



2014 ANNUAL REPORT





ACKNOWLEDGMENTS

CREDITS:

Front Cover photos: *Large background:* Longtail Salamander (*Eurycea longicauda*, J.D. Willson); *Top Left to Right:* Northern Dusky Salamander (*Desmognathus fuscus*, Noah Charney); Green Salamander (*Aneides aeneus*, Alan Cameron); Fire Salamander (*Salamandra salamandra*, Stefano Rambaldi)

Back Cover: *Large background:* Eastern Newt (*Notophthalmus viridescens*, Marty Silver); *Left side, top to bottom:* Eastern Long-tailed Salamander (*Eurycea longicauda longicauda*, Andrew Burmester); Nimble Long-limbed Salamander (*Nyctanolis pernix*, Todd Pierson); Jemez Mountains Salamander (*Plethodon neomexicanus*, Mark L. Waston)

Page 2 photos: *Top Left to Right:* Everglades Dwarf Siren (*Pseudobranchius axanthus belli*, Josh Young); Eastern Newt (*Notophthalmus viridescens*, Victor Young/New Hampshire Fish and Game Dept. [NHFG]); Long-toed Salamander (*Ambystoma macrodactylum*, Mark Thompson),

Page 3 photos: *Top Left to Right:* Eastern Red-backed Salamander (*Plethodon cinereus*, Victor Young/NHFG); Marbled Salamander (*Ambystoma opacum*, John White); California Tiger Salamander (*Ambystoma californiense*, John Cleckler/USFWS)

Page 2-3 background: Cattails, New York (Valorie Titus)

THANKS to Victor Young for graphic design and layout!

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AVAILABLE ONLINE AT: www.parcplace.org





INTRODUCTION

PARC MISSION

To conserve amphibians, reptiles and their habitats as integral parts of our ecosystem and culture through proactive and coordinated public/private partnerships.



Partners in Amphibian and Reptile Conservation (PARC) was established in 1999 to address the widespread declines, extinctions, and range reductions of amphibians and reptiles, with a focus on conservation of taxa and habitats in North America. Amphibians and reptiles are affected by a broad range of human activities, both as incidental effects of habitat alteration and direct effects from overexploitation; these animals are also burdened by humans attitudes – that amphibians and reptiles are either dangerous or of little environmental or economic value. However, PARC members understand these taxa are important parts of our natural and cultural heritage and they serve important roles in ecosystems throughout the world. With many amphibians and reptiles classified as threatened with extinction, conservation to ensure healthy populations of these animals has never been more important. As you will see herein, PARC's 15th anniversary has been marked with major accomplishments and an ever-increasing momentum. With your help, PARC can continue to build on its successes and protect these vital species.

PARC is:

- An inclusive partnership created to help connect and complement local, regional, national, and international herpetofaunal and habitat conservation efforts.
- A network of like-minded citizens, professionals, and organizations dedicated to the conservation of herpetofauna and their habitats with representatives from science and education, species conservation and land management, industry and commerce, state and federal governments, conservation societies, pet and field hobbyists, and the general public.
- An entity that coordinates and provides recommendations and guidelines based on sound science and consensus among scientists.
- The only partnership to address the conservation of all amphibians and reptiles, as well as their habitats, with a goal of keeping common species common.

PARC is not:

- A funding entity.
- A government agency.
- A policy-making or regulatory entity.
- An advocacy entity.

2014 YEAR OF THE SALAMANDER

PARC and over 60 partners celebrated 2014 as the Year of the Salamander, an awareness campaign to energize education, research, and conservation efforts to benefit salamanders. Given that roughly half of the world's salamander species are listed as Threatened by the International Union for Conservation of Nature (IUCN), the time was right to raise awareness. This worldwide campaign was conducted largely through partnership efforts, including numerous educational and outreach events, scientific symposia, art exhibitions, social media actions, and a variety of other outlets.

The Year of the Salamander Planning Team developed the State of the Salamander report, which highlights diversity of salamanders worldwide, the importance of salamanders in food webs and natural systems, threats to their existence, and research and conservation actions under way to help better understand salamanders and protect their populations and habitats. Content for monthly electronic newsletters, Salamander News, was coordinated with various partners and highlighted exciting research studies, conservation projects, and related citizen scientist activities. We had a very successful photo contest through which more than 45 photographers submitted over 250 incredible photos. Winning and runner-up photos were shown in monthly downloadable calendars and a Photo Contest Winners Poster was created, all of which can be found on the Year of the Salamander website (www.yearofthesalamander.org). A 2014 wall calendar (featuring photos from the photo contest) and other items with the Year of the Salamander logo are available for purchase at PARC's Café Press store (www.cafepress.com/parcstore).

A number of scientific symposia highlighting salamander research and conservation issues were organized for regional, national and international conferences throughout the year.

Congratulations to Sheri Sanders, a graduate student at Notre Dame, who submitted the winning design for PARC's 2014 Year of the Salamander Logo Contest!



Art.Science.Gallery., a partner in Austin, Texas, hosted a Year of the Salamander exhibition of salamander-inspired artworks by 22 local and international artists, helping to spread awareness and appreciation of salamanders to a broader audience.

Undergraduate students were also involved in various aspects

of the campaign, including drafting text for State of the Salamander and translating the document into Spanish. Our planning team and partners compiled educational activities and lesson plans, developed presentations and posters geared toward general audiences, and contributed to many more products. Our social media campaign was very active, with over 1,000 likes on our Facebook page. We had a variety of fun activities there, including Mystery Mondays, Trivia



Thursdays, and Salamander Saturdays. It was a great way to keep the excitement of the campaign going throughout the year.

A special thanks to all who contributed articles, content, and lesson plans, and helped promote salamander conservation. It was only through the efforts of individuals and partners that we were able to have such a successful campaign.

PARC THANKS THE YEAR OF THE SALAMANDER PLANNING TEAM AND OTHER CONTRIBUTORS!

Dede Olson (US Forest Service [USFS]), JJ Apodaca (Warren Wilson College), Michelle Christman (US Fish and Wildlife Service [USFWS]), Rod Williams (Purdue University), Thomas Gorman (Virginia Tech), Katherine Greenwald (Eastern Michigan University), Karena DiLeo (Conserve Wildlife Foundation of New Jersey), Brandon Ruhe (Mid-Atlantic Center for Herpetology and Conservation), Ruth Marcec (The Association of Reptilian and Amphibian Veterinarians), Jacob Kubel (Massachusetts Natural Heritage and Endangered Species Program), Kathryn Ronnenberg (USFS), Valorie Titus (Green Mountain College), Carrie Elvey (The Wilderness Center), Matt Evans (Smithsonian Conservation and Biology Institute), Lynn Bogan (New York State Office of Parks, Recreation, & Historic Preservation), Kirsten Hecht (University of Florida), Candace Hansen-Hendriks (Amphibian Survival Alliance), Xendara Haas (Blue Lion Training), MacKenzie Hall (Conserve Wildlife Foundation of New Jersey), Lauren Augustine (Smithsonian National Zoological Park), Liz Johnson (American Museum of Natural History), JD Willson (University of Arkansas), Marlin Corn (Mid-Atlantic Center for Herpetology and Conservation)

Big thanks to Mary Beth Kolozsvary (Siena College) for leading this effort!

YEAR OF THE LIZARD STUDENT CONSERVATION GRANT AWARDED



Nicole Angeli with her study subject, a St. Croix Ground Lizard (*Ameiva polops*).

During our 2012 Year of the Lizard campaign, funds raised from the CaféPress PARC Store were matched by the Amphibian and Reptile Conservancy (ARC) to create a **Year of the Lizard Student Conservation Grant**. We solicited applicants in 2013, and made our selection in 2014.

Our recipient was **Nicole**

Angeli (Texas A&M University), for her work on the St. Croix Ground Lizard, *Ameiva polops*. Our selection team valued the strong on-the-ground conservation and management actions that Nicole's proposed work would achieve, and the partnerships that were shown to be an important part of attaining her goals and objectives. As a condition of receiving the grant funds, Nicole will be presenting her work at the 2015 Caribbean PARC chapter meeting. **Congratulations, Nicole!**

Materials from the 2014 Year of the Salamander Campaign, including downloadable files of the *State of the Salamander*, *Salamander News*, calendars, outreach and education materials, and other Year of the Salamander products can be found at yearofthesalamander.org.



FUTURE CAMPAIGNS

In 2015, PARC will be launching a new long-term conservation campaign: Habitat in Focus. The Habitat in Focus campaign will be an entirely new approach to PARC outreach that concentrates on identifying, creating, and restoring high quality habitat for herpetofauna. Habitat in Focus will deliver a diverse set of products and outreach efforts. Here is a sample of the activities planned as part of this campaign:

- ❑ Highlights of habitat management successes and tips to benefit herpetofauna. We will include periodic posts on PARC's national, regional, and chapter Facebook pages.
- ❑ Electronic versions of regional Habitat Management Guidelines (HMGs). We will make PDFs available for all existing copies of HMGs, and will continue to make hard copies available where applicable and while supplies last. Making electronic copies available will allow for more widespread distribution of this valuable guidance for improving habitat for amphibians and reptiles.
- ❑ Help for herpetofaunal habitat. Several PARC regions have produced informational guides for making an amphibian and reptile friendly backyard. We will be

THANKS TO ALL THE MEMBERS OF THE HABITAT IN FOCUS PLANNING TEAM

Casey Burns (Natural Resources Conservation Service [NRCS]),
Andrea Chaloux (New York Natural Heritage Program),
Candace Hansen-Hendrikx (Amphibian Survival Alliance),
Jeff Holmes (ARC), Ian Jessup (Hazen Research, Inc.),
Denim Jochimsen (University of Idaho)
and Christopher Smith (Wildlife Research and Consulting Services, LLC)

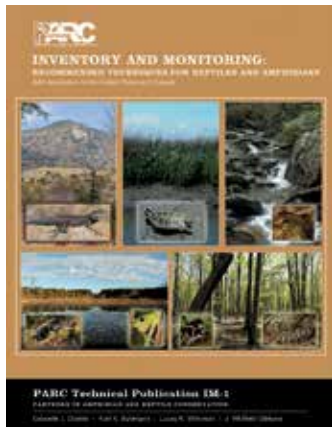
working with partners to develop formal guidance for various habitat certification and incentive programs to increase benefits for herpetofauna.

- ❑ Habitat restoration training workshops. Multiple wetland restoration training workshops (coordinated through ARC) are planned for 2015. The USFS and USFWS fund these workshops and so attendance preference will be given to employees from those agencies. Remaining spots will be available to other federal employees, and then to any member of the public interested in learning about restoring wetlands.

PARC PRODUCTS AND PROJECTS

Inventory and Monitoring Techniques Manual

PARC's newest technical publication, *Inventory and Monitoring: Recommended Techniques for Reptiles and Amphibians with Application to the United States and Canada*, was printed and distributed in early 2013. The objective of this handbook is to provide wildlife managers and



public and private landowners with information about reptiles and amphibians and the qualitative and quantitative techniques that can be used to obtain information on diversity, distribution, and abundance of these animals. It is user friendly, addresses amphibian and reptile species for North America, and provides specific recommendations on inventory and monitoring techniques applicable for various life stages

and to each species. Given high demand, we nearly sold out of hard copies in 2013, but we hope to offer e-reader or other electronic versions in 2014! For the most current information visit www.parcplace.org/parcplace/publications.html.



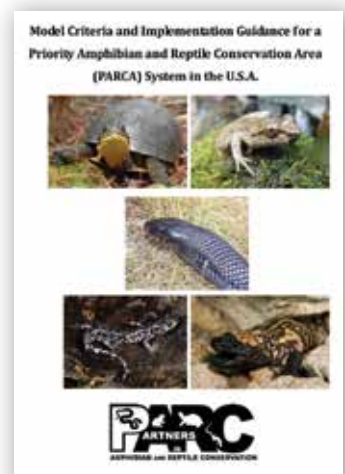
Four-toed Salamander (*Hemidactylium scutatum*).



Northern Slimy Salamander (*Plethodon glutinosus*).

Priority Amphibian and Reptile Conservation Areas (PARCAs)

Identifying priority habitat areas for amphibians and reptiles has become increasingly important, particularly in the face of climate change, growing human populations, and urban, commercial, and energy-related development. To this end, PARC finalized the criteria and an implementation plan for designating Priority Amphibian and Reptile Conservation Areas (PARCAs) at local, state or regional scales. Prepared by the PARC Important Herp Areas National Task Team led by Ron Sutherland (Wildlands Network) and Phillip deMaynadier (Maine Department of Inland Fisheries and Wildlife), the criteria and plan are available at the PARC Publications website (www.parcplace.org/parcplace/publications.html). PARC members received grant funding from both the South Atlantic and North Atlantic Landscape Conservation Cooperatives, where they are implementing the PARCAs criteria and addressing the impacts of climate change within the PARCAs identified. If you are interested in designating PARCAs in your area, please read about a recent webinar on this topic on page 17, and view the PARCA publication on our website.



PARC Website and Social Media

Visit PARC at www.parcplace.org! PARC thanks JD Willson (University of Arkansas) and Tanner Jessel (University of Tennessee, Knoxville) for volunteering their time to keep our website up to date and visually appealing. We also thank Priya Nanjappa (Association of Fish and Wildlife Agencies [AFWA]) for maintaining our listserv and Valorie Titus (Green Mountain College) for administering PARC's Facebook and Twitter accounts!

Symposium at the Annual Conference of The Wildlife Society in Pittsburgh, Pennsylvania

PARC sponsored a symposium at The Wildlife Society annual conference in October entitled "15 and Forward: Reflections on 15 Years of Successes, and the Future of Partners in Amphibian and Reptile Conservation." In 2014, PARC celebrated its 15th anniversary and chose The Wildlife Society conference as an appropriate venue to reach a broad audience while reflecting on our progress and future directions for the next decade and beyond. This symposium included presentations on PARC's history, specific conservation success stories within the PARC network, insights from The American Bird Conservancy to increase PARC success, and ongoing challenges in herpetofaunal conservation. These presentations were followed by an interactive discussion where speakers and attendees alike helped frame lessons learned and emerging challenges into ideas for PARC's future direction.

After the symposium, PARC hosted a two-hour reception, during which attendees completed surveys providing input on what PARC has done well over these past 15 years, what PARC can do better, and other suggested future directions. Prizes were raffled off throughout the night and a good time was had by all! After the conference, the survey was broadly distributed electronically to the PARC and herpetofaunal conservation community for more input. In total, PARC received close to 300 responses and will summarize and share results of the survey next year!

CHECK OUT PARC ONLINE!

www.parcplace.org



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<https://www.facebook.com/pages/Partners-in-Amphibian-and-Reptile-Conservation/136009737952>

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Cave Salamander (*Eurycea lucifuga*)

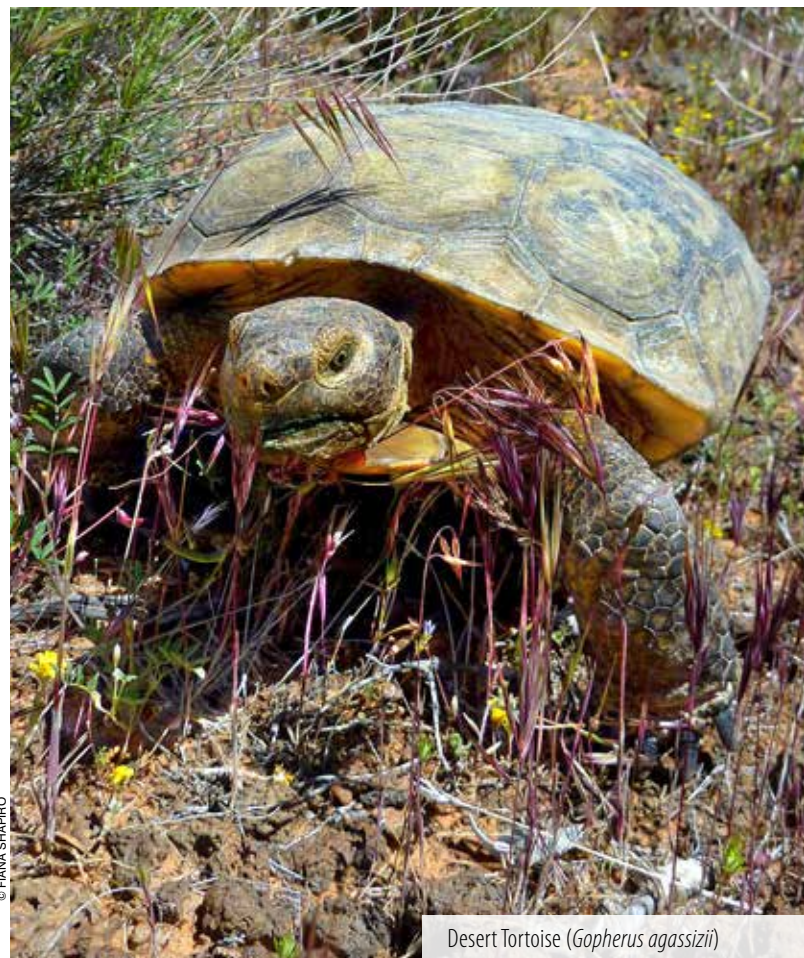
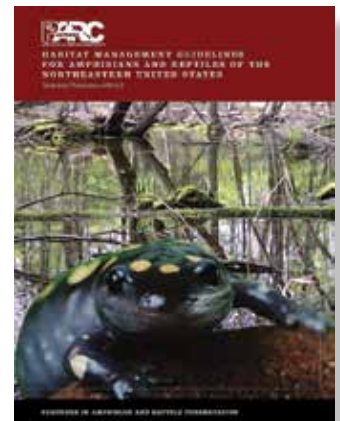
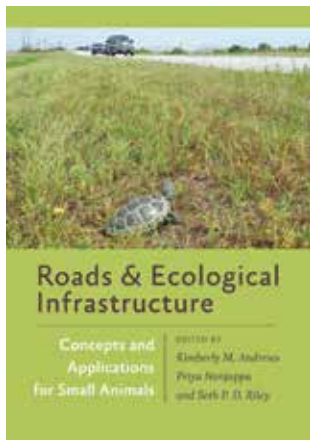
Habitat Management Guideline (HMG) Series

These guidelines provide habitat management recommendations to benefit amphibian and/or reptile habitats and are intended for public and private land managers. During 2014, PARC continued its work to complete this flagship, five-volume HMG series that covers the continental US and parts of Canada. Each volume in the series covers a geographic area that is largely based on ecoregions. Specifically, PARC continued progress in the development of the Southwest regional guidelines. PARC thanks lead editor, Larry Jones (Southwest Reptile Research Collective), as well as co-editors, Rob Lovich (Naval Facilities Command Southwest) and Ken Halama (University of California Natural Reserve System), and the rest of the Southwest HMG team for their hard work to finish this latest HMG document. The Southwest volume is expected to be printed in 2015, thus completing the entire series. PARC also thanks all of those dedicated herpetologists who contributed to the successful completion of the previous HMGs. For more information on HMGs and obtaining copies, see www.parcplace.org/parcplace/publications.html.

Roads Task Force

The National Roads Task Force was created to partner with transportation entities to help develop solutions and conservation strategies to address passage, connectivity, collision, and other road-related issues for amphibians and reptiles. In July 2011, Johns Hopkins University Press (JHUP) awarded the editors, Kimberly Andrews (University of Georgia Savannah River Ecology Laboratory), Priya Nanjappa (AFWA), and Seth P.D. Riley (NPS), a book contract to produce a practical guidance manual for transportation professionals and biologists alike. The book, *Roads and Ecological Infrastructure*, is part of JHUP's new book series with The Wildlife Society. It offers the state-of-the-art knowledge in maintaining ecosystem connectivity and natural ecological functions while minimizing road effects

on animals, including herpetofauna, small mammals, and other small vertebrates. Best practices are described and recommended for small animals where wildlife passage, mitigation, or structure retrofitting or enhancement may be concerned. Support for this effort has been generously provided by the USFS, ACO Wildlife, and ARC. The book is available for pre-purchase now, and will ship in Spring 2015 (<https://jhupbooks.press.jhu.edu/content/roads-and-ecological-infrastructure>).



Desert Tortoise (*Gopherus agassizii*)

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PARC ALISON HASKELL AWARD FOR EXCELLENCE IN HERPETOFAUNAL CONSERVATION

This award is presented annually by PARC, in memory of Alison Haskell (1956 – 2006), PARC's first Federal Agencies Coordinator, to recognize an individual in North America whose work exemplifies extraordinary commitment to herpetofaunal conservation; Alison was one such person. The 2014 winner of this award is Dr. Jeffrey Briggler (Herpetologist/Resource Scientist with Missouri Department of Conservation). The intent of the award is to acknowledge unsung heroes. Jeff's career-long contributions to herpetofaunal conservation, leadership roles, and ability to build effective partnerships made him a worthy recipient. With this award, PARC recognizes Jeff's outstanding passion for, and dedication to, conservation of amphibians and reptiles through quality science, education and partnerships.

Jeff is most widely recognized as a leading expert in hellbender ecology, and has collaborated with partners across state and agency lines to help reverse population declines. His collaborative endeavors to further species conservation extend from local, state, and federal to international partners. He freely shares with others his knowledge regarding survey techniques, disease testing and treatment, and husbandry and propagation protocols, which has benefited researchers studying cryptobranchids throughout the world. He is also a founding member of the Ozark Hellbender Working Group, which began in 2001. Many of this group's accomplishments can be attributed to Jeff's leadership and dedication.

In 2011, Jeff's efforts helped to realize a major triumph: Ozark Hellbenders were bred at the Saint Louis Zoo, marking the first time hellbenders had bred in captivity! This success was surpassed in 2012 when Ozark Hellbenders bred again at the zoo, resulting in eight egg clutches. Captive breeding was an incredible feat involving over ten years of collaboration, and will help Ozark Hellbenders persist while population declines in the wild continue to be investigated and addressed.

Jeff is not only committed to hellbender conservation, but to conservation of all herpetofauna throughout the state of Missouri and beyond. He oversees state regulations and protections for all herpetofauna in Missouri, extensively documents the distribution of amphibian pathogens throughout the state, conducts a variety of research and monitoring, and works with land managers to encourage land management practices conducive to herpetofaunal conservation. He also makes the time to disseminate his conservation findings through peer-reviewed publications and



Jeff Briggler, winner of the 2014 PARC Alison Haskell Award for Excellence in Herpetofaunal Conservation.

presentations to professional and general audiences.

Jeff's passion for conserving herpetofauna touches all those with whom he interacts. His ability to bring professionalism, scientific rigor, and a collaborative approach to his work, while still maintaining his enthusiasm and fascination with the animals, is truly the key to successful conservation. PARC thanks him for his continued passion, effective collaboration, and dedication to amphibians and reptiles!



Ozark Hellbender (*Cryptobranchus alleganiensis-bishopi*)

JOINT NATIONAL STEERING COMMITTEE

PARC's Joint National Steering Committee (JNSC) is the decision-making body of PARC, ensuring implementation of PARC's mission. The JNSC communicates via monthly conference calls, e-mails and an annual in-person meeting among partner members to identify and address priorities and actions. The JNSC also works to provide effective communication and coordination among its partners, task teams, and PARC's regional working groups and chapters.

In 2014, PARC celebrated its 15th anniversary. Given this milestone, the JNSC spent a good deal of time reflecting on PARC's past successes, and potential future directions and endeavors.

The committee was led by the national PARC Co-Chairs, Linda Weir, Polly Conrad, and JJ Apodaca, and staffed by PARC's National Coordinators (p. 19). Polly completed her two-year term in March, at which time JJ began his two-year term. Additional voting members of the JNSC include the co-chairs of the five PARC Regional Working Groups, co-chairs of the Federal Agency Steering Committee (FASC), co-chairs of the AFWA Amphibian and Reptile Subcommittee, a representative of the forest products industry, a representative of the zoo community and a representative of conservation-based NGOs. The JNSC meets monthly via conference call, and annually in person.

Please be sure to read the additional information on our JNSC partners and activities in the pages that follow!



Bog Turtle (*Glyptemys muhlenbergii*)

© NATHAN SHEPARD

2014 Co-Chairs

Linda Weir (USGS), JJ Apodaca (Incoming, Warren Wilson College), and Polly Conrad (Outgoing, Utah State University)



Eastern Red-backed Salamander (*Plethodon cinereus*)

© MEGAN WINZELER

PARC's ORGANIZATIONAL STRUCTURE

Internal Leadership

JOINT NATIONAL STEERING COMMITTEE (JNSC)

External Advisors

FEDERAL, STATE,
INDUSTRY, NGO

National Coordination

NATIONAL STATE AND
FEDERAL AGENCIES
COORDINATORS

Regional Steering Committees

REGIONAL WORKING GROUPS

Some topics the JNSC discussed or addressed in 2014 include:

- 1) Selection of, and initial planning for, our new conservation issue-driven campaign for 2015-16, Habitat In Focus (see p. 3);
- 2) Selection and presentation of the fourth annual Alison Haskell Award for Excellence in Herpetofaunal Conservation (p. 7);
- 3) Implementation of the 2014 Year of the Salamander campaign, including activities surrounding a photo contest, newsletters, calendars, social media; and updating the CaféPress PARC Store (see pp. 2-5);
- 4) Selection of three new at-large members for the JNSC, filling openings in our forest products industry, zoo, and NGO seats (see pp. 12-13);
- 5) Hiring of two student interns in communications and digital image management;
- 6) Submission of a letter to the US Environmental Protection Agency (EPA) providing scientific publication references and asking questions to clarify the proposed Waters of the US rule;
- 7) Implementation of the PARC 15-year anniversary symposium at the 2014 annual conference of The Wildlife Society (see p. 5). Special thanks to JJ Apodaca, Jessica Homyack (Weyerhaeuser Company), and Valorie Titus (Green Mountain College) in particular for spearheading this effort.
- 8) Development and distribution of a survey to the PARC community requesting feedback on PARC's future directions (nearly 300 responses collected);
- 9) Continued planning and development for a 2015 PARC co-sponsored meeting with the Society for the Study of Amphibians and Reptiles (SSAR). Thanks to Al Breisch (retired) for leading this effort;
- 10) Selection of recipient of our student conservation grant from funds raised during the 2012 Year of the Lizard conservation campaign (see p. 3);
- 11) Regional Working Group annual meetings and activities (pp. 12-16);
- 12) Initial launch of a National Disease Task Team to consolidate disinfection and biosecurity, sampling, and reporting protocols and guidance, among other planned activities and products.

The JNSC also worked closely with ARC to communicate requests for support of various symposia and workshops, to raise publication and product funding, and to handle partner grants. For more details, see p. 21.



Long-nosed Leopard Lizard (*Gambelia wislizenii*)

AT-LARGE JNSC MEMBER ACTIVITIES

Forest Products Industry:

Much of North American forests are owned by private landowners who actively manage their forests to produce wood and fiber. There are many opportunities associated with conservation partnerships involving these landowners, particularly corporate private landowners and/or forest products companies that do not own or manage land and instead, procure wood from forest landowners. These constituents of the forest products industry have a strong interest in sustainable management of forest resources and conservation of biological diversity, including herpetofauna. Currently, Jessica Homyack, Weyerhaeuser Company, serves on the JNSC to represent the forest products industry for PARC.

Representatives of the forest products industry also engaged in state and regional PARC activities and actively support research and management aiming for cost-effective conservation of herpetofauna in actively managed forest landscapes. Recently completed and on-going projects include:

- ❑ Habitat management for Gopher Tortoises (*Gopherus polyphemus*)
- ❑ Relationships of terrestrial salamanders with woody debris in managed forests of the Pacific Northwest
- ❑ Habitat and population ecology of Spotted Turtles (*Clemmys guttata*)
- ❑ Relationships between aquatic salamander occupancy in streams in the Southeast and characteristics of adjacent intensively managed forests
- ❑ Characteristics of herpetofaunal communities of ephemeral aquatic habitat types within southern pine plantations



Occupancy of Oregon Slender Salamanders (*Batrachoseps wrightii*) in managed forests is being examined in a long-term public-private partnership in Oregon.

© JOSH JOHNSON

Canyon Treefrog (*Hyla arenicolor*)

Zoos:

Partnership among PARC, the Association of Zoos and Aquariums (AZA), and AZA-accredited zoos and aquariums remains strong. AZA's Vice President of Federal Relations, Steve Olson, joined the JNSC in 2014. AZA members are involved in herpetofaunal conservation both domestically and internationally. A report about the AZA's recent amphibian conservation accomplishments is available on AZA's website (<https://www.aza.org/amphibian-news/>).

AZA also engages the public in amphibian awareness and conservation through its citizen science program, FrogWatch USA (<http://www.aza.org/frogwatch>), which celebrated its 16th anniversary with more than 12,500 unique species observations submitted by nearly 1,400 volunteers at over 850 monitoring stations. Data are hosted in an online data entry, mapping, and analysis platform (FrogWatch-FieldScope) for anyone to explore (<http://frogwatch.fielddscope.org/v3>). There are currently 118 FrogWatch chapters in 39 states and the District of Columbia, hosted by zoos, aquariums, museums, nature centers, and other like-minded organizations and institutions, and managed by expert coordinators comprised of professional biologists, naturalists, herpetologists, and educators. AZA hosted four in-person chapter coordinator trainings in 2014, including one training workshop in conjunction with Southwest (SW) PARC's annual meeting.

Non-Governmental Organizations (NGO):

The Amphibian Survival Alliance (ASA; the Alliance) is the world's largest partnership for amphibian conservation. PARC formally entered into a partnership with ASA in 2014 and tied with the Auckland Zoo for the distinction of ASA's 100th Partner! Sitting on the JNSC is James Lewis, ASA's Director of Operations.

During 2014 the Alliance partnered with Global Wildlife Conservation (GWC) and as such, benefitted from GWC's extensive networks and operational support teams, which also included the ability to receive donations as a charity in the US. The Alliance could then focus on developing partnerships and projects that support habitat conservation, research and education globally. ASA also secured, disbursed and invested more funds than ever before in the history of the Alliance, with almost half a million dollars being disbursed in grants alone.

In cooperation with Rainforest Trust, GWC and the Andrew Sabin Family Foundation, ASA launched the Leapfrog Conservation Fund to protect and manage key habitats for amphibians. ASA is also spearheading the international response to combat the spread of the chytrid fungus *Batrachochytrium dendrobatidis* (Bd) using probiotics and is heavily involved with efforts to prevent the spread of *B. salamandrivorans* (Bsal), which has not yet been documented in the US.

PARC REGIONAL WORKING GROUP ACTIVITIES

2014 Co-Chairs

Katherine Greenwald (Eastern Michigan University),
Erica Hoaglund (Incoming, Minnesota Department of
Natural Resources), Allison Sacerdote-Velat (Outgoing,
Lincoln Park Zoo)

Midwest Regional Working Group (www.mwparc.org)

MWPARC held its annual meeting at Camp Iduhapi in Loretto, Minnesota from August 22-24, 2014 with the theme “Survey and Monitoring of Amphibians and Reptiles with an Emphasis on Restored Habitats.” There were approximately 60 attendees, 14 of whom were students. Nine talks and ten posters were presented. The meeting featured a keynote presentation by Dr. Susan Galatowitsch (Department of Fisheries, Wildlife and Conservation Biology, University of Minnesota) entitled, “Amphibian Use of Restored Wetlands.”



PARC’s Regional Working Groups are the foundation of the partnership, where the on-the-ground issues are translated into actions and products.

Susan shared characteristics and examples of successful wetland restoration projects, and emphasized the importance of incorporating life history aspects of amphibians as a major part of the restoration planning process for wetlands.

Several presentations explored specific on-the-ground habitat restoration and conservation initiatives and the responses of reptile and amphibian communities. Topics included the response of anurans to wetland conservation, modeling amphibian use of restored wetlands, herpetofaunal habitat restoration and turtle conservation in Wisconsin, and prairie restoration for Bullsnake (*Pituophis catenifer sayi*) conservation in Minnesota. Additionally, several talks focused on techniques of data acquisition and analysis to inform herpetofaunal conservation. Topics included use of anuran call survey data to examine temporal trends, use of mark-recapture methods to estimate population size and vital rates, development of eDNA methods to determine salamander community composition, and use of remote sensing and ground-based data to assess climate-driven changes in amphibian communities.

Following the conference, MW PARC discussed PARC’s 2015 conservation campaign: Habitat in Focus. Participants expressed interest in developing guidance documents focused on creation of backyard habitat for herpetofauna, management of brush piles, and safe drawdown of aquatic habitat for management of invasive species. The 2015 meeting will be held July 29-30 in the Kansas Union at the University of Kansas, Lawrence, KS.



◀ Madeleine Linck (Three Rivers Park District, Minnesota) measures and marks a Blanding’s Turtle (*Emydoidea blandingii*) following the MW PARC field trip to Crow Hassan Park Reserve.

Attendees of the MW PARC annual meeting at Camp Iduhapi, Loretto, MN.



Northeast Regional Working Group (www.northeastparc.org)

NEPARC, held its annual meeting August 13-15, 2014 at Allegany State Park in Salamanca, New York. There were 99 attendees, representing nearly every state in the region as well as Canada. Dr. Thomas Pauley, Professor Emeritus at Marshall University, gave a special presentation with stories from his career spent searching for herpetofauna under every log and rock he encountered. He inspired many to head out into the park and do a little herping of their own between talks and working group sessions. Five of NE PARC's active working groups – Wood Turtles (*Glyptemys insculpta*), Eastern Hellbenders (*Cryptobranchus a. alleganiensis*), Mudpuppies (*Necturus maculosus*), Vernal Pools, Emerging Diseases, and Blanding's Turtles (*Emydoidea blandingii*) – met to brainstorm and advance initiatives and actions related to their various foci. Oral and poster presentations were diverse, ranging from genetics of unisexual salamanders to understanding the distribution of Short-headed Gartersnakes (*Thamnophis brachystoma*). Field trips at the meeting included a visit to the nearby Seneca Nation of Indians' Eastern Hellbender rearing facility and a resurvey of Sherman Bishop's and Margaret Stewart's historic inventory sites in the state park. The 2015 meeting will be held August 18-20 at the Alton Jones Education Center of the University of Rhode Island, Greenwich, RI.

NE PARC's working group products from 2013-2014 included a disinfection protocol designed to help surveyors minimize the risk of spreading disease and a Ranavirus FAQs for surveyors and the general public (both available on NE PARC's website). Two groups continued work on national

2014 Co-Chairs

Lori Erb (Mid-Atlantic Center for Herpetology and Conservation), Kathy Gipe (Incoming, Pennsylvania Fish and Boat Commission) and Andrea Chaloux (Outgoing, New York State Natural Heritage Program)



Wood Turtle (*Glyptemys insculpta*)

and regional grant-funded conservation research projects (Regional Conservation Needs and State Wildlife Grants) on Wood Turtles and Blanding's Turtles.

NE PARC continues to promote distribution of Habitat Management Guidelines for Amphibians and Reptiles of the Northeastern United States to partners, academic institutions, and management entities. If you would like to obtain a free copy of this book, contact Andrea Chaloux (andrea.chaloux@dec.ny.gov) for more information.



2014 Northeast PARC meeting attendees at Allegany State Park, NY.

Northwest Regional Working Group (www.nwparc.org)

NWPARC held its 7th annual meeting and workshop February 3-4, 2014 in Pasco, WA, in conjunction with the Global Owl Project, Researchers Implementing Conservation Action, Society for Northwestern Vertebrate Biology, and the Washington Chapter of The Wildlife Society, thus offering NW PARC opportunities to partner and interact with a wide variety of groups! This year's meeting included regional, state, provincial, and local updates on herpetofaunal conservation efforts, a workshop centered on the theme of "Problem Solving in Conservation Using Education and Outreach Techniques," and a discussion panel focused on PARC's 2015 conservation campaign. For the first time, members from northern California and Alaska were able to participate in our discussion via Skype or speakerphone!

The workshop engaged experts who discussed approaches that increase public engagement in conservation efforts for amphibians and reptiles in a range of settings. Topics included the importance of using live reptiles during educational programs, strategies designed to convert awareness into on-the-ground action, the value of the internet in terms of education and raising public awareness (where we learned of a catchy song and video about amphibian diversity: <http://amphibiaweb.org/about/singasong.html>). Karen Dvornich (the NatureMapping Foundation) presented about the Adopt-a-Farmer project that connects 4th graders with farmers in an effort to map the distribution of Pygmy Short-horned Lizards (*Phrynosoma douglasii*) in Washington. Two youths accompanied Karen to discuss their personal experiences with this project and present data about their research with the lizards - the youngest presenters at NW PARC to date! In addition, we learned how captive animals can generate interest and concern for biodiversity, and how outreach programs that allow children to observe and handle calm snakes helps to foster a lifelong appreciation for these creatures that are often poorly perceived.

2014 Co-Chairs

Denim Jochimsen (University of Idaho) and
Kris Kendell (Alberta Conservation Association)



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University of Idaho undergraduates surveying for Rough-skinned Newts (*Taricha granulosa*) during a herpetology field trip.

The 2015 meeting will be held on February 24th in Portland, OR and will follow up on the 2014 theme of putting outreach into action via citizen science projects. NW PARC thanks Betsy Howell (USFS) for her continued work as Treasurer, Brandon Fessler for serving as webmaster and newsletter editor, and the Communications Task Team for website updates (www.nwparc.org) and e-newsletter contributions.



Northern Alligator Lizard (*Elgaria coerulea*) observed basking during a University of Idaho herpetology field trip.

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Southeast Regional Working Group (www.separc.org)

SE PARC had another successful year in 2014. The annual conference was hosted at Lake Cumberland in Kentucky, and despite record cold and icy conditions throughout the Southeast, there were nearly 140 attendees. The meeting included research presentations, task team meetings, wetland construction and herpetofaunal education and illustration workshops, and legendary nightly revelry. Highlights of the meeting included two symposia, “2014 PARC Year of the Salamander Campaign” and “Implementation of the Endangered Species Act for Herpetofaunal Conservation.” The 2015 meeting will be held at the Clarion Inn and Suites Conference Center in Covington, Louisiana on February 19-22, 2015, where there will be special symposia on “Herpetofaunal Diversity in Gulf Coastal Plain Habitats” and “Social Media Uses in Conservation.”

One of SE PARC's significant accomplishments for 2014 was a conservation webinar entitled, “Priority Amphibian and Reptile Conservation Areas (PARCAs): Creative Uses for Conservation,” by JJ Apodaca of Warren Wilson College and



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Wetland expert Tom Biebighauser provided a day-long workshop at the SE PARC annual meeting that detailed wetland construction and mitigation techniques.

2014 Co-Chairs

Bill Sutton (Tennessee State University),
Theresa Stratmann (Incoming, Clemson University) and
Jessica Homyak (Outgoing, Weyerhaeuser Company)



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Michelle Guidugli and Andrea Drayer were fortunate to find the nest of a Streamside Salamander (*Ambystoma barbouri*) during the field trip at the SE PARC annual meeting.

Stephen Spear of The Orianne Society. This webinar, hosted by the North Carolina State University Extension Forestry and the Southern Regional Extension Forestry, discussed the development of PARCAs, areas of the southeastern US likely to be designated as PARCAs, and how state and federal agencies can use PARCAs to conserve amphibians, reptiles, and their habitats. The webinar was well attended and received very high ratings; it is archived for viewing: www.forestrywebinars.net/webinars/priority-amphibian-and-reptile-conservation-areas-parcas-creative-uses-for-conservation.

SE PARC is also implementing an online repository on its regional webpage (www.separc.org) for backyard herpetofaunal conservation strategies with blog posts highlighting herpetofauna-friendly backyard tips. In addition to these endeavors, SEPARC is drafting a priority amphibian and reptile species document for the southeastern US. The final draft of this document will be presented at the 2015 meeting in Covington, Louisiana.

SE PARC continues to grow through member involvement, and continues to interact with interested parties through its social media (e.g., Facebook) and regional webpage. Two of the four state chapters (North Carolina and Alabama) hosted meetings in 2014. SE PARC is also excited to announce that the Caribbean Chapter is scheduled to host its first stand-alone meeting in Spring 2015. Products and information about active task teams, state chapters, and the upcoming meeting can be found on the regional webpage.

Southwest Regional Working Group (www.swparc.org)

THE SWPARC annual meeting was held at the Courtyard Marriott Liberty Station, San Diego, California on June 8-13, 2014 with the theme of Regional Southwest Herpetological Conservation Efforts, which included conservation promotion for Year of the Salamander. This year's meeting consisted of one full-day workshop, followed by two full days of meetings and working group breakout sessions, and ended with three fun-filled field trips. The meetings were kicked off by a Frogwatch USA workshop led by Rachel Gauza (AZA). The workshop was held at the San Diego Zoo and included a tour of the Zoo's Reptile and Amphibian facilities. Field trip participants got to choose between a day trip to Marine Corps Base Camp Pendleton or San Diego Zoo and all had the option to attend an overnight trip to Anza Borrego Desert State Park. Two working groups met again this year – PARCAs and Venomous Reptile Training. One new working group, Biosecurity Protocols, was initiated to help

2014 Co-Chairs

Kim Lovich (San Diego Zoo Global), Michelle Christman (Incoming, USFWS) and Tom Giermakowski (Outgoing, University of New Mexico Museum of Southwestern Biology)

develop consistent guidance for field biologists to minimize disease transmission. Another new working group, Don't Turn It Loose, was initiated to update and modernize an existing PARC brochure. This group will also work on education and outreach opportunities on why unwanted pet amphibians and reptiles should not be released, and on invasive species threats to our native herpetofauna. The 2015 meeting will be held July 19-20 at the University of Nevada, Reno, NV.

SW PARC has been providing biomonitoring training for the Flat-tailed Horned Lizard (FTHL; *Phrynosoma mcallii*) in coordination with California Department of Fish and Wildlife, Arizona Game and Fish Department, and the FTHL Interagency Coordinating Committee (ICC) since 2011. This year the ICC again partnered with SW PARC to organize and conduct two FTHL biomonitoring training workshops consisting of two hours of classroom debriefing and about 3-4 hours of field training. The high-demand, high-quality workshops were conducted May 20-22 to train biologists (mostly private consultants) who may work as monitors on projects that impact FTHL. Staff from ICC agencies served as experts to assist with the training to certify approximately 60 FTHL monitors who saw up to seven FTHL per day. The ICC plans to continue to partner with SW PARC to manage future training sessions, which continue to receive extremely positive feedback.

The Colorado State Chapter of PARC (CO PARC), co-chaired by Joe Ehrenberger (private consultant) and Ian Jessup (Hazen Research, Inc.), held its second annual meeting on February 1, hosted by Colorado Parks and Wildlife in Denver. It was followed by a behind-the-scenes tour of the Tropical Discovery Center at the Denver Zoo on February 2. There were more than 70 attendees at the all-day meeting that included presentations, a HerpQuiz competition, a poster session, a silent auction, and an evening social. CO PARC hosted or participated in numerous field trips and surveys in Baca, Larimer, Moffat, Otero, and Prowers counties (Colorado), and with the Kansas Herpetological Society and Oklahoma Herpetological Society in Morton County (Kansas). In an ongoing partnership with Colorado Parks and Wildlife, CO PARC conducted a survey of Staunton State Park. CO PARC representatives also attended the North American Field Herping Association National Meeting in Portal, NM.



Two-striped Gartersnake (*Thamnophis hammondi*).

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PARC FEDERAL AGENCY PARTNER ACTIVITIES

Federal Agencies Steering Committee

The Federal Agencies Steering Committee (FASC) was established in 2000, as a result of a Memorandum of Understanding (MoU) signed by ten federal agencies. The FASC serves as an external advisory committee to the JNSC, and currently includes representatives from 11 agencies, due to the addition of a representative from Animal and Plant Health Inspection Services (APHIS) this year. The FASC assists with strategic planning and program-wide priority setting for PARC; facilitates cross-agency collaboration; shares emerging issues and activities related to amphibian and reptile conservation; and contributes to PARC conservation actions. The FASC meets monthly via conference call, and annually in person.

Jen Williams is the Federal Agencies Coordinator and began her tenure in this role in January 2014. She staffs the FASC and serves as a National Coordinator to PARC along with the State Agencies Coordinator. Priorities and activities of the Federal Agencies Coordinator are determined by the FASC Co-chairs, along with the JNSC Co-chairs and the Federal Agencies Coordinator's federal supervisor.

The FASC developed into a cohesive, reinvigorated unit this year via resumption of regular monthly teleconferences and establishment of priority projects. From 2011 to 2012, the number of agencies actively participating in the FASC dropped by 22%. However, compared to 2012, participation in 2014 increased by 57%. Given the Federal Agencies Coordinator vacancy throughout 2013, participation data from that year were excluded.

Special projects the FASC completed include development of a federal employee e-mail list for those interested in PARC and herpetofaunal conservation, and creation of a FASC Fact Sheet with Directory. Staff from the EPA briefed members of the JNSC regarding the Waters of the US proposed rule, and USFWS staff briefed the FASC on recent and proposed changes to the Endangered Species Act.

Various herpetofaunal conservation-related accomplishments in 2014 by FASC members include:

- BLM: Conducted various Columbia Spotted Frog (*Rana luteiventris*) projects (e.g., egg mass surveys, monitoring, environmental DNA sampling, habitat enhancement) in multiple states and partners included USFWS, USGS, Utah Division of Wildlife Resources, and Washington State University; surveyed for Northern Leopard Frogs (*Lithobates pipiens*) and Western Toads (*Anaxyrus boreas*) and tested for Bd in Idaho; surveyed for Wood Frogs (*L. sylvaticus*) in Alaska; partnered with

2014 Co-Chairs

Robert Lovich (Incoming, Department of Defense [DoD]) and Mark Chase (Incoming, USFWS); David Schmid (Outgoing, USFS) and Lianne Ball (Outgoing, USGS)

Clayton University and The Orianne Society to develop a predictive model for Midget Faded Rattlesnake (*Crotalus oreganus concolor*) habitat (hibernacula) in western Colorado; and surveyed for Western Toads within the proposed Distinct Population Segment in Colorado.

- DoD PARC: Updated herpetofaunal species lists for 57 Navy and 17 Marine Corps installations, all of which have Integrated Natural Resource Management Plans (INRMPs). The lists were peer reviewed and contained species-specific, confirmed and potential, occurrence data.
- DoD and NPS: Restored habitat on channel islands off the southern California coast, resulting in population recovery, and the delisting of the Island Night Lizard (*Xantusia riversiana*) under the Endangered Species Act.
- EPA: Proposed the Waters of the US Rule (together with the Army Corps of Engineers) to clarify protection under the Clean Water Act for streams and wetlands; worked on finalizing the first National Wetlands Condition Assessment report (due to be released in 2015); awarded EPA Wetland Program Development Grants to conduct herpetofaunal monitoring and assessment in several states; and funded two projects set for completion in 2016: The Effects of Road Salt on Amphibian Disease Dynamics in the Northeastern United States and The Thin Line Between Health and Disease: Determining the Effects of Climate Change on Amphibians' Skin Microbial Communities.
- FSA and USGS: Partnered in program assessments - millions of acres of wetland and riparian habitat are enrolled within FSA's Conservation Reserve Program (CRP) and Conservation Reserve Enhancement Program (CREP); USGS is monitoring wetlands restored in Iowa as part of these programs and assessing their effects on amphibian presence and health.

- NMFS: Designated critical habitat for the Northwest Atlantic Ocean Distinct Population Segment of Loggerhead Sea Turtle (*Caretta caretta*); conducted outreach to the fishers of Navassa Island National Wildlife Refuge to address the impacts of derelict or lost fishing gear on marine turtle and sea snake species due to entanglement.
- NPS: Restored or created habitat (e.g., pond construction, non-native fish eradication) in various national parks in California and Ohio, benefitting California Red-legged Frogs (*R. draytonii*), Mountain Yellow-legged Frogs (*R. muscosa*), Sierra Nevada Yellow-legged Frogs (*R. sierrae*), American Toads (*A. americanus*), Green Frogs (*L. clamitans*), Western Chorus Frogs (*Pseudacris triseriata*), and Jefferson Salamanders (*Ambystoma jeffersonianum*).
- NRCS: Partnered with USFWS in the Working Lands for Wildlife Program, a voluntary program for private landowners, to restore populations of declining species, including Gopher Tortoises and Bog Turtles (*Glyptemys muhlenbergii*).
- USFS: Restored ten wetlands (in cooperation with ARC) – nine for the California Red-legged Frog in the El Dorado National Forest (NF) in California and one 75-ac lake in Kaibab NF in Arizona that will serve multiple species; and excluded use of tanks known to have populations of Northern Leopard Frogs and Chiricahua Leopard Frogs (*L. chiricahuensis*) as water sources for prescribed burn activities.
- USFWS: Restored or created habitat to benefit Chiricahua Leopard Frogs, Crawfish Frogs (*L. areolatus*), Oregon Spotted Frogs (*R. pretiosa*), Wyoming Toads (*A. baxteri*), Jemez Mountain Salamanders (*Plethodon neomexicanus*), and Western Pond Turtles (*Actinemys marmorata*); and initiated plans to restore five wetlands throughout the US in 2015 (in cooperation with ARC).
- USGS: Studied wetlands restored under NRCS's Wetland Reserve Program in the lower Mississippi Alluvial Valley and found that they have increased species richness and rates of occurrence of amphibians relative to crop lands; and provided information and management options to natural resource managers on the status and trends of amphibians at the management unit level via staff from their Amphibian and Research Monitoring Initiative.

Staff from NPS, USFS and USGS also authored or co-authored salamander conservation articles for the monthly PARC Year of the Salamander newsletters and both USFS and USFWS had staff on the Year of the Salamander Planning Team. FASC members are also assisting in the development of a special symposium entitled, "PARC's Partners: Focusing on Habitat" as part of a joint meeting with the SSAR and PARC in 2015. The EPA representative to FASC is helping with logistics for this joint meeting. The symposium will be held on August 1 and will highlight a variety of habitat management and restoration efforts that benefit herpetofauna. There are nine agencies on FASC that conduct habitat management, and staff from each of these agencies have been invited to give presentations.



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Northern Slimy Salamander (*Plethodon glutinosus*)

COORDINATORS CORNER:

Jen Williams (NPS) and Priya Nanjappa (AFWA)

Jen Williams, the Federal Agencies Coordinator, is the only full-time, paid employee for PARC. Priya Nanjappa, the State Agencies' Coordinator, is the only other paid employee for PARC; 1/3 of her time is spent in her PARC role while the rest of her time is spent coordinating amphibian and reptile conservation (1/3) and invasive species management (1/3) for AFWA.

Both coordinators completed a myriad of PARC duties in 2014, including coordinating, participating in, or assisting with the accomplishments listed in the JNSC section (p. 8) as well as other typical coordination tasks. In addition, Jen and Priya regularly:

- Attend regional PARC meetings where they give customized presentations on National PARC activities and help to connect herpetofaunal conservation activities among regions.
- Attend and provide updates on PARC products and events at the AFWA Amphibian and Reptile Subcommittee meeting.
- Write sections, coordinate assembly of components, and edit PARC's Annual Report.
- Participate and communicate PARC requests during monthly ARC conference calls.

In 2014, in addition to her FASC staffing duties (pp. 17-18), Jen:

- Executed a Cooperative Agreement between ARC and NPS.
- Sought instructors for a 2015 law enforcement training for USFWS in Artesia, NM to provide herpetofauna-related techniques and information.
- Presented an overview of PARC to NPS's Intermountain Region.
- Moderated the symposium, "15 and Forward: Reflections on 15 Years of Successes, and the Future of Partners in Amphibian and Reptile Conservation" at The Wildlife Society annual conference.
- Established PARC's two interns within the NPS Volunteers in the Parks program.
- Led the organization of the 2015 symposium, "PARC's Partners: Focusing on Habitat."
- Updated interagency agreements and modifications with member federal agencies, which contribute to her salary, benefits and travel.
- Spearheaded the creation of a PARC Communications Intern position, and for this and another PARC intern, developed the position descriptions and assisted in interviewing and hiring of both.
- Coordinated the review of candidates, selection and notification of the 2015 winners for both the PARC Alison Haskell Award for Excellence in Herpetofaunal Conservation and PARC Visionary Leader Award.



Jen Williams



Priya Nanjappa

In 2014, in addition to staffing the AFWA Amphibian & Reptile Subcommittee (p. 20), Priya:

- Completed co-editing of, and addressed copy editor comments for, the book Roads and Ecological Infrastructure (see p. 6).
- Gave an invited talk at the National Reptile and Amphibian Advisory Council Law Symposium in Washington, DC.
- Gave an invited talk in the Tackling Complex Amphibian Conservation Issues symposium at The Wildlife Society annual conference.
- Was invited to participate on the Wildlife Habitat Council's Reptile and Amphibian Advisory Committee regarding their habitat certification program.
- Trained, and served as a PARC information resource, during the first part of the year for the new PARC Federal Agencies Coordinator.
- Gave an invited talk at the Midwest PARC Symposium on the value of PARC to state fish & wildlife agencies, as part of the Midwest Fish & Wildlife Conference.
- Coordinated the review of candidates, selection of winner, and award ceremony for the 2014 PARC Alison Haskell Award for Excellence in Herpetofaunal Conservation (see p. 7).
- Coordinated the review of candidates, selection and notification of winner, and grant funds distribution for Year of the Lizard Student Conservation Grant recipient (see p. 3).
- Organized and spoke in a State Wildlife Action Plan (SWAP) Revision and Implementation webinar highlighting PARC products that benefit state fish & wildlife agencies & SWAPs.
- Provided information on PARC activities as part of AFWA's report to the Trilateral Committee for Wildlife and Ecosystem Conservation and Management.
- Worked with the AFWA International Relations Director, the AFWA Canadian Liaison, and USFWS International Affairs staff to keep partners (including Canadian provincial and territorial Directors) apprised on amphibian and reptile conservation matters.

PARC STATE FISH & WILDLIFE AGENCY PARTNER ACTIVITIES

AFWA Amphibian & Reptile Subcommittee

The AFWA Amphibian and Reptile Subcommittee was initiated in 2008, and serves as the States' advisory committee to PARC. State fish and wildlife agencies have the primary management authority over amphibians and reptiles in the US, and AFWA is a coordinating entity on behalf of the states. The Subcommittee advises on strategic planning and priorities for PARC; facilitates multi-state collaboration; tackles issues that affect state management authority over herpetofauna; and shares emerging issues and activities related to amphibian and reptile conservation with other agencies and partners. The Subcommittee is staffed by the AFWA Amphibian and Reptile Coordinator, Priya Nanjappa, who also serves as a National Coordinator along with the Federal Agencies Coordinator. Priya has been working in this role since 2005.

The Subcommittee continued to focus on a) providing guidance for states to improve their existing laws and regulations to ensure sustainable use of native herpetofauna, b) international issues related to sustainable trade, c) opportunities to promote proactive conservation of herpetofauna, and d) recent scientific findings in amphibian declines and diseases. Through both meetings in March and September 2014, the Subcommittee was chaired by Patty Riexinger, Director of the New York Department of Environmental Conservation, along with Vice-chair, Eric Gardner, Wildlife Diversity Division Manager of the Washington Department of Fish and Game. The Subcommittee meets in person twice per year, and occasionally via conference call.

The Subcommittee realized the following major accomplishments in 2014:

- Finalization and unanimous approval of the white paper, *Applying the North American Model of Wildlife Conservation to Herpetofauna*, by all state fish and wildlife agency Directors (or their delegates) at the September AFWA Business Meeting.
- Participation in the National Reptile and Amphibian Advisory Council (NRAAC) Law Symposium in March, presenting on the application of the North American Model of Wildlife Conservation to herpetofauna.
- Presentation of a special topic on international turtle trade to all state fish and wildlife agency Directors (or their delegates).

*ADAMS, M.J., D.A.W. MILLER, E. MUTHS, P.S. CORN, E.H.C. GRANT, ET AL. 2013. TRENDS IN AMPHIBIAN OCCUPANCY IN THE UNITED STATES. PLOS ONE 8(5): E64347. DOI:10.1371/JOURNAL.PONE.0064347

2014 Chair and Vice-chair

Patricia Riexinger (NY Department of Environmental Conservation) and Eric Gardner (WA Department of Fish and Wildlife)

- Delivery of four, regionally-focused webinars providing detailed findings from recent Amphibian Research and Monitoring Initiative efforts (Adams et al. 2013*), in partnership with the FASC.
- Delivery of a letter, on behalf of the states and signed by the AFWA President, to USFWS Director, Dan Ashe, regarding potential actions to help reduce the risk of introduction of *Bsal* into the US.

The Subcommittee continues to keep on top of various policy and conservation issues in 2014.

In addition, state fish and wildlife agencies provided success stories of salamander conservation and interviews for the monthly PARC Year of the Salamander Newsletter, with three state agency representatives also serving on the planning team.



Smooth Greensnake (*Opheodrys vernalis*)

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AMPHIBIAN AND REPTILE CONSERVANCY (ARC) ACTIVITIES

ARC formerly known as Friends of PARC, is a non-profit, 501(c)(3) charitable organization established in 2009 to support herpetofaunal conservation and the mission of PARC. In 2014, ARC's impact grew rapidly.

Most notably, ARC partnered with the USFS to restore numerous critical amphibian breeding wetlands for amphibians in Arizona, California and Kentucky, as part of their 17 x 17 Wetlands campaign. These restoration projects doubled as training workshops, thus simultaneously training scores of landowners and habitat managers to restore their own wetlands, and exponentially expanding ARC's net impact on conservation.

In addition, ARC provided financial and administrative support to a wide range of vitally important projects and partners. Finally, ARC mounted an aggressive year-round public education campaign utilizing photo and video messaging across a variety of social media platforms.

Building on 2013 successes, in 2014 ARC continued to focus on three strategic goals:

- Improve amphibian and reptile habitats
- Promote conservation education and applied conservation
- Provide support services for herpetofaunal conservation partners and actions

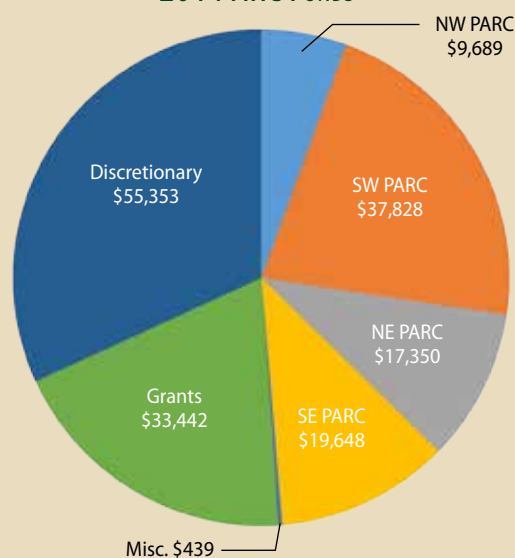
2014 Officers

Jeff Holmes, Executive Director
Ed Christoffers, Chief Financial Officer



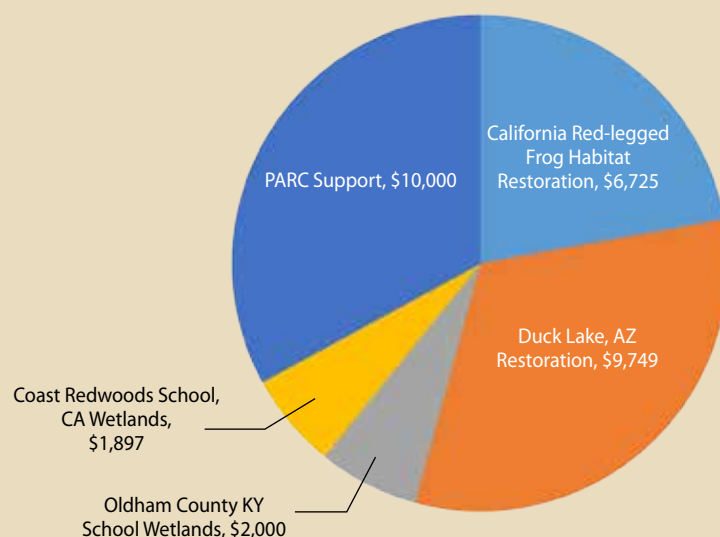
Currently, ARC is staffed by two volunteer officers and managed by a board of eight directors including four new directors added in 2014. ARC is supported by revenues from product sales, a modest amount from overhead as part of grants management, and from generous donations from partners and the general public. For ARC's own detailed 2014 Annual Report, and information about ARC's new board members, visit www.amphibianandreptileconservancy.org.

2014 ARC FUNDS



ARC manages funds for four of the five PARC regions and holds or manages its own and other funds as well. Throughout 2014, ARC utilized the highest standards of financial management to maintain positive balances in all of the accounts under its administrative care. The balance of all funds held or managed by ARC at the end of calendar year 2014 totaled \$173,749.

MAJOR CONSERVATION PROGRAM EXPENSES



ARC provided financial and administrative support ("PARC support") to a wide range of important projects and partners. *PARC support total is a projected estimate. Other costs shown are for the wetland restorations conducted in partnership with the USFS. Financial support provided in 2014 totaled \$30,371.

