

DoD Partners in Amphibian and Reptile Conservation 2019 Annual Report



Western Ratsnake-Paul Block



Marbled Salamander-Jamie Reaser



Painted Turtle-Seth Berry



Cascade Frog-Paul Block

2019 marked the Department of Defense Partners in Amphibian and Reptile Conservation (DoD PARC) network's 10th anniversary, and it was another extremely productive year for us. DoD PARC is a tremendous example of what teamwork and partnerships can accomplish, and our network continues to serve as a model of excellence for the management and conservation of amphibians and reptiles on military lands. We thank all who have contributed to our collective success, and we are very proud of our many accomplishments. A summary of our most significant accomplishments for the year follows, as well as short biographies of our Representatives who work enthusiastically to help you.

Education and Outreach

Educating military and civilian personnel about the amphibians and reptiles on DoD installations is one of DoD PARC's primary objectives. In 2019, DoD PARC developed several products that help provide a general understanding of herpetofauna, including species identification guides and inventory lists (such as venomous snakes at both CONUS and OCONUS U.S. military installations), and biographies of people who studied herpetology and served in the military. All the products discussed below are available for download at the [DoD PARC website](#).



Snakes and Safety on Continental U.S. DoD Installations

We developed a 20-minute [video](#) that provides military personnel and natural resource managers with information about identification of venomous snakes on the continental U.S., common myths and misconceptions about snakes, and general snake safety and awareness. From April to early December 2019 the video has been viewed approximately 1,600 times!

Dangerous Snake Guide

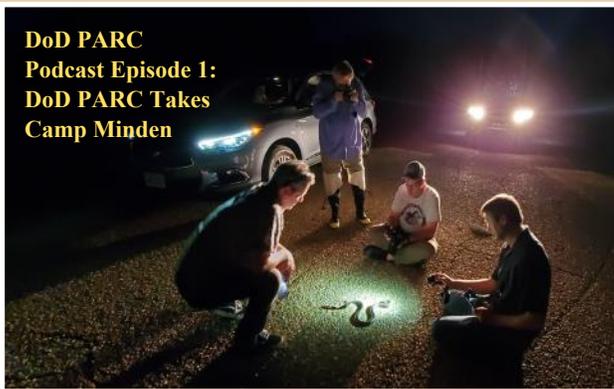
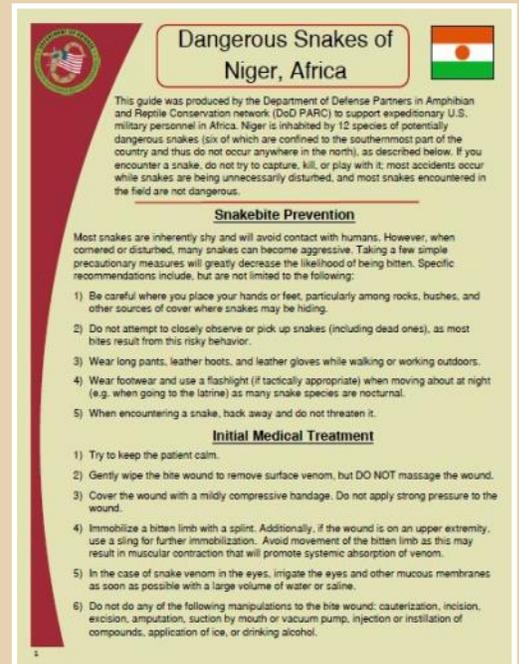
In support of U.S. expeditionary military personnel in Africa, DoD PARC created a [Dangerous Snakes of Niger, Africa](#) guide. We developed this document in partnership with the Armed Forces Pest Management Board with the goal of educating military personnel about the potentially dangerous snakes in Niger.

Tips on How to Keep Snakes Away From Military Housing and Cantonment Areas

Although no area may be completely snake-free (except for installations in Alaska and other polar regions), DoD PARC developed both a [fact sheet](#) and [PowerPoint presentation](#) on recommendations to help make military housing and cantonment areas less attractive to snakes.

Short Biographies of Military Veteran Herpetologists

In honor and celebration of herpetologists who served in the U.S. military, DoD PARC continued creating short biographies on veterans. In 2019, we released our second short biography, which focused on [Dr. Henry S. Fitch](#), who served in the Army Medical Corps and made significant contributions to the field of herpetology.



**DoD PARC
Podcast Episode 1:
DoD PARC Takes
Camp Minden**

Podcast

Recorded at our second Strategic Planning meeting at Camp Minden Training Site Louisiana, DoD PARC released our first podcast in October 2019. The podcast, titled *DoD PARC Takes Camp Minden*, is an introduction to the DoD PARC network including its leadership, purpose and goals, products, and deliverables. Listen to it today at <https://www.youtube.com/watch?v=seAdTBMtTbg&feature=youtu.be>



Common Chuckwalla-Rob Nixon

Publications

DoD PARC Representatives published several articles in 2019 focused on respective topics in support of herpetofauna on military lands. Publications included the following:

◆ Allender, M.C., M. J. Ravesi, E. Haynes, E. Ospina, C. E. Petersen, C. A. Phillips, and R.E. Lovich. 2019. DoD Snake Fungal Disease Survey: Natural Resource Manager Training and Data Collection. Final report submitted to Department of Defense Legacy Resource Management Program. 37pp.

- ◆ Lovich, R.E., and I. Trefry. 2019. Funding Innovation Through DoD PARC. Natural Selections. Spring Issue, pp. 11-12.
- ◆ Petersen, C.E., Goetz, S.M., Dreslik, M.J., Kleopfer, J.D. and Savitzky, A.H., 2019. Sex, Mass, and Monitoring Effort: Keys to Understanding Spatial Ecology of Timber Rattlesnakes (*Crotalus horridus*). Herpetologica, 75(2), pp.162-174.
- ◆ Petersen, C. and R.E. Lovich. 2019. Cataloging Herpetofauna Diversity on DoD Lands with the DoD PARC Inventory. Natural Selections. Spring Issue, pp.5-6.
- ◆ Willson, J. D., C. Petersen, and R. E. Lovich. 2019. A New Technique for Estimating Densities and Detection Probabilities of Secretive Reptiles. Natural Selections. Winter Issue, p.5.

Presentations

DoD PARC Representatives conducted and co-authored several presentations in 2019 to spread the news about the DoD PARC network, products, and work in support of herpetofauna on military lands. Presentations included the following:

- ◆ ***Ophidiomyces Detection in Free-Ranging Snakes on Department of Defense Installations in the U.S. and Puerto Rico:*** given by Robert Lovich at the Joint Meeting of Ichthyologists and Herpetologists. Snowbird, Utah.
- ◆ ***Conservation of an Endemic Reptile: Creation and Potential Applications of a Rangewide Habitat Model for the Flat-tailed Horned Lizard (*Phrynosoma mcallii*):*** given by Patricia Valcarcel at the Annual Meeting of the Western Section of the Wildlife Society.
- ◆ ***Invasive Herpetofauna on DoD Lands:*** given by James Castle at the Innovations in Invasive Species Management Meeting. Coeur d' Alene, Idaho.
- ◆ ***10 Years of DoD PARC:*** given by Chris Petersen and Rob Lovich at the National Military Fish and Wildlife Association Annual Meeting. Denver, Colorado.
- ◆ ***Herpetofauna Conservation in the Department of Defense:*** given by Dave McNaughton at the San Diego Herpetological Society Meeting. San Diego, California.
- ◆ ***Wood Turtles:*** given by Dave McNaughton at the Lancaster Herpetological Society Meeting. Lancaster, Pennsylvania.



Western Milksnake-Ian Trefry

Tools for Military Natural Resources Personnel

Updated Integrated Natural Resources Management Plan (INRMP) Guidelines

DoD PARC updated our [guidelines](#) document for enhancing amphibian and reptile sections of INRMPs. These guidelines support military readiness and compliance with the Sikes Act by ensuring healthy training, testing, and operational environments through the implementation of herpetofaunal management and conservation goals as outlined in installation INRMPs. The guidelines also promote greater inclusion of herpetofaunal conservation in INRMPs and, ultimately, herpetofauna-specific planning and management on military lands.

Updated SOW Template

To assist personnel with developing Performance Work Statements and Scopes of Work, in 2019, we updated our [templates](#) to contract for herpetofauna surveys/inventories on military lands. The templates will save installation natural resource managers time by removing the need to write scopes of work from scratch. Additionally, the templates will help ensure standardization of contract actions and will improve data collection quality for inclusion in INRMPs.

Updated Conservation Status Summary

Distributed in 2019, the updated [DoD Herpetofauna Conservation Status Summary](#) document contains a list and pictures of herpetofaunal species that are federally-listed or that are currently petitioned or under review for listing by the U.S. Fish and Wildlife Service (USFWS) and that have been confirmed present on military installations based on our inventory database. This summary is intended to serve as an informational tool that DoD natural resource managers and military leadership can use to help plan, prioritize, and budget for appropriate conservation and management actions in ways that best meet installation needs.

Habitat Conservation

Best Management Practices Best (BMPs)

DoD PARC and the USFWS jointly developed BMPs for the [spotted turtle](#) (*Clemmys guttata*) and [wood turtle](#) (*Glyptemys insculpta*) in 2019. These at-risk species have been petitioned for listing under the Endangered Species Act and are confirmed present on several dozen military sites. The management practices described in the BMPs are intended to serve as voluntary guidelines that DoD resource managers can use to help plan, prioritize, and implement conservation and management actions.



Spotted Turtle-Cassie Cook

Network Growth

Annual Meeting

We held our second in-person Strategic Planning Meeting at the Camp Minden Training Site, Louisiana on May 21-22, 2019. The purpose of the two-day meeting was to review the DoD PARC Strategic Plan's implementation and to discuss a wide variety of amphibian and reptile conservation and management topics specific to supporting military readiness. The group also conducted a herpetofaunal inventory of Camp Minden, documenting 24 species of herpetofauna, three of which were new parish records.



Wood Turtle-Paul Block

Species Conservation

Snake Fungal Disease Survey

DoD PARC conducted a [survey](#) for the presence of Ophidiomycosis (Snake Fungal Disease [SFD]) on 56 military sites in 2018-2019. SFD is negatively impacting many snake species in the U.S., similar to the epidemics being experienced by bat and amphibian species as a result of White Nose Syndrome and *Chytridiomycosis*, respectively. A total of 657 individual samples representing 58 species in 26 states, four U.S. commonwealths, and one U.S. territory were tested for the fungal pathogen, with 25 species from 19 states/commonwealths/territories testing positive. In addition, this survey was the first to detect the pathogen in Idaho, Oklahoma, and Puerto Rico.



North American Racer with SFD-Jeff Butts

Photo Website

Our [photographic website](#) serves as a platform to share pictures of herpetofauna and their habitats for use in presentations, INRMPs, posters, pamphlets, fact sheets, and more. Group members have added nearly 3,250 pictures to the website, including photos of more than half of all amphibian and reptile species found in the U.S. Our goal is to feature pictures of all the amphibians and reptiles confirmed present on military lands. For access to the website, email paul.block@navy.mil.

Looking Ahead

We have plans for many more great products in 2020, including more podcasts, BMPs for at-risk species, and an in-person certification class on snake handling and safety. We also have plans to develop a DoD PARC Commander's Guide, and will be continuing our work on Snake Fungal Disease CONUS, and expanding it to determine pathways by which this pathogen arrived in the United States by sampling OCONUS locations.



Mud Turtle and American Bullfrog-Chris Petersen



Prairie Kingsnake-Rob Lovich



Marbled Salamanders-Kenneth Erwin

Short Biographies of DoD PARC Representatives



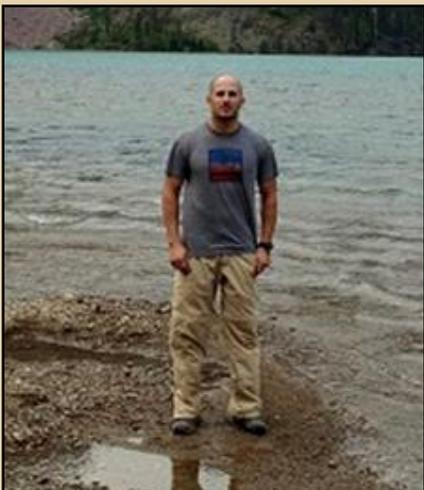
Name: Chris Petersen
DoD PARC Position: National Representative
Job Title: Senior Natural Resources Specialist
DoD Service: Navy (Naval Facilities Engineering Command Atlantic)
Address: 6506 Hampton Blvd., Norfolk Virginia 23508
Contact Information: 757-322-4560; chris.petersen@navy.mil
Herpetofauna Expertise: radio telemetry; pitviper ecology; development of scopes of work and government cost estimates for herpetofauna surveys; inventory and monitoring; development of educational outreach materials; acoustic loggers.



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Herpetofauna Expertise: Inventory and monitoring design; natural history, evolution, and molecular systematics of herpetofauna; pathogen/disease monitoring.



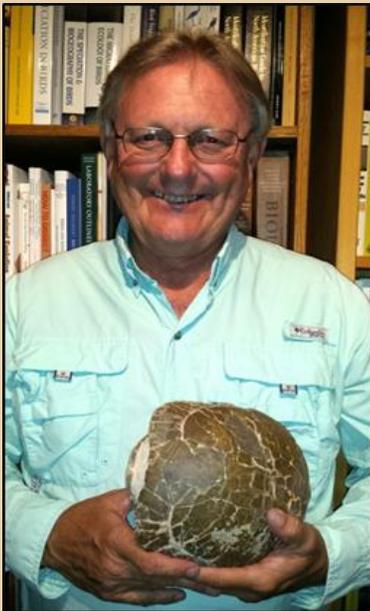
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Herpetofauna Expertise: National Military Fish and Wildlife Association herpetology working group co-chair; herpetofauna surveys; snake educational outreach.



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Herpetofauna Expertise: wildlife photography; field surveys and monitoring; development of educational outreach materials; habitat management/creation.



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Herpetofauna Expertise: wildlife photograph; field surveys and monitoring; scope of work and government cost estimate development for herpetofauna surveys; and development of educational outreach materials.



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Herpetofauna Expertise: modelling and research design of herpetofauna surveys; scope of work and government cost estimate development for herpetofauna surveys; field surveys and monitoring; education and outreach; northwest herpetofauna systematics and technical reviews.



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Herpetofauna Expertise: life history and ecology; field surveys and monitoring; radio telemetry; education and outreach; habitat restoration and management; taxonomy; permitting and other regulations; study design development and editorial reviews.



Name: Dan Leavitt
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Herpetofauna Expertise: conservation biology, population ecology, statistics and modeling, study design, inventory and monitoring, desert herpetofauna.



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Herpetofauna Expertise: field ecology; inventory and monitoring; radio telemetry; disease monitoring; habitat; turtles; fire.



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Herpetofauna Expertise: habitat management of southern pine ecosystems; development of educational outreach materials.



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Contact Information: 207-438-4362; ian.trefry@navy.mil
Herpetofauna Expertise: scope of work and government cost estimate development for herpetofauna surveys; field surveys and monitoring; education and outreach; northeast herpetofauna ecology.

Thank you again for all your hard work this year. We look forward to your continued support in 2020!



In the field at Marine Corps Bae Quantico



Queensnake-Seth Berry



Copperhead-Paul Block



Northern Red Salamander-Chris Petersen