

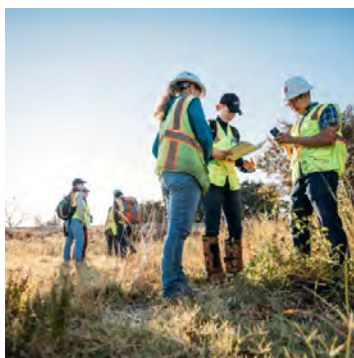
Environmental Insights

VOLUME 3 ISSUE 1 | MAY 2024



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Events

May 7-9

[2024 ACWA Spring Conference and Expo](#)

SAFE Credit Union Convention Center, Sacramento CA

May 8-10

[SERCAL Conference](#)

University of Redlands, Redlands CA

Our Sacramento Office has Moved!

Our new office is located at:

11010 White Rock Road, Suite 200
Rancho Cordova, CA 95670

GEI's Growing Environmental Practice

Julie De Barros joined the GEI environmental practice team as a senior biologist, arborist, compliance coordinator, and GIS specialist. Julie is a multidisciplinary environmental professional who brings over 10 years of experience and is currently based out of Sonoma County. She leads biological assessments, biological constraints, and species-suitability memorandums and technical reports, biological sections of California Environmental Quality Act (CEQA)/ National Environmental Policy Act (NEPA) documents, and more. She leads surveys and impact assessments for a wide variety of wildlife, including California red-legged frog, foothill yellow-legged frog, California tiger salamander, and western pond turtle. Julie has worked in environmental compliance since she started working in the industry and is well equipped to help develop and implement strategies for environmental compliance for construction projects. Additionally, she has held an International Society of Arboricultural Certified Arborist certificate for over 11 years and has been qualified for tree risk assessment for eight years.

Shreya Singh recently joined our GEI environmental planning group as a biologist in our biological resources team. Shreya graduated from CalPoly San Luis Obispo with a B.S. in Environmental Management and Protection and is currently working towards her Field Ecology Certificate at Sacramento City College. She brings with her strong floristic identification skills. She has strong field experience and interpersonal skills, which position her for environmental compliance monitoring and habitat assessments. Shreya will be providing support to the biological resources team in strengthening our efforts to provide construction monitoring for a large number of construction compliance projects. She will be providing critical support for the large number of habitat evaluations that our team is conducting this year.

Lorin Brace has joined GEI in Ann Arbor, Michigan, as an archaeologist. Lorin brings more than 14 years of experience in historic archaeology. He has extensive experience in conducting research, leading the cultural resources component of projects from beginning through completion, supervising field crews on archaeological surveys, preparing cultural resources field and desktop reports, providing NRHP eligibility recommendations to clients and project managers, and assisting with the preparation of documents related to National Historic Preservation Act (NHPA) Section 106 applications, NEPA reviews, and State Historic Preservation Office consultation requests.



GEI's Growing Environmental Practice

Coco Nardin has joined GEI in Sacramento as an archaeologist/osteologist. Coco brings more than 15 years of experience in prehistoric and historic archaeology in osteological work, and collections management. She has extensive experience in conducting research, leading excavations, data analysis, and working in and managing curation facilities. Coco's education provides expertise in human osteology, including identification, excavation of human burial sites, and the analysis and curation of human remains (skeletal analysis). Coco's passion is uncovering the past and developing a strong relationship with Native Americans to produce excellent and ethical results in a combined effort between clients, the Native American communities, and cultural resources management.

Lindsey Lavetta has joined GEI in the Pasadena office as an archaeologist. Lindsey specializes in archaeology, bioarchaeology, forensic anthropology, and biochemistry. She has experience working for the private and public sectors, including government agencies. She is familiar with Section 106 of the NHPA and the Native American Graves Protection and Repatriation Act. She has experience in excavation, survey, site stewardship, collection stabilization, research design, laboratory work, and preservation.



Our Environmental Team Takes the Spotlight in a New Video

GEI's biological resources specialists work with thousands of species in a range of habitats to deliver for our clients, communities, and natural resources. Watch this video to hear from Kelly Fitzgerald-Holland, biological resources practice lead, and Devin Berry, biologist, as they share how we bring various biological disciplines to the field for each project in our work throughout North America.

[Click to watch the video on YouTube](#)



GEI Staff Achievements

GEI biologist Hannah Dunn has completed her certification as an associate wildlife biologist through the Wildlife Society. This process included taking several courses over the past few years and keeping track of experience in an in-depth application. It is a rigorous process, but Hannah is excited to have become certified while continuing to represent wildlife and grow and learn in her career.



Biologists in the GEI biological resources team have continued to stay up to date on important certifications and qualifications, allowing us to perform species surveys and monitoring for an abundance of special-status wildlife for several different local Habitat Conservation Plans/Natural Community Conservation Plans (HCP/NCCP). The GEI biologists listed in the table below have been approved by the Yolo Habitat Conservancy and/or the East Contra Costa County (ECCC) Habitat Conservancy to perform surveys for the covered species in their

designated areas. The process includes supplying the Conservancies with resumes and up-to-date species experience for individual biologists, who then need to be approved by California Department of Fish and Wildlife (CDFW), the United States Fish and Wildlife Service (USFWS), and the Conservancies themselves to conduct surveys or monitoring for HCP/NCCP work. The Conservancies keep a list of qualified biologists on their websites, where clients can then contact individual biologists or GEI to assist in needed surveys.

GEI Approved Biologists for the Yolo HCP/NCCP and ECCC HCP/NCCP

Biologist	Yolo County HCP/NCCP ¹	East Contra Costa County HCP/NCCP
Hannah Dunn	Approved Biologist	Pending
Leslie Parker	Approved Biologist	Approved Biologist
Maggie Woodworth	Approved Biologist	Approved Biologist
Julie De Barros	Approved Biologist	
Devin Barry	Pending	

¹ Yolo County HCP/NCCP-approved biologists are qualified to survey and/or monitor for: valley elderberry longhorn beetle, western pond turtle, giant garter snake, California tiger salamander, Swainson’s hawk, tricolored blackbird, white-tailed kite, western yellow-billed cuckoo, western burrowing owl, and least Bell’s vireo.

² East Contra Costa County HCP/NCCP-approved biologists are qualified to monitor and/or survey for Townsend’s big-eared bat, giant garter snake, California tiger salamander, California red-legged frog, Swainson’s hawk, western burrowing owl, golden eagle, and covered fairy shrimp species.

GEI is proud to support the continued professional development of its staff. On a recent weekend in March, biologists Julie De Barros and Maggie Woodworth from GEI's Sacramento office participated in a Rare Pond Workshop hosted by the Laguna de Santa Rosa Foundation. This hands-on workshop focused on three special-status species that they work with: the California tiger salamander, the California red-legged frog, and the western pond turtle. In addition to lectures on the species, regulations, and approved survey protocols, they visited ponds and received field training in aquatic survey techniques.



Julie De Barros showing off the red legs of a California red-legged frog in Sonoma County, 2024.



Maggie Woodworth showing off the red legs of a California red-legged frog in Sonoma County, 2024.

GEI in Our Community

On February 17 Becky Dorff volunteered at North Clackamas Urban Watersheds Council's Kellogg Creek Stewardship Day in Milwaukie, Oregon. Volunteers spent time learning about the Kellogg Creek Restoration and Community Enhancement Project before heading outside to remove invasive species in the Milwaukie Presbyterian Church Sanctuary, located next to the Kellogg Impoundment.



For the second year GEI's Sacramento office was a sponsor of Habitat for Humanity of Greater Sacramento's Women Build 2024, presented by the California Commission on the Status of Women & Girls! This important annual event helped build critically needed affordable housing for hardworking low-income families. GEI staff and family worked alongside the Habitat Team to build homes and community, while bringing attention to the systematic barriers of affordable housing during Women's History Month.



GEI Staff: Leaders in Our Practice

In January Kelly Fitzgerald-Holland, Melinda Mohamed, and Julie De Barros, members of our biological resources team, attended and hosted a booth at the 71st Annual Meeting of the Western Section of the Wildlife Society in Sonoma County. This meeting brought together more than 600 wildlife professionals, managers, students, and academics who study and manage wildlife species, habitats, and issues related to their conservation. At the meeting, Kelly chaired a session on “Collaboration Among Wildlife Career Pathways,” focused on advocacy, ethics, and the ramifications of misplaced advocacy. She also delivered a presentation titled “Federal Policy Engagement with Local Impacts: Supporting Science-Based Decision Making From a TWS Western Section Perspective” and led a workshop about The Wildlife Society’s certification program for professional biologists. Melinda was a judge of student poster and oral presentations, helping students improve their presentation skills.



Some oral presentation highlights that caught Melinda’s eye included:

- “Landscape and population genetic insights into nutria (*Myocastor coypus*) invasion dynamics in California” by Dr. Kristen Ahrens from CDFW,
- “Bumble Bee Declines and Persistence: Lessons from the California Bee Atlas” by Leif Richardson of The Xerces Society for Invertebrate Conservation, and
- “Aspects of the Demography of a Relict and Tenuous Population of Northwestern Pond Turtles (*Actinemys marmorata*) in a West Mojave Desert Stream flowing onto Edwards Air Force Base” by Dr. Jeff Lovich from the U.S. Geological Survey.

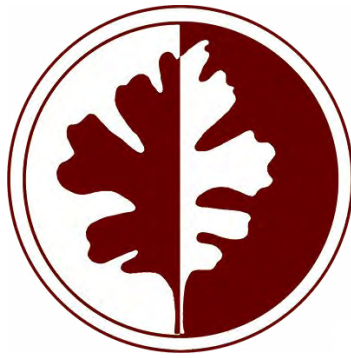
These presentations highlighted both the fragility and resilience of California’s ecosystems. The sessions focused on destructive invasive species to tiny invertebrates on which our state’s booming agricultural economy rests, and finally to small turtles that are indicators of the health of our state’s freshwater systems. These presentations were vital in keeping GEI staff in the loop on the latest science, regulations, and laws that enable us to guide our clients in making the best decisions for both their projects and the natural resources occurring on or near their project sites.

Finally, after eight years as serving on the Western Section Board as its Conservation Affairs Committee Chair, Kelly Fitzgerald-Holland led her last committee meeting and stepped off the Board so she can focus her attention on the nationwide TWS Certification Program.



PEOPLE UPDATES

The Society for California Archaeology (SCA) recently hosted its 58th annual conference March 7-10, 2024, in Riverside, California. Acknowledging landscapes as cultural resources, especially in the field of cultural resource management, where the need for archaeologists to take responsibility in identifying, describing, evaluating, and working with Native American Tribes who provide context and perspectives, has become essential. The event featured symposiums, forums, and poster sessions where archaeologists shared information ranging from “Wildfire Management and Cultural Resources: Current Landscape Management and How It Can Inform About the Past” to “Public and Historic Archaeology”. The wide range of topics covered enabled attendees to create individual schedules/learning paths to meet their own needs. This year’s conference also offered opportunities to connect and network with lead agencies, Federal and State, and other cultural practices to discuss developments in archaeology.



GEI was a Diamond Underwriter for the event, and four members of GEI’s cultural practice: Denise Jurich, Jesse Martinez, Amy Wolpert, and Coco Nardin, attended. GEI hosted a table at the charity silent auction where two GEI attendees won a total of four bids on items for the charity event! Looking to the future, GEI also hosted a table at the SCA’s Job Fair. Senior archaeologists Denise Jurich and Jesse Martinez met with archaeology students and new archaeologists to provide information on the outstanding benefits and rewarding workplace culture GEI’s cultural practice has to offer.

On January 31 and February 14, GEI wildlife biologists Kelly Fitzgerald-Holland and Anne King provided a two-part virtual presentation on CEQA to members of the Association of Women in Water, Energy & Environment. The presentation provided an overview of CEQA and focused on a biological resources approach to information gathering, impact analysis, and mitigation development. Kelly and Anne also discussed key legal case law, responding to comments, and mitigation implementation.



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Meet Up with Our Team at Upcoming Conferences: Hope to See You There!

Members of our Environmental team, including Cindy Davis, Ryan Jolley, Summer Pardo, and Nick Tomera will be attending the 2024 ACWA Spring Conference and Expo May 7-9 in Sacramento, California. The bi-annual ACWA Conference provides water industry professionals with the opportunity to learn and connect on the latest and best information about water issues surrounding the reliable delivery of safe water to millions of Californians.



Since 1992, the California Society for Ecological Restoration has gathered people who are connected to or interested in the work of restoring California's native habitats. This community comes from a wide variety of educational and professional backgrounds; they are biologists, ecologists, hydrologists, landscape architects, engineers, conservationists, students, academics, consultants, agency staff, and more. This year, GEI staff, Christiana Conser and Jennifer Burt, PhD, will be attending the SERCAL Conference, whose focus will be on restoring and reconnecting people to place, May 8-10 at the University of Redlands.

Resource Management Associates (RMA) Joins GEI Consultants

We're excited to announce that California-based Resource Management Associates, Inc., (RMA) has joined GEI. RMA is a 30-person water resources consulting and technology firm. Through its numerical modeling and engineering software solutions, RMA partners with clients nationwide to address complicated environmental and water-related challenges.

RMA's highly specialized modeling and technology services are a significant addition to GEI's water resources practice. Their expertise complements our current capabilities in using data and technology to create novel solutions for water quality, flood, drought, and ecological related challenges. Leveraging technology and advancements in large data management for our clients is a growing part of our business, and in RMA we have found a partner with shared values, culture, and commitment to deliver exceptional value and client service. The combined skills, scale, and experience of our respective firms will create a market-leading option for our water resources clients in California.

To learn more about RMA, their team and their capabilities, visit their website at: <https://www.rmanet.com/>.

GEI Completes 14-year Project for RD 17

As of December 31, 2023, our environmental team completed its contracted work on the Reclamation District 17 Levee Seepage Repair Project. This project covered repairs to the east side of the San Joaquin River levee, enabling the levee system to withstand 100-year flood conditions and receive Federal Emergency Management Agency certification. Several staff in GEI's environmental planning practice began work on this project in April 2010 (at a previous firm), and our staff continued the work here at GEI, working diligently to deliver full environmental support for this project. Over the past 14 years, our team provided comprehensive environmental services for this project, including:

- NEPA/CEQA documentation
- Section 7 consultations with both USFWS and National Marine Fisheries Service
- Permitting for Clean Water Act (CWA) Sections 404 and 401, California Fish and Game Code, (CFG) Section 1600, and NHPA Section 106



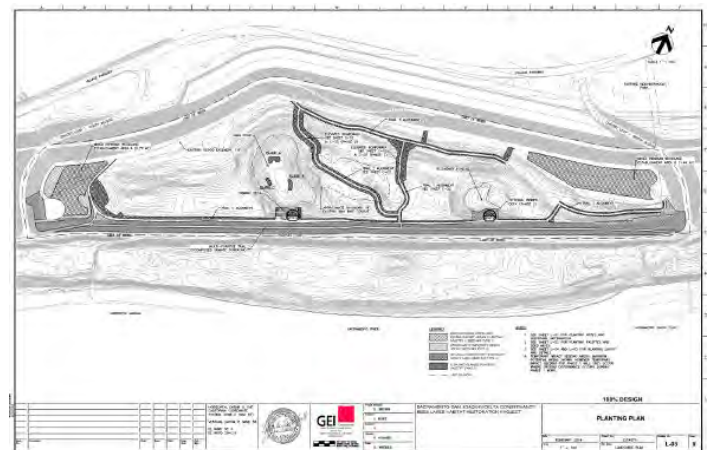
- Mitigation design and implementation for the restoration of onsite mitigation to offset impacts to riparian brush rabbit and valley elderberry longhorn beetle habitat through the restoration of 11.1 acres of riparian scrub and oak woodland
- Biological and cultural resource monitoring and reporting support during all stages of construction



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Bees Lakes Habitat Restoration Project Milestone

The City of West Sacramento submitted the 100% design package for the Bees Lakes Habitat Restoration Project to the Delta Conservancy (project funder) in March. GEI restoration ecologist, Jennifer Burt, and landscape designer, Olivia Wreden, prepared the planting plans for this multi-benefit project in West Sacramento. The project will restore riparian habitat, improve water quality and aquatic habitat, and create trails and other recreational and interpretive features. Project construction is planned for 2025.



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2023 McCormack–Williamson Tract Levee Modification and Habitat Restoration Project Phase B Updates

The project was planned to implement flood risk reduction improvements in a manner benefiting aquatic and terrestrial habitats, species, and ecological processes, and incorporating landscape scale restoration of Sacramento-San Joaquin River Delta habitat. However, the tract flooded because of the 2022-2023 winter storms. Planning began again in late spring 2023 with a modified version of the project which incorporated the existing flooded condition. GEI assisted the California Department of Water Resources (DWR) and Reclamation District 2110 (RD 2110) with CEQA planning and development of an addendum to the Supplemental Environmental Impact Report to reflect the changed conditions and modified project due to the flooding. GEI also assisted with preparation of permit applications for CWA Section 404, CWA Section 401, and CFGC Section 1600 approvals. GEI completed the CEQA addendum and permit applications on an expedited schedule and has supported DWR and RD 2110 in agency coordination to receive the permits. Construction of the project is planned for this summer.



New Project with Reclamation District 10

A combined GEI environmental and engineering team recently kicked off a contract to prepare a programmatic Drilling and Invasive Program Plan (DIPP) and support environmental documentation for more than 10 miles of the Feather River East Levee in Reclamation District 10 north of Marysville. GEI will also provide engineering design and environmental compliance for two levee reaches that have been identified as a high priority for levee underseepage remediation. GEI environmental team members are conducting biological and cultural resources surveys, preparing technical reports and CEQA compliance documents, and completing regulatory permitting to support the DIPP and remediation projects.



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Tracking Changing Legal Status of Numerous Species

Last December, the USFWS proposed to list two DPSs (Distinct Population Segments) of the western spadefoot (*Spea hommondii*) under the federal ESA: the northern DPS occurs in central and northern California, while the southern DPS occurs in southern California and northwestern Mexico. Due to lack of sufficient data currently, no critical habitat has been proposed at this time. Once occurring from near Redding in Shasta County, California south to northwestern Baja California in Mexico, the species only exists now in small clusters within that range. Western spadefoots are a burrowing amphibian species acclimated to arid and semi-arid regions, reaching depths of up to three feet during the dry season by using their characteristic “spades” on their hind limbs. The species’ outlook under three different future scenarios does not project any regional population’s condition to be above “low-moderate,” with many populations becoming extinct/extirpated without intervention. As such, listing the species and creating a recovery plan appears to be warranted to continue the species’ survival.



Other species listings we are tracking include:

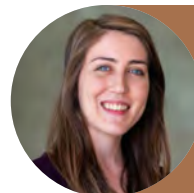
- North American DPS of wolverine (*Gulo gulo luscus*), which was listed as threatened under the federal ESA, effective January 2024.
- Longfin Smelt (*Spirinchus thaleichthys*), which is proposed to be listed as endangered under the federal ESA, with a final rule anticipated to be released sometime in 2024.

- California spotted owl (*Strix occidentalis occidentalis*), which is proposed to be listed as endangered (the Coastal-Southern California DPS) and threatened (the Sierra Nevada DPS) under the federal ESA, with a final rule anticipated to be released some time in 2024.
- Northwestern pond turtle (*Actinemys marmorata*) and southwestern pond turtle (*Actinemys pallida*), which are proposed to be listed as threatened under the federal ESA, with a final rule anticipated to be released some time in 2024. See below, “Implications of the Proposed Federal Listing of Western Pond Turtle.”
- Monarch butterfly (*Danaus plexippus*), which is a candidate for listing under the federal ESA.
- Western burrowing owl (*Athene cunicularia*), which CDFW was petitioned in March 2024 to consider for listing under the California Endangered Species Act.

As the statuses of several special-status species are anticipated to change and require more protection soon, our biologists are staying up to date on survey techniques, species habitat requirements, and how best to protect these resources. Within just the last year, our biologists have attended workshops covering updated information about the western pond turtle, western burrowing owl, and western bumblebee, all species intended to be listed in the future. GEI biologists are always trying to find new sources to learn from and will keep their fingers on the pulse for these at-risk species.



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Implications of the Proposed Federal Listing of the Western Pond Turtle

The western pond turtle (WPT) is proposed for listing as threatened under the federal ESA. Prior to this, the WPT was only listed under state protections, such as a California species of special concern. This listing proposal is driven by a documented decrease in WPT populations, which is strongly associated with the loss or alteration of habitat and competition with invasive sliders. A change in this species' status has several implications for how it is considered and addressed in CEQA analyses and federal ESA permitting. Here we summarize some important considerations about this species.



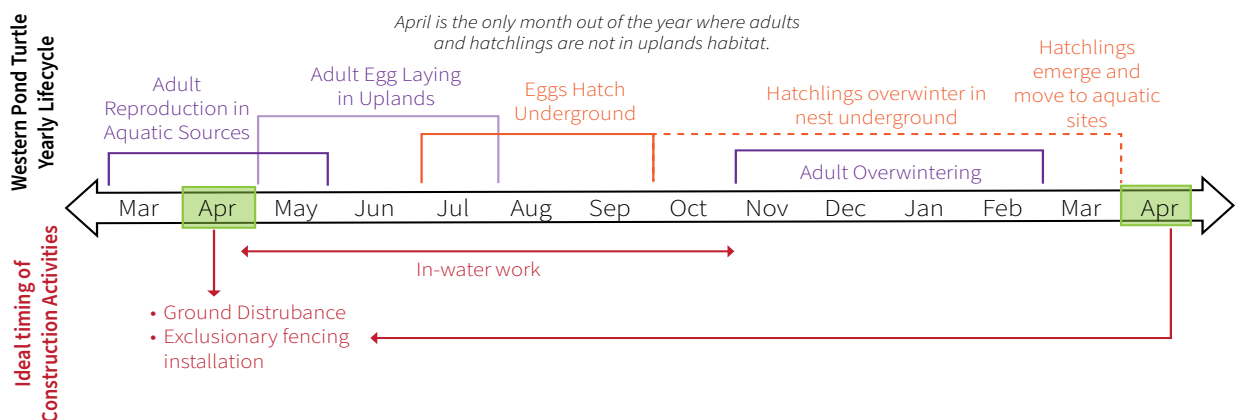
Range: WPT is split into two species – the northwestern pond turtle (NWPT; *Actinemys marmorata*) and the southwestern pond turtle (SWPT; *A. pallida*). In California, NWPT ranges from the coastline to the Sierra Nevada Mountain range, from the northern state border with Oregon

to Kern County, hugging the east side of the Coastal Range. Intermixing between the species occurs on the San Francisco Peninsula south to Santa Cruz County and east to the border of Contra Costa County south to Santa Clara County. SWPT occupies the range south of the intermixing zone to Baja California, and east to the Coastal Range (border of San Benito, Monterey, San Luis Obispo, Santa Barbara, Ventura, Los Angeles,

Orange, and San Diego Counties). One isolated population exists in San Bernardino County.

Habitat: WPT are semi-aquatic and require aquatic and terrestrial habitats connected to each other for their life cycle. WPTs occur in a broad range of permanent and ephemeral aquatic water bodies, such as flowing rivers and streams, lakes, ponds, reservoirs, settling ponds, marshes, vernal pools, livestock ponds, stormwater detention basins, and irrigation ditches. They prefer areas with suitable basking sites, which include rocks, logs, vegetation mats, and floating debris. Suitable uplands habitat for WPT include annual grasslands, forested habitat, and even urban landscaping. The nesting habitat of the WPT are being currently researched; it is believed that WPTs prefer nesting sites with sparse, short grasses and forbs less than 5 inches in height. Their nest sites are commonly located within 50 meters to 150 meters of a suitable aquatic source.

Life Cycle: Seasonal timing of when WPT use aquatic or terrestrial habitats varies throughout the year (see figure below). April is the only month throughout an entire year where both hatchlings and adult WPT are located only in aquatic habitat. Adult reproduction is aquatic, and female WPTs lay their eggs in uplands habitat in May through July. Eggs remain underground in the uplands nest, with hatching occurring in July through September; hatchlings overwinter underground and emerge the following March. Adult WPT enter brumation in November through February, which may be either aquatic or in uplands habitat.



PRACTICE UPDATES

Reducing Impacts to WPT: To reduce impacts to WPT there can be several approaches depending on the project activities, locations, and type of suitable habitat present. Based on current research, conducting nesting surveys is ineffective for the time requirements to locate nests and the short window of effectiveness for making nest identification (May through July 4). Therefore, installing exclusionary fencing in April is believed to be the most effective way to exclude turtles from nesting or overwintering in upland habitat where project work would occur. Since WPTs can climb silt fencing and other types of wildlife exclusion fencing, special consideration must be given to fencing materials when trying to effectively exclude this species from project areas. Additionally, in-water work is recommended to occur from April to October 31 when WPTs are active and can move out of harm's way on their own accord.

Contact GEI for additional information about how we can help assess your project for WPTs' suitable habitat and in planning effective means and measures for exclusion to keep your project on schedule.



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