



Department of Defense Partners in Amphibian and Reptile Conservation 2024 Year in Review



Introduction

For the 15th year the Department of Defense (DoD), through its Partners in Amphibian and Reptile Conservation (PARC) network, continued to support the mission, network members, and the crucial work conducted to manage and conserve amphibians and reptiles on military lands. The DoD PARC network is very grateful to the DoD Legacy Resource Management Program (DoD Legacy Program) for providing funding to support the many projects and deliverables produced. A summary of significant accomplishments for 2024 follows, as well as short biographies of DoD PARC Representatives who work enthusiastically to assist the DoD natural resource community.



Eastern Newt—Paul Block

DoD PARC Mission Statement

In support of military readiness, DoD PARC strives to sustain amphibian and reptile populations and habitats through proactive environmental stewardship, conservation, outreach, and partnerships.

Podcasts

In December 2022, DoD PARC started a new podcast series titled “*Herpetofaunal Project Highlights and Successes*”. The purpose of the podcast series is to highlight amphibian and reptile conservation, management, and research projects being conducted on military lands.

Episodes 4 and 5 were added to the podcast series in 2024. Released in May 2024, the focus of Episode 4 is the Reticulated Flatwoods Salamander management and research project on Eglin Air Force Base. Biologists Rodney Felix and Kelly Jones discuss the purpose, goals, and results of this project as well as the benefits it has to recovering this federally-listed salamander species and for the military mission. Episode 5 was released in August 2024 and features the Diamond-backed Terrapin nesting surveys and protection efforts at Naval Air Station Patuxent River. Installation biologists Jackie Smith and Rebecca Stump discuss the purpose, methods, and results of this important study, including the assistance they receive from the Student Conservation Association. All podcasts are posted on the [DoD PARC YouTube Channel](#). Stay tuned for more episodes in 2025.



Reticulated Flatwoods Salamander—Virginia Tech



Diamond-backed Terrapin—J.D. Willson

Species Profile Video Series



Mediterranean Chameleon—Chris Petersen

DoD PARC’s species profile videos are intended to inform and educate military residents and natural resource managers of the exciting amphibian and reptile species that may be encountered in the places they live and work. These videos are three to seven minutes in duration, and contain narration, pictures, and footage of a particular species on a military site. All 19 of the videos are posted on the [DoD PARC YouTube Channel](#) and [milTube](#). In total, the videos have collectively had more than 53,000 views. Check out our latest video on the Mediterranean Chameleon released in December 2024.

Bioacoustic Recorders

To help DoD natural resource managers document frog and toad species presence on their installations, bioacoustics loggers (sometimes called “frog loggers”) were loaned to eight military sites in 2024 (Canaveral Space Force Station, Naval Support Activity Mid-South, Wright-Patterson Air Force Base, Hurlburt Field, Fort McClellan, Joint Expeditionary Base Little Creek, Army Pueblo Chemical Depot, Air Force Research Laboratory). Over 2,000 hours of data were recorded, generally from spring to late summer at these installations. DoD PARC analyzed these data (at no cost) and provided the results to the participating installations for incorporation into their respective Integrated Natural Resources Management Plans (INRMPs). Please contact the DoD PARC National Representatives to reserve your bioacoustics loggers for 2025.



Wildlife Acoustics SM4 Acoustic Logger

Western Pond Turtle Surveys

In 2023, a cooperative agreement was awarded to the Smithsonian Institute (and sub-cooperator University of Illinois) to expand the current knowledge of the distribution and population sizes of Southwestern and Northwestern Pond Turtles (*Actinemys pallida/marmorata*) on military sites throughout its range. Both pond turtle species are DoD mission-sensitive species, and recently the U.S. Fish and Wildlife Service has proposed that both be listed as threatened under the Endangered Species Act. Led by the University of Illinois, extensive field surveys were conducted in 2024 on 11 military sites in California, resulting in the capture- and marking of hundreds of pond turtles. Up-to-date knowledge of this species on military installations will allow the Western Pond Turtle Rangewide Conservation Coalition, of which DoD and the military services are signatory members, to make informed recommendations for INRMP improvement while simultaneously promoting mission readiness through supporting Western Pond Turtle conservation and habitat management.



Photos provided by the University of Illinois

California Conservation Genomics Project

California Academy of Sciences and DoD PARC survey team at Remote Training Site Warner Springs



DoD PARC, and the California Academy of Sciences, along with other partners throughout California, collected specimens of herpetofauna on military bases throughout the state in 2024. Specimens will be accessioned in perpetuity for science to fill gaps in collections from military lands, and a subset of species will have their genomes sequenced to compare with a statewide effort that does not presently include sampling from military lands. The genetic results will provide a modern investigation of the overall biodiversity of amphibians and reptiles for the entire state of California. These data also document the current amphibian and reptile species confirmed present on military sites in California and provide museum specimens for the scientific community for investigation and study for years to come.

Voucher specimens collected on DoD lands by the California Academy of Sciences



Bio-inventory Strike Team

In 2024, DoD PARC, DoD Partners in Flight (DoD PIF), and the newly emerging “DoD Bats and Rats” collaborated to conduct surveys for reptile, amphibian, bird and bat species at Air Force installations Hurlburt Field, located in the panhandle of Florida, and Point Arena, located in northern California. The primary objective of the surveys was to search for DoD mission-sensitive species that have potential occurrence on the two military sites but have not been confirmed present. These data will improve the understanding of the distribution of at-risk species on military lands across the range of each species, and if confirmed present, assist military natural resource managers to plan, prioritize, and implement conservation and management actions that provide a benefit to these species. The survey data are also beneficial to keeping the respective INRMPs up to date. Our surveys in 2024 confirmed the presence of one mission sensitive reptile species and four avian species collectively on the two military sites.



Picture by Lorraine Ketzler

Department of Defense Photo Share Site

The Department of Defense Natural Resources Photo Share Site originated in August 2011. In August of 2023, the site was migrated to a new platform called SmugMug. The purpose of the site is for sharing photos of plants, animals, and habitats found on DoD lands and the DoD Natural Resources community conducting field work. The site includes approximately 12,000 photos that are ready to be shared or used in reports, posters, presentations, signs, kiosks, pamphlets, brochures, websites, and other publications that have a DoD nexus. We added several hundred new photos to the website in 2024, which had over 113,000 views. **The photos are free and have no copyright limitations!** The new site is private but easily accessible by invitation. To do this, please email either (or both) Paul Block (paul.a.block6.civ@us.navy.mil) and Chris Petersen (christopher.e.petersen4.civ@us.navy.mil).



Prairie Ring-necked Snake- Chris Petersen

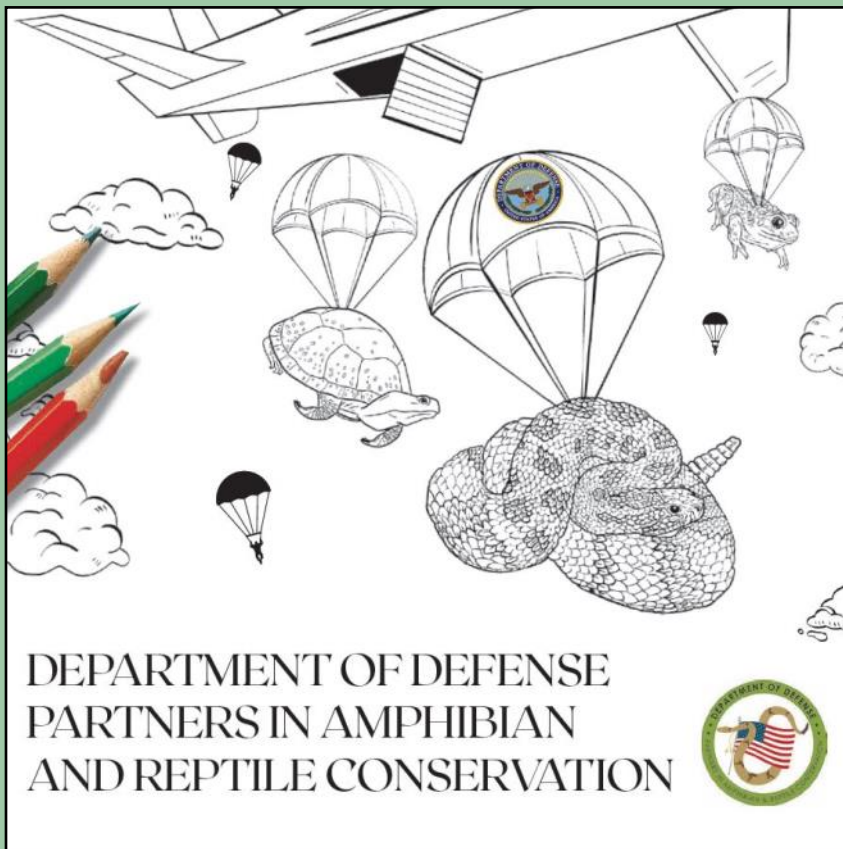


Plains Spadefoot Toad-Brian Monser



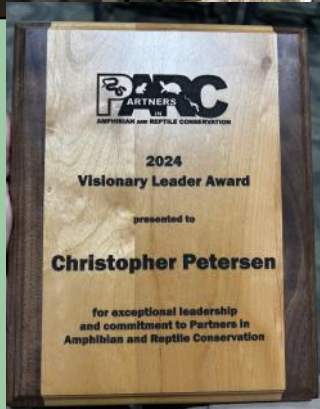
Western Diamond-backed Rattlesnake
Jeremiah Zurenda

DoD PARC Coloring Book



Completed in May 2023, DoD PARC's coloring book quickly became one of our most popular products to date. The coloring book highlights a variety of common and at-risk amphibian and reptile species confirmed present on DoD lands, and includes illustrations for coloring, range maps, photographs, and information about each species ecology and life history. One thousand copies of the coloring book were printed and distributed in 2024 to several hundred military personnel at Earth Day, Amphibian Week, and other outreach events. More hard copies will be printed in 2025.

NMFWA 2024



DoD PARC leadership conducted an hour-long presentation during the 2024 National Military Fish and Wildlife Association workshop to approximately 200 participants in Grand Rapids, Michigan. The focus of the presentation was to provide an update of recently completed and ongoing DoD PARC research projects, products, and initiatives. In addition, the U.S. Fish and Wildlife National Listing Workplan was reviewed, and a representative from the National PARC network presented on their network's latest accomplishments. During this presentation, Chris Petersen was awarded PARC's Visionary Leader Award. This award recognizes an individual in North America who exemplifies extraordinary leadership, vision, and commitment, specifically to PARC, in a manner that has carried PARC to new heights and has significantly forwarded the PARC mission.

DoD PARC Annual In-person Meeting



DoD PARC Strategic Planning Meeting Participants Walk in Fossilized Dinosaur Tracks at the U.S. Forest Service Comanche National Grassland Site –Picture by Richard Riddle

DoD PARC's sixth in-person Strategic Planning Meeting was held at the Piñon Canyon Maneuver Site, Colorado. The purpose of the meeting was to review the DoD PARC Strategic Plan and discuss a wide variety of amphibian and reptile conservation and management topics, DoD PARC initiatives, and products specific to supporting military readiness. The group also conducted a herpetofaunal inventory of the installation to help augment the presence and distribution of herpetofauna on the base and to provide updated data for the INRMP. DoD PARC leadership is very thankful to Natural Resource Managers Rich Riddle and Collin Hildreth for assisting our network with the demonstration of field survey techniques of amphibians and reptiles on the installation and for hosting and participating in our Annual Strategic Planning Meeting.

Using Genomic Resources to Proactively Monitor Imperiled Species on DoD Lands

In support of DoD's objective to prevent the decline of at-risk species on its lands, DoD PARC awarded a cooperative agreement to Tangled Bank Conservation in 2023 to investigate the genomics of nine of DoD's mission-sensitive species on approximately 20 military installations. The goal of this project is to evaluate the current genomic health of populations on and adjacent to DoD sites by estimating recent population trajectories, levels of genetic diversity among populations, effective population sizes, and migration levels among populations. In addition, this project will train installation natural resource managers to collect samples and design future genetic monitoring protocols and programs. In 2024, our cooperators and military natural resources personnel collected genetic samples from Gopher Frogs (*Lithobates capito*), Northern Red-Bellied Cooters (*Pseudemys rubriventris*), and Alligator Snapping Turtles (*Macrochelys temminckii*). In 2025, the focus will be on the Eastern Diamond-backed Rattlesnake (*Crotalus adamanteus*), Florida Pinesnake (*Pituophis melanoleucus mugitus*), Gopher Tortoise (*Gopherus polyphemus*), Spotted Turtle (*Clemmys guttata*), Blanding's Turtle (*Emydoidea blandingii*), and Wood Turtle (*Glyptemys insculpta*). DoD PARC leadership is thankful to the many military natural resource managers who are actively participating in this study and look forward to this study continuing in 2025.

Pictures provided by Tangled Bank Conservation



Amphibian Week

DoD PARC's National Representatives participated in three [Amphibian Week](#) events in Washington D.C. in May 2024. The events took place at the Smithsonian Museum of Natural History, Smithsonian National Zoo Reptile Discovery Center, and the U.S. Department of Agriculture Whitten Building Lawn (National Mall). The purpose of Amphibian Week is to increase awareness about amphibians, their population declines, and their ecological importance. Along with several other federal, state and non-governmental organizations, DoD PARC interacted with over 1,500 people during the three events. We strived to educate the people we interacted with about the incredible diversity of amphibians on DoD's lands, how these species support ecological stability on and off military sites, and the mission of DoD PARC to sustain and conserve these species on military lands.



Rob Lovich and Chris Petersen
participating in Amphibian Week in
Washington D.C.



Scope of Work Template

Do you find it challenging to develop a robust scope of work for an amphibian or reptile survey/inventory on your military installation? No worries, DoD PARC has got you covered. In 2024 DoD PARC updated their *Scope of Work Template*. This template can be modified for installation-specific needs, for nearly any type of survey/inventory of herpetofauna. Use of the template will standardize the methods, data collection, and reporting of herpetofaunal data across the DoD lands. The template is available for download on [DENIX](#).

DoD Mission Sensitive Species Report

In March 2024, DoD PARC released the [Department of Defense Herpetofaunal Mission-sensitive Species Priority List](#) report. The report, developed in partnership with the Military Services, is intended to serve as an informational tool that senior DoD leadership and installation natural resource managers can use to help prioritize proactive species and habitat conservation and management actions to help reverse decreasing population trends and/or prepare installations for potential listings. The document elucidates the methods and considerations for how the priority list was developed and identifies the occurrences (confirmed and potential) of the priority species on military lands

DoD Mission-sensitive Species List for Amphibians and Reptiles

Common Name	Species Name	Number of Installations Confirmed Present
Spotted Turtle	<u>Clemmys guttata</u>	42
Gopher Tortoise (eastern population)	<u>Gopherus polyphemus</u>	31
Eastern Diamond-backed Rattlesnake	<u>Crotalus adamanteus</u>	29
Northern Red-bellied Cooter	<u>Pseudemys rubriventris</u>	27
Alligator Snapping Turtle	<u>Macrochelys temminckii</u>	17
Gopher Frog	<u>Lithobates capito</u>	15
Wood Turtle	<u>Glyptemys insculpta</u>	13
Western Pond Turtles	<u>Actinemys marmorata/pallida</u>	13
Blanding's Turtle	<u>Emydoidea blandingii</u>	11
Western Spadefoot	<u>Spea hammondi</u>	10
Florida Pinesnake	<u>Pituophis melanoleucus mugitus</u>	8



Spotted Turtle Chris Petersen



Gopher Frog-J.D. Willson

Looking Ahead

Mission-sensitive Species Genomic Study – DoD PARC and Tangled Bank Conservation will continue to collect and analyze genetic material from military sites in 2025. A summary report for the samples collected in 2024 will be available in early 2025.

DoD PARC/PIF Bio-inventory Strike Team – DoD PARC and DoD PIF will continue their collaboration to conduct field surveys for DoD mission-sensitive herpetofaunal and avian species on military sites where they have the potential to be present but have not been properly surveyed to confirm their occurrence. In 2025, representatives from both networks will jointly conduct field surveys on two military sites where these species have potential occurrence and a summary report will be developed for each of the surveyed installations.

Venomous Snake Safety Training and Monitoring – DoD PARC is looking into hosting three venomous snake safety training events at military sites in the southeast and western U.S. in 2025. The training events will cover topics such as snake identification, snake behavior, safety planning and avoidance, first aid, and handling techniques. Training graduates will receive a 3-year Snake Safety Certification and a snake safety manual.

Podcasts – More podcasts are planned for 2025. If your installation is conducting a survey or research on herpetofauna and would like to inform the DoD PARC network about the work, please contact the National Representatives.

eDNA Surveys for Western Pond Turtles – DoD PARC has applied for DoD Legacy funding to conduct eDNA surveys for Western Pond Turtles on military sites in Oregon and Washington, where their distribution is not well understood. To date, funds have not been received for this project.



Long-tailed Salamander-Noah Charney

DoD PARC Branding

Looking to purchase a new DoD PARC T-shirt or other items with the DoD PARC logo? DoD PARC now has an account with Threadless (<https://parc.threadless.com/>). Order your new T-shirt or choose from numerous other items with our logo today!



DoD PARC Leadership & Short Biographies

Ryan Orndorff—DoD PARC Network Manager

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Michael Langston—DoD PARC Legacy Program Representative

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Jason Applegate—Army National Guard

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