

The Maine Herpetological Society

Newsletter



Volume 15 Number 6

July 2007

Upcoming MHS Meetings and Regional Events Mark Your Calendar!

August 18-19 National Reptile Breeder's Expo—
Daytona Beach, Florida

August 18 **No Regular Meeting due to expo**

August 26 Portland Reptile Expo—presented by the
Maine Herpetological Society—Portland, Maine

Sept 15 Regular Meeting—Island Apartments.
Program to be announced

Sept 15-16 Mid-Atlantic Reptile Show—Timonium, MD
(aka Baltimore show)

Memberships

*We welcome the following members
to the MHS:*

John Ames, Norridgewock, Ind

*And we thank the following for renewing
their MHS membership:*

Bill Hayward, Randolph, Ind

Family Pet Connection, Skowhegan, Fam

Society Notes

Well I guess you could call this a turtle issue. Fred Beaudry's presentation takes up much of the newsletter and I found a related article from southern Maine.

The July meeting was mostly a business meeting. The Board of Directors went over the by-laws and suggested changes. Most of the changes were just to bring the by-laws up to date with our current practices. Any revisions need to be voted on so things are just preliminary at this time.

We also talked about the Portland Expo. There approximately 34 tables out of 40 taken so far, so it is looking pretty good. The society will have a few tables for members who have some animals to sell but not enough to warrant an entire table. Anyone wishing to participate in the society's table should contact Doug.

MHS members who attend get the benefit of a reduced entry fee. Please bring a copy of the newsletter (this is just to see if you read it. ☺). Actually it is so that the person at the door can see the address label. They cannot know everyone.

Set up is at 6:00 AM and anyone wishing to help out is welcome. Free entry if you help out. If you live a long distance away from Portland the society is reserving two rooms for members to use. If you do take advantage of the room you are **required** to help with set-up.

Contact Jason Patterson if you want some mice or small rats. Make sure you bring something to keep them frozen as we no longer have a freezer that we can bring to the expo.

Enclosed is a flyer for the show. Please help us out by making copies and putting them where you think they will do some good. Hope to see you all there. Stay cool. Kevin

Fred Beaudry's Presentation on Spotted and Blanding's Turtles at the May meeting.

At the May MHS meeting Fred Beaudry with the Department of Ecology, University of Maine, Orono gave a talk and slide presentation on his work with the spotted and Blanding's turtle in Maine.

Originally from Montreal, Fred is a 4th year graduate student at the University of Maine working on his PhD. While not a life long herper, for the past 4 years Fred has been studying the spotted and Blanding's turtles in Southern Maine. His background is actually in birds and he has been doing population and habitat ecology studies with them since 1996. He has worked with birds in Oregon, New Mexico, Arizona, California and eventually in Maine. It was his experience in these ecologies that led him to this current project and he admitted to a steep learning curve as far as turtles go. On this project he has been working with Mack Hunter, of the University of Maine, and Phillip de Maynadier group leader at the Inland and Fisheries and Wildlife.

There is a lot of interest in turtles today. A lot of it has to do with research into aging for human health because turtles live so long, and don't seem to age in the same way that mammals and humans do. For example: there is no senescence so females will breed until they are very old, which is very different from most systems. Turtles are also of interest because of conservation issues, things like invasive species (where we talk about red-eared sliders), illegal trade and mostly bio-diversity loss. Just to give you an idea how much of a hot spot North America and United States are for turtles, in all of Europe there are only 5 species of turtles and in the United States there are 55 species. Unfortunately about half of them are declining. So there is a bio-diversity issue there. In Maine there are 7 recognized species of native turtles, going from abundant like the eastern painted turtle and snapping turtle to rarer species like Blanding's and spotted turtles. The jury is still out on the Eastern Box turtle but it is believed to be extirpated in Maine. Once in a while there is a new record that gets brought in, but it is never really

clear whether it is a released pet or a true native Maine box turtle.

Fred displayed a slide of a male box turtle that was tracked last summer. He stated that the turtle acted like a regular box turtle, staying in a small area, foraging, eating mushrooms and slugs for a few weeks. Then he took off and did a 7 kilometer (4 ½-5 mile) trek heading northeast. He walked like that until it was late enough in the Fall and then he hunkered down and over-wintered underground, but not very deep, maybe a couple of inches. He had about 2 inches of organic soil on top of him. This Spring Fred tracked him in early May just to see where he had been and he was still in the same spot. The turtle wasn't dug out in case he was still alive. Fred will go back and check on him this summer.

The species Fred worked with were spotted turtles. Most of the population is in York County with two of the shunt populations in the mid-coast region and a mid-western one. We're on the northern edge of the eastern population. With Blanding's turtles, we're at the Northern end of a really small disjunct population that spans into southeast New Hampshire and eastern Massachusetts. There are a couple of population in New York including a new population discovered in the Hudson River Valley. There was a study done that just came out that found that the genetic structure of the eastern populations differ enough from the Michigan population that they must have been isolated for a very long time, thousands of years, it was probably a post glacial distribution: after the glacier retreated they stayed in the refugia.

Question: Did they do any studies about whether the Native Americans had any liking for them and that's why they got split up?

"There are no studies but there is evidence that native Americans ate them. Shells were found in refuse piles, including in those discovered in Maine.

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Shells were also found in piles where Blanding's turtles have never existed. So there could have been trading going on for rattles made of turtle shell. Whether or not they traded live turtles to make rattles we don't know. The people in Nova Scotia have been talking to the First Nations people there and some of the older guys remember their grandparents talking about trading turtles with Iroquois in the St. Lawrence Valley."

Question: Was there spiritual value to the shells?

"Yes, that's when they made the big rattle on the end of a stick. The original question was about how long have they been isolated. We don't know really and that is being researched. If its 5000 years ago then the information from people that live today would only go back a couple of hundred years so it doesn't really help. At this point it is just speculation."

Fred then displayed a slide showing the diversity of reptile species for Maine. "As I'm sure you know, the highest reptile diversity is in southern Maine. Look at the red zone. And for those of you who are familiar with county boundaries, you can almost see that the red corresponds almost exactly to York County. If you look at this state planning office map you see where the projected development is and human density is highest. A lot of people have noticed that there are fewer turtles especially if you look in areas where there has been increased development. Mostly it has to do with habitat destruction outright, housing development and agriculture. There are some issues with illegal collection and illegal trade. People think that illegal collection is a lot less in Maine than in some other states, but still it is an issue. Roads are being increasingly recognized as a major problem. I'll explain a little bit about why these two species are particularly vulnerable with regard to roads more than many other species."

Both spotted turtles and Blanding's turtles have delayed sexual maturity, Blanding's turtles don't start breeding until they are about 18 years old and as opposed to 12-14 years old for spotted turtles. They have a low annual fecundity. Blanding's turtles produce one clutch per year with about ½ dozen to a dozen eggs. They experience low hatchling and juvenile survival. Most of the eggs don't make it either because of predation or low hatching success. There are not that many that make it to 2 years old and not many of 2 year olds make it to 3.

In a stable population over a generation time of 43 years, one female will replace herself once. "So why are they still around, what makes them persist? That is balanced out by two main things: high adult survivorship that is tied to a long life span." Blanding's turtles (there are various estimates) live 80-90 years. They have found some marked Blanding's turtles in Michigan that were 77 years old. Additionally, they breed until the end of their life. "It all rests on one main characteristic that all turtles share and have shared for 200 million years and that is their shell. Without the shell you can't have the high survivorship values. They are immune to most predators, not all, but most of them. What was not around 200 million years ago was cars. This is a really recent threat that short circuits the evolutionary strategy the turtles have developed. That is to live a long time but not breed much. At the population ecology level this is why they are really vulnerable."

"Just imagine a population 10,000 Blanding's turtles that are stable. They have a 96% adult survival rate in a stable population every year. If we reduce that survival rate by 2% to 94%, which does not appear to be a big change, it reduces the population size by 62% over 100 years. So they are really sensitive to changes in adult mortality. That is the key population parameter."

They are also vulnerable because of their ecology, their movements and habitat ecology. They have a yearly cycle where they start out in a wintering wetland and in spring, as soon as ice is out, they move out of those wetlands. Most of the time they head towards vernal pools until June or July. Turtles will visit several pools. Females nest in June. Then they might go to an estivation sight when things get dried out and too warm in the summer. In the fall they move back to their wintering wetlands. That means they move a lot from wetland to wetland. Spotted turtles on average move to 3 to 5 different wetlands and Blanding's turtles average seven. "However, we had one turtle that visited 22 different wetlands during the summer."

Here Fred displayed several slides showing vernal pools and wood frog egg masses, which is an important staple of the turtles diet in season. All the vernal pools dry up mid summer so the turtles begin to move to deeper pools, like beaver ponds. They need the cover to escape predators. They also need ponds that are deep enough during the winter so that the turtles won't freeze.

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The best way to capture the turtles was by hand. In the spring time they would be basking at the vernal pools and you could just pick them up. Then they would mark them by putting a little nick on the shell, "which may be heartbreaking for some of you to see". "We have a numbering system that involves filing on the shells using ones and triangles. It gets a little worn out as they age, they get a little rounded. We have a data base that lists them." In Maine the first Blanding's was marked in 1985 and 2 of the ones that were marked in 1986 Fred recaptured last year.

Another method of keeping track of the turtles is radio-telemetry. "We fix these little radio transmitters on the shell with dental acrylic. It works really well and it is easy to take off when you are done. The batteries on the radios last from 242 days on the smallest ones to 420 days on the larger ones. Then we would go around with this little antenna and track them down every 3-4 days."

Fred displayed a slide of a typical track for a female spotted turtle. She started at one spot and traveled to several vernal pools and a shrub swamp, then back to the vernal pool and then to the shrub swamp. Then she had a nesting excursion and then hid under a blue spruce in someone's front yard. "I am walking in the street with my antenna trying to find the turtle, its 5 o'clock and everyone is coming home from work wondering what I am doing in their street. At that point I thought that maybe a kid had taken it inside so I was actually listening at the houses to know if it was inside." After it nested it rested in an area that used to be a wetland that has all been filled in. "I don't know if traditionally it has been a place where they go and now it isn't much really. Then it took off and went to a series of really nice pools back in the woodlands."

Question: Have you tracked them over a period of time to see if they use the same track?

"No I haven't actually. That is a different question that hasn't been answered yet. There is a little bit of evidence from Massachusetts on Blanding's turtles where this colleague of mine kept the same turtles radio tagged for 4 years (I change mine every year), he saw that they made the same cycle. However, a few of them at one point just took off and established a new cycle. They were older turtles and it looked like they knew where they were going when they established the new cycle. So maybe 15 years ago

they had done that cycle for a few years, knew the area from years before when they were exploring. How the turtles orientate themselves is still relatively unknown, but we know that they are better at orienting themselves when there is no cloud cover. So they probably use the sun for general direction and landmark features. One thing that is suspected is that they are able to see polarized light. They have some sort of metal particles in the eyes that allows them the perception of polarized light. When light from the surface of a pond is reflected it is polarized, all rays coming in one direction. We can't see that but from a distance they would be able to see bodies of water from the reflected light. That is a theory and it is based on what they have in their eyes."

The next slide was the typical track of a Blanding's turtle. This turtle started in a shrub swamp and visited different wetlands. There were two big beaver impoundments where they spent a lot of time. And then it went back to where it started and spent the winter there. On another slide a turtle really covered some ground. "Look at the scale on this one. The turtle covered 20 kilometers in straight line distances. That is a lot of distance for a small turtle. This particular turtle I located here by a lake but we lost him for 4 days because there is a limited range. The next location where we caught him was here on the other side of the lake, so he could have gone around or swam over. We did find him in that lake several weeks before so they do go through these bodies of water. We lost him several times because he was moving so much."

"So you can see that we have a problem. We mark the location with dots and we put a straight line between them, but we really have no idea of how they walk between points. So we went really high tech and attached these bobbins with 400 yards of thread to the shell. The next day we would go back with a 2 meter stick and compass and measure the angle at every 2 meters on that thread. Then we could digitize it and put it on the computer and see if they are zig zagging until they run into a wetland or if they knew where they are going. We determined that it is really hard to track a little white thread through the woods!"

"We had a funny thing happen the first year. We would follow the thread and it would go up to a branch and back down. (Jumping turtles we thought!) It turns out it was nesting season so birds were picking up the thread. They would go up and it would snap from their bills and snag on branches.

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During nesting season and if a turtle had eggs, we would take them to a vet that would volunteer his/her time and x-ray them so we could see how many eggs they were carrying. The x-ray shows that the eggs fill a large portion of the turtle's body cavity.

Another aspect of our project was to look at habitat selection – where do they go and why. What are the variables that make them go somewhere during a particular part of the season. We measured variables for the wetlands that were used by the turtles. We went to 228 wetlands and measured a number of variables. We used a type of analysis that gave us a measure of the importance of each variable seasonally. Depending the season the turtle used that wetland. Roughly the results are like this: for Blanding's turtles, in the spring, the most important variable appeared to be that the wetland was in a deciduous forest. This makes sense because they bask outside the wetland and if it was coniferous there would be more shade and less sun light. In early summer they need wetlands with good sun exposure to continue basking and wood frog egg masses (one wetland can have between 50 and 500 egg masses). They feed on the tadpoles that come later. They are ambush feeders and catch the un-wary ones. Later in the Fall, deep water was important for wintering and protection from the ice.

For spotted turtles it is a little different story. In the Spring emergent wetlands and shrub swamps are important. In early and late summer the only thing that came out was that they avoided forested wetlands. They rarely spent time in ponds and streams. There was one stream that had a few but that was it.

We also saw variations in activity over the year. Blanding's have a peak of activity early in the spring when they are moving out of the vernal pools. Then they have a big peak of activity that corresponds to the nesting season. And then there is a low level of movement late summer into the fall when they shuffle back to their wintering wetlands.

Spotted turtles have less activity in the early spring, but still have a big peak during nesting season. Then there is a period of estivation where they reduce their activity during the summer when it is hot. When the rains start in late summer, there is a peak of activity that starts up right after the wetlands get recharged.

This information helps us to understand when the

risk relating to road crossing is greatest during the year. If we are going to do things like erect temporary signs on critical roads, or press releases where they pick up the story every year, we can time it when the risk is highest.

I give the same message all the time. When you find a turtle avoid the idea of moving it to "a great wetland that I know". They will try to go back to where they came from and it means a long trip with many risks. That is not where they were heading and they will go back and may have to cross roads. So just put them across the road and let them be. When you find them somewhere, that is where they want to be!

An NPR reporter came with me one year. I told her to dress for the field because it gets wet. She came in the field with me and we went to a wetland. I found a turtle and tried to catch it. It got away from me and I told her to come in but she was really reluctant to get in (most people are). I go in in running shoes and pants that dry easily. Eventually she did come in, and once she stopped talking and could hear the sounds she turned on her recorder and had a big smile on her face. Its an experience that most people never have so they don't have an appreciation for the wetlands. Its really magical!

Released pet turtles can be a problem. They have been a problem in many areas (red-eared sliders are the most common). Right now western pond turtles are having a problem in the western U.S. because of red-eared sliders that have been released. And then from the habitat side, if you have a lot of land or a wood lot you can use best management practices otherwise there are local land-trust, Nature Conservancy or Lands for Maine's Future that do that kind of management – to protect both the wetlands and the uplands around it, because they use the uplands quite a bit

We had a little road crossing project going last summer. We had a lot of really enthusiastic volunteers and residents in a couple of towns. We had them help us put up road signs not at specific crossing locations but for whole areas where we knew there were a lot of crossings going on. People get really accustomed to signs, like deer crossing signs, and don't see them, so what we did was put these signs up only temporarily during the peak movement season, and removed them afterwards so people don't get habituated to them. I think mostly what it did was cause people to talk. It became the talk of the

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town for a few weeks. People would ask "Why – there are so many of them? Why are they worried about them? Oh, they are a rare species. I didn't know that." Before that they didn't know about it and after they were aware. It prompted more communication about turtles. It was more of an educational exercise.

Thursday, July 19, 2007

Endangered turtle found in Berwick area destined for housing units

By JENNIFER KEEFE
Democrat Staff Writer

BERWICK, Maine — The wanderings of one Blanding's turtle around the Blackberry Hill Road area recently could impact development within the town more than the tiny critter will ever know.

The animal's endangered status, combined with the location of its discovery, may prove significant because the particular plot of land he chose to travel is being eyed for a potential 104-lot manufactured housing subdivision.

The subdivision, proposed by landowner and developer Mark Philips, who was unable to be reached for comment, will cover about 71 acres of open space located across from the Vivian E. Hussey Elementary School. The project is before the Planning Board, but Chairwoman Vicky Ware said no preliminary plans have been approved as more engineering and review by the Department of Environmental Protection needs to be done.

As these turtles seldom stay in one place and need a wide-ranging habitat ranging up to a mile of turtle travel, experts say there could be more yet-undiscovered turtles in that area, therefore making the land significant from an environmental standpoint. The species, named after a 19th century naturalist, has been on the endangered list since 1997.

The turtle was found by resident Tom Whitten while walking his dog behind his Blackberry Hill home. He caught it, believing it might be a Blanding's after having seen one about four years ago.

"I knew turtles had been there for quite some time," he said.

Whitten said he spotted the turtle in the exact spot the Blackberry Hill development is slotted to go and thought he should turn it into the state, citing the importance the land had on the turtle's overall habitat. Whitten said there is a vernal pool on the spot where he found the turtle.

Ware said, however, after review of the site by the DEP and the Maine Department of Inland Fisheries and Wildlife earlier, no turtles had ever been detected beforehand in that area.

"I don't think Mr. Whitten helped the situation by picking (the turtle) up and moving it," she said. "The proper procedure is to leave it and maybe put a fence around it and then have Inland Fisheries and Wildlife come look at it."

Ware said it is hard to know exactly where the turtle was found if it was moved.

With attention being paid by residents to growth and development in Berwick and its impact on vernal pools and wetlands, culminating recently with a people's petition attempting to limit setbacks around these areas, several are wondering what the wide-ranging impact could be if an endangered turtle is indeed inhabiting the area.

Jonathan Mays, a wildlife biologist with Inland Fisheries and Wildlife in Bangor, who came to Berwick to examine the turtle and where it was located, said property boundaries are unclear as to whether the turtle had been on the lot, but representatives from the Department of Environmental Protection and Inland Fisheries and Wildlife have gone on-site to assess the situation. "Wood turtles have been known on the property," Mays said. "But they use a totally different habitat" from the Blanding's turtle.

Regional wildlife biologist Scott Lindsay recently went to the site to see where the turtle was reported to be found and how the location relates to the total development project.

Lindsay said he found a small, "kind of dry" wetland at the site, which could prove significant because Blanding's turtles can use those wetlands seasonally.

"A discussion needs to be had," Lindsay said, adding a 250-foot buffer around the wetland site is typically imposed for any development where an endan-

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gered species is found.

"We try to err on the conservative side," Mays said. "We don't view these as 'no touch' zones, but we try to work with the person so it's smart for the future of Maine's wildlife and for the developer."

Mays and Lindsay said nothing has been determined as of yet, but "we always try to work with the developer or landowner to preserve the habitat."

The Blanding's turtle found by Whitten has been marked "Number 198" for tracking purposes by Inland Fisheries and Wildlife, but its finding also marks what Mays said is a new record for the department.

"That (turtle) was new for that general area," he said, adding Blanding's turtles typically "pop-up" anywhere in Southern Maine, but not frequently in Berwick.

Inland Fisheries and Wildlife has been studying and marking the endangered turtles since 1990, and in the 17 years of study, more than 150 have been found. Blocks of numbers for marking the turtles are frequently handed out to researchers who search for these turtles daily.

Mays said while most turtles are found via reports from the public, a representative always makes a trip to see the turtle to mark and document it.

"We mark them for recapture data," Mays said, adding if the turtle is found at a later date, the department can determine a population estimate as well as how far and how quickly the turtle traveled.

"We take measurements and try to age the turtles," he said.

Interesting for Berwick is that Blanding's turtles use vernal pools and wetlands for their habitats, especially during the summer months when, as Mays said, these areas are "a big feeding bonanza for them."

Whitten said it is a sad fact that if the development goes in as planned, any turtles in the area will be killed or prevented from enjoying their natural habitat, but Ware said the town is waiting to see what Philips is told by DEP and Inland Fisheries and Wildlife in regards to his development.

"I'm not trying to stop the development," Whitten said. "I'm just trying to be a voice for the turtles."

Classified Advertisements

Classified advertisements are free to dues paying members. The format for the ads should be as follows: 1.1.1 The first number represents the number of males, the second represents the number of females, and the third, the number of unknown sex. Please use the species name whenever possible. The Maine Herpetological Society is not responsible for content, prices, or errors in classified ads, nor do we receive any compensation from the sales resulting from these ads. **

For Sale: 0.2 spider balls \$500ea; 2.0 pinstripe balls \$950; 7.2 pastels \$125 males \$250 females; 1.1 mojave \$500 males \$600 females; 2.1 c.h yellow bellies \$200 males \$300 females; 1.0 het red axanthic adult \$450; 2.0 het pied \$100; 10.0 het albino \$25-\$100ea.; 0.1 het albino 525+ grams \$600; 1.1 c.h cinnamons \$950pr.; 1.0 cinnamon 600 grams \$700; 10 adult brazilian rainbows \$150-\$250 ea.; 6 newborn guyana boas, just had first shed \$ T.B.D; 1.2 grey band kings proven \$300 trio; 8'-9' carpet python \$300; 10.0 adult c.b balls \$35ea. 7.0 c.h adult odd balls \$55-\$125; Asst. corns babies-adult \$20 +; Asst. brooski, cal , and florida kings, morphs and normals. Lots more available, new arrivals weekly, call, email, or visit our website for details Oak Grey Rat: \$35, 0.1 Lueticistic Texas Rat: \$55 - Inventory changing constantly if you are looking for something call. Thanks, J&J Reptiles sales@jnreptiles.com (207)479-6658 www.jnreptiles.com

For Sale: 1.1 cbb 07 albino spider balls 10k/pair; 2.3 cbb 07 spider het albino ball \$2000 each; 0.1 melanistic ball cbb 07 (2500); Have females about to pop-taking orders on north brazilian redtails (150-450) and hogg islands(140-350)
Contact: Ben Cole at BCherps@yahoo.com

For Sale: 1.2 Peruvian red-tailed boas 6-9 ft.; 6.9 Okeetee corn snake \$20.00 ea. 2.2 Nicaraguan boas 125.00 ea.; ball pythons \$25.00 ea. Contact Kevin Murphy - 207-576-0157 kmurphy70192@roadrunner.com

Adopt or Surrender a Reptile or Amphibian The New England Amphibian & Reptile Rescue (NEARR) provides permanent placement & adoption to herps of all sorts; including, but not limited to; snakes, lizards, frogs and turtles.

Contact Information: Phone: 207-399-4631 Email: rescue@reptilerescue.net Website: <http://www.ReptileRescue.net>