



2012 ANNUAL REPORT





ACKNOWLEDGMENTS

CREDITS:

Front Cover photos: *Large background* - Eastern Collared Lizard (*Crotaphytus collaris*, Joe Farah); Kilimanjaro Two-horned Chameleon (*Kinyongia tavetana*, James Brantley); Lesser Earless Lizard (*Holbrookia maculata*, Andrew Brinker); Plumed Basilisk (*Basiliscus plumifrons*, Bill Parker)

Back Cover: *Large background* - Lesser Antillean Iguana (*Iguana delicatissima*, Karl Questel); Gila Monster (*Heloderma suspectum*, Kevin Stohlgren); Flap-necked Chameleon (*Chamaeleo dilepis*, Maria Eifler); Desert Horned Lizard (*Phrynosoma platyrhinos*, Fiana Shapiro)

Page 2 photos: *Top Row*, Regal Horned Lizard (*Phrynosoma solare*, George Andrejko), Barking Treefrog (*Hyla gratiosa*, Scott Smith), Great Basin Collared Lizard (*Crotaphytus bicinctores*, Tim Torell),

Page 3 photos: *Top Row*, Blanding's Turtle (*Emydoidea blandingii*, Jonathan Mays); Yemen or Veiled Chameleon (*Chamaeleo calypttratus*, Jacob-Henry Camps); Long-tailed Salamander (*Eurycea longicauda*, Charlie Eichelberger)

Page 2-3 background: Vermillion Cliffs, AZ (Lawrence LC Jones)

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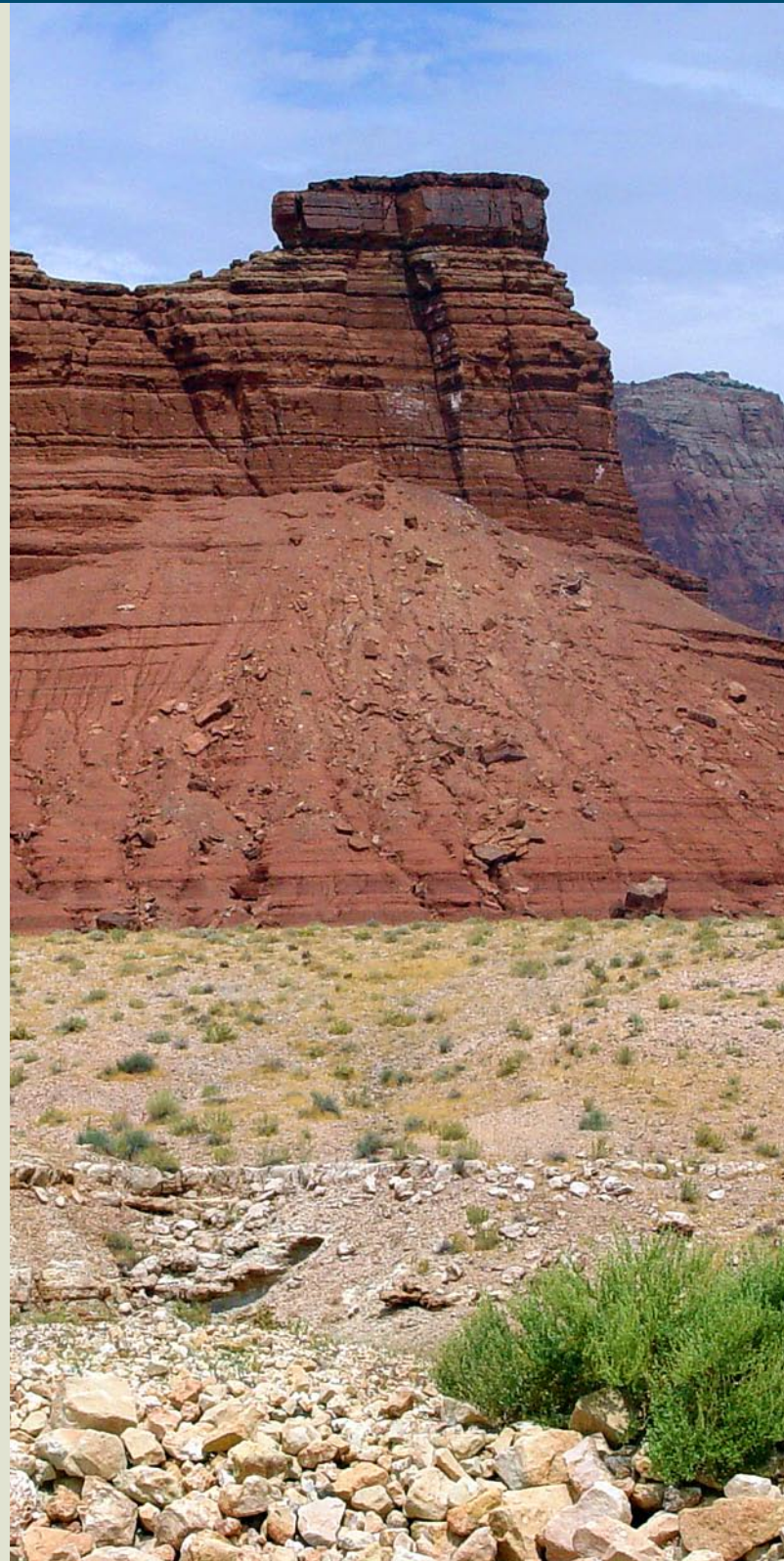
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AVAILABLE ONLINE AT: www.parcplace.org





INTRODUCTION

PARC MISSION

To conserve amphibians, reptiles and their habitats as integral parts of our ecosystem and culture through proactive and coordinated public and 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 challenged with poor perceptions, 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 of these animals has never been more important.

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 and representing science and education, species conservation and land management, industry and commerce, state and federal government, 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.

PARC is not:

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

2012 - YEAR OF THE LIZARD

IN 2012 *PARC designated and celebrated the Year of the Lizard*, an awareness campaign to highlight lizard conservation, management, research and outreach. Many of the Year of the Lizard efforts from our regions and state, federal, academic, and non-governmental partners are detailed later in this Annual Report. Please enjoy all the amazing lizard work, and beautiful photos in this Annual Report!

The Year of the Lizard Planning Team developed the State of the Lizard report which identifies the current threats, needs and status of lizards and also highlights opportunities for public involvement with lizard conservation. The State of the Lizard document is also available in Spanish. In addition, the team created a bimonthly newsletter, the Year of the Lizard News, featuring diverse stories on research, outreach, interviews with lizard experts, artwork and unique facts about lizards. A monthly photo contest was held and the winning photos were used to develop a downloadable lizard calendar each month. The monthly calendar promoted various lizard and other wildlife conservation-related events. A hardcopy full-color calendar demonstrating the beauty of these animals was made available

for purchase, along with various other Year of the Lizard items at PARC's Café Press store (www.cafepress.com/parcstore). Proceeds support lizard conservation! Last, the Year of the Lizard webpage featured materials that were contributed by local nature centers, citizen scientists, and the general public and also served as the hub for Year of the Lizard information.

From newsletter stories on A Field Ecology Tool for Everyone (May) to the outreach by Cool Springs Environmental Center (July) and a beautiful poster of four lizards from North Italy (September), the Year of the Lizard campaign has reached audiences across the world. Over the course of the year, a total of 10 collaborating partners endorsed the Year of the Lizard campaign and promoted our materials. Five of these were international partners,

representing Slovenia (1), Hong Kong (1), Bangladesh (1), and the United Kingdom (2). The campaign could not have raised awareness of the issues surrounding lizards without the assistance of everyone who downloaded the monthly newsletter, submitted photos for the monthly calendar photo contest, and contacted the Year of the Lizard Team with questions, suggestions, and contributions to this important effort.



Todd Long of Knoxville, TN, submitted the winning logo for PARC's 2012 Year of the Lizard Logo Contest.



An Indication of our Reach

Nearly 24% of the 57,000+ unique visitors to the PARC website came via the PARC home page, and in 2012, almost 5% of these visitors arrived directly via the Year of the Lizard webpage. There were over 7,500 visitors to the Year of the Lizard webpages in 2012, and more than 19,000 Year of the Lizard-related page views, including our monthly calendar and bi-monthly newsletter. Over 150 photo entries were submitted throughout 2012 as part of the monthly calendar photo contest, representing species from throughout North America as well as locations in Kenya, Thailand, Mexico, Peru, the Galapagos, Tobago, Anguilla, Brazil, Grand Cayman, Costa Rica, the French Lesser Antilles, the UK, and Oman. Furthermore, the Year of the Lizard 2012 page received 175 individual Facebook member “Likes”.



JOE FARAH

PARC THANKS THE YEAR OF THE LIZARD PLANNING TEAM

Brian Aucone (Denver Zoo, CO), Al Breisch (Albany, NY), Teal Dimitrie (California Game and Fish Dept.), David Dimitrie (Green Diamond Resource Company, CA), Tom Giermakowski (University of New Mexico), Denim Jochimsen (University of Idaho), Jason Jones (Utah Div. of Wildlife), Larry Jones (US Forest Service, AZ), Priya Nanjappa (Association of Fish & Wildlife Agencies, DC), Esther Nelson (US Forest Service, NM), Dede Olson (US Forest Service, OR), Denise Parsons (University of Nevada, Reno), Leland Pierce (New Mexico Game and Fish Dept.), David Pilliod (US Geological Survey, ID), Terry Riley (National Park Service, CO), M. L. Robinson (University of Nevada, Reno), Kathryn Ronnenberg (US Forest Service, OR), Chris Titus (SUNY Brockport), Valorie Titus (Wildlife Conservation Society/Bronx Zoo, NY), and David Wojnowski (University of North Texas). Further details on the 2012 Year of the Lizard Campaign, including downloadable files of all the Year of the Lizard News issues, monthly calendars, and other Year of the Lizard products can be found at www.yearofthelizard.org.

◀ Our Year of the Lizard photo contest drew in over 150 photos, including this one by Laurie Vitt, our January photo contest winner. It may look like a snake, but it's actually an Eastern Glass Lizard (*Ophisaurus ventralis*)!

2012 PARC PRODUCTS AND PROJECTS

PARC Website:

Visit PARC'S website at www.parcplace.org! The website has been updated and new content has been added. In particular, see the new information under Resources, including a new Department of Defense PARC (DoD PARC) link regarding our new initiative with military installation natural resource personnel to provide stewardship for threatened and endangered herpetofauna. You can also join our announcement listserv to stay up-to-date on PARC and partner happenings. Check it out! PARC thanks JD Willson (University of Arkansas) and Tanner Jessel (University of Tennessee, Knoxville) for their volunteer time to keep our website up to date and attractive, and to Brian Todd (University of California, Davis) for maintaining our listserv!

Symposium at 7th World Congress of Herpetology, Vancouver, Canada:

PARC sponsored a symposium at the 7th World Congress of Herpetology in August 2012 entitled Conservation Successes during Times of Declining Biodiversity: A Sampler of Case Studies. The symposium included an overview of conservation success stories from North America and globally, with presentations covering Canada, United States, Mexico, Guatemala, Ecuador, Peru, Tanzania, Kenya, Uganda, and New Zealand. The symposium demonstrated that with the efforts of agencies, organizations, and conservation champions, PARC can make a difference in retaining global herpetological biodiversity. PARC thanks Larry Jones, US Forest Service, for leading in the development and implementation of this successful event.



NW PARC and Society for Northwestern Vertebrate Biology (SNVB) shared booth at the World Congress of Herpetology, Vancouver, British Columbia, Canada, August 2012 (L-R: Larry Jones, AZ; Dede Olson, OR; and Hartwell Welsh, CA). Let us know if there is a conference you think we should attend!

Habitat Management Guideline (HMG) Series:

Each volume in the series covers a regional geographic area that is largely based on ecoregions (Figure 1). These guidelines provide habitat management recommendations to benefit amphibian and/or reptile habitats and are intended for public and private land managers. During 2012, PARC continued its work to complete its flagship, five-volume HMG series that will cover the continental US and parts of Canada. Specifically, PARC published the Midwest HMG in May and continued progress in the development of the Southwest regional guidelines. PARC thanks Dr. Bruce Kingsbury (Indiana-Purdue University and Director of the Center for Reptile and Amphibian Conservation Management) and Joanna Gibson (also with the Center)

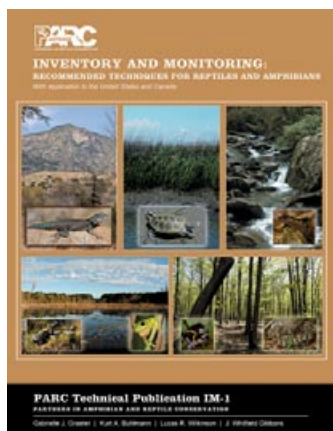
for their hard and dedicated work of finalizing the MW HMG. The Southwest volume is expected to be completed in late 2013, thus completing the entire series. PARC also thanks all of those dedicated herpetologists who contributed to the successful completion of all the HMGs. For more information on HMGs and ordering, see www.parcplace.org/publications.



Inventory and Monitoring Techniques Book:

PARC's newest technical publication *Inventory and Monitoring: Recommended Techniques for Reptiles and Amphibians with Application to the United States and Canada* has been sent to the publisher. Final publication is expected 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 both reptiles and amphibians in North America, and provides specific recommendations on inventory and monitoring techniques that may be used for all life stages for each species. For more information and ordering, see www.parcplace.org/publications.



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, North Carolina) and Phillip deMaynadier (Maine Department of Inland Fisheries and Wildlife), the criteria and plan were completed in late 2012 and will soon be posted to the PARC website (www.parcplace.org). PARC members are completing an assessment of the PARCAs for the South Atlantic and North Atlantic Landscape Conservation Cooperatives, with attention to the impacts of climate change in these regions.

Roads Task Force:

The National Roads Task Force was created to partner with transportation entities to help develop and consolidate solutions and conservation strategies to address passage, connectivity, collision, and other transportation-related issues for amphibians and reptiles. In July 2011, Johns Hopkins University Press awarded the editors, Kimberly Andrews (University of Georgia Savannah River Ecology Laboratory),

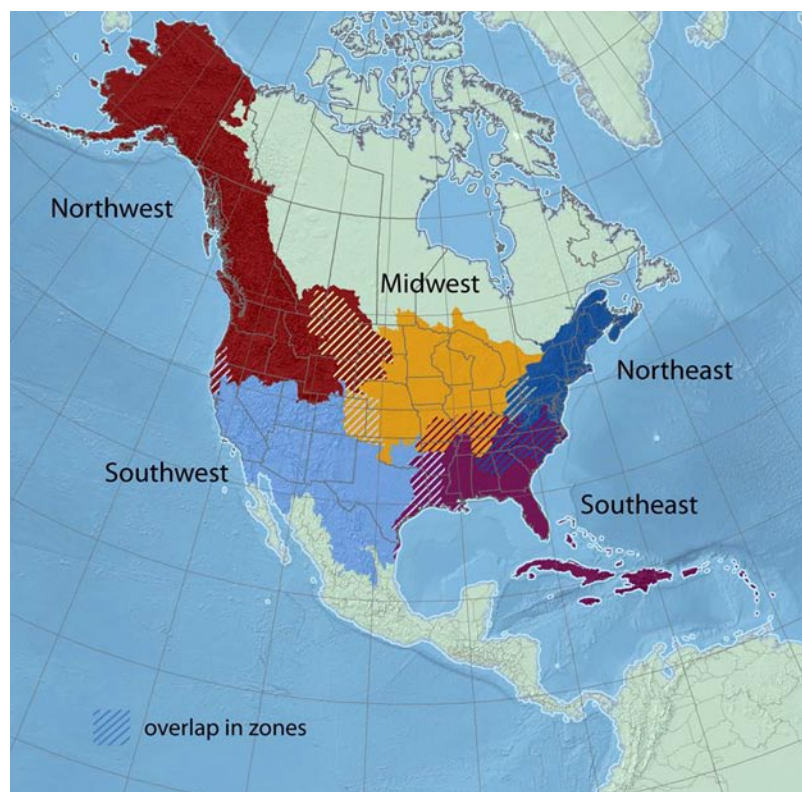


FIGURE 1: Coverage and overlap of the regionally-based and ecoregionally-applicable PARC Habitat Management Guidelines.

Priya Nanjappa (Association of Fish and Wildlife Agencies), and Seth P.D. Riley (National Park Service), a book contract to produce a practical guidance manual to transportation professionals regarding the state-of-our-knowledge in maintaining ecosystem connectivity and minimizing road impacts for small animals, including herpetofauna, small mammals, and other small vertebrates as part of their new series with The Wildlife Society. This book will describe and recommend best practices for small animals regarding wildlife passage, mitigation, or structure retro-fitting or enhancement is concerned. This handbook will encompass the suite of both direct and indirect effects of roads on small animals with attention to minimizing costs and conflicts while maximizing connectivity and natural ecological functions. The manuscript is expected to be submitted in early 2013 and publication expected in 2014.

Identifying priority habitat areas for amphibians and reptiles has become increasingly important...to this end, PARC finalized the criteria and an implementation plan for designating Priority Amphibian and Reptile Conservation Areas (PARCAs).

FUTURE CAMPAIGNS

In 2013, PARC will be raising awareness for snakes much as we did for turtles in 2011 and lizards in 2012. The 2013 Year of the Snake campaign will launch in January 2013 and will include the following activities and products via www.yearofthesnake.org:

- A photo contest, under way now, with a winning photo to be chosen each month in 2013. The photos will be displayed monthly on a free downloadable monthly calendar. Anyone can submit photos via the email address below.
- A newsletter will be produced every month throughout 2013. We will highlight species, projects and conservation issues relative to snakes and their habitats. Our initial focus is to raise awareness for snake conservation in North America, but we will showcase species and issues from around the world. Please send any articles, artwork, project summaries, or other ideas to the email address below.
- Our “State of the Snake” report is now available. We are seeking translators to help produce this report in other languages for further outreach.
- A partners page on the Year of the Snake website to highlight our partners in snake conservation. We are continuing to seek partners to share our Year of the Snake efforts and products. Please contact us at the email address below if you would like further information about partnerships.

For all inquiries, contact the team at:
PARCyearofthesnake@gmail.com.

And, by the way, in 2014, the Year of the Salamander will be next! Please contact Mary Beth Kolozsvary (mkolozsvary@siena.edu) if you want to be included in planning for this campaign, which has already begun!

In 2013, PARC will be raising awareness for snakes...the Year of the Snake campaign will launch in January 2013 and will include the following activities and products via www.yearofthesnake.org.



Ann Hirschfeld of St. Louis, Missouri, submitted the winning logo for PARC's 2013 Year of the Snake Logo Contest.

THANKS TO ALL THE MEMBERS OF THE YEAR OF THE SNAKE PLANNING TEAM

Heidi Hall (The Orianne Society, GA), Chris Jenkins (The Orianne Society, GA), Polly Conrad (PARC National Co-Chair; The Orianne Society, UT), Kathryn Ronnenberg (US Forest Service, OR), Scott Angus (E2PM Consulting, NJ), Cameron Young (Center for Snake Conservation, CO), Scott Smith (Maryland Dept. of Natural Resources), Valorie Titus (Wildlife Conservation Society, MT), Carrie Elvey (Wilderness Center, OH), and Priya Nanjappa (Association of Fish & Wildlife Agencies, DC).



San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*).

2012 PARC AWARDS

IN 2011 PARC initiated two awards: the *Visionary Leader Award* and the *Alison Haskell Award for Excellence in Herpetofaunal Conservation*. Both of these were awarded again in 2012.

Visionary Leader Award:

This award recognizes an individual in North America who exemplifies extraordinary leadership, vision, and commitment, specifically to PARC, in a manner that has carried PARC to new heights and has significantly forwarded the PARC mission. The 2012 Visionary Leader Award winner was **Ernesto (Ernie) Garcia**.

Ernie had been an integral member of PARC since its inception in 1999, while serving as the Wildlife Program Leader for the Southern Region for the US Forest Service (USFS) until his retirement in 2004. There he became interested in, and recognized the many conservation needs for, amphibians and reptiles and began working with PARC.

In this role, Ernie was able to assist in directing federal funding to a variety of PARC projects that were of mutual interest to the USFS as well as to herpetofaunal conservation. Among the successful projects that can be directly attributed to Ernie's efforts are the development of the regionally-based Habitat Management Guidelines and the initiation of the Inventory and Monitoring manual. Following his retirement from federal service, he applied for and became the PARC Federal Agencies' Coordinator, serving in this role for nearly

5 years. His charismatic personality and push for accomplishment have been motivating factors in all regions and at all levels of PARC membership.

Ernie embodies the definition of a visionary for PARC, always thinking of new ways to partner with others toward the big-picture goal of herpetofaunal conservation. Without his motivation and efforts towards herpetofaunal and habitat conservation, PARC would not be moving ahead at the pace it is

today. Until his recent second retirement, he had served as the unpaid Executive Director of the Amphibian and Reptile Conservancy (formerly the Friends of PARC), a non-profit that he co-founded, and where he continued to lead the charge to fund and facilitate various PARC and other herpetofaunal conservation projects. PARC congratulates Ernie Garcia, our 2012 Visionary Leader!

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, as did Alison. The 2012 winner of this award was **Dr. Deanna "Dede" H. Olson**.

Dede earned her Ph.D. at Oregon State University in Corvallis. Among her many roles she now serves as Leader of the Aquatic Ecology and Management Team for the US Forest Service where she is employed as Supervisory Research Ecologist at the Pacific Northwest Research Station in Corvallis. Additionally she is a Courtesy Faculty member at Oregon State University, an Associate Editor for Herpetological Review and past Associate

Editor for the *Northwestern Naturalist*, former Co-chair of the PARC Joint National Steering Committee (JNSC) where she continues to serve as an ex-officio member, and the Lead of the Aquatic Biodiversity in Forests working party for the International Union of Forest Research Organizations.

Prior to becoming the Co-chair of the JNSC, Dede was the Co-chair of the PARC Northwest Regional Working Group (1999-2009). Other partnerships she developed include the Society for Northwestern Vertebrate Biology where she has served as Vice-President and President and the Pacific Northwest Working Group, Declining Amphibians



Ernesto "Ernie" Garcia, winner of the 2012 PARC Visionary Leader Award.



Dr. Deanna "Dede" H. Olson, winner of the 2012 PARC Alison Haskell Award for Excellence in Herpetofaunal Conservation Award.

Populations Task Force where she served as Co-chair.

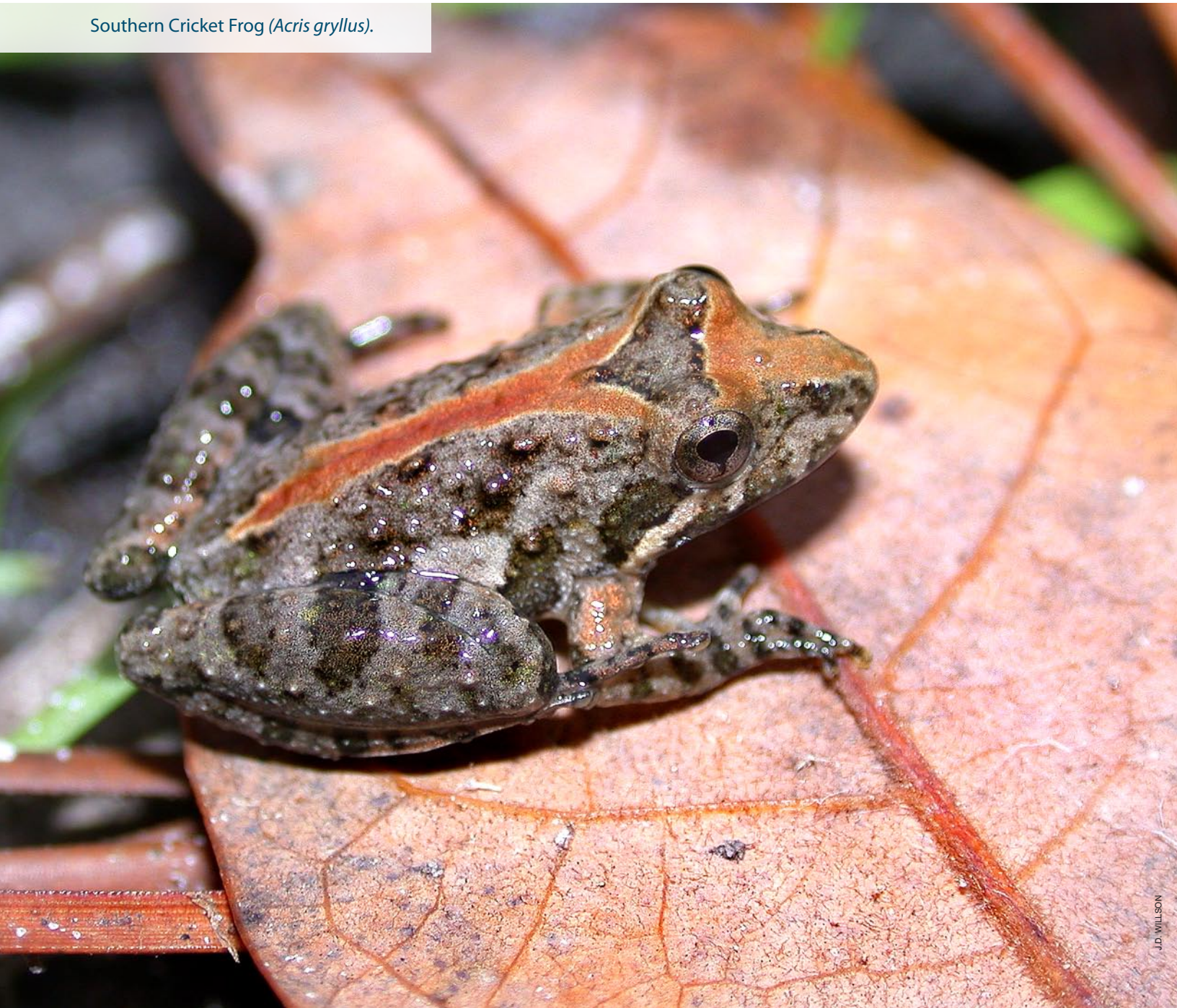
Dede has fostered conservation through research, often in partnership with land managers, and through outreach and education. She is well-known for her leadership of the Riparian Buffer study that she initiated in 1994 in conjunction with the Bureau of Land Management. She has been at the lead of an international effort to characterize the global extent and implications of amphibian declines associated with the amphibian chytrid fungus, *Batrachochytrium dendrobatidis* (Bd). She has also taken a leadership role in PARC's Year of the Turtle (2011) and Year of the Lizard (2012). Dede's work in

the area of conservation is reflected in her over 90 publications that directly address conservation of biodiversity.

Of particular importance has been the role Dede has played as mentor. Through various university affiliations, she has served as guiding professor for 8 students and a committee member to 26 students, and she has mentored both undergraduate and high school students. Dede continues to mentor and guide PARC members and budding herpetologists, young and old alike.

PARC congratulates our "unsung hero" Deanna "Dede" Olson, the 2012 Alison Haskell Award winner!

Southern Cricket Frog (*Acris gryllus*).



J.D. WILLSON

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 utilizes 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 2012, the JNSC was led by the national PARC Co-Chairs, Al Breisch and Dede Olson, who completed her two-year term in March, and Polly Conrad who began her two-year term at that time. Additional members of the JNSC include PARC's National Coordinators (state and federal), the co-chairs of the five PARC Regional Working Groups, co-chairs of the Federal Agency Steering Committee (FASC), co-chairs of the Association of Fish and Wildlife Agencies' Amphibian and Reptile Subcommittee, a representative of the forest products industry, a representative of the zoo community and a representative of conservation-based NGOs. Please see the following pages for additional information on JNSC partners. Some topics discussed by the JNSC in 2012 included:

- 1) Regional Working Group annual meetings and activities (see pages 14-19);
- 2) Implementation of the 2012 Year of the Lizard campaign, including activities surrounding a photo contest, newsletters and calendars (see pages 4-5);
- 3) Presentation of the second Alison Haskell Award for Excellence in Herpetofauna Conservation (see page 9);



FIGURE 2

2012 Co-Chairs

Al Breisch (retired, former New York State herpetologist), Polly Conrad (Incoming, Communication Specialist, The Orianne Society), and Dede Olson (Outgoing, Supervisory Research Ecologist, US Forest Service Pacific Northwest Region)

- 4) Presentation of the second Visionary Leader Award (see page 9);
- 5) Negotiating a new Memorandum of Understanding with 10 federal agency partners (see page 20)
- 6) PARC symposium at the World Congress of Herpetology (see page 6). Thanks to Larry Jones (USFS) for leading this effort;
- 7) Planning a PARC symposium on the impacts of energy development on herpetofauna, in conjunction with the 2013 Joint Meetings of Ichthyologists and Herpetologists;
- 8) Initiating plans for a PARC symposium in conjunction with the 2014 The Wildlife Society (TWS) meeting and a Memorandum of Understanding between TWS and PARC to provide a framework for future collaboration;
- 9) Initiating discussions for a co-sponsored meeting with the Society for the Study of Amphibians and Reptiles (SSAR) in 2015;
- 10) Initial planning for the 2013 Year of the Snake campaign (logo contest, photo contest, State of the Snake document, newsletter development, website development and calendars, see page 8). Thanks to Chris Jenkins (The Orianne Society) and Heidi Hall (The Orianne Society) for leading this effort;
- 11) Revision and adoption of the Operation's Manual;
- 12) Finalization of the Inventory & Monitoring Handbook manuscript, to be printed in early 2013;
- 13) Voted to join as a sanctioning entity of the standard common and scientific names list produced by the major North American academic societies including Society for the Study of Amphibians and Reptiles, American Society of Ichthyologists and Herpetologist, Herpetologists League, Canadian Association of Herpetology, and Canadian Amphibian and Reptile Conservation Network;
- 14) Outreach via PARC for tribal members and a potential Tribal PARC chapter or initiative;

- 15) Initiating planning for 2014 Year of the Salamander campaign. Thanks to Mary Beth Kolozsvary (Siena College, NY) for leading this effort.
- 16) Approval of a Colorado PARC state chapter.

The JNSC also worked closely with the Amphibian and Reptile Conservancy to communicate funding requests for support of various symposia and workshops, raise and handle publication funding for the Inventory & Monitoring Handbook and to support the coordination of the 2012 Year of the Lizard and 2013 Year of the Snake activities and products.

At-Large JNSC Member Activities:

Forest Products Industry: A large portion of North American forests are owned by corporate private landowners who actively manage their forests to produce wood and fiber. These landowners and forest products companies who own only manufacturing facilities have a strong interest in sustainable forestry and conservation of biological diversity, including amphibians and reptiles. Currently, one industry representative, employed by the National Council for Air and Stream Improvement, Inc., fills an at-large seat on the JNSC and another happens to be one of the SE PARC Co-chairs. Both have contributed this perspective to reviews of PARC's Inventory and Monitoring manual, Habitat Management Guidelines, operations manual, and criteria and implementation plan for Priority Amphibian and Reptile Conservation Areas. Forest products industry representatives also contributed to planning PARC's 2013 energy and herpetofauna symposium and are currently interacting with the Orianne Society, federal partners, and others on conservation of eastern diamondback rattlesnakes. In addition, this industry is an active supporter of research designed to explore cost-effective conservation of herpetofauna in actively managed forest landscapes. Examples of recently completed and on-going research includes surveys for gopher tortoises; development of methods to identify and map isolated wetlands using remotely sensed data; and documentation of herpetofauna response to ditch-system, biofuels production, and different stream buffer regimes.

Non-Governmental Organizations: In today's changing economic environment, including changes in funding and staffing in agencies, non-profit organizations are becoming a greater force for the conservation and management of amphibians and reptiles. In the past decade a number of amphibian and reptile conservation organizations have developed including, but not limited to, The Orianne Society, Amphibian Ark, Amphibian Survival Alliance, Center for Snake Conservation,



Clemson University graduate student Chris O'Bryan releasing a radio-equipped Spotted Turtle (*Clemmys guttata*).

Turtle Survival Alliance, and the Amphibian and Reptile Conservancy. PARC has recently added an NGO representative seat on its JNSC, and by doing so we are hoping to continue to reach out to NGO partners and determine more and better ways to work with them. For example, our current NGO representative is from The Orianne Society. The Orianne Society has worked with PARC by having staff serving on a variety of committees and task teams, sponsoring multiple meetings and symposia, working to identify some of the first Priority Amphibian and Reptile Conservation Areas (PARCAs), and coordinating Year of the Snake activities. Other NGOs have been playing active roles with PARC, for example Turtle Survival Alliance and Center for Snake Conservation have been active in Year of the Turtle and Year of the Snake activities, respectively. In 2012, PARC continued to maintain relationships with many NGOs including Amphibian Ark, Amphibian Survival Alliance, and Conservation International among others, and

are always looking for opportunities to partner with additional NGOs where possible, including attending their meetings or promoting their activities. Finally, we have a strong partnership with the Amphibian and Reptile Conservancy, see more about their work with and for PARC below. PARC is continuing to develop strategies for increasing partnership opportunities for nonprofits within PARC by encouraging reciprocal involvement at regional meetings, making PARC products available (e.g., Habitat Management Guidelines), and encouraging them to take active roles on task teams, trainings, outreach efforts, and other PARC projects and products.

Zoos: Historically, zoos have been viewed as venues for exhibiting animals, but modern-day zoos are becoming more involved with in situ and ex situ conservation. With rapid declines and near-extinctions of amphibians and reptiles, there is a need for active management and intervention. Zoos are unique institutions in that they have extensive resources for

captive management and can partner with other conservation and research organizations. PARC volunteers from the zoo and aquarium community are looking forward to increasing the role of zoos and aquariums within the PARC regions and are a valuable partner in amphibian and reptile conservation. With the recent addition of a Zoo representative seat on PARC's JNSC, we hope that these roles and relationships will be further strengthened in the coming years. In 2012, PARC members from Denver Zoo assisted with Flat-tailed Horned Lizard biomonitoring training, associated with SWPARC, and from FrogWatch USA™, a citizen science program managed by the Association of Zoos and Aquariums (AZA), held a coordinator training in conjunction with the NEPARC annual meeting. In addition to the above, we continue to have active zoo participation in the PARC regional working groups, including the Toledo Zoo, San Diego Zoo, Zoo Atlanta, and Bronx Zoo, among others.

Red Salamander (*Pseudotriton ruber*).



J.D. WILSON

PARC REGIONAL WORKING GROUP ACTIVITIES

2012 Co-Chairs

2012 Co-Chairs: Bruce Kingsbury (Indiana -Purdue University, Fort Wayne), Allison Sacerdote-Velat (Incoming, Lincoln Park Zoo), Rich King (Outgoing, University of Northern Illinois)

Midwest Regional Working Group (www.mwparc.org)

MWPARC (MW PARC) held its annual meeting at the Pioneer Boy Scout Camp in northwestern-most Ohio from July 7-9, 2012. The theme of the meeting was “Herpetofauna Conservation Across Landscapes,” with approximately 75 attendees. Ten invited talks were delivered, along with numerous posters. The keynote speaker was Dr. Kimberly Andrews (Univ. of Georgia, Savannah River Ecology Laboratory), whose presentation was entitled, “Reptiles in Developing Landscapes: Why Can’t We all Just Get Along?” The silent auction was very successful, raising nearly \$1200.

The goal of this meeting was to discuss ways that biologists in the Midwest can interface with transportation officials and site managers to reduce effects of road mortality during certain times of year, work with planners to improve habitat corridors to reduce barriers to migration and gene flow, and employ various conservation tools to identify solutions in the face of increasing pressures of urbanization and exurbanization. Presentations during the meeting included GIS tools to aid in identification of appropriate wetland mitigation sites with a greater likelihood of success, vernal pool assessment in Ohio and wetland mitigation sites in Wisconsin, ecological niche to predict effects of various climate change scenarios on herpetofauna, and consideration of societal perspectives in conservation planning.

Emerging take-home messages centered on maintaining and improving connectivity across barriers such as roads, and the importance of maintaining wetland complexes across landscapes. Discussions included how both anthropogenic and natural habitat fragmentation may affect the distribution and population structure of herpetofauna species (e.g. roads, fire suppression in Ozark glades). Terrestrial and aquatic species will face different challenges with regard to connectivity. Fragmentation may result in larger home ranges for species dependent on combinations of habitat types, as evidenced by studies of Plain-bellied Watersnakes (*Nerodia erythrogaster*) and Plains Hog-nosed Snakes (*Heterodon nasicus*). In addition, there may be species-specific or sex-specific and seasonal behaviors that make certain species more susceptible to road mortality or other forms of fragmentation.



Figure 3. PARC’s Regional Working Groups are the foundation of the partnership, and they are where the on-the-ground issues are translated into actions and products.

Breakout groups took place for the ongoing topics: 1) developing a template for herp conservation training in the Midwest, and 2) integrating consideration of herps into NRCS standard practices. A newly created regional team, Priority Amphibian and Reptile Conservation Areas, also met with the intention of reviewing PARCA criteria and identifying either ecosystem-based or species-based approach to identifying potential conservation areas. Updates were provided from Gary Casper (University of Wisconsin, Milwaukee Field Station) and David Mifsud (Herpetological Resource and Management), representing Wisconsin and Michigan PARC chapters, respectively. Both state chapters have formed advisory boards, and WI PARC is developing a website. Thanks to MW PARC webmaster Brian Edmond (Missouri State University), newsletter editor Rebecca Christoffel (Iowa State University), and Google Group Owner Greg Lipps (Gregory Lipps, LLC) for helping MW PARC members stay connected!



Plain-bellied Watersnake (*Nerodia erythrogaster*).

OMAR ATTUM

Northeast Regional Working Group (www.northeastparc.org)

NEPARC, (NE PARC) held its annual meeting July 24-26, 2012 at the Appalachian Mountain Club's Highland Center (AMCHC) at Crawford Notch, Bretton Woods, NH. This scenic location in the White Mountains was host to approximately 120 attendees from the 13 states in the NE PARC area, and three states outside of the northeast.

The meeting included three pre-meeting activities: First, a group led by Mike Jones (University of Massachusetts) visited high-elevation amphibian breeding pools on Mt. Washington, the tallest peak in the NE PARC region (6,289 feet). Second, Rachel Gauza of the Association of Zoos and Aquariums led another group in a training program for FrogWatch USA for those interested in participating in this coordinated frog and toad survey effort (see www.aza.org/frogwatch for additional information). Third, a well-attended annual meeting of the NE State Biologists occurred the day before the full meeting; it included round table discussions on funding and other State-relevant herpetofaunal issues.

The keynote speaker for the meeting was Author/Artist/Naturalist David M. Carroll, whose books *The Year of the Turtle: A Natural History* and *Swampwalker's Journal* have become must reads for herpetological professionals and enthusiasts in the NE region. Mr. Carroll spoke on his 30-plus years of conservation and study of his beloved spotted turtles and other herpetofauna in New England.

Several of the NE PARC's active working groups met at

2012 Co-Chairs

Scott Angus (E2PM Consulting),
Andrea Chaloux (Incoming, New York State Natural
Heritage Program), and Valorie Titus (Outgoing, Wildlife
Conservation Society/Bronx Zoo)

the meeting plus three new groups were formed: Hellbenders/Mudpuppies, the Year of the Snake (2013), and Wood Turtle Regional Conservation Need Grant to collaborate on current initiatives and prioritize subsequent actions. NE PARC's existing working groups were productive in 2011-2012. The Timber Rattlesnake Working Group added the specific issue of Emerging Snake Diseases to the group's responsibilities. The other groups including the original Emerging Diseases (minus snakes) group, Blanding's Turtle Conservation, Roads, and Vernal Pools met at our annual meeting. These groups will be keeping our Editorial Board busy with some exciting products in the upcoming months.

Last but not least, NE PARC's Photo Project, spearheaded by Linda Weir (USGS Patuxent) has cataloged photographs of over 80% of the herpetofauna on the list of species in the NE PARC region. Thanks to the many photographers who have contributed and to Linda for her continued dedication to this project! See the NE PARC website and click on the "Wanted-Your Herp Photos" link for more information.



About 120 people attended the 2012 NE PARC meeting at the base of Mt. Washington, NH.

Northwest Regional Working Group (www.nwparc.org)

NWPARC's 5th annual meeting was held 20 March 2012 in Hood River, OR. The meeting started with a Conservation Genetics seminar led by Dr. Steve Wagner and Noah Simons from Central Washington University. This seminar was targeted at students and managers desiring a greater understanding of how genetics is being applied and interpreted in the conservation of amphibians and reptiles. Following the seminar, invited speakers David Herasimtschuk (Conservation Photographer), Blake Hossack (USGS), and David Scholnick (Pacific University) covered a variety of topics from the role of photography in conservation to recent research findings on the physiological and demographic effects of natural and anthropogenic disturbances and disease in amphibian and reptile populations.

The NW PARC annual meeting preceded the annual meeting of the Society for Northwestern Vertebrate Biology (SNVB), where NW PARC organized a Roads and Wildlife session. The session included topics covering roads as genetic barriers, use of culverts and wildlife crossing structures, use of artificial cover, and effectiveness of road decommissioning.

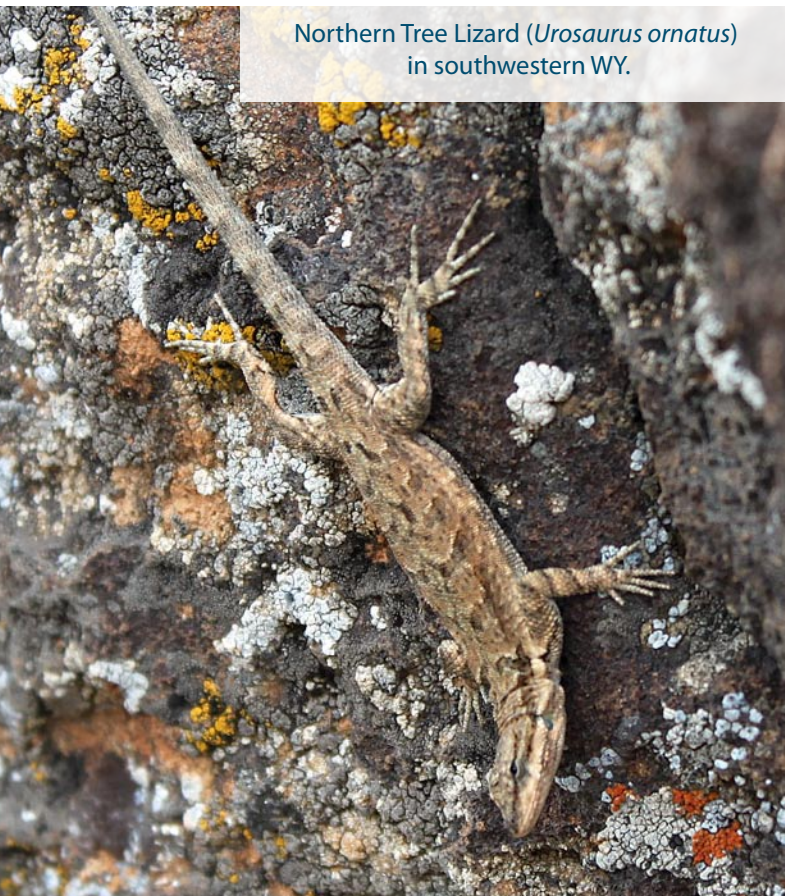
The day prior to the Hood River meetings, NW PARC teamed up with the Natural Resources Conservation Service (NRCS) and the Alberta Conservation Association (ACA) to conduct a workshop entitled "When Amphibians or Reptiles are in Your Project Area - Stewardship Practices for Managers, Consultants, and Private Landowners" in Portland, OR.

2012 Co-Chairs

David Pilliod (US Geological Survey),
Denim Jochimsen (Incoming, University of Idaho),
and Elke Wind (Outgoing, E. Wind Consulting, Canada)



NW PARC with the Natural Resources Conservation Service (NRCS) and the Alberta Conservation Association (ACA) conducted a workshop "When Amphibians or Reptiles are in Your Project Area - Stewardship Practices for Managers, Consultants, and Private Landowners" in Portland, OR.



Northern Tree Lizard (*Urosaurus ornatus*)
in southwestern WY.

Consultants, and Private Landowners" in Portland, OR. The workshop provided extensive information, practical solutions, and case studies, for mitigating the effects of land management practices on amphibians and reptiles from small localized projects to larger landscape-level impacts. Instructors Char Corkran (Northwest Ecological Research Institute), Emilie Blevins (Northwest Ecological Research Institute), Marcus Miller (NRCS), and Elke Wind (E. Wind Consulting) provided information on herpetofauna ecology as it relates to responses to development and the timing of activities, management practices that work for and against herpetofauna, and creative mitigation solutions for various development issues.

The Idaho Chapter of NW PARC held a meeting with the Idaho Chapter of The Wildlife Society on 6 March 2012 in Boise and again on 10 November 2012 with the Idaho Herpetological Society in Nampa. The two meetings brought biologists and natural resource managers together to discuss amphibian and reptile conservation issues around the state.

NW PARC's Communications Task Team has been very active at maintaining and updating the website (www.nwparc.org) and distributing the e-newsletter. We thank Betsy Howell (US Forest Service) for her continued work as Treasurer and Brandon Fessler for his continued work as webmaster and newsletter editor.

Southeast Regional Working Group (www.separc.org)

FROM a great annual meeting to great strides in conservation planning, this year has seen important accomplishments for SE PARC. In February, SE PARC held one of its most successful meetings yet, with more than 150 people attending presentations, task team meetings, workshops, field trips, and nightly revelry.

The conference was at the stunning Fall Creek Falls State Park, Tennessee and despite some cool temperatures several species of amphibians were active, allowing for some great field observations on site. A highlight of the meeting was developing stronger ties to our colleagues from the Caribbean with both a special symposium on herpetofauna conservation in the Caribbean and by adding a steering committee representative for this region. The 2013 meeting will be held at Hickory Knob State Park, South Carolina on February 21-24, 2013, where there will be special symposia to celebrate PARC's 2013 Year of the Snake and to explore Policy and Regulation for Herpetofauna.

A second significant accomplishment for the organization has been the implementation of the process to identify Priority



Multi-disciplinary Task Teams meet each year at the SE PARC Annual Meeting and draw upon their collective expertise to address regional herpetofaunal conservation challenges.

2012 Co-Chairs

JJ Apodaca (Warren Wilson College),
Jessica Homyack (Incoming, Weyerhaeuser),
and Chris Jenkins (Outgoing, The Orianne Society)



Debra Miller (Univ. of Tennessee, Knoxville) and others led a workshop on necropsies of amphibians and reptiles as part of the 2012 Annual Meeting of SE PARC.

Amphibian and Reptile Conservation Areas (PARCAs) across several southeastern states. Thanks to the efforts of current co-chair JJ Apodaca, past co-chair Chris Jenkins, herpetofaunal experts from each state, and a grant through the South Atlantic Landscape Conservation Cooperative (LCC), the southeast is the first region to pilot the identification of PARCAs. SE PARC is representing herpetofauna conservation in several LCCs, and our participation will continue to expand as other LCCs in the region become more active.

SE PARC continues to grow in talent, and we have been using social media (e.g., Facebook, Linked In, Twitter) and our redesigned webpage and blog (www.separc.org) to interact with existing and potential members. Products from and information about our active Task Teams, including Disease and Pathogens and Education and Outreach, are also found on our webpage.



More than 150 people attend the 2012 SE PARC annual meeting in Tennessee.

Southwest Regional Working Group (www.swparc.org)

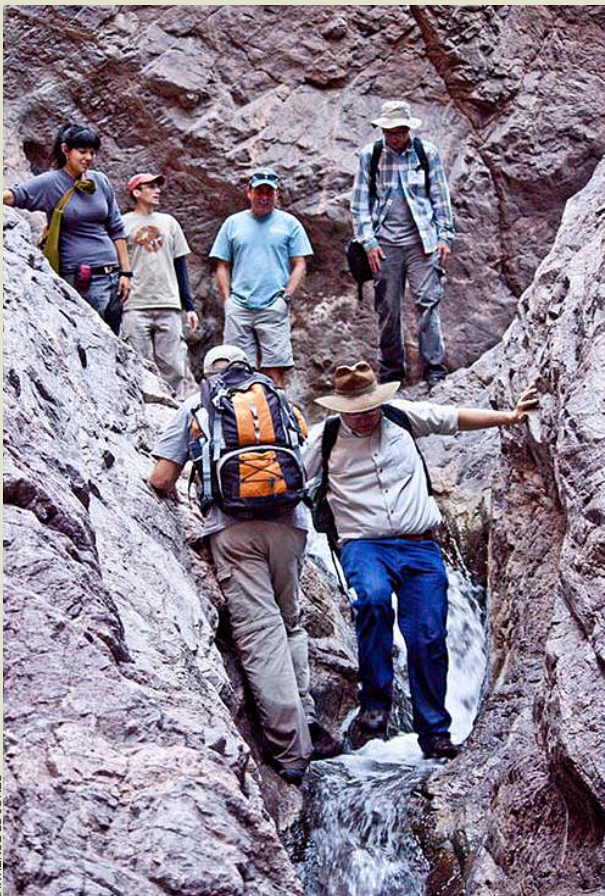
THE SW PARC The SW PARC annual meeting was held in Las Vegas, Nevada on October 24-27 with two concurrent themes: “Energy Development and Herpetofauna Conservation” and “Year of the Lizard, Southwestern Style.” Dr. Jeff Lovich, US Geological Survey, provided the keynote address: “Renewable Energy Development and Terrestrial and Aquatic Wildlife Conservation: The New Frontier.” In total, over 20 papers and 10 posters were presented to 91 participants. Four priority needs were identified and integrated into working groups for 2013. One working group was retained from last year, Outreach to Mexico, and two were offshoots from past working groups, Citizen Science (e.g., Snake Count) and Priority Species List combined with Priority Amphibian and Reptile Conservation Areas (PARCAs). An additional group was formed to assist in finalizing the draft SW Habitat Management Guidelines (HMG). Additionally, Outreach to Tribes was retained as a priority, but not as a working group; a request was made to send all tribal liaison contact information to Esther Nelson (USFS, einelson@fs.fed.us). The live auction was the most successful yet for SW PARC, raising nearly \$2,000! Following the conference, two field workshops were held: one at the Desert Tortoise Conservation Center and one on Relict Leopard Frog (*Lithobates onca*) habitat, downstream of the Hoover Dam on the Colorado River.

2012 Co-Chairs

Jason Jones (Nevada Department of Wildlife),
Tom Giermakowski (Incoming, University of
New Mexico Museum of Southwestern Biology),
and Larry Jones (Outgoing, US Forest Service)

In 2011, SW PARC agreed to take over biomonitor training for the Flat-tailed Horned Lizard (FTHL), *Phrynosoma mcallii*, in coordination with the California and Arizona state wildlife agencies, and the FTHL Interagency Coordinating Committee (ICC). A Conservation Agreement was signed by several federal and state agencies in 1997 to implement the FTHL Rangewide Management Strategy (RMS). The RMS requires that surveyors and biomonitorers for the FTHL be approved by the California and Arizona state wildlife agencies. Two training workshops took place June 19 and 20, 2012 in El Centro California which were conducted by SW PARC members Brian Aucone (Denver Zoo), Jorge Chavez (Oklahoma City Zoo), David Wojnowski (University of North Texas) and Danny Martin (Colorado State University). A total of 61 trainees participated and were certified as biomonitorers for this species. SW PARC will continue to conduct this annual training in 2013.

In collaboration with the US Forest Service, SW PARC



SW PARC workshop participants descend into a canyon after an enjoyable ride along the Colorado River. Once deep in the canyon, participants were rewarded with a rare observation of the nearly extirpated Relict Leopard Frog.

began and continued to work during 2012 on the Aquatic Escape Ramp Project. This project is US Forest Service (USFS) funded, with FY12 implementation and in-kind contribution from PARC and Bat Conservation International. The Watering Facility Escape Ramp Project will deliver to the Forest Service prototype escape ramps and literature explaining their ecological value, cost effective ways to build ramps with volunteers and installation instructions. The message is to emphasize the responsibility of resource managers to promote this activity on public lands while showing the potential to collaborate with private land owners. The Aquatic Escape Ramp Project is a product of Water for Wildlife a partner with the USFS; more information can be found online at www.batcon.org/pdfs/water/bciwaterforwildlife.pdf.

Colorado PARC – SW PARC steering committee voted unanimously to approve Colorado PARC (CO PARC) as a state chapter. Joseph Ehrenberger (private consultant) and Danny Martin will represent CO PARC as state chapter co-chairs. Formerly known as the Colorado Field Herpetologists (CFH), the group met and gave presentations on the following topics: Update from Colorado Parks & Wildlife, Opportunities with State Parks, Standardizing Survey Methodology, Center for Snake Conservation, Opportunities with

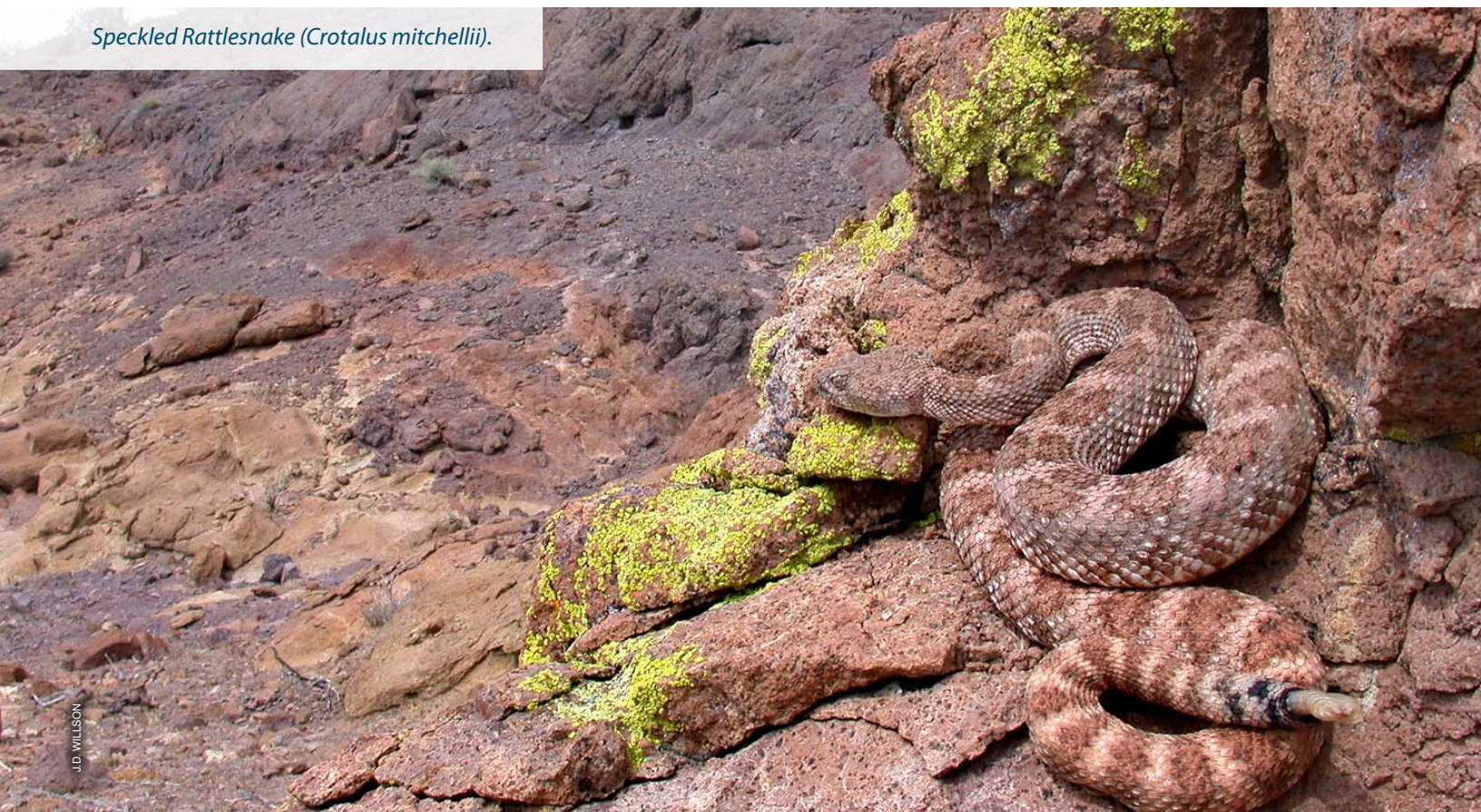
Denver Zoo, and Herpetological Surveys by the Colorado Natural Heritage Program. A field trip in partnership with the North American Field Herping Association (NAFHA) also occurred, where 34 people came out for 2 nights to road-cruise and field herp areas south of La Junta, CO and near Comanche National Grassland. The hot days and nights yielded remarkable results with 33 species (7 amphibians, 26 reptiles) detected. Colorado PARC has grown to about 150 people on its distribution list and hopes to gain more active membership in 2013. If interested in joining Colorado PARC, please contact Danny Martin (danny.martin@colostate.edu) or Joe Ehrenberger (joe.ehrenberger@gmail.com).

Angie Covert (San Diego Zoo/DTCC) and Bob McKeever (retired) discuss the desert tortoise (*Gopherus agassizii*) during a SW PARC workshop at the Desert Tortoise Conservation Center (DTCC).
Inset: Hatchling desert tortoise at the DTCC.



BRYAN HAMILTON

Speckled Rattlesnake (Crotalus mitchellii).



J.D. WILLSON

PARC FEDERAL AGENCY PARTNER ACTIVITIES

Federal Agencies Steering Committee

The PARC Federal Agencies Steering Committee (FASC) met on March 13 in Atlanta, GA, to discuss issues and concerns regarding amphibians and reptiles on federal lands or under federal protection. The FASC also scheduled conference calls on the first Thursday of each month throughout the year. During the annual meeting and conference calls, the FASC discussed such issues as:

- 1) Finalization of the 2012 PARC Federal Agencies Memorandum of Understanding with 10 Federal Agencies, including Bureau of Land Management, Department of Defense, Environmental Protection Agency, Farm Service Agency, US Fish & Wildlife Service, US Forest Service, US Geological Survey, National Park Service, National Marine Fisheries Service, Natural Resource Conservation Service;
- 2) Negotiation and execution of interagency funding agreements between the National Park Service and each of PARC's federal agency partners to provide funding for the Federal Agencies Coordinator position, PARC publications and general PARC support;
- 3) Identification of federal agency priorities and potential performance measures around herpetofaunal conservation activities;
- 4) Working with the Department of Defense (DoD) to develop a new DoD PARC initiative, including implementation of a DoD PARC action plan and working group, and collaborating on DoD Legacy Natural Resource Program grants;
- 5) Plans for increased engagement in the future on Farm Bill programs; and

- 6) Planning a PARC symposium on the impacts of energy development on herpetofauna, in conjunction with the 2013 Joint Meetings of Ichthyologists and Herpetologists;



A Memorandum of Understanding (MOU) became official at a public signing ceremony that was held in conjunction with the US Forest Services' Get Wild! Partners' Meeting, March 14, 2012, Atlanta, GA. The MOU provides a framework for cooperation and coordination among the Agencies in achieving the objectives of the Partners in Amphibian and Reptile Conservation (PARC) Federal Steering Committee.

Year of the Lizard Federal Features:

Bureau of Land Management – Conservation Regardless of Listing

The Dunes Sagebrush Lizard (*Sceloporus arenicolus*) is a spiny lizard native to remnant shinnery oak (*Quercus havardii*) dune habitat in southeastern New Mexico and adjacent western Texas. Its habitat range falls within the Permian Basin: an area dominated by oil and gas development. The rarity of the lizard combined with its highly specific habitat needs and associated threats require extensive collaborative efforts to identify appropriate management strategies to ensure its conservation alongside energy development.

In 2008, the Bureau of Land Management (BLM) in collaboration with the USFWS developed an innovative Candidate Conservation Agreement (CCA) and Candidate Conservation Agreement with Assurances (CCAA) as instru-

Dunes Sagebrush Lizard (*Sceloporus arenicolus*).



MIKE HILL

ments to conserve the lizard while providing a mechanism that would allow continued oil and gas development and livestock grazing. These agreements are designed to provide a high level of certainty that if parties implement conservation activities, they will not be subject to additional restrictions if the species becomes listed. Conservation measures include requiring all surface disturbing activities to stay out of dune habitat; minimizing oil well pad size; reclaiming oilfield infrastructure; and keeping fences, roads, and powerlines out of dunes. In addition, for every enrolled oil and gas lease, companies contribute funds to implement conservation measures. To date, \$3 million dollars have been contributed by 29 oil and gas CCA cooperators to fund on-the-ground habitat improvements. Furthermore, over 1,500,000 acres of state, federal and private lands have been dedicated to habitat protection. An unusual and invaluable accomplishment of this CCAA is the protection of 243,000 mineral acres (i.e. subsurface acres) on state and private lands: a resource which rarely experiences restricted use.

Department of Defense – King of Horned Lizards Keeps the Victor’s Crown

Remarkably elusive in both color and behavior, the Flat-tailed Horned Lizard (*Phrynosoma mcallii*) is found only in extreme southwestern Arizona, southeastern California, and adjacent portions of Baja and Sonora, Mexico. Of the 9 species of horned lizards in the United States, this species has the most restricted distribution, and is particularly dependent on its specialized diet of harvester ants. With about half of its historic range converted to agriculture, cities (such as Yuma, El Centro, and Palm Springs), and other human uses (including new solar projects), this lizard has received federal attention for over 30 years. Yet, after multiple evaluations, petitions and lawsuits the species has not been listed under the US Endangered Species Act. Why not?

While the US Fish and Wildlife Service was initially deliberating about whether to list this species as threatened under the Endangered Species Act, federal and state management agencies proactively organized themselves into an Interagency Coordinating Committee and a Management Oversight Group. They drafted and implemented a Rangewide Management Strategy to conserve this charismatic lizard. Most importantly, this interagency group of 13 stakeholders from the United States and Mexico designated five large Management Areas, which encompassed nearly all of the remaining Flat-tailed Horned Lizard habitat on federal lands. The best available data



Flat-tailed Horned Lizard (*Phrynosoma mcallii*). Note the dark mid-dorsal stripe and the long horns.

indicate populations currently in the hundreds of thousands within these protected Management Areas.

Research, conservation, and monitoring of the Flat-tailed Horned Lizard is ongoing. Uncertainties and concerns remain, particularly with spread of invasive plant species, the threat of climate change, and the rapid influx of large-scale alternative energy projects in desert areas. The stakeholders of the Rangewide Management Strategy remain committed to the long-term viability of this species, and for now the king of horned lizards is keeping the victor’s crown.

In addition to these PARC-related efforts, other herpetofauna conservation efforts that federal agencies has been working on include:

- The US Fish and Wildlife Agency’s Big Oaks (Indiana) National Wildlife Refuge’s Crawfish Frog (*Lithobates areolatus*) Project: (www.fws.gov/fieldnotes/regmap.cfm?arskey=32498)
- The US Forest Service’s Southern Forest Futures Project that focuses on at risk amphibian and reptiles in 12 southern states from Virginia to Texas: (www.srs.fs.usda.gov/futures/reports/draft/summary_report.pdf)
- The US Geological Survey Dixon Field Station’s Giant Gartersnake (*Thamnophis gigas*) Project in California: (www.werc.usgs.gov/Project.aspx?ProjectID=89)

PARC STATE FISH & WILDLIFE AGENCY PARTNER ACTIVITIES

Association of Fish and Wildlife Agencies' Amphibian & Reptile Subcommittee

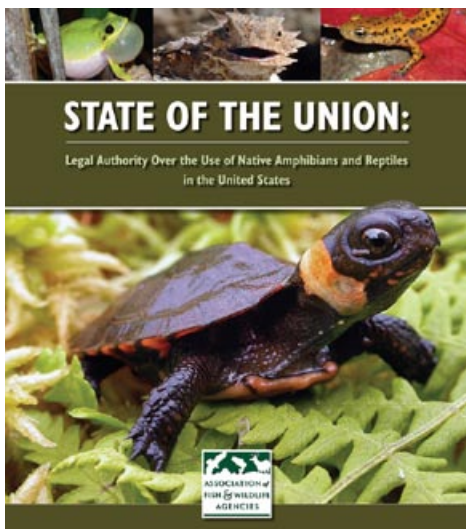
The Amphibian and Reptile Subcommittee, reporting to the Wildlife Resource Policy Committee of the Association of Fish and Wildlife Agencies (AFWA), was initiated in 2008, and serves as the States' advisory committee to PARC. The Subcommittee is staffed by the AFWA Amphibian and Reptile Coordinator, Priya Nanjappa, who also serves as the National State Agencies' Coordinator on behalf of the states to PARC, the counterpart to the PARC Federal Agencies' Coordinator.

The Subcommittee continues to be led by the Chair, **Ed Carter**, Director of the Tennessee Wildlife Resources Agency, and Vice-chair, **Eric Gardner**, Washington Department of Fish and Game. The Subcommittee met in both March and September 2012 and discussed issues ranging from hot button native and non-native herpetofauna regulations, to Endangered Species Act (ESA) funding and prevention of ESA listings via the State Wildlife Grants program as well as a recent herpetofauna-specific petition from Center for Biological Diversity, to international issues related to trade, US-Mexico cross-border conservation opportunities, and the 2012 World Congress of Herpetology.

The Subcommittee realized several key accomplishments in 2012, in particular associated with the completion of deliverables and reporting for a 2009 Competitive State Wildlife Grant in September 2012. Products that are resulting from this grant include:

- The national native amphibian and reptile regulatory summary report, *State of the Union: Legal Authority over the Use of Native Amphibians and Reptiles in the United States*. The report was completed in December 2011 with input and review from all 49 continental

states and the District of Columbia, and was made available online in 2012 via AFWA at <http://jjcdev.com/~fishwild/?section=amphibian-reptile-products>. The report is a compilation of state laws and regulations pertaining to the uses (commercial,



2012 Chair and Vice-chair

Ed Carter (TN Wildlife Resources Agency) and
Eric Gardner (AZ Game and Fish Department)

personal, and scientific) of amphibians and reptiles; this book has been widely distributed and many state and federal biologists, law enforcement staff, and professional and amateur herpetologists and herpetofauna hobbyists alike have found this to be a useful reference/resource. Priya Nanjappa, and our current Joint National Steering Committee Co-chair, Polly Conrad (formerly Nevada Department of Wildlife and now with The Orianne Society), were the editors of this synthesis.

- A climate vulnerability assessment piloted and refined with Southeastern US priority amphibian & reptile species; additional herpetofauna species assessed in the Northeastern, Midwestern, Northwestern, and Southwestern US; to be posted to the web in 2013.
- A framework for using volunteers/citizen scientists to conduct inventory and monitoring surveys for amphibians and reptiles with recommendations for increased effectiveness; to be posted to the web in 2013.
- Completion of Priority Amphibian & Reptile Conservation Areas (PARCAs) criteria and implementation plan, as noted on page 7, with funds having been provided to PARC Important Herp Areas task team members to collaborate and help to launch the effort; to be posted to the PARC website in 2013.
- Training workshops in inventory and monitoring as well as habitat management and wetland restoration as part of building capacity for herpetofauna management, with funds having been provided to PARC collaborators to facilitate these workshops, which took place in various parts of the country.

The Subcommittee plans to continue to assist in the updating of the State of the Union document and to keep on top of various policy and conservation issues in 2013.

In addition, the state fish and wildlife agencies provided several examples of their lizard conservation for PARC's Year of the Lizard Newsletter. See stories in the May (and September (p. 11) newsletter issues here: www.yearofthelizard.org.

AMPHIBIAN AND REPTILE CONSERVANCY (ARC) ACTIVITIES

The Amphibian and Reptile Conservancy (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. 2012 was yet another year of important milestones in ARC's young history of conservation and service. Most notably, ARC launched its own website (<http://amphibianandreptileconservancy.org>) on September 10 and began actively seeking public support for its mission. Specifically, ARC identified three strategic goals for the next five years:

- Improve Native Amphibian and Reptile Habitats
- Promote Conservation Education and Applied Conservation
- Provide Support Services for Herpetofaunal Conservation Partners and Actions.

In December, ARC officially launched its first fundraising campaign to support wetlands restoration and creation projects nationwide, including hands-on educational opportunities for the public and continuing education workshops for wildlife and habitat managers.

In support of PARC and the larger conservation community, ARC also continued to provide a number of ongoing services such as grant and funds management. Recipients of these services included four of PARC's five regional working groups, the California-Nevada Amphibian Population Task Force, and the Amphibian Conservation Seed Grant Program (sponsored by Conservation International/IUCN Amphibian Specialist Group and the United States Geological Survey (USGS), in partnership with ARC) which in 2012 supported four US and six International amphibian research or conservation projects (in Kenya, Indonesia, Australia, Bolivia, Venezuela, and Costa

2012 Officers

Ernie Garcia, Outgoing Executive Director, Jeff Holmes, Incoming Executive Director, Ed Christoffers, Chief Financial Officer, Quinn Morgan, Development Director

Rica). Other grants and agreements administered by ARC include several Department of Defense (DoD) Legacy grants that supported DoD-PARC conservation efforts.

In 2012, ARC continued its legacy of co-sponsoring and supporting various conservation tools and symposia or workshops. Conservation publications that ARC provided support toward included the PARC Inventory and Monitoring Manual, PARC Midwest Habitat Management Guidelines (HMG), PARC Southwest HMG, and the publication of this PARC 2012 Annual Report. Amphibian and reptile symposia and workshops that ARC co-sponsored in 2012 included a Flat-tailed Horned Lizard Biomonitoring and Training Workshop hosted by SW PARC, and a joint PARC-Society for Northwestern Vertebrate Biology (SNVB) booth at the meetings of the World Congress of Herpetology.

ARC also contributed funding and funds management toward two PARC conservation awards - the Alison Haskell Award for Excellence in Herpetofaunal Conservation, and the PARC Visionary Leader Award.

Currently volunteer-staffed by four officers, including Legal Counsel, Jeff Kibbey, and managed by a board of four directors, ARC is supported by donated revenues from book royalties, product sales, a modest amount of income from overhead as part of grants management, and generous donations from partners and the general public.

ARC FUNDS BALANCES, DECEMBER 31, 2012

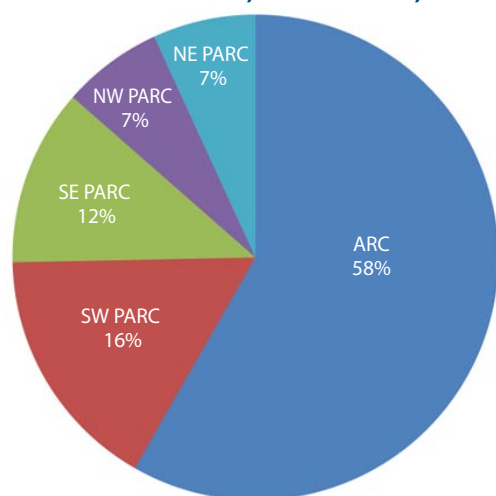


FIGURE 4: ARC manages funds for four of the five PARC regions and holds or manages its own and other funds as well. The balance of all funds held or managed by ARC at the end of calendar year 2012 totaled \$134,342.

ARC FUNDS BALANCES, DECEMBER 31, 2012

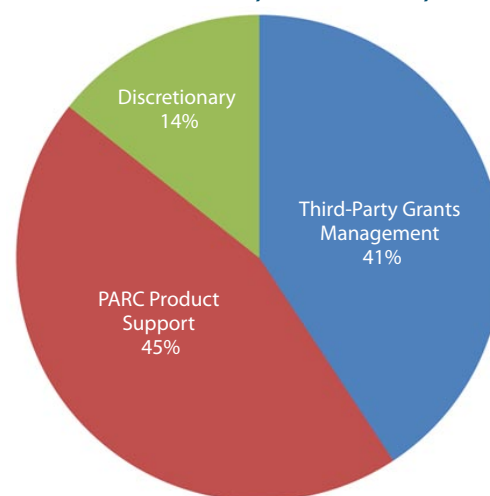


FIGURE 5: Among the funds that ARC holds and manages, the majority of these are grant funds that ARC manages for third parties. Discretionary funds are used toward operating expenses, such as accounting and postage and shipping, and toward other discretionary uses such as support for partner activities. The balance of funds held or managed by ARC at the end of calendar year 2012, excluding funds held for the PARC regions, totaled \$78,304.

