

www.YearoftheTurtle.org

Year of the Turtle News

No. 10

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Basking in the Wonder of Turtles

The Orianne Society's Commitment to Turtle Conservation

by Christina M. Castellano, Director, Turtle Conservation Initiative, The Orianne Society

The Orianne Society was established in 2008 for the conservation of the Eastern Indigo Snake (*Drymarchon couperi*) in the southeastern United States. Since its inception, however, it has expanded its mission to the conservation of threatened reptiles and amphibians worldwide. Most recently, the Society created the Turtle Conservation Initiative (TCI) in response to the extinction crisis that is threatening the survival of more than half of the world's turtle species. The vision of the TCI is healthy and sustainable populations of turtles in the wild, living alongside human societies that value them. The TCI will include a diversity of programs that promote science-driven conservation action for turtles by focusing on six key action areas: applied science, community-based conservation, human-wildlife conflict, environmental education, professional development, and public awareness.

Orianne Society continues on p. 4



Radiated Tortoise (Astrochelys radiata) of Madagascar, a focus of the Orianne Society's Turtle Conservation Initiative. Photo by Christina Castellano.

Turtle Conservancy / John L. Behler Chelonian Center: Who We Are and What We Do

by A. Ross Kiester¹, Eric V. Goode, and Maximilian S. Maurer



The Turtle Conservancy is an international organization dedicated to the conservation and enhancement of turtles and tortoises around the world. It undertakes conservation both in the native habitats of endangered species and through captive breeding of species that are under extreme pressure in the wild.

It is a new organization that builds on the conservation efforts of many people, most notably John Behler.

In 1979, the Bronx Zoo (New York Zoological Society) established a herd of Radiated Tortoises (*Astrochelys radiata*) on St. Catherines Island, Georgia. These tortoises had been brought to the United States from

Madagascar in the late 1960s by Robert Baudy. Many of these wild-caught animals are now likely over 100 years old and represent the founding

Turtle Conservancy continues on p. 6

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"Behold the turtle. He makes progress when his neck is out." — James Bryant Conant (1893-1978), educator and scientist

Get Your October Calendar



Jamie Burchill photographed this basking Escambia Map Turtle (*Graptemys ernsti*) on September 11, 2011 along the Conecuh River in Pike County, Alabama. Get a better look at this month's winner and runner-up by downloading your calendar at parcplace.org/images/stories/YOT/YearoftheTurtleCalendarOctober.pdf

And it's STILL not too late to enter the 2011 Calendar Photo Contest! We are accepting entries all year long. Give us your best shot! For more information and for entry details, please visit www.parcplace.org/news-a-events/224.html.

USA Turtle Mapping Project: ERRATUM

The email address for USA Turtle Mapping Project data is: yearoftheturtle2011@gmail.com

We apologize that our website has had an incorrect address listed – inadvertently, it lacked the year. We always reply to confirm receipt of data. So if you did not get a confirmation reply or if you are unsure whether or not your data were transmitted correctly, please go ahead and resend it to the gmail address above. We are sorry for any inconvenience this may have caused you. And effusive thanks to Mary V. Orr (Wildlife Biologist, US Forest Service, Santa Fe National Forest, New Mexico) for telling us about this problem! Thanks also to JD Willson (Virginia Tech) for being our awesome webmaster, and correcting the typo. Questions can be directed to Dede Olson: dedeolson@fs.fed.us

Year of the Turtle Collaborating Partners

The Year of the Turtle Planning Team is pleased to welcome the following organizations to our growing list of collaborating partners:



The Susquehannock Wildlife Society exists to protect wildlife. Through outreach and partnerships with other groups we can accomplish our goal to salvage nature's own beauty and keep wildlife free and safe in the wild. We seek to build a place for people to enjoy, learn, and talk about wildlife and a centralized home to rehabilitate and provide refuge for species in need. Whether it is through public education, conservation efforts, rescue, or legislation, we will stand as a helping hand and voice for wildlife. www.susquehannockwildlife.org

The Turtle Rescue League is a non-profit organization based in New England that is committed to the welfare of all turtle species. Our mission is to keep turtles a part of the future and not a thing of the past. We accomplish this through education, conservation, rehabilitation, and adoption programs. The Turtle Rescue League has a dedicated staff and a membership of volunteers from across the country. www.turtlerescueleague.com



Our full list of partners can be found at www.parcplace.org/news-a-events/year-of-the-turtle/237.html. If you are interested in contributing to the Year of the Turtle efforts, please send an email to yearoftheturtle2011@gmail.com with a brief description of your organization and its efforts.

Introducing the 2012 Year of the Lizard Logo Contest!

In 2012, PARC will launch our Year of the Lizard awareness campaign to raise the profile of lizard conservation needs—stay tuned for more details! **We now seek submissions for a 2012 Year of the Lizard logo.** The primary focus of the 2012 Year of the Lizard campaign will be on North American lizards, and the logo will be used in various places, including on newsletters, the Year of the Lizard website, posters, and likely t-shirts. It will be displayed at PARC events, such as our vendor tables at professional meetings, and other Year of the Lizard partner celebration events.

Logo Requirements: There are no restrictions on the 2012 Year of the Lizard logo in terms of colors, shape, or dimensions, but **we ask that the logo bear the text “2012 Year of the Lizard”** and that this text is legible even when reduced to a 1” height. We also ask that the image be designed to work **equally well in color as in black and white.** See the 2011 Year of the Turtle logo for reference.

Send your designs to yearofthelizard@gmail.com (NOTE: Please convert images to lower-resolution JPG, GIF, TIF or within a PDF for the purposes of

e-mail, but hang on to your high-resolution or vector art files! If you win, we will ask you to send them to us.)

Deadline for image submissions is Wednesday, October 19th. The winning logo will be announced by November 1st, and the winning designer will be featured in a short article in the first 2012 Year of the Lizard newsletter.

Thanks in advance—we can’t wait to see what you create!

Ask the Experts

Though we work to prevent turtle deaths on the road, when I do find a newly dead female, is it possible to harvest the eggs and “plant” them for her? It would be some consolation or minor salvation. Can it be done? If so, can you detail the method to use?

- Jean Weedman

Jean,

It can work. The sooner harvest of eggs can be done after the mother is killed the higher the success rate, but the eggs will only develop if harvested shortly before she would normally have laid them. Dr. Roger Wood and the staff at the Wetlands Institute, in cooperation with The Richard Stockton College of New Jersey, have pioneered efforts to salvage and hatch turtle eggs from roadkills. At the Wetlands Institute they remove potentially viable eggs from the carcasses of roadkill Diamondback Terrapins (*Malaclemys terrapin*), incubate them in the laboratory and,

after hatching, release the headstarted turtles. Turtle eggs are more sensitive to movement than are bird eggs. Birds rotate their eggs in the nest. Once laid, turtle eggs remain in the same position until hatching. **Rotating a developing a turtle egg can cause its death.** So in harvesting turtle eggs it is important to keep the egg in the same position as it was found. To keep track of their position, I place a small pencil dot on top of each egg before transferring them to a container. The container is partially filled with moist sand where I have created a series of small depressions with my thumb to hold the eggs. The rescued eggs could also be placed in an artificial nest in the wild. This would require knowing the nesting habitat for the particular turtle species as well as the depth to dig the artificial nest. For more information about the Diamondback Terrapin conservation efforts at the Wetland Institute see www.terrarinconservation.org/

[home.htm](#).

A note of caution: many states require a permit from their natural resource agency to translocate eggs or release hatchlings. Be sure to talk with your local state fish and wildlife agency to get the appropriate permissions so that you are all set to legally help your local turtles! I also encourage you to submit your information to PARC’s Year of the Turtle USA Turtle Mapping Project at www.parcplace.org/news-events/year-of-the-turtle/203.html.

Al Breisch

PARC Joint National Steering Committee Co-chair

Do you have questions about turtle biology or turtle conservation issues, but you can’t quite seem to find the answers? Submit your turtle questions via email (yearoftheturtle2011@gmail.com) to our panel of experts, and we will select questions to answer in our upcoming newsletter editions. Please include your name and location in your email message.

Orianna Society, continued from p. 1

The focal species of the TCI is the Critically Endangered Radiated Tortoise (*Astrochelys radiata*) found only on the island of Madagascar. This stunningly beautiful species is quickly disappearing due to illegal collection for national food markets and the international pet trade. This, coupled with the destruction of the Spiny Forest, its natural habitat, is catapulting this species towards extinction. It is predicted that it will be lost within the next 20-40 years if drastic conservation actions are not implemented. Moreover, the sweeping decline in this species has led to increasing collection pressure on the Spider Tortoise (*Pyxis arachnoides*), secretive and much smaller turtle that lives alongside the Radiated Tortoise. To help ensure their survival, the TCI includes a comprehensive program that addresses the range-wide viability of this species. Some of the key components of this program are long-term monitoring projects, research on the relationship between these species and the landscape, capacity-building for law enforcement agents in order to increase the effectiveness of confiscations, local community participation in the conservation of tortoises especially in protected areas, and infrastructure development that facilitates ecotourism and promotes sustainable living.

The TCI also aims to achieve positive conservation outcomes for threatened species much closer to home, including the Gopher Tortoise (*Gopherus polyphemus*). The Gopher Tortoise, a keystone species in the southeastern longleaf pine ecosystem, has declined throughout its range due to habitat loss and fragmentation, diminished habitat quality due to fire suppression, and historical collection for food. Many species depend on Gopher



Gopher Tortoise, Gopherus polyphemus. Photo by Dirk Stephenson.

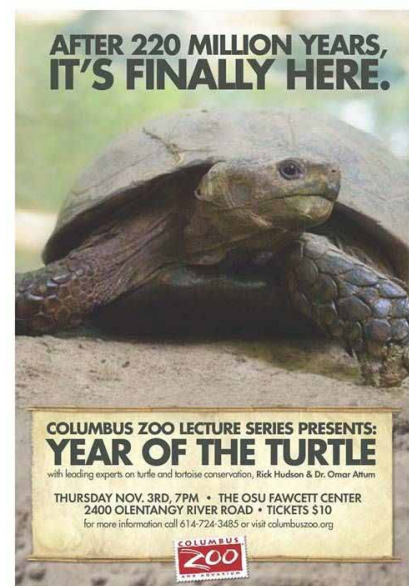
Tortoise burrows for retreat sites, including the Society's flagship species, the Eastern Indigo Snake. The Orianna Indigo Snake Preserve in southern Georgia provides an ideal setting for research projects and education/outreach programs that are important for the conservation of the Gopher Tortoise, particularly in the eastern portion of its range.

The Orianna Society's commitment to turtle conservation will help to ensure the survival of threatened species at home and abroad through the TCI and partnerships with organizations that share the same mission, including PARC. For further information on the programs mentioned above and additional ones, including habitat restoration for the Bog Turtle and invasive species management for freshwater turtles of Australia, please visit our website: www.oriannesociety.org

Columbus Zoo Year of the Turtle Lecture Nov. 3

The Columbus Zoo and Aquarium is presenting a Year of the Turtle lecture on Thursday, November 3rd from 7:00-10:00 PM (doors open at 6:30 PM) at the Ohio State University Fawcett Center, 2400 Olentangy River Road, Columbus, OH 43210. Speakers at the event will be Rick Hudson (president of the Turtle Survival Alliance) and Dr. Omar Attum (Egyptian Tortoise Conservation Project). Staff members from the Reptile Department and Animal Encounters will also be on-hand with displays and live turtles and tortoises. A reception will be held following the presentations.

Tickets are \$10 and the proceeds will benefit the Zoo's Turtle Conservation Fund. Space is limited and tickets can be purchased in advance at www.columbuszoo.org. For more information, visit the Zoo's website or call (614) 724-3485.

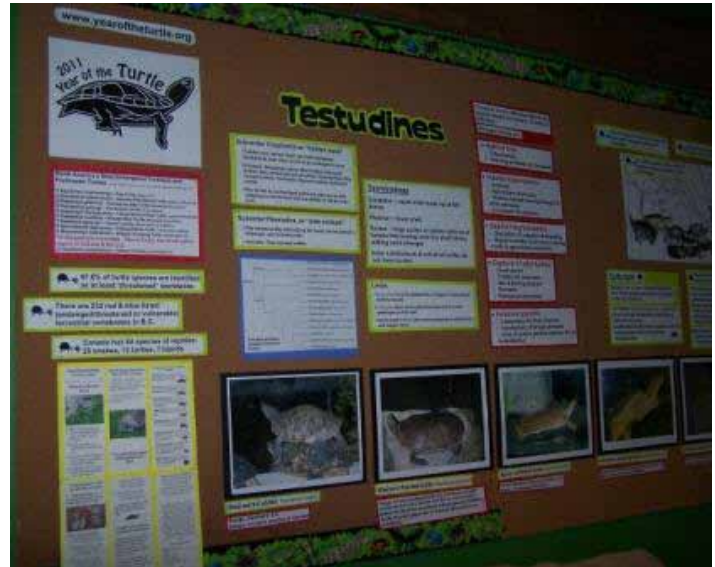


Turtles in the News

The world's population of Loggerhead Sea Turtles (*Caretta caretta*) has been split into nine distinct population segments by the National Oceanic and Atmospheric Administration and the US Fish and Wildlife Service, separating this single species into groups based on where they live throughout the world. Officials state this "revised listing of the Loggerhead will help...to better focus recovery and conservation efforts by allowing...a more regional approach." Find the full story from CNN.com at edition.cnn.com/2011/US/09/18/sea.turtles.conservation.

What's it like to be a biologist "On the Job"? Find out as the Clinton-Herald spotlights wildlife biologist Jeramie Strickland and how an internship with the US Fish and Wildlife Service has led him to a full-time position working with threatened Ornate Box Turtles (*Terrapene ornata*) in Illinois. Get the full story from ClintonHerald.com at clintonherald.com/features/x1095936477/ON-THE-JOB-Biologist-works-to-protect-turtles.

Gopher Tortoises (*Gopherus polyphemus*) will get the first move in a multi-million dollar project to close sections of a landfill in Hernando County, Florida. Resident tortoises from 108 active burrow sites will be moved by the county prior to capping two sections of the landfill. Read more from TampaBay.com at www.tampabay.com/news/environment/hernando-county-will-relocate-gopher-tortoises-before-landfill-work/1188863.



The Greater Vancouver Zoo Summer Newsletter, now available on the Zoo's website, includes an article about the Year of the Turtle. Check out all the great information, including some interesting facts about western Canada and North America turtle species, from GVZoo.com at www.gvzoo.com/files/spring%20summer%202011.pdf.

If you have items you would like to contribute to Turtles in the News, please send them for consideration to yearoftheturtle2011@gmail.com.

Free Western Pond Turtle Brochure Now Available

The Year of the Turtle is pleased to announce the availability of a free Western Pond Turtle (*Actinemys marmorata*) educational brochure by Matthew Bettelheim. Matthew, a wildlife biologist, natural historian, and science writer in the San Francisco Bay Area, was inspired to develop this brochure in response to an inquiry from a nearby resident who stumbled across a Western Pond Turtle on her front porch and didn't know what to do with it. Matthew realized that very few wildlife rehabilitation/rescue centers offer the public guidance on what to do in cases like these. Thus, he developed a Western Pond Turtle brochure (bioaccumulation.wordpress.com/the-western-pond-turtle/educational-material/), a full-color, tri-fold brochure that describes the species, tells what to do if you find a turtle, and provides guidance to

private landowners and public land managers alike on the best way to protect and conserve Western Pond Turtles through proactive land stewardship. The goal of this project is to distribute a tool to the public for free that provides consistent guidance that protects and conserves suitable aquatic and nesting habitat, curbs invasive species, and leaves healthy turtles in the wild.



Western Pond Turtle, by Garth Hodgson.

Turtle Conservation Fund Places a Call for Proposals for Turtle Conservation and Research Awards

The Turtle Conservation Fund (TCF) administers a turtle conservation and research grants program. Awards are granted to organizations or individuals for specific conservation or research projects dealing with tortoises or freshwater turtles, but not marine turtles, with either partial or full support as funding allows. Awards range from approximately \$2000 to \$5000 per project, with occasional funding up to \$10,000. Priority for funding is given to projects that focus on species that are already highly threatened (Critically Endangered) as determined by the IUCN Red List.

In the U.S., these priority species include the Bog Turtle (*Glyptemys muhlenbergii*) and Flattened Musk Turtle (*Sternotherus depressus*).

For further information and application guidelines, please visit the TCF website: www.turtleconservationfund.org.



Turtle Art, Stories, and Poetry

Do you have turtle art, stories, or poetry that could be highlighted during the Year of the Turtle? Submit your turtle art (in jpg, tiff, or pdf format) and copies of your stories and poems via email to yearoftheturtle2011@gmail.com. We will be including submissions in upcoming newsletters and in other Year of the Turtle materials and outreach efforts throughout 2011, and we want your work to be part of it!

Turtle Conservancy / John L. Behler Chelonian Center continued from p. 1

group of tortoises assuring the species' survival in the United States. In 2003, the Bronx Zoo had to discontinue their conservation program on St. Catherines Island and sought to relocate these animals to other institutions. John Behler, the Curator of the Department of Herpetology at the Bronx Zoo, approached Eric Goode and Maurice Rodrigues with the prospect of continuing the WCS' turtle and tortoise conservation work. He knew of their extensive experience with the captive management of chelonians and he believed that they had the means to properly care for the animals. After almost 30 years of work, John wanted to ensure that the assurance colony would remain intact and that the breeding program would continue under the stewardship of responsible conservationists.

Eric and Maurice were enthusiastic about this idea and Eric offered to develop a turtle and tortoise breeding center on his property in Southern California that could house the



Ploughshare Tortoise, Astrochelys yniphora, at risk of extinction in Madagascar.

displaced St. Catherines tortoises as well as their own collections of turtles and tortoises. Upon John's approval, construction began on four new buildings: a state-of-the-art greenhouse, two tortoise houses, and a nursery and commissary, along with numerous outdoor enclosures and ponds for the turtles and tortoises.

The new turtle and tortoise center in California was established in 2005 as a non-profit organization called the Chelonian Conservation Center. More than 200 turtles and tortoises were transported across the country to

their new home in sunny California.

Tragically, John Behler died in early 2006. To honor John's memory, the Chelonian Conservation Center changed its name to the John L. Behler Chelonian Center (BCC). His vision and insight continue to this day to be the driving force behind the philosophy of the facility. That year the BCC was accredited by the Association of Zoos and Aquariums, assuring that the Center was living up to John's dream of a high-quality facility dedicated solely to turtles and tortoises.



Bolson Tortoise, Gopherus flavomarginatus, native to the Chihuahuan Desert of Mexico.

Shortly after arriving in California, the chelonians began to reproduce. The Center's early successes included the following species: Burmese Star Tortoise (*Geochelone platynota*), Radiated Tortoise (*Astrochelys radiata*), Spider Tortoise (*Pyxis arachnoides*), Flat-tailed Tortoise (*Pyxis planicauda*), Speckled Padloper (*Homopus signatus*), Bowsprit Tortoise (*Chersina angulata*), and Indian Spotted Turtle (*Geoclemys hamiltonii*). Successful breeding has continued so that, for example, the Center has now produced over 136 hatchling Radiated Tortoises.

As the Center was being designed and built, Eric and Maurice assembled a team of turtle conservationists and biologists to help them develop a broader vision of global turtle conservation. All of us wanted the Center to do more than just captive breeding, and so a program of conservation actions in native habitats was begun. Thus, in 2008 we formed the Turtle Conservancy (TC) in order to focus on conservation projects in the native ranges of turtles and tortoises. The BCC then became a part of the TC. The TC decided to focus on two species in the wild: the Ploughshare Tortoise or Angonoka (*Astrochelys yniphora*) from

Madagascar and the Bolson Tortoise (*Gopherus flavomarginatus*) from Mexico.

The Ploughshare Tortoise is not only the rarest tortoise in the world, it is arguably the most beautiful of them all. It was originally described in 1885, but its true home was not discovered until 1905 when its extremely small range around Baly Bay, Madagascar, was discovered. Subsequently very little was learned about this species and by the 1950s there was concern that it might already be extinct. In 1971 James Juvik of the University of Hawaii (now also with the Turtle Conservancy) and his colleagues began the first scientific study of this species. They determined that, while not extinct, it was extremely rare. International concern for the Ploughshare Tortoise grew and in 1986 Jersey Wildlife Preservation Trust (the predecessor of Durrell Wildlife Conservation

Trust) began an intensive program of captive breeding and research. Juvik and Ross Kiester (Turtle Conservancy Chief Scientist) worked with Durrell to census the tortoise population and build habitat models. The captive breeding program, led by Don Reid, was quite successful. But the 1990s witnessed the first wave of illegal trade. In 2008 an important meeting was held in Madagascar attended by Eric, Maurice and tortoise conservationists from around the world. The species was officially declared Critically Endangered and work was begun on an action plan to save the species from extinction. Everyone agreed the Ploughshare Tortoise was in dire straits.

Since 2008 things have unfortunately only gotten worse. The current political upheaval in Madagascar has made it very difficult for local Malagasy governments to function effectively and has resulted in little or no protection for the Ploughshare Tortoise. Poaching has increased dramatically and even released animals carrying radio transmitters have been stolen from the release site. Prices for these poached tortoises on the black market apparently range from \$5,000 for juveniles to \$50,000 for full-grown adults.

In 2009 the Turtle Conservancy partnered with Durrell to secure a \$30,000 grant from the U.S. Fish and Wildlife Service. Both the TC and Durrell matched that amount.

Bowsprit Tortoise, Chersina angulata, endemic to South Africa.





Burmese Star Tortoise, Geochelone platynota, critically endangered in its native Myanmar.

This \$90,000 is being used to create para-rangers from the villages near where the tortoise lives who patrol the habitat to find and help apprehend poachers. The TC has a long-term commitment to both the captive breeding and the anti-poaching efforts within Madagascar.

It is now possible that there are more Ploughshare Tortoises held illegally outside of Madagascar than there are in the wild. The Turtle Conservancy, with help from colleagues around the world, has investigated the trade in illegal animals. By studying the Internet and traveling to Southeast Asia and China we have uncovered the tip of the iceberg that amounts to several hundred animals. Because the trade is illegal there is no way to really know how many are out there. But we do know that there are too many.

In 2010 the TC/BCC received permission from the U.S. Fish and Wildlife Service to import 10 Ploughshare Tortoises that had been confiscated by Asian governments. Authorities in Taiwan had confiscated several of these tortoises. In 2010 two of these animals, including an adult female, were sent to the BCC to begin a breeding colony. These animals were the first legally imported specimens in nearly 40 years. At the same time, authorities in Hong Kong confiscated over two dozen tortoises. Again there was an adult female among the confiscated animals. This

female and seven youngsters have now joined the tortoises sent from Taiwan. Incredibly, there is a lone legal adult male already in the United States. Kept for over 34 years in hopes of breeding, this tortoise's long wait is nearly over. In a real-life version of the film *Rio*, he will be joining the females at the Turtle Conservancy's Center next month. The Center will do everything it can to allow these tortoises to successfully reproduce.

In 2007 the Turtle Conservancy began a second in situ program for the Bolson Tortoise. This larger relative of the Desert Tortoise is found only in a remote part of the Chihuahuan Desert in central Mexico known as the Bolsón de Mapimí. Here the tortoise is now threatened by ongoing habitat degradation from cattle grazing and outright habitat loss to agricultural development. Much of the tortoise's range lies within the Mapimí Biosphere Reserve, but is only nominally protected there. The TC is in the process of purchasing land within the Reserve to completely protect this species as well as the Chihuahuan Desert that it inhabits. This is a complex and expensive process, but we are now hopeful that a major land purchase can be made in the near future.

An important aspect of the Turtle Conservancy's work is to share our excitement about turtles through films. We have made several films over the last five years. Our most recent film "*The Great Tortoise Transect*" is a 50-minute film about the many



Okinawa Leaf Turtle, Geoemyda japonica, cryptic island species.

species of turtles and tortoises that can be encountered driving due south from Namibia to Cape Town, South Africa. As with all of our films, this one can be purchased or downloaded from our website www.turtleconservancy.org. The website also has much more information about the TC and BCC and has updates on our latest activities. Please visit us there. We appreciate your interest and support.

Contact the Turtle Conservancy at:

Turtle Conservancy
49 Bleecker St., Suite 601
New York, NY 10012

www.turtleconservancy.org

ross@turtleconservancy.org



Are You an Educator or Interpretive Naturalist?

We continue to work to develop a collection of Year of the Turtle resources for teachers and naturalists to use for turtle education, and it is still not too late to make a contribution! If you are willing to share, please send your unit materials, educational program information, websites, or PowerPoint presentations to yearoftheturtle2011@gmail.com. Please include your name, the name of your school/nature center or organization, and location. If you did not create the materials, please be sure to tell us where you found the materials.

An Interview with Roy Averill-Murray

by Polly Conrad, Nevada Department of Wildlife



Roy in the field, with a Desert Tortoise.
Photo by Kim Field.

Roy Averill-Murray received his B.S. in Wildlife and Fisheries Sciences from Texas A&M in 1990 and studied Sonoran desert tortoises while earning his M.S. in Wildlife and Fisheries Science from the University of Arizona in 1993. Roy went on to work for the Arizona Game and Fish Department as the Desert Tortoise Coordinator from 1995-2002 and then as the Amphibians and Reptiles Program Manager from 2002-2004. Since 2004, Roy has served as the Desert Tortoise Recovery Coordinator for the U.S. Fish and Wildlife Service.

What is your current role in Desert Tortoise management, conservation and research?

I supervise the Desert Tortoise Recovery Office (DTRO) which was established to better coordinate research with management to improve progress toward recovery of the species. Unfortunately, my direct field activities now come less often than I would like; however, I get to

collaborate directly with researchers working on translocation, health and disease, and other ecological topics related to Desert Tortoise recovery. An exciting project that I am collaborating on is the development of a spatial decision support system that ties together data on threats, recovery actions, and populations, which helps prioritize implementation of recovery actions and evaluate our progress toward recovery.

Would you agree the Desert Tortoise is a flagship species for the Mojave Desert? Why or why not?

I certainly think the desert tortoise is a flagship species of the Mojave and

Sonoran deserts. It is more than just a familiar icon of the desert, however – it is an important link in the web of life. The Desert Tortoise serves as food for predators like coyotes, mountain lions, and ravens, and its burrows provide shelter for numerous birds and other small animals. The Mojave Desert ecosystem definitely would not be the same without tortoises.

What's your favorite memory of a Desert Tortoise and why?

My favorite memory comes from my graduate student days. I learned that female Sonoran Desert Tortoises, unlike most other turtles, often defend their nests. In one case, I had radio-tracked a female to her burrow, at which she had recently laid eggs. Before I even reached the burrow, she charged out toward me bobbing her head. She ran right up to my feet, sniffed my boots, and scrambled back to her burrow. There, she actively maneuvered her position to block the burrow entrance. The whole scene was quite comical to me, but she wasn't intimidated at all.

Roy attaches a transmitter to a Desert Tortoise.
Photo by Kim Field.



**The views and opinions of interviewees are not necessarily shared by all members of PARC or other Year of the Turtle Partners.*

Can Desert Tortoises and solar energy development coexist in the Southwest U.S. deserts and, if so, what is the best way to balance Desert Tortoise conservation while meeting renewable energy demands?

I believe that desert tortoises and solar energy development can coexist. A greater emphasis on distributed solar energy (e.g., rooftop solar) would be extremely helpful, but there are still millions of acres of developable land

for utility-scale solar development that would have little to no impact on Desert Tortoise recovery. Choosing appropriate project sites is the key, and taking the time to understand where conflicts exist and avoiding those areas is critical.

What is one career goal of yours that you hope to accomplish before you retire?

I wish I could say “delist the Desert Tortoise”, but given how long it takes for tortoise population growth, I’m afraid that full recovery will not be achieved during my career. Therefore, my primary goal is to demonstrate measurable progress toward recovery through visible reductions in threats across the range and quantifiable increases in tortoise numbers in the wild. I think application of the new spatial decision support system will make this an achievable goal.

Revised Recovery Plan for the Mojave Population of Desert Tortoise Now Available



Photo by Fiana Shapiro (July photo contest winner).

The U.S. Fish and Wildlife Service announced on August 25 the availability of a Revised Recovery Plan for the threatened Mojave population of the Desert Tortoise (*Gopherus agassizii*) under the Endangered Species Act (ESA). The plan takes a new approach to reversing declines in Mojave Desert Tortoise populations through a coordinated effort of science-based implementation and evaluation of conservation actions. The listed Mojave population of the Desert Tortoise includes those animals living north and west of the Colorado River in the Mojave Desert

of California, Nevada, northwestern Arizona, and southwestern Utah, and in the Sonoran (Colorado) Desert in California.

Threats to the Mojave population of the Desert Tortoise and its habitat are largely associated with land uses. Habitat loss, degradation, and fragmentation from urbanization, off-highway vehicle use in the desert, roads and utility corridors, poor grazing management, mining, and military activities were cited as some of the primary reasons for the decline in Mojave Desert Tortoise populations. Disease and increased incidence of fire have also been implicated in Desert Tortoise declines. Global climate change and drought are potentially important long-term considerations with respect to recovery of the Desert Tortoise.

Unlike the previous Recovery Plan, this Plan recognizes the need to adjust to the accelerating pace of environmental change and its impact on key resource management issues, such as corridors and connectivity. By continuous examination of vulnerability, exposure, sensitivity, and adaptive capacity of the Desert Tortoise to environmental change, resource managers will be able

to update the Plan as it is being implemented with conservation measures that will help the Desert Tortoise recover. For example, to address the recent impact of renewable energy on recovery of the Desert Tortoise, the USFWS will be adding a chapter to the Plan that focuses on measures related to renewable energy projects. The chapter will make clear what recovery implementation will look like in light of renewable energy development and will provide specific recommendations to ensure recovery and continued habitat connectivity. “The ability to conserve the Mojave population of Desert Tortoise and lead to eventual recovery of this threatened species depends on science and innovation,” said Ren Lohofener, director of the USFWS Pacific Southwest Region. “Finding a strategy that works alongside renewable energy development, for example, requires a plan that can incorporate new information and ideas.”

A PDF of the complete news release on the plan can be viewed from the USFWS website at

www.fws.gov/nevada/highlights/news_releases/2011/082411_desert_tortoise_recovery_plan_nr_final.pdf



Turtle Survival Alliance Helps Sponsor Bern Tryon's Bog Turtle Book Benefit

Recently Bern Tryon, a well known and respected zoo herpetologist, passed away. Prior to his passing, Bern elected to donate his entire herpetological library for sale after his death, in order that all the proceeds could go toward a fund that would provide money each year for valuable field work on the southern populations of the endangered Bog Turtle (*Glyptemys muhlenbergii*). Bern had an immense and amazing library collection of greater than 500 titles that he has donated to the Turtle Survival Alliance for Bog Turtle conservation efforts. The full library as well as details on how you can make a purchase can be viewed at www.pondturtle.com/btlmain.html.



In Memoriam: Betty Burge

by Polly Conrad, Wildlife Diversity Biologist, Nevada Department of Wildlife

Betty Burge, a prominent Desert Tortoise biologist, passed away on August 8. In addition to studying tortoises in graduate school and going on to work as a wildlife biologist conserving Desert Tortoises, Betty also co-founded the Tortoise Group, a non-profit desert tortoise adoption and care group. She has worked alongside managers, researchers and the public to make many advancements for Desert Tortoises. As if all of this was not enough, Betty was also a trained nurse and had an amazing singing voice! She will certainly be missed.



To read more on the legacy of Betty's life and her work with desert tortoises, please visit the Tortoise Group's celebration of Betty's life at www.tortoisegroup.org/BettyBurge.php.

David J. Morafka Memorial Research Award 2012 Applicants Sought

In honor and memory of Dr. David J. Morafka, distinguished herpetologist and authority on North American gopher tortoises, the Desert Tortoise Council, with the aid of several donors, has established a monetary award to help support research that contributes to the understanding, management and conservation of tortoises of the genus *Gopherus* in the southwestern United States and/or Mexico: *G. agassizii*, *G. berlandieri*, *G. flavomarginatus* and/or *G. morafkai*. \$2,000 will be awarded at the Desert Tortoise Council's Annual Symposium, depending on the availability of funding and an appropriate recipient.

For more information on the award and to obtain an application form, visit the Desert Tortoise Council's website at www.deserttortoise.org.

Regional Working Group Spotlight: SEPARC and The Orianne Society Work to Protect Declining Bog Turtle Populations



One of Georgia's rarest reptiles is getting some help from a new and innovative conservation program. The federally and state-listed Bog Turtle (*Glyptemys muhlenbergii*) has experienced a rapid decline throughout its range, largely due to the loss of the rare habitat it depends on. Mountain bogs are naturally ephemeral ecosystems that are constantly being lost due to succession. In an undisturbed system, new bogs form quickly and provide habitat for bog-dependent organisms. However, this cycle has been disrupted by development, suppression of fire, and the decline in beavers and large grazing ungulates. Very few natural mountain bog ecosystems remain intact, and as a result, Bog Turtle populations have declined dramatically. In fact, it is believed that there are only eight remaining populations of Bog Turtles in the state of Georgia.

In order to halt the rapid decline of Bog Turtles, it is vital that we restore mountain bog ecosystems. Yet, there are many hurdles to this solution, one being that mountain bogs are generally found in the flat or gently rolling landscape of mountain valleys, which happen to be prime locations for human inhabitation and agriculture. Thus, restoration efforts are dependent on successful partnerships with private landowners.

The Orianne Society and the United States Fish and Wildlife

Service have accepted this challenge, and have developed a comprehensive plan to restore mountain bog habitat in north Georgia. This allows The Orianne Society to enter into partnerships with private landowners who are willing to allow them to restore mountain bog habitats on their property at no expense to the landowner, provided the landowner is willing to allow the implemented activities to remain in place for a period of at least 10 years from the date the project is completed. Another goal of the project is to create long-term relationships with these landowners, and to identify landowners who are passionate about restoring mountain bogs on their property and are willing to maintain these efforts in perpetuity.

initial discussions with the school it was decided that restoration efforts would begin with a bog located on the campus that would be used as an education tool within the school's biological science department. Since Rabun Gap-Nacoochee is one of the south's premier boarding schools, this means that students from across the U.S. and 19 other countries are getting the opportunity to help in hands-on restoration efforts. Once the initial restoration efforts are complete, instructors will use the bog as an outdoor classroom where they will conduct long-term monitoring projects to teach students about mountain bog habitat, the conservation of the Bog Turtle, and the importance of declining habitats for many other reptiles and amphibians.



Bog Turtle, August photo contest winner, by Nathan Shepard.

In May of 2010, the Rabun Gap-Nacoochee School became an important partner in this process. With over 1400 acres of prime habitat, the Rabun-Gap Nacoochee School has several bogs in need of restoration, and graciously allowed The Orianne Society to begin survey and restoration efforts. This in itself would be a major accomplishment and a desperately needed step towards Bog Turtle recovery, but the story does not end there. During

This will be an outstanding opportunity for students interested in entering any environmentally-based field and may pique the interest of students who never imagined these types of careers. This partnership embodies what SEPARC is all about, forming partnerships to achieve the conservation of our native herpetofauna.

To read more about the effort of SEPARC, visit their website at www.separc.org.



Leatherback Sea Turtle by Jeroen Duncan.

The Canadian Wildlife Federation Needs Your Help to Protect Leatherback Sea Turtles!

The Canadian Wildlife Federation has entered into a contest with Shell Canada in which they could win \$100,000 to support Leatherback Sea Turtle (*Dermochelys coriacea*) conservation efforts. Winning projects are determined based upon the number of votes they receive. The Canadian Wildlife Federation project needs to place first or second and they are currently in third place. Please consider voting for the project! To read more about the project and to vote go to fuellingchange.com/main/project/184/The-Amazing-Turtle-Migration, then log in and vote for the project. Deadline for voting is October 31st!

Upcoming Meetings and Events

27th Annual Midwest Herpetological Symposium, October 21-23, Plymouth, MN

Year of the Turtle Lecture, November 3, 7:00-10:00 pm, presented by Columbus Zoo and Aquarium, at Ohio State University's Fawcett Center, Columbus, OH (see p. 4 for announcement)

The Wildlife Society 18th Annual Meeting, November 11-13, Waikoloa, Hawaii

Sea Turtle and Marine Mammal Strandings Field School, MassAudubon's Wellfleet Bay Wildlife Sanctuary, November 11-13, Wellfleet, Massachusetts

Modeling Patterns and Dynamics of Species Occurrence Workshop, November 28 - December 2, Patuxent Wildlife Research Center, Laurel, Maryland

International Congress for Conservation Biology, Society for Conservation Biology, December 5-9, Auckland, New Zealand.

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