







## PARC'S MISSION

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*Forging proactive  
partnerships to conserve  
amphibians, reptiles,  
and the places they live.*

# ACKNOWLEDGMENTS

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## CREDITS:

**Front Cover:** PARC prides itself in working to build partnerships among those who might outwardly appear in opposition, much like this American Alligator (*Alligator mississippiensis*) and Florida Red-bellied Cooter (*Pseudemys nelsoni*), both seemingly unphased by this arrangement. – Judith C. Scarl

**Inside Front Covers:** Spotted Salamander (*Ambystoma maculatum*) – Jonathan Drescher-Lehman

**Back Cover:** Molly Parren records morphometrics from an Ornate Box Turtle (*Terrapene ornata*) as part of a PARC-endorsed research project led by Colorado State University. – Danny Martin

**Pages 2-3 photos:** Red Cornsnake (*Pantherophis guttatus*) – Dirk Stevenson; Squirrel Treefrog (*Hyla squirella*) – J.D. Willson; Eastern Box Turtle (*Terrapene carolina*) – David Berkwall

Thanks to Victor Young for graphic design and layout!

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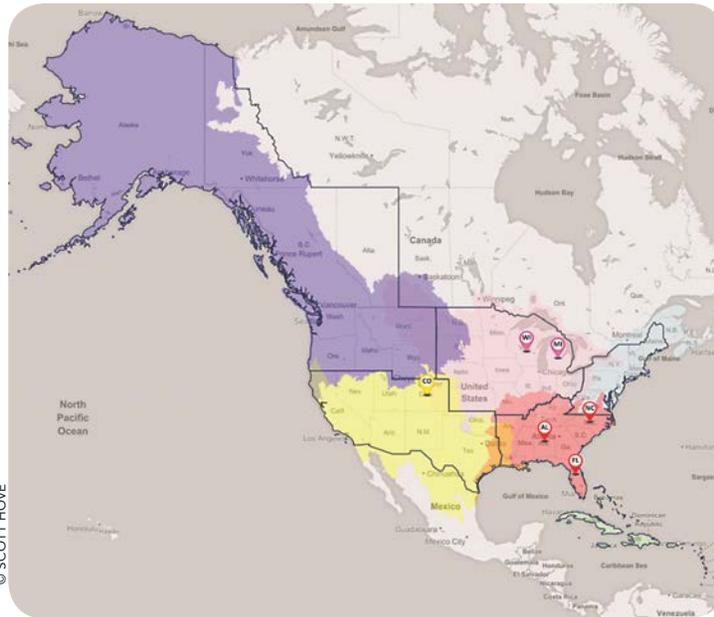




## WHO IS PARC?

Our partnerships are diverse, including representatives of government, industry, nongovernmental organizations (NGOs), zoos and aquariums, private consultants, private citizens, and academia.

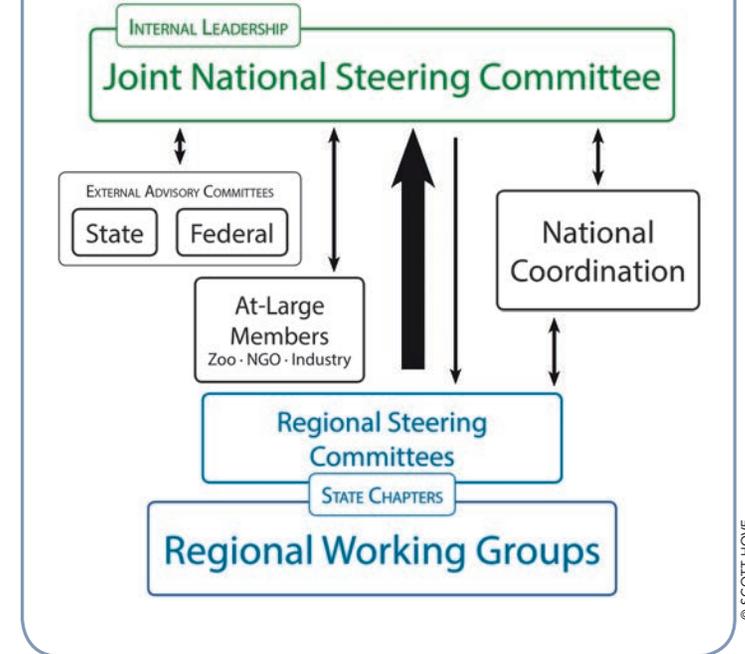
Our membership now extends from western Canada throughout the continental U.S. and into the Caribbean. Anyone with an interest in herpetofaunal conservation is welcome, regardless of experience or expertise.



PARC's regional and state working groups are the foundation of the partnership, where on-the-ground issues are translated into actions and products.



## PARC'S ORGANIZATIONAL STRUCTURE



Arrows depict the general flow of communication.

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## WHAT'S IN THIS ANNUAL REPORT?

This report celebrates PARC's 17th year, one in which we focused on the future and built on our strong foundational partnerships. We developed five Core Values, which you will see heading the subsequent sections, and around which we framed our year's accomplishments. We hope you enjoy reading what we've done – we're especially proud to demonstrate that our values reflect our work, and our work reflects our values.

YOU CAN BE A  
PARC MEMBER

*The only requirement is a  
passion for the conservation of  
herpetofauna.*

core value:

# INCLUSIVITY and COLLABORATION

PARC is a network that is open to people of all backgrounds, skills, and perspectives, thus providing a community of practice, which coordinates and cooperates toward mutual or complementary goals.



Snapping Turtle (*Chelydra serpentina*)



Alpine Newt (*Ichthyosaura alpestris*)

**Joint National Steering Committee (JNSC)** – How many herpetologists does it take to write a new mission statement? More than you'd think! After hosting strategic planning sessions (in Birmingham, AL and Pittsburgh, PA) and several JNSC conference calls, we've crafted new mission and vision statements and core values for PARC. Why was this necessary? Because PARC has grown tremendously in size and capacity since its initiation in 1999. It was time to reflect on our past successes, consider our future goals, and update our guiding documents.

**NGO representative: Amphibian Survival Alliance (ASA)** – Collaborative global partnerships were ASA's focus for 2016. We recruited new partners working on a wide variety of issues, while encouraging new organizations to join in on amphibian conservation efforts. We also began implementing the [Amphibian Conservation Action Plan \(ACAP\)](#), ensuring that partners take on recommendations and work together to bring these to fruition. Tools to track the progress of

ACAP implementation are in development and we look forward to sharing our successes with our partners.

**Zoo representative: Association of Zoos and Aquariums (AZA)** – In conservation, the phrase “think globally, act locally” is often used. Sometimes, the reverse can also work well! While the conservation of Western Pond Turtles (*Actinemys marmorata*) has traditionally been conducted at the local and regional levels, the AZA and its accredited zoos and aquariums are scaling up. Through the [Saving Animals from Extinction \(SAFE\) program](#), AZA, along with its members and partners, initiated a range-wide conservation coalition for this species. This broad-scale collaboration will increase our chances of success at conserving this amazing animal.

**Midwest PARC (MW PARC)** – Conservation efforts in the Midwest are slated to get a boost with the proposed establishment of Ohio PARC. This new state chapter will grant more attention to local issues, or those specific to the state, and will help to increase engagement with key personnel in Ohio.

MW PARC members looking for reptiles and amphibians.



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**Northwest PARC (NE PARC)** – What happens when you cram 130+ herp enthusiasts into a room for two days? Answer: Good times! This past August marked NE PARC's 18th annual meeting, which kicked off with field trips to search for local turtles and stream salamanders at the Helen W. Buckner Memorial Preserve. Seeing a diverse group of herp enthusiasts in the field always reminds us of the inclusive and collaborative nature of PARC. The planning team is gearing up for the 2017 meeting in Virginia; we hope to see you there.

**Northwest PARC (NW PARC)** – With an annual meeting theme of Conservation Across Borders, we connected a variety of organizations and individuals from different backgrounds with a common denominator: the desire to conserve and protect herpetofauna. During the day-long meeting, presenters showcased methods for successful conservation, including providing care and sanctuary (herpetology societies), enforcing laws and regulations (federal and state agencies), and completing habitat restoration



© CHUCK PETERSON

◀ Attendees of the 2016 NE PARC annual meeting in Vermont.

projects and inventories (zoos and colleges). In her talk, Protecting What Matters, keynote speaker Dr. Jamie Reaser (US National Invasive Species Council) provided an aesthetic perspective to herpetofaunal trade issues, intertwining human values with belief systems.

**Southwest PARC (SE PARC)** – It's been a record year for SE PARC! Our 2016 annual meeting held in Navoo, AL had 235 participants from a variety of backgrounds including 40 universities and colleges, 12 state agencies, 15 non-profits, 4 federal agencies and 3 industries. How's that for collaboration? In the spirit of inclusivity, we also worked hard on developing an all-encompassing Diversity Statement, which can be found on our website ([separc.org](http://separc.org)).

**Southwest PARC (SW PARC)** – Our working groups are a great way to get involved and collaborate in SW PARC. Some new collaborative efforts this year include the Outreach Team, dedicated to maintaining existing members and bringing on new members (including outreach to Mexico); a Southwest Amphibian and Reptile Herpetological Atlas Team; and the Southwest Disease Task Team. Ongoing groups include Priority Amphibian and Reptile Conservation Areas (PARCAs), Venomous Reptile Training, and Rattlesnake Conservation. All of these teams meet at each annual meeting and are open to all meeting participants. The SW Disease Task Team is looking for co-chairs and active members to participate in 2017 – check [swparc.org](http://swparc.org) for information and updates.

◀ 2016 NW PARC meeting with keynote speaker, Dr. Jamie Reaser.



© DANNY MARTIN

CO PARC meeting attendees in Longmont, CO. ▲

**Colorado PARC (CO PARC)** – CO PARC continues to expand its connections with New Mexico Highlands University (NMHU). Some graduate students from this university faithfully attend our meetings every year, but this is the first year we had the esteemed Dr. Jesús Rivas, Associate Professor from NMHU, as the keynote speaker. He gave a fascinating presentation on the subject of Anacondas and Conservation. Dr. Rivas is from Venezuela and became well-known after the television documentaries he did with National Geographic. You can find out more information at [anacondas.org](http://anacondas.org).

**North Carolina PARC (NC PARC)** – In NC, we strive to share our knowledge of amphibians and reptiles with those who can make a big impact on conservation efforts. Last year, we held a herp training day for new wildlife law enforcement recruits within the North Carolina Wildlife Resources Commission. Presentations focused on biology and natural history of native reptiles and amphibians, laws relative to certain species, case studies involving past wildlife violations, and safe handling practices.

Law enforcement recruits at a herp workshop at the NC Justice Academy in Salemburg, NC. ►

**Federal Agencies Steering Committee (FASC) representative: NPS** – National Park Service turned 100 this year! Their centennial celebration included several HerpBlitzes: a Reptile Roundup at Hot Springs National Park in Arkansas, a nocturnal ReptileBlitz at the Petrified National Forest in Arizona, and a NewtBlitz at Sequoia and Kings Canyon National Parks. Members of the public, including school children, were invited to participate in these and other BioBlitzes throughout the year. These activities were as much about creating new generations of stewards as they were about documenting herpetofaunal biodiversity.



© JEFF HALL



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▲ Staff from the National Park Service and the National Geographic Society celebrate a successful 2016 National Parks BioBlitz at the closing ceremony on the National Mall in Washington, D.C. on May 21, 2016.

*Seeing a diverse group of herp enthusiasts in the field always reminds us of the inclusive and collaborative nature of PARC.*

core value:  
**PROACTIVE,  
RESPONSIVE** and  
**ADAPTIVE APPROACHES**

The PARC model of effective conservation anticipates emerging threats when possible, but also responds to existing needs. In doing so, we develop practical solutions, or build the desired expertise or resources. We aim to adapt our approaches when efficiencies or improvements can be realized.



Woodhouse's Toad (*Anaxyrus woodhousii*)

*PARC's National Disease Task Team* is prepared to fight amphibian and reptile diseases. To facilitate communication toward early detection and rapid responses to disease issues by management agencies, the task force developed an alert system for people in the US and Canada to report sick, dying, or dead amphibians and reptiles ([herp\\_disease\\_alert@parcplace.org](mailto:herp_disease_alert@parcplace.org)). See the *PARC Disease Task Team webpage* for additional information (<http://parcplace.org/parcplace/resources/disease-task-team.html>).

*NW PARC* – If you're curious about amphibian and reptile conservation activities in your area, NW PARC has the tool for you! We've been developing



Snake Search citizen scientists in action.

an online resource called “[In Your Area](#)” to assist with the dissemination of conservation knowledge and management strategies. This site will provide a public platform for learning about local herpetofaunal projects and will link to professionals who can supply additional details. NW PARC is hoping to use the online site to highlight projects such as Snake Search, a citizen-science program and collaborative effort between the US Forest Service (USFS) and the North Cascades Institute.

**SE PARC** – For salamander lovers, 2016 was booming with updates and actions regarding *Batrachochytrium salamandrivorans* (*Bsal*). If you’re still new to *Bsal*, it’s a recently discovered pathogenic fungus that has caused die-offs in certain wild salamanders in Europe. In response to the alarm and confusion surrounding this pathogen and its risks to our many SE salamanders, we hosted a workshop at our annual meeting to educate attendees with the most up-to-date *Bsal* biology and policies. Plans are in place to host workshops on *Bsal* and snake fungal disease at our 2017 meeting. We hope that by hosting these workshops, the SE PARC community can facilitate early responses to these emerging threats.

**SW PARC** – We identified candidate PARCAs in New Mexico this year. This work represents the second statewide PARCA effort in the Southwest; the other was a pilot project in California, which will be updated and completed over the next year. We plan to use the results from New Mexico to inspire additional conservation action within the state’s PARCAs, and to pursue additional PARCA efforts in other SW states.

**CO PARC** –

No person is too young to have an impact on herpetofaunal conservation. Haley Urbanek, a high school student member of CO PARC, observed that cattle guards in New Mexico were inadvertently trapping amphibians, reptiles, and birds when they became flooded with rainwater. Haley sought guidance from CO PARC, after which she wrote the USFS about the matter. The USFS was grateful for Haley bringing this to their attention and replaced the cattle guards with ones that would prevent animals from becoming trapped. Thanks, Haley, for making a difference!

**AFWA Amphibian & Reptile Subcommittee** – New federal policies can be confusing, and can impact state fish and wildlife agencies. In January, in response to concerns about *Bsal* entering the United States, the US Fish and Wildlife Service (USFWS) released an [interim final rule](#) listing 201 salamanders as injurious via the Lacey Act. We held Q&A sessions with USFWS in February to increase understanding and compliance with the rule. We also coordinated and submitted official AFWA comments on the rule in March, and continued to suggest improvements and collaborate with the USFWS throughout the year, as they finalized the rule.



The scientific name of the fungal pathogen, *Batrachochytrium salamandrivorans* (*Bsal*), literally means “salamander eater.” The pock-markings visible all over this Fire Salamander (*Salamandra salamandra*) illustrates one way a *Bsal* infection may present itself.

**FASC** – The federal agencies again demonstrated their strong commitment to PARC. Although the agencies that contribute monetarily toward PARC federal coordination can vary from year to year, our federal members are always responsive and willing to assist. When a budget shortfall emerged in early 2016, the FASC Co-chairs wrote letters to heads of the FASC member agencies with requests to help. Animal and Plant Health Inspection Services (APHIS), National Marine Fisheries Service (NMFS or NOAA Fisheries), and US Geological Survey (USGS) quickly responded to make up the deficiency, bolstering funds already committed by Bureau of Land Management (BLM), NPS, USFS, and USFWS. We are grateful for the quick response, as well as the continued support!

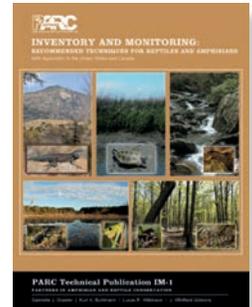
# core value: SCIENTIFIC INTEGRITY

PARC produces or delivers materials and services that are based on the best available science and expertise, and we update and improve these as new data become available.



Eastern Collared Lizard (*Crotaphytus collaris*)

**JNSC** – We're excited to announce that PARC's Inventory and Monitoring guide (I&M) is now available for purchase. The I&M is based in sound science and is the most comprehensive set of guidelines currently available for the management and conservation of herpetofauna. There was such high demand for these books that we sold out following our initial print run. We're offering a special deal for bulk orders: for every 15 books purchased, you will get a \$100 discount. Order your copies now!



The PARC Inventory and Monitoring guide provides an excellent resource for people wanting to understand the animals in their location of interest.

**ASA** – When there is so much to do for amphibian conservation, guidance to prioritize actions and limited resources is welcome. The ACAP provides an essential road map to direct global amphibian conservation actions. First published in 2007, it was recently updated and now exists as a dynamic, living document on [amphibians.org/acap](http://amphibians.org/acap). The ACAP currently comprises 12 Working Groups that are coordinated by the International Union for the Conservation of Nature's Species Survival



The Amphibian Conservation Action Plan is a living document available online that identifies short- and medium-term actions that will address specific amphibian conservation challenges

Commission, Amphibian Specialist Group, and tackles the foremost threats and management approaches through recommendations developed by experts. The ASA is mobilizing, supporting and coordinating an active partnership to implement the ACAP.

**Forest industry representatives** – Our industry remains committed to minimizing harm on vulnerable amphibian and reptile populations. We continued to employ collaborative research to advance our understanding of how managed forestlands support populations and provide habitat for amphibians and reptiles in North America. Industry scientists also brought together a suite of researchers for a symposium at The Wildlife Society’s 23rd Annual Conference that examined current research on effects of anthropogenic disturbance on herpetofauna and covered topics from intensive forest management to climate change.

**SE PARC** – With so many species, it’s tough to keep track of conservation statuses and regional responsibilities. That’s why we’re excited to be in the final phase of developing a Southeast Species of Regional Responsibility and Conservation Concern document, modeled off of the [NE PARC version](#). We hope this important document will help to push forward conservation efforts of species that are regionally important in the southeast. In the interest of scientific rigor, state and regional experts have been heavily involved in the process of validating and reviewing the document. We look forward to unveiling the final product!

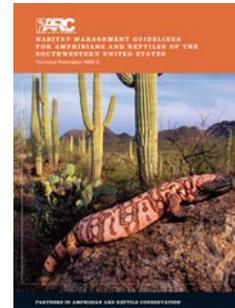


Red-legged Salamander (*Plethodon shermani*)

© KIRA MCENTRE

**SW PARC** – The long-awaited Habitat Management Guidelines for Amphibians and Reptiles of the Southwestern United States is now available for purchase on [Amazon.com](#)! This publication was a collaborative effort with chapters written by numerous well-known herpetological experts in the region. Check out the announcement on SW PARC’s website ([swparc.org](http://swparc.org)).

After many years of collating information, and with the support of many partners both to the document text and its production, the Southwest HMG is finally available for purchase!



**SW PARC and CO PARC** – The first step towards effective wildlife monitoring is choosing an appropriate and scientifically defensible survey method. That’s why SW PARC and CO PARC

supported a three-year scientific field study that evaluated five survey methods for monitoring occupancy of terrestrial reptiles in the Great Plains ecoregion, which spans eight states. Danny Martin (PhD candidate, Colorado State University) began data analysis in 2016 and plans to present final results in 2017. Project partners included five federal and nine state agencies, Colorado State University, three conservation organizations, including PARC, and many private landowners.

**FASC representative: The Department of Defense (DoD)** – The DoD has its own PARC chapter, and wants all of the natural resource staff in the Navy to have the opportunity to learn more about amphibians and reptiles. They funded and coordinated production of training modules that will provide an overall review of these amazing animals – their diversity, how to inventory and monitor them, and myths often associated with them.



Members of CO PARC searching for amphibians and reptiles at Vogel Canyon, Comanche National Grasslands.

© KIRA MCENTRE

# core value: **BIODIVERSITY**

Although our focal species are amphibians and reptiles, PARC considers the work we do in the contexts of maintaining, conserving, or enhancing all levels of biodiversity, from genetic diversity to habitat quality and ecosystem function. This approach benefits and complements multiple species and conservation partners.



Blue Ridge Two-lined Salamander (*Eurycea wilderae*)

*JNSC* – Candidate PARCAs have been identified in 18 states to date, and received major funding in 2016 to expand to additional states. PARCAs are geographic areas of particular importance to herpetofaunal conservation, designed to encourage and incentivize voluntary habitat management, restoration, or land acquisition which in turn can benefit several wildlife species and can enhance ecosystem health. Plans are underway to identify candidate PARCAs in ten more states within the next two years.

*The effort to identify PARCAs has been successful through major funding support via Competitive State Wildlife Grants and from USFWS, USFS, NPS, Amphibian and Reptile Conservancy (ARC), and the South Atlantic and North Atlantic Landscape Conservation Cooperatives.*

*MW PARC* – We recognize the value of citizen science projects as a collaborative way to increase data quality and quantity. In collaboration with HerpMapper, we began development of a phenology project to document the timing of key life history events, such as breeding, in wild populations of reptiles and amphibians. When completed, this project will act as a real-time tool for biologists and naturalists, and will help inform management actions for other species that serve as prey, or predators, for amphibians and reptiles.



© MIKE BENARD

◀ A male Spring Peeper, *Pseudacris crucifer*, calls to attract a mate.



© JENNIFER ANDERSON-CRUZ

Blanding's Turtle, ▶  
*Emydoidea blandingii*.

**NW PARC** – Biodiversity is reflected in the leadership of NW PARC: both co-chairs represent land management organizations concerned with natural resource sustainability, including habitats for all biota across all lands. Using this lens to view herpetofaunal conservation enables an intertwining of messaging to raise the awareness of amphibians and reptiles within a broader ecosystem context. One example of this approach is the new amphibian webpage developed by our Senior Co-chair Betsy Howell (USFS) as a template for use by the USFS for all national forests.

**AFWA** – Sometimes an opportunity for a broader solution presents itself with a specific problem. The AFWA Amphibian & Reptile Subcommittee has been viewing the attention and policy efforts toward preventing introduction of *Bsal* as an opportunity to examine the unmet needs, challenges, and coordination avenues for all wildlife diseases. In collaboration with partners working on white nose syndrome (WNS) and sea star wasting disease (SSWD), and with assistance from the PARC Disease Task Team and *Bsal* Task Force, we were able to secure nearly \$500,000 in funding that will allow us to develop improved policies and infrastructures for the benefit of all wildlife.

**FASC** – Midwest PARC and National PARC are teaming up with Natural Resource Conservation Service (NRCS) biologists in Indiana, Illinois, and Ohio. We are writing a proposal to apply the [Working Lands for Wildlife \(WLFW\)](#) model to Blanding's Turtles (*Emydoidea blandingii*). We are developing guidance associated with conservation practices for private landowners and others who implement them can receive technical and financial assistance for their conservation efforts. We are grateful to Jennifer Anderson-Cruz, NRCS State

Biologist for Illinois, for taking over as lead coordinator for efforts, and look forward to seeing what the conservation team puts together in the year to come!

**FASC representative: DoD** – The DoD updated their herpetofaunal species lists for 152 Army and Army National Guard sites. All major DoD installations that have Integrated Natural Resource Management Plans (INRMPs) now have lists of herpetofaunal species expected to occur and documented as occurring. This includes 303 DoD installations and 420 distinct parcels. INRMPs provide for the management of all natural resources (fish, wildlife, and plants) while ensuring that there is no net loss in the capability of an installation to support its military mission. These new herpetofaunal species lists will help facilitate their conservation as part of natural resource management activities.



© ORIGINAL ARTWORK BY ARPITA CHOUDHURY

◀ In the United States, bats are facing WNS, sea stars are facing SSWD, and salamanders are at great risk of *Bsal* introduction.

# core value: **OPTIMISM**

PARC communicates challenges and needs for amphibians and reptiles in a positive manner, providing hope and highlighting successes, and looking at all possible opportunities where we can make a difference.



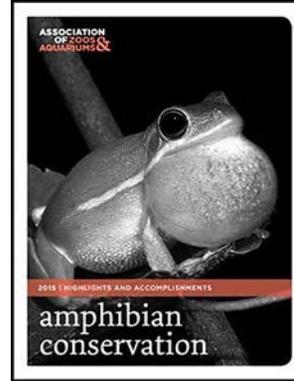
Plains Gartersnake (*Thamnophis radix*)

**JNSC** – The PARC leadership strives to acknowledge and celebrate our herpetofaunal conservation champions. And that’s why Linda Weir is the 2016 recipient of the Alison Haskell Award for Excellence in Herpetofaunal Conservation! Among many accomplishments, Linda coordinated the USGS [North American Amphibian Monitoring Program \(NAAMP\)](#) for 15 years, served as a co-chair for NE PARC and the JNSC, and was an editor for the book *North American Amphibians – Distribution and Diversity*.



© TASHIA FOREMAN

**AZA** – It’s important to acknowledge the work of our members toward our conservation goals. To do so, we published a report celebrating the amphibian conservation efforts of more than 100 of our members. In total, AZA-accredited zoos and aquariums reported conservation efforts targeting more than 80 amphibian species around the world, and supporting projects and organizations that seek to protect amphibians more broadly. The dedication, innovation, and scope of activity of AZA-members are inspiring!



A new AZA report highlights the vast array of amphibian conservation activities of our member zoos.

**CO PARC** – One way that CO PARC tries to make a difference is by promoting mentorship of youth members. We have begun inviting youth representatives to observe steering committee meetings and provide feedback from their perspective. In 2016, we were pleased to have strong youth member participation at our annual meeting. Among them was high school student Hunter Johnson. Hunter was inspired to begin a survey effort at Peschel Open Space outside of Longmont, CO, with assistance from senior CO PARC members.

2016 Alison Haskell Award winner,  
Linda Weir, USGS

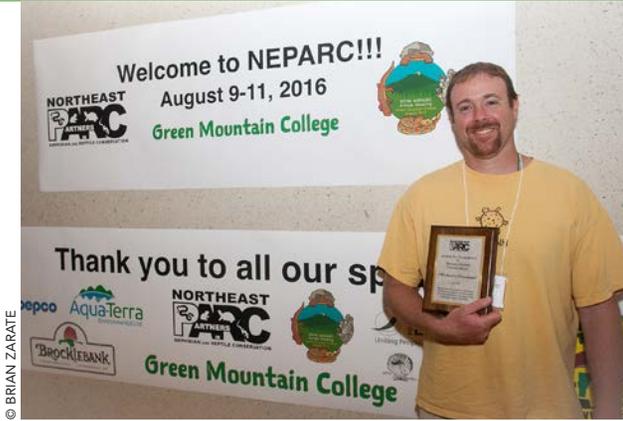


Northern leopard frog  
(*Lithobates pipiens*)

**Forest Industry** – Keep an eye out for a new initiative called the [North American Forest Partnership \(NAFP\)](#), a diverse group of individuals, companies and organizations dedicated to the conservation, management and use of North America’s forest resources. Through information, story sharing and engagement online, NAFP seeks to tell the positive story of the social, environmental and economic value created by sustainable, healthy forests.

A new forest industry initiative,  
the North American Forest Partnership,  
will be coming soon!





◀ Mike Marchand is the inaugural winner of the NE PARC Award for Excellence in Herpetofaunal Conservation.



**NE PARC** – We love to acknowledge the many stars among our members whenever possible! During our annual meeting, we were delighted to award Mike Marchand, state herpetologist for the New Hampshire Fish & Game Department, with the inaugural NE PARC Award for Excellence in Herpetofaunal Conservation. The kudos didn't stop there, as Kristine Hoffman from the University of Maine and Jamie Shinskie from Bloomsburg University both took home accolades and cash as student presentation winners.

**NW PARC** – With so many inspiring members, we decided to institute our first regional award, the Luminary Award, to be presented annually to an individual who exemplifies extraordinary leadership, vision, and commitment to amphibian and reptile conservation in the Northwest. We're pleased to announce that Dr. Charles (Chuck) R. Peterson of Idaho State University is the first recipient! Chuck has been a beacon of light for Northwest herpetology for over 40 years, and has focused much of his work on the ecology and conservation biology of amphibians and reptiles of the Intermountain West.

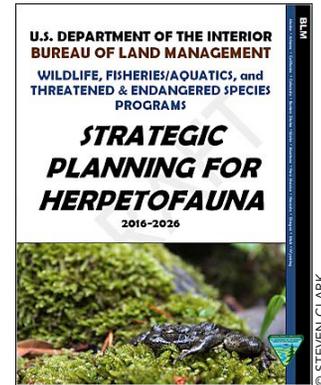
NW PARC steering committee member Dede Olson ▶ presenting Chuck Peterson with the Luminary Award.

**SW PARC** – One of SW PARC's heroes, Charlie Painter (1949-2015), was an excellent mentor to many herpetologists. In 2015, members of SW PARC voted to create the Charlie Painter Memorial Award, to celebrate our regional heroes. The award is dedicated to those who have demonstrated exceptional mentorship for students/enthusiasts in herpetology or excellence in knowledge of the natural history of reptiles and amphibians. We were pleased to award Dr. Randy Jennings of Western New Mexico University the first Charlie Painter Memorial Award for his exceptional mentorship skills!



**FASC representative: BLM**

– A new era of herpetofaunal conservation has begun at the BLM. The very first webinar in their new Wildlife Webinar series highlighted the BLM-PARC partnership. Topics also included the new BLM National Herp Management Resource Team, draft Strategic Plan for Herpetofauna, a summary of BLM resource opportunities, and needed tools and trainings. BLM biologists recognize that amphibians and reptiles are a natural treasure in need of more time and attention, and are ready and willing to deliver the necessary resources. We are excited about these future collaboration efforts!



BLM drafted a draft strategic plan for herpetofauna, the foundation of which is a state-by-state herpetofaunal needs summary.



Northern brownsnake,  
(*Storeria dekayi dekayi*)

**FASC representatives: USFS and USFWS** – “Needles in a Haystack” is a project at the Francis Marion National Forest (FMNF) that aims to document and confirm the presence of rare species that haven’t been observed for many years. Over 250,000 acres, the FMNF is one of the largest and most herpetologically important remnants of coastal longleaf left on the Atlantic seaboard. The project is a partnership of the USFS along with USFWS, the South Carolina Department of Natural Resources, and the Amphibian and Reptile Conservancy. As a result, the first-ever live-captured Eastern Diamond-backed Rattlesnake (*Crotalus adamanteus*) has been documented on FMNF. Other “needles in the haystack,” such as Northern Pinesnakes (*Pituophis m. melanoleucus*), Southern Hog-nosed Snakes (*Heterodon simus*), Spotted Turtles (*Clemmys guttata*), and Gopher Frogs (*Lithobates capito*), have also been documented. The group is hopeful that they will continue to find more individuals of these species, and other rare species as well!

Bog turtle, ▶  
(*Glyptemys muhlenbergii*)



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