2011 Year of the Turtle
www.YearoftheTurtle.org

Year of the Turtle News

No. 12 December 2011

Basking in the Wonder of Turtles

The Year of the Turtle: A Year in Review

An Eastern Box Turtle plays peek-a-boo with photographer Wes Purlee in Washington County, Indiana. This is another of the many fantastic photos submitted to the Year of the Turtle Photo Contest.

When the Year of the Turtle was initiated in 2010, five partners joined PARC to form the Year of the Turtle Planning Team. From this early partnership the efforts of the 2011 Year of the Turtle campaign began to take shape. During the Year of the Turtle, we have seen the development of the *State of the Turtle* and a revised *Top 25+ Turtles in Trouble* report. Over the course of the year, a total of 55 partners have joined the list of collaborating partners – all providing valuable assistance in the Year of the Turtle efforts to reach the public on the important issues surrounding turtles and their conservation.

55 partners have joined the list of collaborating partners from North America and around the world

These partners have been instrumental in helping make the Year of the Turtle a success, both across North America and the world. In total, 18 international partners have joined the Year of the Turtle collaborating partners, representing such countries as Columbia, Bangladesh, Spain, and Germany. An additional 36 partners from across the US and North America have become collaborating partners throughout the year, representing 30 states.

13,660 unique visitors to Year of the Turtle web pages

Tracking of Year of the Turtle web statistics began in February 2011 following the launch of the newly designed PARC website. Between February and mid-November, nearly 13% of visitors to the PARC website were directed there via Year of the Turtle web pages, amounting to a total of approximately 13,660 unique visitors to Year of the Turtle web pages over this time period. In total, over 22,000 views were made of Year of the Turtle web pages. In addition, 60% of all downloads from the PARC website were Year of the Turtle items—monthly newsletters (29.3%), monthly calendars (23.8%), and the Year of the Turtle screensaver (6.9%).

Over 500 entries were submitted throughout 2011 as part of the monthly online calendar photo contest, representing species from across the United States and North America as well as locations such as South Africa, Costa Rica, and India.

Year in Review continues on p. 6

Inside:

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

Get Your December Calendar

Not one, but four...

With only one month left to go, there were too many good photos remaining to narrow it down to one winner. Thanks to photographers Alan Cressler, Susan Thomas, Scott McDaniel, and Jeanine Brindle for these beautiful shots. Download the final Year of the Turtle Calendar to get a better look at this month's winners at **parcplace.org/images/stories/YOT/YearoftheTurtleCalendarDecember.pdf**

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 Wetlands Institute, located in Stone Harbor, New Jersey, USA, is a non-profit 501 (c)(3) organization focused on promoting appreciation, understanding, and stewardship of wetlands and coastal ecosystems through programs in research, education, and conservation. From its inception in 1969, the Wetlands Institute has worked with numerous regional, national and international organizations to foster stewardship of wetlands and coastal ecosystems worldwide. **www.wetlandsinstitute.org**

We would like to express a sincere thank you to all of our collaborating partners who have helped promote the message of turtle conservation throughout the Year of the Turtle. Our complete list of partners from all of 2011 can be found at **http://parcplace.org/news-a-events/year-of-the-turtle/237.html**.

Turtles in the News

Veterinarians with the **Turtle Survival Alliance** recently traveled to India to visit several turtle facilities to assist in improving overall turtle husbandry and to give input on how to make a more efficient diet chart for the turtles in each facility. Read the full account of their trip from the TSA blog at **www.turtlesurvival.org/blog/1-blog/162-vets-visit-indian-turtle-facilities**.

Can duck nesting boxes prove to be deadly to turtles? Found out what researchers at the Unviersity of Cincinatti believe, as reported on Physorg.com at **www.physorg.com/news/2011-11-duck-boon-turtle-bane.html**.

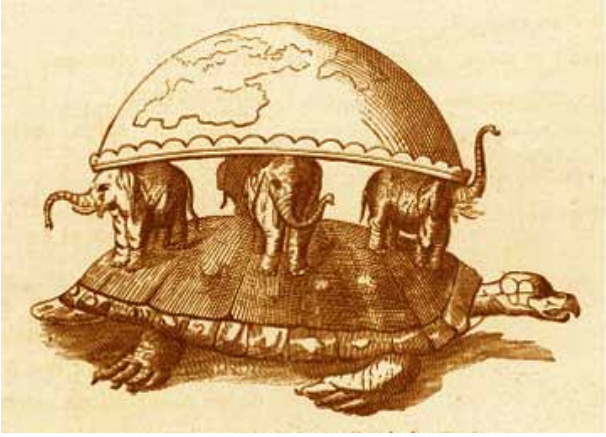
The key to the future conservation of bog turtles? Give incentives to landowners who own land where bog turtle habitat exists, says the US Fish and Wildlife Service and the Department of Agriculture. Find out more from the New York Times at **green.blogs.nytimes.com/2011/11/14/for-farmers-a-reward-for-helping-bog-turtles/**.

What do turtles do in winter? Connecticut's Department of Energy and Environmental Protection Wildlife Division have some of the answers on TheHour.com's Green Blog, available at **blogs.thehour.com/greenoutdoors/?p=1012**.

Riding on the Shell

by Scott McDaniel, President of the Susquehannock Wildlife Society

What is it about the turtle that captivates us so? What drives us who focus countless hours on their care, observation, and conservation? I found myself giving this subject some thought recently. I guess for me at least it goes back to my childhood. How fantastic was it to find a creature so different from us that it carries its home around on its back? Sure, most of us had a hermit crab or two as a kid, but I can say with certainty that a turtle has far more character than any crustacean. While the turtle's shell surely sets it apart from most other inhabitants of this planet, I don't see that as the force that draws us to them. Perhaps it's that despite the trials it has suffered, the turtle is one of the few species that seems to always sport a smile? Could that be it? Most of us project humanistic qualities on animals but as charming as they may appear I think there is something more to them than just being able to laugh off their problems. It is true, however, that no one can argue the fact that many chelonians radiate great beauty with their simplistic grace and intricate markings; ones that boast nearly every color in the rainbow. Still, I have to say there is something more.



Beyond the aesthetic glamour, there is a deeper, unspoken connection. I'm not talking about their personality here, which undoubtedly many of us will argue does exist. But I truly believe that somehow with us being one of the newest species out there, we must feel a kinship with something so ancient. Turtles seem to represent the expanse of time and smallness within the universe that humans tend to disregard amid the chaotic hustle and bustle of our daily lives. What better symbol for our responsibility to tend to the health of the Earth than the protection of one of its longest residents? Some cultures even saw a turtle as an image for the world itself, where the land rested atop its mighty shell.

How ashamed will we be to cause the extinction of such a stubborn family of brutes that have withstood millions of years of harsh change, catastrophe, and constant predation? It has survived so long with all odds against it and could continue to do so perhaps for many more millennia if it weren't for us. We have come so far, yet we continue to consume, capture, and crowd in on these humble reptiles. How sad and ironic would it be after all that time to destroy such a seemingly unstoppable life force at a point where we ourselves have advanced so far in knowledge and technology? I think this is what draws many of us to them with such magnetism. Their struggle is the emblem of our arrogance. With their own built-in arsenal to shield them from the world across the spectrum of time, humans, their greatest admirer, have become their greatest threat. Sheer ignorance has put their future in peril. There is still time though, I believe, but not much. If we can rescue this one prehistoric wanderer, maybe there is still hope for everything else in this world.

We owe a lot to the turtle. Day after day it shows us that if we just slow down and be persistent, we can push through almost any challenge. Some obstacles though, as turtles have proven all too well, cannot be overcome alone. They need our help. Now is the time to give aid to that which can no longer thrive within the environment we are creating. If we double our efforts, we may be able to turn the tide before it's too late. The world may indeed still rest on the back of a turtle.

Scott McDaniel can be reached at scott@suskywildlife.org.

Follow all of the Year of the Turtle news and happenings on Facebook (http://www.facebook.com/pages/yearoftheturtle2011)

and Twitter (http://twitter.com/YearOfTheTurtle).

Ask the Experts!

My 86-year-old mother bought a Red-eared Slider for my 63-year-old brother when he was two. Pokey has now lived to be 61+ years with mom. Amazing! Is he the world's oldest Red-eared Slider in captivity?

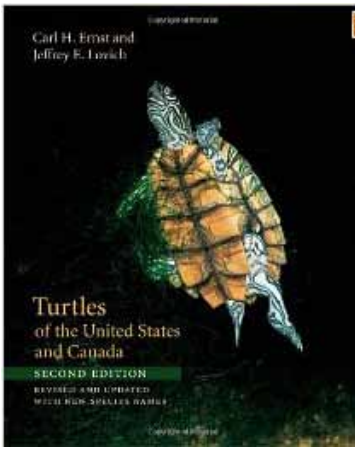
—Paul Baskin

Paul,

Is a 61+ year old Red-eared Slider the oldest captive in the world? Great question! The oldest slider turtle record I can confirm from the published literature is 49 years old as published in my book, "*Turtles of the United States and Canada, Second Edition*". However, it is obvious, based on your record, that sliders can live longer, especially in captivity where they are well-fed and protected from predators and disease. For any small turtle to live more than half a century is an amazing accomplishment. There is a strong correlation between body size and longevity in the animal kingdom: small creatures tend to have shorter life spans than larger creatures. Hence, humans, whales, elephants, and giraffes live a long time in comparison to say, chipmunks, opossums, mice, etc. Sliders and many other turtles are not particularly large animals so their longevity is surprising. Early research by Fred Cagle estimated that wild sliders may attain a maximum age of 75 years but I am not aware of data to demonstrate that conclusively. Proof requires marking an individual and recapturing that same individual after a long period of time, something that rarely happens in turtle research due to research funding limitations and the comparatively short career-span of the researchers! Research by Dr. Whit Gibbons suggests that, in natural populations, it is unlikely that many sliders exceed 30 years of age in the wild. In fact, only 1% are estimated to live to 20 years of age. Still, for a relatively small animal, that's a remarkable achievement. The only way to know if your 61+-year-old slider is the oldest in captivity is to find out if anyone has one that is older. Until then, you appear to be the winner!

Jeff Lovich, Ph.D.
Research Ecologist
USGS, Southwest Biological Science Center
Flagstaff, Arizona

Dr. Lovich's book "*Turtles of the United States and Canada, Second Edition*", co-authored with Dr. Carl Ernst, was recently awarded the Best Wildlife Book of the Year award at The Wildlife Society's 2011 Annual Conference in November. This award "recognizes excellence in scientific writing characterized by originality of research and thought and high scholastic standard in the manner of presentation."



Announcing the 10th Annual Symposium on the Conservation and Biology of Tortoises and Freshwater Turtles

The Symposium, which will be held **August 16-19, 2012** in Tucson, Arizona, is co-hosted by the Turtle Survival Alliance and the IUCN Tortoise and Freshwater Turtle Specialist Group (TFTSG). The meeting, which has hosted an average of more than 200 attendees over the past six years, represents the largest gathering of non-marine turtle biologists in the world and provides an unmatched opportunity for networking and strategizing turtle conservation. Last year's conference was filled with presentations by biologists and conservationists from 13 countries covering 50+ species. Visit **www.turtlesurvival.org** for more information. Online registration opens March 12, 2012. Contact **Hlowe@turtlesurvival.org** for more information.

"Precisely the least, the softest, lightest, a lizard's rustling, a breath, a flash, a moment -- a little makes the way of the best happiness." --- Friedrich Nietzsche

In 2012, we will be raising awareness for lizards, much as we have been doing for turtles this year. Please participate in this upcoming event – we are at a loss for lizards! **"2012 – Year of the Lizard"** launches in earnest in January, but we have been busy doing pre-planning.

- Our winning logo from our logo contest is above. Congratulations to Todd Long, graphic designer from Tennessee!
- This logo and some of our other logo submissions are available on merchandise for sale (buttons, mugs, t-shirts coming soon), as a fundraiser for herpetofaunal conservation. Go to: **http://www.cafepress.com/parcstore**
- A photo contest has begun, with a winning photo to be chosen each month in 2012. The photos will be displayed monthly on a free downloadable calendar page. Submit photos to: **yearofthelizard@gmail.com**. Check for your monthly calendar pages at **www.yearofthelizard.org**
- A 12-month calendar has been assembled by Larry Jones, as a fundraiser for herpetofaunal conservation. It is available now: **http://www.cafepress.com/parcstore**

- A newsletter will be produced every other month next year, starting in January. We will highlight species, projects, issues and conservation concerns relative to lizards. Our initial focus is to raise awareness for lizard conservation in North America but we will showcase species and issues from around the world. Please send your articles, artwork, project summaries, etc to **yearofthelizard@gmail.com**.
- We are now seeking partners for lizard conservation! Partnerships are informal collaborations. Partners can share in our lizard conservation products, be linked to our website (– and we'd like to link to your website), and be announced in our newsletter. Please contact **yearofthelizard@gmail.com** if you would like further information about partnerships.

*A Sonoran Spotted Whiptail (*Aspidocelis sonorae*) in the Santa Rita Mountains, Pima County, Arizona. This species is unisexual, so all individuals are female. Photo by Larry L.C. Jones.*

Thanks to all the members of the Year of Lizard Planning Team:

David Pilliod (*USGS, ID*), Denim Jochimsen (*Univ. Idaho*), Larry Jones (*US Forest Service, AZ*), Ester Nelson (*US Forest Service, NM*), Jason Jones (*Utah Div. Wild. Resources*), Brian Aucone (*Denver Zoo*), Leland Pierce (*New Mexico Dept. Fish and Game*), Chris Titus (*NE PARC*), Denise Parsons (*Univ. Nevada*), ML Robinson (*Univ. Nevada*),David Wojnowski (*Univ. North Texas*), Kathryn Ronnenberg (*US Forest Service, OR*),Valorie Titus (*Bronx Zoo, NY*), Tom Giermakowski (*Univ. New Mexico*), David Dimitrie (*McKinleyville, CA*), Teal Richards-Dimitrie (*Towson Univ., MD; McKinleyville, CA*), Dede Olson (*PARC Nat'l Co-Chair; US Forest Service, OR*), Al Breisch (*PARC Nat'l Co-Chair; Albany, NY*), Priya Nanjappa (*PARC State Agencies Coordinator; Assoc. Fish & Wildl. Agencies*), Terry Riley (*PARC Federal Agencies Coordinator, Nat'l Park Service*).

And, by the way, "2013 – Year of the Snake" is coming up next. Please contact Dede Olson (dedeolson@fs.fed.us) if you want to be included in planning, which will start in just a few months!

Year in Review continued from p. 1

*A Stripe-neck Musk Turtle (*Sternotherus minor peltifer*) in captivity, by Rick Dowling*

Furthermore, over 300 individuals have subscribed to *The Year of the Turtle News*, and close to 800 individual Facebook members have "liked" the Year of the Turtle on the social media network.

Over 22,000 views were made of Year of the Turtle web pages

The Year of the Turtle News has featured diverse stories of research, outreach, interviews with turtle biologists, and ways the public can become involved in turtle conservation efforts. As planning commenced for the Year of the Turtle in 2010, the planning team was very eager to enlist the help of prominent turtle biologists in the academic, state, federal, and private sectors as well as conservation organizations in developing a newsletter and free downloadable educational materials for both the professional and public audience. However, we could not have expected the amount of materials that were also contributed by, to name a few sources, local nature centers, citizen scientists, and the general public. From newsletter stories on *Turtles and Conservation Biology at Jane Goodall Environmental Middle School* (February) to the design of a free *Western Pond Turtle Brochure* (October) and an artwork design of a Diamondback Terrapin to findings from along the beaches of the Chesapeake Bay (July), the Year of the Turtle campaign has reached a broader audience across the world due to these contributions. In fact, this month we present another contribution from one of our readers (*Riding on the Shell*) that again aims to help us understand the question "Why turtles and why now?" As a campaign that was started with the goal of "raising awareness of the issues surrounding turtles", this could not have been done without the assistance of each of you who have downloaded the monthly newsletter, submitted photos for the monthly calendar photo contest, and contacted the Year of the Turtle Team with questions, suggestions, and contributions to this important effort.

Over 500 individual photos submitted to the monthly online calendar photo contest

As one Year of the Turtle partner noted, he was "amazed at the width of Year of the Turtle pick-up within the community. One of the

A hatchling Desert Tortoise in the Spring Mountains of Clark County, Nevada, by Christy Klinger.

*Three hatchling Leatherback Sea Turtles (*Dermochelys coriacea*) surface from the sand in Costa Rica. Photo by Jeroen Duncan.*

picture-of-the-month choices was a tortoise photographed in Africa and submitted by a Dutchman. The Year of the Turtle has broadened and solidified the community of turtle people and increased turtle awareness in the broader herpetological and environmental communities." As we close the 2011 Year of the Turtle campaign and aim to continue this awareness into 2012 and beyond, it is our hope that you feel the same, too.

*March's Photo Contest Calendar winner, a Leopard Tortoise (*Geochelone pardalis*), photographed in South Africa by Jelger Herder.*

Wondering what you'll do without your Year of the Turtle Calendar?

Celebrate 2012 - Year of the Lizard!

Submit your brilliant lizard photos to the Year of the Lizard photo contest. Send close-up, digital photos of lizards, preferably in their natural habitats or within an educational or conservation context. One winner and runner-up will be selected each month to be featured as part of the Year of the Lizard online (printable) calendar. Photos can be submitted to **PARCphotocontest@gmail.com**—it's only a few weeks before the January calendar winners will be chosen.

Introducing Peanut, Missouri's Ambassador for "No More Trash"

While hunting in a stream perhaps 20 years ago, a small Red-eared Slider went through a plastic six-pack can ring which someone had carelessly discarded. The ring became stuck on her shell, and as she grew bigger over time, the majority of her shell grew, but the area around the ring did not. Hence, her shell grew around the ring. In 1993, when she was nine years old, someone found her and took her to the St. Louis Zoo, where the ring was removed. She was given the name Peanut on account of the shape of her shell that had formed due to the plastic rings. Peanut has since served as the Missouri Department of Conservation's (MDC) ambassador of "No More Trash!", an effort to educate the public on what trash can do to turtles and other wildlife. She regularly serves in this role as part of large public efforts (state fair, trash clean up days, etc.).

Peanut serves as an important reminder that as our own species, we must be aware of the impact our decisions can have on the wildlife-including turtles-which we share the world with. Always remember to properly dispose of plastics and other trash to help ensure that Peanut's story is never repeated!

Important action steps to remember include:

- Always cut up your six-pack rings and recycle them when possible.
- Pick up litter.
- Help educate others on the dangers of littering.
- Dispose of fishing line properly.
- Clean up waterways or take part in an Adopt-a-River program.

To download a free PDF poster highlighting Peanut and her role as an ambassador for the impacts trash can have on turtles and other wildlife, please visit **extra.mdc.mo.gov/nomoretrash/documents/Peanut.pdf**.

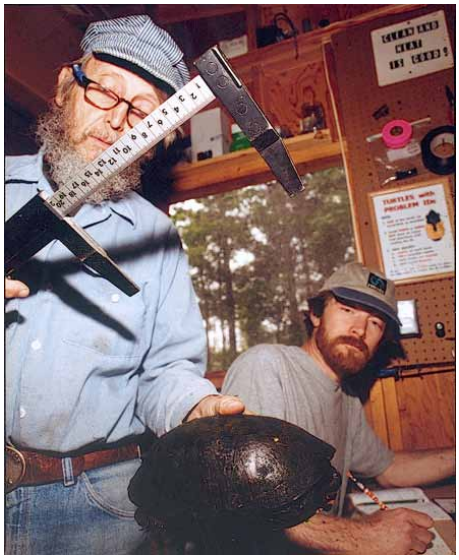
An Interview with Justin Congdon

By Al Breisch, PARC Joint National Steering Committee Co-chair

Justin D. Congdon's early years were spent in northeast Pennsylvania. Following a stint in the U.S. Navy, he received an Associate degree at Victor Valley College in the Mojave Desert, a BS and an MS at California State Polytechnic Institute, and a Ph.D. from Arizona State University, where he did research on lizards. Justin completed two postdocs on turtles: first with Donald Tinkle at the Museum of Zoology in Ann Arbor, Michigan and then one with Whit Gibbons at the Savannah River Ecology Laboratory (SREL), South Carolina. He stayed at SREL working on toxicology and turtles. When Justin and his wife Nancy retired, they moved to southeast Arizona to be close to Sonoran Mud Turtles. To many people Justin is best known for his long term turtle studies at E.S. George Reserve in Michigan.

How did you become interested in turtles and at what age?

My academic interest started when I was offered a Postdoc at the University of Michigan (UM) Museum of Zoology. Prior to that I had a general interest in herps, mostly lizards.



Justin measuring a Blanding's Turtle, while Roy Nagel watches.

What is your current role in turtle research and conservation?

After 33 years (1975-2007) of research on the life histories and ecology of Painted Turtles, Blanding's Turtles, and Snapping Turtles on the UM E.S. George Reserve in southeast Michigan, I am now writing up the results. I am also collaborating with Mike Pappas and Bruce Brecke on research on the orientation of hatchlings dispersing from nests. And I am nearing the end of a life history study of Sonoran Mud Turtles that started in 1990.

What is your favorite memory working with turtles at Michigan's E.S. George Reserve?

The best memories come from the most demanding period of research, the nesting seasons. We were in the field from 0600h - 2200h (or longer on warm humid days) every day during all nesting seasons that ranged from about 30 to 50 days. It was wonderful to be out there observing all critters in general.

What do you believe is the biggest threat facing turtles in the 21st century?

Invasive species—particularly the most invasive one—humans. Humans know that nothing constrained to Earth can go to infinity, at least those humans that are allowed to think.

How can the public help in the conservation of turtles?

If human populations continue to grow, conservation efforts that presently appear to be successful will be overcome with more pressures. At the Minnesota meeting in 2010, I quoted Steven Colbert's observation about conservation efforts— "There must be something you can do that will not inconvenience me," and a character in Carl Hiaasen's book "*Strip Tease*"— "It's OK if there is no hope, as long as you don't let it bother you". I hope both quotes irritate enough people concerned with conservation to up their donations to Planned Parenthood or Pathfinder International.

Justin holding a Snapping Turtle.

What guidance would you give to natural resource managers and policy makers regarding turtle conservation?

Whatever area you think is necessary to protect a turtle population, make it bigger.

Protect the older juveniles and all adults from increased rates of mortality—and that means no unregulated sport or commercial harvest.

Is there anything else you would like to add?

Giving up on education and conservation will assure that "they" (and you know who *they* are) will win and the turtles will lose.

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

Bureau of Land Management – Taking Action for Turtles

An Update on the Efforts of a Year of the Turtle Federal Partner to Protect Turtles Across the U.S.

The Bureau of Land Management (BLM) Nevada Ely District office began a landscape-level climate change modeling effort in 2011 in cooperation with the U.S. Geological Survey (USGS). The project cooperators are modeling different climate-change scenarios for the threatened Mojave Desert Tortoise (*Gopherus agassizii*). USGS currently is working with several sources to identify the most suitable climate-forecast derivatives to be used in the future climate scenario modeling. Additionally, the model will extend the newly-developed Mojave Desert Tortoise habitat suitability model (Nussear et al. 2009) into the Sonoran Desert.

—Sally R. Butts, Wildlife Biologist, Division of Fish, Wildlife and Plant Conservation, Bureau of Land Management Washington D.C.

Mojave Desert Tortoise, by Sally Butts.

The Spiny Softshell Turtle (*Apalone spinifera*) is a Montana Species of Concern and a BLM-designated Sensitive Species. The Montana populations of this species have been isolated from the rest of the species range since the Pleistocene era, and may be genetically distinct. The Montana population is further isolated by construction of several large dams on the Missouri River. A study was initiated by the BLM in 2009 to identify key or critical habitat components within the Upper Missouri River – between Morony Dam, upstream, and the mouth of the Musselshell River, downstream. In 2009, more than 50 turtles were fitted with radio transmitters. From 2009 to 2011 over 900 relocations of radioed Spiny Softshell Turtles were made and habitat data were collected at over 400 of these relocations. In addition to a number of findings on the ecology of this species in Montana, Montana State University graduate student Brian Tornabene and his advisor, Bob Bramblet, found some turtles moved as much as 40 river-miles in two weeks, and some moved as little as less than one mile in two weeks. Most turtles had a home range of approximately 2 to 4 river-miles. In 2010, only two nests were found, but in 2011, about 20 nests were found at nine different locations throughout the study area. Nesting began around the second week of July and was completely finished by the first week of August. In addition, they determined that hibernating turtles were found in areas approximately 2 meters deep, with moderate current velocity and approximately 14 meters from shore. Turtles appeared to use the same locations to overwinter across years, and some turtles appeared to exhibit fidelity to hibernation sites across years.

Softshell turtle tracks.

—John C. Carlson, Fish, Wildlife, and T&E Program Lead, Bureau of Land Management, Montana/Dakotas State Office, Billings, MT

Spiny Softshell Turtle by Brian Tornabene.

Softshell turtle nesting habitat.

Tryon and the Year of the Turtle

Tryon Turtle, the mascot for the 40th Annual Conference of the North American Association for Environmental Education (NAAEE), was inspired by the Bronx Zoo Cobra, who disappeared for a few weeks back in the spring of 2011. Some clever New Yorker tweeted as the cobra, visiting iconic sites around New York City. The cobra was eventually found, in a corner of the snake house, but the seeds of the idea were planted.

As 2011 was designated as the "Year of the Turtle," we selected an Eastern Box Turtle (*Terrapene carolina carolina*) as our mascot. To avoid any problems of transporting a live turtle, we had a Flat Stanley version. (Flat Stanley is character that elementary school teachers use for writing assignments. Students take their Stanley home and then have to write in Flat Stanley's voice to describe their weekend with the child.)

Tryon visited school teachers, turtle programs, nature centers, one of North Carolina's aquariums, and even made a trip to Washington DC to meet with staff at the NAAEE offices. What was great about Tryon's visits is that it gave our members an opportunity to highlight their programs or schools and gave EENC a chance to really tout the exceptional programs we have in North Carolina.

Tryon, named after the first governor of the province of North Carolina, started his journey to the October conference in Raleigh, by visiting an art event in Raleigh with Environmental Educators of North Carolina (EENC) member, Bianca Howard.

He went bird watching at the Agape Nature Center in Fuquay-Varina, North Carolina.

He even hitched a ride to California to check out where next year's conference will be held. He practiced writing his name in the sand. Did a pretty good job.

He went to the annual Festival for the Eno River, in Durham, North Carolina and even got near the water. Kind of scary for a terrestrial turtle, but he was brave.

He also went to Archdale Trinity Middle School to help the environmental club with water quality testing.

He went to Seagrove North Carolina to pick out some pottery to sell at the conference.

He went to school in Winston Salem, North Carolina to help some 5th graders with ant research they are doing with North Carolina State University. Teacher Lara Overby said that the kids went crazy trying to be the ones to hold flat Tryon.

Update on the US Fish and Wildlife Service 2010 Freshwater Turtle Workshop

In the January issue of the *Year of the Turtle News*, we highlighted a freshwater turtle workshop the U.S. Fish and Wildlife Service's (USFWS) International Wildlife Trade Program convened in St. Louis, Missouri in September 2010. The purpose of the workshop was to discuss the pressing management, regulatory, scientific, and enforcement needs associated with the harvest and trade of freshwater turtles in the United States. The Association of Fish and Wildlife Agencies, along with almost three dozen states, joined a small number of government, academic, and conservation group turtle researchers, as well as USFWS representatives, for this four-day workshop. The USFWS recently released an update on activities related to implementation of the first recommendation under Task 7 from the Enforcement Working Group (all the recommendations can be reviewed at **http://www.fws.gov/international/DMA_DSA/CITES/Appendix_III/turtles_ws.html**).

From the USFWS - Task 7 for the Enforcement Working Group was to "[i]dentify measures that will enhance voluntary compliance with existing laws and regulations (i.e. compliance incentives, identification materials, education and outreach, etc.)." The first recommendation adopted by the workshop under this task related to the Interstate Wildlife Violators Compact (IWVC). The IWVC does not have a dedicated website, but a wealth of information exists on any of the many State DNR links. An excellent example is one of these websites created by the Ohio Department of Natural Resources **http://www.dnr.state.oh.us/Home/LawSubhome/ViolatorsCompact/tabid/20979/Default.aspx**.

The St. Louis recommendations reads as follows:

1. Explore the feasibility of utilizing/applying the Wildlife Compact to commercial reptile and amphibian violations, e.g. anyone who is commercially harvesting and collecting turtles must be licensed-one violation results in a 2-year revocation, 2 violations a life-time revocation.

The USFWS, in coordination with Association of Fish and Wildlife Agencies (AFWA) and the Florida Fish and Wildlife Commission, have more closely examined the status of herpetofaunal coverage under the IWVC. As written, Article II (Definitions) of the IWVC defines "wildlife" to include all species of herpetofauna.

(o) "Wildlife" means all species of animals including, but not limited to, mammals, birds, fish, reptiles, amphibians, mollusks, and crustaceans, which are defined as "wildlife" and are protected or otherwise regulated by statute, law, regulation, ordinance, or administrative rule in a participating state. Species included in the definition of "wildlife" vary from state to state and determination of whether a species is "wildlife" for the purposes of this compact shall be based on local law.

So the good news is that the IWVC is already applicable to reptile and amphibian violations. However, the IWVC is not a self-implementing agreement; it requires states adopt laws or regulations that are adequate to implement its terms. While the Compact does cover herpetofauna, its license suspension or revocation provisions can only be implemented if the states have such requirements in place (i.e., if there is no commercial collection license, there is no commercial collection license to suspend in the case of a violation). As a result, the responsibility and challenge for making the IWVC operational for herpetofauna via the adoption of state laws or regulations rests with the states themselves.

The USFWS will continue to work with AFWA and the states to discuss opportunities and options for strengthening existing laws and regulations.

Upcoming Meetings and Events

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, Aukland, New Zealand.

Looking Ahead to 2012:

World Congress of Herpetology 7, August 8-14, 2012, Vancouver, British Columbia, Canada.

10th Annual Symposium on the Conservation and Biology of Tortoises and Freshwater Turtles, August 16-19, 2012, Tucson, Arizona.

Compassionate Release Life: A Conservation-Focused Alternative to the Buddhist Release Life Practice

by Patricia Johnson

Release Life is a very important spiritual practice for hundreds of millions of people worldwide. This ancient Buddhist tradition involves releasing animals that have been purchased in markets into the wild in order to gain merit. Ceremonies are often conducted for the benefit of the severely sick, although the merit is believed to accrue to anyone who participates. Traditionally, native, wild-caught animals were obtained from local markets and then blessed and released. Although food distribution and consumption have changed dramatically in the last few hundred years, the ritual has not. As a result, domestic animals and invasive species are often blessed and released, something that can have a very damaging impact on local ecosystems.

A few Buddhist leaders have tried to modify the practice in an environmentally sensitive way, but their efforts have not gained widespread acceptance, and few non-Buddhists are familiar with Release Life. There are laws to prevent the release of non-native animals into the wild, but they are rarely enforced. In addition, authorities may be reluctant to interfere with a distinctly religious practice.

Most Release Life practitioners believe that releasing turtles generates more positive karma than does freeing any other animal because of the turtle's long life span. In the United States, Red-eared Sliders (*Trachemys scripta*) are generally the most readily available species for release. These turtles are acquired through food markets, the pet trade, poachers, and the black market. Many, if not all, of these non-native animals die slow, painful deaths in the wrong environment or, worse, establish themselves at the expense of native species. In addition to turtles, fish and other animals are used in the rituals, and it is possible that the dangerously invasive fish, the Snakehead (*Channa argus*), was first introduced into United States waters as a result of Release Life ceremonies.

Release sites are undisclosed to protect the animals and habitats.

Turtles receive blessings and instructions on how to become Buddhas in their next life-time, during the Compassionate Release Life Ceremony.

Each year, licensed wildlife rehabilitators in New York care for hundreds of turtles (often at great personal expense). Since most of these animals would certainly have died without assistance, their rescues and subsequent releases are relevant to the Release Life practice.

Our pilot program brings together Buddhist practitioners—monks, nuns, and congregants—and wildlife rehabilitators for the purpose of bringing environmental awareness to this ancient practice. We have discussed the ways that New York's native turtles are rescued and the negative effects of non-native releases. In 2010, a ceremony was conducted in which 39 rescued Common Snapping Turtle (*Chelydra serpentina*) hatchlings were blessed. The rehabilitators later released the turtles in appropriate habitat, at an undisclosed location.

The second ceremony was for over 30 rescued native turtles, including Eastern Box (*Terrapene carolina carolina*), Eastern Painted (*Chrysemys picta picta*), Spotted (*Clemmys guttata*), and Common Snapping Turtles. All animals involved in the program were rehabilitated and already slated for release.

By building bridges among wildlife rehabilitators, scientists, Buddhist leaders, and congregants, we hope to reclaim this ancient tradition and return it to its roots. If we succeed, we will have transformed a damaging practice into an environmentally positive one. Because the ritual also involves financial contributions from congregants, Compassionate Release Life also represents a potential funding source for turtle conservation.

For more information, contact Patricia Johnson at TurtleAdvocate@gmail.com.

Blackwater National Wildlife Refuge and the Maryland Amphibian and Reptile Atlas

by Raeth J. Morgan, Biological Technician, U.S. Fish and Wildlife Service, Blackwater National Wildlife Refuge

Blackwater National Wildlife Refuge was established in 1933 as a waterfowl sanctuary for birds migrating along the critical migration highway called the Atlantic Flyway. Blackwater Refuge is located on Maryland's scenic Eastern Shore, which is just 12 miles south of Cambridge, and consists of over 25,000 acres of freshwater impoundments, brackish tidal wetlands, open fields, and mixed evergreen and deciduous forests.

Diamondback Terrapins occupy brackish-water habitats at Blackwater Refuge.

Blackwater is one of over 540 units in the National Wildlife Refuge System and is managed by the U.S. Fish and Wildlife Service, which is part of the Department of the Interior. Blackwater Refuge contains one-third of Maryland's tidal wetlands, which makes it an ecologically important area within the state. These wetlands also provide storm protection to lower Dorchester County, including the town of Cambridge. Blackwater Refuge is recognized as a "Wetlands of International Importance" by the Ramsar Convention and was named a priority wetland in the North American Waterfowl Management

One of the Snapping Turtles captured at Blackwater during the surveys.

Plan. Blackwater is also home to 35 species of reptiles and amphibians, with 8 of the species belonging to Testudines.

Currently the refuge is participating in the Maryland Amphibian and Reptile Atlas (MARA) project conducted by Maryland's Department of Natural Resources and the Natural History Society of Maryland. The goal of the MARA project is "to document the current distributions of Maryland's amphibian and reptile species using a systematic and repeatable approach. The Atlas will establish a baseline for future efforts to determine changes in the distribution of amphibians and reptiles in Maryland (for more information on MARA, vist **http://www.marylandnature.org/mara/index.htm**)".

To date, 8 Diamondback Terrapins (*Malaclemys terrapin*), 24 Snapping Turtles (*Chelydra serpentina*), 4 Eastern Box Turtles (*Terrapene carolina*) and 93 Painted Turtles (*Chrysemys picta*) have been observed.

Eastern Box Turtles, an upland species, are fairly rare on the refuge.

Sampling nets a mixed bag of aquatic turtles.

Painted Turtles are the most common turtle species at Blackwater.

Diamondback Terrapins at the Wetlands Institute

by Patrick Baker, Research Scientist, The Wetlands Institute

Adult female Diamondback Terrapin searching for a place to nest adjacent to a busy road in Cape May county, NJ.

In southern New Jersey, development on barrier islands has led to habitat loss for the Diamondback Terrapin (*Malaclemys terrapin*). Traditional nesting sites (coastal dunes) no longer exist on most islands. In the absence of dunes, terrapins nest on the causeways that cross the salt marsh. Unfortunately, the highest volume of traffic on causeway roads coincides with the nesting season (late May - July) resulting in hundreds of roadkills every year. This is alarming to biologists because high survivorship is required for stable populations of long-lived species–high adult female mortality inevitably leads to population decline.

Scientists and interns at The Wetlands Institute have raised community awareness about terrapin conservation. During the nesting season, many handmade turtle crossing signs are put up by concerned citizens.

Concern for the local terrapin population led Dr. Roger Wood, Director of Research at the Wetlands Institute, to establish the Terrapin Conservation Project in 1989. During the nesting season, undergraduate interns patrol a 38-mile transect five times a day in search of terrapins on the road. In some cases, terrapins are simply helped across the road, always in the direction they are traveling. Injured terrapins are brought to a local veterinarian who repairs fractured shells. Unfortunately, many terrapins are found killed on the road. Depending on the amount of damage, dead terrapins may be dissected to retrieve eggs from the carcass. Terrapins exhibit temperature-dependent sex determination (TSD) and recovered eggs are incubated at 30°C (86°F) to produce only female hatchlings. In this way, the high mortality of adult female terrapins on the road is offset by increasing the number of females in the next generation.

Eggs recovered from roadkill females are incubated in the laboratory. They hatch after 40 to 60 days of incubation at 30˚C.

Close-up of hatchling terrapin emerging from the egg. High incubation temperatures ensure that all of the hatchlings are female.

Hatchlings from recovered eggs are reared at a special facility at The Richard Stockton College of New Jersey. Kept warm and well-fed through the winter, the resulting "headstarter" terrapins reach the size of a 3 or 4-year old terrapin in less than one year. Headstarter terrapins are marked with a microchip and released into the salt marsh. To date, several of these headstarters have returned to nest at The Wetlands Institute.

Hatchlings are raised in captivity until they reach 3-4". These "headstarters" are released by children from a local kindergarten and other members of the community.

Headstart programs are not effective in stabilizing populations unless the underlying reasons for decline are addressed; therefore, researchers at The Wetlands Institute seek to reduce roadkills and other factors that contribute

to the high mortality rate for the local population. Beginning in 2004, interns and volunteers have installed barrier fencing along the causeways to reduce roadkills in areas known to be major "hot spots". Currently, more than 7 miles of barrier fence have been installed along roads that cross the salt marsh.

Student interns install barrier fences along the causeways to prevent turtles from entering the road.

A common thread?

Year of the Turtle News staff noticed a certain similarity in photos submitted along with interviews, biographies, and features. We bet you can spot it too. From left to right, top to bottom, below, are PARC web manager J.D. Willson; Year of the Turtle intern Josh Ream; researcher Whit Gibbons; a volunteer at a non-native turtle trapping event in Phoenix; Simon Pelletier, who translated State of the Turtle into French; researcher John Iverson; and graduate researcher Mitchell East. And this isn't even a comprehensive collection!

Note that all of them are holding their friends safely—for them and the turtle!

Lucille F. Stickel Box Turtle Research Award

CNAH, The Center for North American Herpetology, announces small grants available for research on Box Turtles.

Box Turtles have been present in North America for millions of years. But the picture is changing rapidly. Every long-term study of the Box Turtle has concluded that populations are declining at an alarming rate.

In an effort to contribute to science that may save Box Turtles, in 2009 the Box Turtle Conservation Committee (**www.boxturtlesintrouble.org**) established the **Lucille F. Stickel Box Turtle Research Award** to honor Stickel's Box Turtle research over a period of forty-five years.

To date, the Stickel Award has supported two important research projects; a summary of the research can be viewed at the above website.

The Committee is currently accepting grant applications (up to $1000.00) for projects that contribute directly to Box Turtle conservation, or further our understanding of their natural history, ecology, or reproduction.

The closing date for receipt of grant applications is **1 February 2012**.