

Kalee Koeslag-Schellerup, MS



EDUCATION

San Diego State University, San Diego, California

Biology-Ecology M.S., GPA: 3.60, Thesis Defense Date: Apr 2018

Thesis: "Direct and Indirect Effects of *Agrilus auroguttatus* (GSOB)-induced Oak Mortality: Implications for Understory Plants and Arthropods"

Advisor: Dr. Douglas Deutschman

University of California Santa Barbara, Santa Barbara, California

Major: Zoology B.S., GPA: 3.66, Graduation Date: Jun 2014

CERTIFICATES

- Wilderness and Remote First Aid Certificate (expires Dec 2023)
- American Safety & Health Institute CPR and AED for Adult/Child Certificate (expires Dec 2023)
- FAA Remote Pilot Certificate (expires Jan 2024)

PROFESSIONAL MEMBERSHIPS/WORKING GROUPS

- California Society for Ecological Restoration (2022)
- Western Section of the Wildlife Society (2020-2022)
- Emerging Tree Pests Education and Outreach Working Group (2019-2022)
- Entomological Society of America (2020-2021)
- California Invasive Plant Council (2015-2016, 2019-2020)
- Desert Tortoise Council (2019-2020)

WORK EXPERIENCE

Riverside County Regional Park and Open-Space District Natural Resources Specialist of SWRCMSR

Riverside County, CA, Mar 2022-Present

Mentor: Robert Williams

Phone#: (951) 442-3354

Acted as Reserve Manager of Southwestern Riverside County Multi-Species Reserve covering 14,000 acres. Supervised two full-time employees. Interviewed to fill TAP maintenance position. Managed an operating budget of \$500,000 and prepared and executed reserve task orders and annual work plan. Attended quarterly Reserve Management Committee (RMC) meetings, encouraged research on the reserve, and coordinated with committee members and researchers. Conducted seasonal MSHCP-covered rare plant surveys (Parry's spineflower, Munz's onion, Palmer's grapplinghook), quarterly herpetofauna coverboard surveys, quarterly Engelmann oak surveys, and burrowing owl surveys. Completed Vegetation Management Plan prescribed burn before and after checklist, native plant seed collection protocol and species fruiting window table, Stephens' kangaroo rat reserve management plan, and updated Appendix 10 of 2008 Reserve Management Plan. Coordinated with and provided input to CAL FIRE on prescribed burns on the reserve. Installed photo points and monitoring transects for post-burn monitoring. Attended MSHCP Monitoring and Management Monthly and Reserve Managers Coordinating Committee meetings. Compiled weekly and quarterly reports. Created ArcGIS maps and used Field Maps application. Studying in progress for C DPR Qualified Applicator Certificate.

**Riverside County Regional Park and Open-Space District - MSHCP
Natural Resources Specialist**

Riverside, CA, Feb 2021-Present

Supervisor: Jonathan Reinig

Phone#: (951) 529-4503

Conducted adaptive management of Regional Conservation Authority (RCA) – Multiple Species Habitat Conservation Plan (MSHCP) land in western Riverside County on over 50,000 acres. Initiated the native plant nursery and propagated 750 native plants. Initiated and implemented four large-scale restoration projects to improve habitat conditions of MSHCP-covered species including burrowing owl, California gnatcatcher, Parish's brittle scale, San Diego ambrosia, and kangaroo rat. Supervised restoration project implementation. Conducted Quino checkerspot butterfly surveys and, pending USFWS availability, will complete the exam asap and pursue permit. Assisted with Delhi sands flower-loving fly surveys and habitat maintenance. Assisted completion of over 1,800 acres of property pre-acquisition reviews in 2021 and created maps via Arcmap. Conducted research study monitoring and herbicide treatment of stinknet in San Jacinto Valley crowscale habitat. Initiated tree pests monitoring plan and conducted surveys to determine presence of invasive shot hole borers and goldspotted oak borer. Completed quarterly burrowing owl artificial burrow surveys using endoscope, fall vacuuming, nesting surveys and associated camera trap monitoring, habitat assessments, weed-wacking around burrows, hacking enclosure installation, and assisted with banding. Conducted non-native fish surveys and electrofishing, southwestern pond turtle hoop and minnow trap surveys, and nesting bird surveys. Maintained wildlife guzzlers and associated camera trap monitoring, monitored Clinton Keith wildlife over- and undercrossing fence line and wildlife escape doors, and completed MSHCP-covered species incidental observations. Applied herbicide at endowment projects, restorations, and rare plant locations. Completed quarterly photo points and IMERs for properties. Organized and lead drone study group. Attended MSHCP Monitoring and Management Monthly meetings and Emerging Tree Pests Outreach and Education meetings. Participated in homeless behavioral health training. Escorted biologists and partners onto RCA-managed land to facilitate shared interests. Supervised employees and court workers during stinknet weeding around only known Riverside County population of rare Brand's phacelia.

**California Department of Transportation, District 8
Environmental Planner (Natural Sciences)**

San Bernardino, CA, Jul 2019-Feb 2021

Supervisor: Scott Quinnell

Phone#: (909) 260-9318

Determined and mitigated potential impacts of transportation projects on biological resources in San Bernardino and Riverside Counties. Managed biological resources on multi-million-dollar projects with multiple sensitive species. Developed avoidance, minimization, and mitigation measures to abate potential impacts. Wrote and reviewed environmental documents, such as Natural Environment Study (NES) and Natural Environment Study-Minimal Impact (NESMI); coordinated with Federal, State, and local agencies on biological resources; and monitored construction projects for environmental compliance. Determined and obtained regulatory permits (401, 404, 1602, CESA 2080.1, and FESA Section 7) and prepared permit notifications and reports. Coordinated with resident engineers, cultural resources, stormwater, contractors, consultants, and other specialties. Reviewed, approved, coordinated with, and supervised work of contractor supplied biologists and their biological resources information plans, natural resources management plans, nesting bird management plans, vegetation management plans, and bat mitigation and monitoring plans. Conducted general preconstruction natural resource surveys, preconstruction nesting bird surveys, bat habitat and emergence surveys, and worker environmental awareness program (WEAP) training. Determined and coordinated with mitigation banks to acquire mitigation credits. Helped develop and stayed up-to-date on best management practices. Managed and coordinated San Bernardino kangaroo rat project and assisted with monitoring. Assisted with stormwater management on projects. Acted as bat expert at multiple environmental planning phases. Acted as Emerging Tree Pests Education and Outreach Group Caltrans D8 contact. Gained experience with the STEVE database, USFWS IPaC, CDFW CNDDDB, CDFW BIOS, and CNPS Inventory of Rare Plants. Received additional training in cultural, hydrology, community and social justice, CEQA, NEPA, and all environmental planning phases.

Irvine Ranch Conservancy**Irvine, CA, Apr 2018–Present****Monitoring and Research Program Coordinator**

Supervisor: Matt Garrabone

Phone#: (714) 508-4709

Assisted with managing and preserving the natural resources within the historical Irvine Ranch by conducting field and office-oriented tasks. Managed Big Canyon mitigation monitoring project, conducted mitigation monitoring for four landscape-level restoration projects, prepared and implemented restoration projects, and maintained and monitored southwestern pond turtle habitat. Supervised volunteers during restoration stewardships. Monitored bird species via point counts and invasive polyphagous shot hole borer (PSHB) and goldspotted oak borer (GSOB). Monitored and analyzed long-term trail quality and vegetation transects, conducted long-term butterfly counts, completed nighttime black lighting to assess local arthropod community, conducted EDRR monitoring and invasive plant removal, and identified arthropods to determine restoration success. Assisted with sustainable seed sourcing for restoration by collecting and processing wild seeds, transplanting seedlings in the nursery, and collecting seeds and weeding on the native seed farm used for bulking seeds. Analyzed data and wrote reports and proposals to further natural resource management. Gained experience in utilizing Calflora's Weed Manager/Observer Pro, Collector App, GPS, and ArcGIS; restoration techniques; herbicide training; creating volunteer programs; creating restoration plant species pallets; Fire Watch training; statistical techniques; and plant identification. Assisted USGS with southwestern pond turtle trapping and invasive species removal and with western spadefoot toad monitoring of pools, checking pitfall traps, habitat assessments, and telemetry work. Shadowed consultant with pre-disturbance nesting bird surveys.

San Diego State University**San Diego, CA, Aug 2015–Dec 2017****BIOL 100L Teaching Assistant**

Supervisor: Joe Newsome

Phone#: (619) 594-2730

Supervised about 50 non-biology major undergraduate students each semester and introduced them to major concepts in biology, led them through labs and various assignments, created exams, graded, and proctored in lecture hall. Gained experience in conveying information, lecturing, assisting students with questions, general student management, educational philosophies, and demonstrating safe protocol. Disciplined students if plagiarism occurred.

San Diego State University, Research Foundation**San Diego, CA, Apr 2015–Jun 2017****Arthropod Research Assistant**

Supervisor: Dr. Dan Marschalek

Phone #: (619) 840-5518

Assisted with rare butterfly research and management in San Diego County. Surveyed for listed-candidate Hermes copper and butterfly community. Conducted rapid habitat assessments and leg removal for population genetics of Harbison's dun skipper. Collected, observed, and evaluated insect pollinator communities on sensitive Otay Tarplant, common Tarplant, sensitive San Diego Thornmint, and California Buckwheat. Collected and evaluated detritivore insect communities. Sorted, identified, and pinned arthropods collected in traps or in field. Gained experience in handling field equipment (GPS, Kestrel, etc.), insect collection and pinning techniques, and supervising interns and volunteers in the field.

San Diego Natural History Museum**San Diego, CA, Jun 2015–Sep 2017 (seasonal work)****Bat Biologist Assistant**

Supervisor: Drew Stokes

Phone#: (619) 990-1170

Assisted with assessing and delimiting bat populations in San Diego County. Conducted pallid bat and Townsend's big-eared bat mist nest surveys and mine surveys. Gained experience in bat identification, data collection (demographical and morphological), and tissue collection. Assisted Entomology Department—bulk sorted Coleoptera to morphospecies; assisted with setting up pitfall, pan, and malaise insect traps at Camp Pendleton; and aspirated arthropods for California gnatcatcher habitat assessment/food availability project at Marine Corps Air

Station Miramar. Assisted Birds and Mammals Department—surveyed vegetation for California gnatcatcher habitat assessment at Marine Corps Air Station Miramar.

U.S.D.A. Forest Service

Acton, CA, Aug 2014-Apr 2015

Plant Biological Technician

Supervisor: Tasha Hernandez

Phone #: (909) 382-2905

Primarily assisted with preparation of the 2002 Copper Fire watershed in the Angeles National Forest for ecological restoration. Conducted seed and acorn collection within and nearby the watershed in chaparral, coastal sage scrub, and oak woodland ecosystems. Led tree inventory and regeneration surveys within the watershed to determine which species are reproducing/surviving and which need assistance. Completed invasive weed mapping within the watershed riparian areas, TES (Threatened, endangered, and sensitive) species surveying for Nevin's Barberry, rare plant monitoring for Station Fire reforestation, tree planting, bird transect surveys, and Santa Ana sucker habitat surveys. Initiated slope stabilization through broadcast seeding, jute netting, and wattling. Inspected on tree plantation chipping project. Inspected California black oak forest health project where contractor did mistletoe removal, mortality removal, pruning, thinning, hand clearing and releasing, and mastication. The stand was broken up into 8 about one hundred-acre parcels where I assisted in variable plot tree inventory and fixed plot regeneration surveys to monitor and assess the effectiveness of the forest health project and analyze the difference between burned and unburned parcels. Gained experience in plant identification, seed collection techniques, acorn collection techniques, handling field equipment (Trimble GPS, hand shears, loggers tape, diameter tape, clinometer, prism, compass, densiometer, transect tape, quadrat, etc.), GIS mapping, data entry (training in NRM databases—FACTS, FSVeg Spatial, and NRIS-TES-IS), measuring forest stand data (identifying tree species, assessing insect and disease injury, and measuring DBH, tree height, crown width, age, regeneration), measuring fish habitat suitability (measuring canopy cover, stream width, habitat types, pebble counts, maximum depth), holding a U.S. Forest Service driver's license, and 4-wheel drive technical.

U.S.D.A. Forest Service

San Bernardino, CA, Jun 2013-Sep 2013

Pathways Biological Technician Intern

Supervisor: Dr. Tom W. Coleman

Phone #: (505) 842-3286

Assisted the Forest Health Protection (FHP), Zone Entomologist with monitoring and assessing the impact of native and exotic forest insect pests in southern California. Gained knowledge and experience about sampling, monitoring, and controlling bark beetles, defoliators, and wood borers. Conducted projects on the four national forests and several tribal lands in southern California. Monitored the life cycle and impact of the fruittree leafroller on three oak species in the San Bernardino Mountains. Determined the life cycle, impact, and management options for the pinyon needle scale on four-needle pinyon. Assessed the distribution of the exotic goldspotted oak borer (GSOB), determined the efficacy of a systemic insecticide for controlling the exotic wood borer, monitored the impact of cover spray insecticide treatments for GSOB on non-target arthropods, and assessed the change in the fuels structure and composition following extensive tree mortality from GSOB. Determined impact of the polyphagous shot hole borer distribution and effect on stand health. Surveyed the wildland-urban interface for exotic ambrosia and bark beetles in coordination with the National Early Detection and Rapid Response Project. Conducted accuracy assessment of forest health aerial detection survey polygons. Assessed the risk of forest management thinning activities to bark beetle-caused tree mortality. Monitored the placement of pheromone baited traps for the walnut twig beetle. Gained experience identifying insects in the field and from various traps; monitoring traps and baits for bark beetles, defoliators, and wood borers; handling lab (microscopes, calipers, balances, etc.) and field equipment (hatchets, densitometers, loggers tape, diameter tape, hypsometer, GPS, etc.); sampling foliage for insecticide residue analyses; measuring forest stand data (identifying tree species, assessing insect and disease injury, and measuring DBH, tree height, and coarse woody debris fuels); holding a U.S. Forest Service driver's license; and entering research data into a computer.

U.C. Santa Barbara Biology Department

Santa Barbara, CA, Oct 2012–Jun 2014

Work-Study Peer Advisor

Supervisor: Andrew Kroes

Phone #: (805) 893-5281

Assisted the undergraduate biology student body with progressing through their majors. Assisted the students with course scheduling, choosing a major, major progress checks, and university procedures. Met with several hundred students a quarter in person, on the phone, and through email. Accomplished various clerical duties (copying, answer emails and phone calls, filing, transporting important documents, etc.).

VOLUNTEER EXPERIENCE

LSA

Chino Hills, CA, Aug-Sep 2020

Volunteer

Lead: Jill Carpenter

Phone #: (949) 337-6103

Conducted radio telemetry surveys to assess potential roosting of big brown bats near a mitigation site associated with a housing development. Furthered radio telemetry skills.

Santa Barbara Audubon Society

Santa Barbara, CA, Apr 2014–Jun 2014

Volunteer

Supervisor: Jeff Simeon

Phone #: (540) 212-3566

Monitored tree swallow nest box usage to assist in determining the success of the nest boxes and areas of future improvements. Completed data collection for activity around the nest box, species usage, stage of nest formed, and stage of nestling being reared. Entered data into a shared document.

Santa Barbara Wildlife Care Network

Santa Barbara, CA, Oct 2013–Mar 2014

Volunteer

Supervisor: Elaine Ibarra

Phone #: (805) 681-1019

Assisted the staff and learned the responsibilities of running a wildlife rehabilitation center. Prepared the food for American crows, rock pigeons, song birds, northern flickers, brown pelicans, cormorants, gulls, and grebes. Assisted in tube feeding, capturing/netting, and restraining sea birds. Supported general cleanliness at the facility, including sweeping, doing laundry, mopping, changing newspaper in the cages, hosing and scrubbing holding areas. Learned how to hand feed a baby bird and how to use an incubator. Transported a grey fox and a Heermann's gull.

U.C. Santa Barbara

Santa Barbara, CA, Mar 2013–Dec 2013

Directed Studies Researcher (EEMB 197)

Supervisor: Steve Rothstein

Phone #: (805) 893-2438

Assisted in and learned about brown-headed cowbird inter- and intra-sexual communication. Recorded male brown-headed cowbirds' songs to another male or female during mornings. Hosed runs, fed and watered, sanitized the recording chambers, netted the birds and placed them in their recording cages, removed deceased birds, occasionally trapped locally, handled the birds, sanitized feeding and watering dishes, completed morphological measurements and banded the birds, washed cage mats, assisted in scouting for trap locations, moved the birds to the recording chamber, recorded and called displays, song typed, and set up the computer.

RESEARCH PRESENTATIONS

Koeslag, K.N. "The Story of Goldspotted Oak Borer (GSOB) in San Diego County," presentation at San Diego Arthropod Society meeting, 14 March 2017, San Diego, CA.

Koeslag, K.N., A. Eskalen, R. Stouthamer, and T.W. Coleman. "Detection and impact of an invasive pest complex, the polyphagous shot hole borer, *Eurwallacea* sp., and *Fusarium dieback*, *Fusarium eurwallaceae*, in southern

California,” student poster presentation, California Forest Pest Council Annual Meeting, November 2013 (August to November 2013), McClellan, CA.

Coleman, T.W., **K.N. Koeslag**, and A.A. Ackley. “GSOB Fuels”, poster presentation, California Forest Pest Council Annual Meeting, November 2013 (August to November 2013), McClellan, CA.

WORKSHOPS/TRAINING

- **Basic Wetlands Delineation, San Diego, California, 2-6 Mar 2020, Caltrans, 40-hour training**
- **Introduction to Desert Tortoises and Field Techniques, Ridgecrest, California, 2-3 Nov 2019, Desert Tortoise Council**
- **Animal Behavior and Tracking, Irvine CA, 8 & 15 Sep 2018, OC Trackers**
- **Southwestern Desert Bat Class, Zzyzx, CA, 4-6 Oct 2019, Dr. Patricia Brown-Berry and I assisted**
- **Southwestern Desert Bat Class, Zzyzx, CA, 5-7 Oct 2018, Dr. Patricia Brown-Berry**

REFERENCES

Robert Williams

Chief - Business Operations

Riverside County Parks

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Tasha Hernandez

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