Avisoft SASLab Pro, randomForest, Adobe, linux and cluster computing

Extensive experience in wildlife inventory surveys, blood, tissue, and feather collection, bird banding, radio telemetry, patagial wingtags, and fitting teflon harness backpacks

Adept with mist-netting (passerines/non-passerines/bats), bal-chatris (raptors), walk-in traps (vultures), bownets (corvids, eagles, and vultures), noose carpets (owls), padded leg traps (eagles), sherman traps (small mammals), pit traps (lizards), cover boards (snakes), and havahart traps (raccoons, burrowing owls, and opossums)



Primary author of multiple technical reports, peer-reviewed publications, and newsletter articles. Extensive experience teaching via educational workshops, college courses, and children's nature camps, including volunteer training programs for Desert National Wildlife Refuge and Orient Land Trust

Comprehensive knowledge of rock climbing/bouldering/rappelling, tree climbing, backpacking, and navigation/orienteering in harsh environments

Exceptional interpersonal, verbal, written and communication skills implemented with a wide variety of people and stakeholders. Thrives in a diverse, team atmosphere, such as part of an international cooperation research unit.

Selected Publications

Steele, M., S. Gombobaatar, V. Prakash, S. Ranade, J. Therrien, K. Bildstein, and James. Juvenile Pallas's fish eagle (*Haliaeetus leucoryphus*) migration in Asia. *In review by the Condor*.

Steele, M., J. Yoon, S. R. Kang. Potential application of moist-soil management in Korea. *In review by Journal of Ecology and Environment*.

Kuehn, M. J., J. A. Catino, and **M. Steele**. The effectiveness of straw bale barrier size on the attenuation of construction noise. *In preparation*.

White, J., J. Snook, and **M. Steele**. Diet of urban red-tailed hawk nestlings in the Great Basin. *In preparation*.

BirdLife International. 2017. *Haliaeetus leucoryphus*. The IUCN Red List of Threatened Species 2017:ee.T22695130A119358956. <http://dx.doi.org/10.2305/IUCN.UK.20173.RLTS.T22695130A119358956.en>

Steele, M. 2015. Where in the world are Pallas's fish eagles: The world's first comprehensive study of *Haliaeetus leucoryphus* seasonal movements and habitat ecology with GSM/GPS technology. *Tracker News: Microwave Telemetry, Inc.*, 16: 6-7.