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TROUBLING TIMES FOR TURTLES

Hercules Goes Home

By: Dr. Kristy Hiltz, Executive Director, Kawartha Turtle Trauma Centre

Early in July, one of the most memorable patients at the Kawartha Turtle Trauma Centre got to savour freedom once again. Hercules, an enormous snapping turtle, was returned to the creek where two youths had rescued him in the spring of the previous year after he was critically injured by a motor vehicle.

During heavy rains on the long weekend in May 2004, Carlyn and Dylan Wild found Hercules clinging to the bank of the swollen creek that flowed through their back yard. Realizing he was injured, they managed to pull him onto their lawn, where he rested in an area that had been flooded by the rain. And beside him, keeping vigil, was Carlyn, who refused to leave his side and stayed with him for hours despite the torrential rain.

would deal with him. They eventually contacted the OSPCA Wildlife Centre in Midland. Hercules was loaded onto a child's sleigh to drag him to the family van, and driven two hours to the center, where staff attended to the turtle. After initial treatment, Hercules was transferred to the Kawartha Turtle Trauma Centre.



Dr. Kristy Hiltz treating Hercules at the Kawartha Turtle Trauma Centre in Peterborough.

Hercules was dying. He had multiple skull fractures and fractures in his carapace. Normally a very aggressive male snapping turtle, Hercules just hung his head and rested in the water in his tank. But we didn't want to give up! Under anaesthetic, orthopedic wire was used to repair his skull fractures and carapace. A feeding tube was surgically placed into his stomach to allow us to feed him. Hercules

remained in critical care for several months because he was so debilitated, and was tube fed for seven months before he resumed eating on his own.

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Carlyn and Dylan looked after Hercules for two days, pouring water over him to try to keep him hydrated, while his parents tried to locate a rescue centre that

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Once Hercules started eating, it was hard to keep up to his enormous appetite! He loved our turtle jello, cubes of turtle pellets, leafy greens, frozen smelt and vitamins all pureed with gelatin. YUCK!

It took Hercules several months to regain a healthy weight. When he was ready to release, Hercules weighed approximately 30 pounds. His feet were bigger than most men's hands. In fact, Hercules was close to the Ontario record for the largest snapping turtle in the wild.

It was a bittersweet day when Hercules was loaded into my van for his trip home. Everyone at the centre was thrilled to see him recover, but we were going to miss him! When we arrived in Newmarket, Hercules got to meet his rescuers once again. It was a very emotional and happy reunion.

After stopping to pose for a few photos, Hercules was released back into the wild. Carlyn and Dylan watched as Hercules slipped into the water, finding and eating a crayfish within minutes! Hercules was a very lucky turtle to have met these young heroes, and all of us at the Kawartha Turtle Trauma Centre thank Carlyn and Dylan for giving Hercules the promise of another spring as he rests peacefully this winter under the ice.

Note to kids: Carlyn and Dylan were very brave to help Hercules, but remember that turtles, and flooding creeks, can be dangerous! Always find an adult to help you.

Editor's Note: The Kawartha Turtle Trauma Centre, located in Peterborough, Ontario, is a trauma and rehabilitation centre for turtles. The centre provides veterinary and rehabilitative care to injured native turtles.

Rehabilitation of Ontario turtles can contribute to the recovery of turtle populations in Ontario. Turtles are

very slow to mature and studies have shown that saving even one turtle will benefit the population as a whole. Returning an adult female to the breeding population allows her to continue to live and breed for many years, perpetuating the species.

The Kawartha Turtle Trauma Centre exists primarily due to the phenomenal efforts of its many volunteers, who perform veterinary and general daily care for the turtles. Today, more than 90 per cent of the centre's labour and material requirements are donated.

The K TTC is a registered charitable organization, and will issue tax receipts for donations received. If you are interested in making a donation to help them continue to provide care for injured turtles please visit their website: www.kawarthaturtle.org

Public awareness and a reduction in the number of turtles hit by motor vehicles will also assist in the recovery of our turtle populations. It is encouraging to see an ever-increasing number of individuals assisting turtles.

You can play an active role in turtle conservation. Remember that turtle stewardship can be very simple...just watch out for turtles on the road!



Dr. Kristy Hiltz poses with Carlyn and Dylan Wild and Hercules the snapping turtle.



After extensive treatment, Hercules is about to be released back into the wild.

Toronto Zoo's Urban Turtle Initiative

By: Michelle Nelson, Urban Turtle Initiative Coordinator

Under the direction of Bob Johnson, Curator of Reptiles and Amphibians, and Lisa Sealock, Adopt-a-Pond Programme Coordinator, and in partnership with the Rouge Park, the Toronto Zoo has launched a remarkable new program to conserve turtles in our community and throughout Ontario.

Six out of eight species of turtle in Ontario have been identified as at risk of extinction. Blanding's, map and musk (or stinkpot) turtles are three of these species. Toronto Zoo and the Rouge Park are conducting biological research in the field to find out how these species cope in an urban environment and what we can do as a community to help them survive.

The project has a broad spectrum of objectives. Initially, we would like to identify population size, distribution and critical habitat (in particular nesting and hibernation sites) through direct observation of wild turtles using visual surveys and radio telemetry techniques. As part of this objective, we are analyzing several aspects of habitat that may affect usage, including water chemistry, water quality and habitat structure. This information will allow us to develop appropriate conservation management recommendations, including critical habitat protection and, in future, plans for species recovery. We will also have the ability to use specialized Geographic Information Systems (GIS) software to create digital maps illustrating turtle movements, home range sizes, and the link between preferred habitat and habitat structure, water quality and water chemistry. It is hoped the scientific data collected will also provide useful insight into the largely unfamiliar biology and behavior of turtle species at risk in Ontario.

Research has been conducted through the Zoo, on snapping turtles in the Rouge River, for the past six years. The information collected has provided us with essential insights into the secret lives of turtles and has helped us to develop our research strategy for species at risk. We continued our snapping turtle research this summer,

noting movements and habitat selection of three males and two females. We have recently retired one of our males, so the group has now been reduced by one. We will miss you Franklin!

This spring season saw us begin to attempt to capture and tag Blanding's turtles. We were successful, and quickly had a study group of two males and one female. Throughout the spring and summer, Bobbers and Lucky have taken us to places we never expected they would go, demonstrating large home ranges. Clementine led us to her nesting beach this summer, where we had the privilege of watching her lay seven eggs and learning about her preferred nesting habitat. Just a few weeks ago, we added a new Blanding's to our study that is named Colin, after the Rouge restorationist who found him. Colin (the turtle) is only about five years old and we are very excited about the rare opportunity to observe a juvenile Blanding's in the wild.

We also diligently attempted to capture two map turtles that were repeatedly sighted basking this summer, but were unsuccessful.

Although there are a small number of sightings by community members over the last few years, we were unable to sight any stinkpot turtles in the Park. This species is notoriously hard to spot, as they forage underwater and rarely bask. However, we are hopeful for next season.

At the Urban Turtle Initiative, we believe people are an essential piece of the conservation puzzle. Particularly in an urban environment, individuals can help provide essential habitat for turtle species at risk, and can help guide development in their areas to protect hibernation and nesting areas. We are working to provide community-based educational support pertaining to turtle conservation in Ontario. We will do this through materials distributed in the community and on the world wide web, community events and demonstrations, an interactive website including regular updates on the turtles in our study, and an ongoing community-participation turtle sighting index. Using the information we collect through research, we would also like to create guidelines for planners, land-owners, municipalities



and the public to live harmoniously with turtles in the Rouge Valley.

This summer we were busy hosting a turtle tracking event, participating in the Great Canadian Shoreline Cleanup and the Rouge Family Fun Day, creating brochures and stickers, and writing articles like this, all to tell people more about our project and what everyone can do to help.

The Toronto Zoo is grateful for the continued support of our sponsors that allows us to help preserve our beautiful and indispensable natural landscape. To find out more information on the Urban Turtle Initiative, or to meet the turtles that are part of our study, visit our website, www.torontozoo.com/adoptapond/, or contact the Urban Turtle Initiative Coordinator at app@torontozoo.ca or by calling 416-392-5999.

The Great Map Turtle Adventure

By: Michelle Segal, Wetland and Rouge Valley Conservation Assistant

As a major constituent of the Adopt-A-Pond Programme which focuses on wetland conservation, the *Urban Turtle Initiative* is well under way. We are currently studying turtle species at risk in Ontario including Blanding's, map, and musk turtles to determine their critical habitat usage. In partnership with the Rouge Park, we currently have radio-tracking devices on five snapping turtles and three blanding's turtles and track them at least three times a week.

Unfortunately, we have been unsuccessful at adding any other species to our study. While we have up to seven hoop net traps set up at any given time in the Rouge River system, they are only effective for catching certain species of turtles. While checking traps in early July, we noticed an adorable pair of map turtles basking on two logs at the mouth of the Rouge River. Approximately eight more sightings of these turtles basking were made over a week and a half. Since map turtles can be extremely elusive and difficult to trap, we have been in the process of implementing the Float/Snorkel technique of capturing them. This entails canoeing up the river until we are approximately 100 meters from the turtles. We then park the canoe and very quietly put on our snorkels and masks, and use lily pads, willows or cattails to camouflage our heads. Very slowly we enter the

water and then creep up on the turtles, pulling ourselves along on our stomachs. As we near the turtles, we split up and move onto both sides of the basking log. While one person is readying themselves with a net that is situated directly under the surface of the water where we think the turtle might dive in, the other person sneaks up very slowly and attempts to grab the turtle.

After six attempted floats, we have not yet been able to catch the map turtles, but have come extremely close. It is possible that they are becoming sensitized to our presence, thus evading our capture attempts. But just as they are learning from us, we are learning from them. We are extremely hopeful that we will catch a map turtle so it can become part of project *Urban Turtle Initiative*.



Top: Michelle, member of the Urban Turtle Initiative Team, wearing cleverly disguised snorkel gear.

Bottom: Michelle (under the arrow) floats quietly up to a Map turtle basking on a log.

Conservation Crisis: A Look at the Worst Turtle Killing Road in the World

By: Michelle Segal, Wetland Conservation Assistant

Imagine the carnage you would see driving on a road known as the worst turtle killing road in the world. One of the most tragic and triumphant turtle stories comes from Highway 27 in Lake Jackson, Florida, which is a 4,000-acre State Aquatic Preserve home to dozens of wetland species. Highway 27 is a four lane highway built across Lake Jackson in the 1960's—before wetland protection laws—isolating a 50-acre section now known as Little Lake Jackson. What makes this place such a precarious place for turtles to live is that the highway cuts through their precious wetlands. The water depth of Lake Jackson also fluctuates widely, and about every dozen years, most of it dries. The highway carries about 23,000 vehicles each day, presenting a lethal barrier for many wild animals. This is why Lake Jackson is said to be the world's most deadly road for turtles, averaging 2,070 turtles killed per mile per year (Aresco, 2003).

When the water in Lake Jackson begins to dry, there is a mass migration of turtles, snakes, frogs and alligators to Little Lake Jackson because it lacks natural sinkholes, thus maintaining a steady water level year round. The two lakes are attached by a single 12 foot drainage culvert. It is very difficult for animals to locate this culvert leaving the only option being to attempt to cross the highway.

In 1977, a Lake Jackson turtle had a 32% chance of crossing the highway successfully; in 2001, after a huge increase in road size and traffic volume, the turtles now have a 2% chance of survival (Aresco, 2004). In fact, in only one day of patrolling a 1.2 kilometre section of the road, 90 dead turtles were recovered. The main reason the turtles migrate is to find suitable nesting sites where females can lay their eggs and then return to the water. Unfortunately, this means that the vast

majority of the dead turtles we see on the side of the road are gravid females.

In 2000, a simple, low-cost and temporary solution was employed to safeguard the turtles from Highway 27; a 3000 foot nylon silt fence was erected along the roadside that directs turtles to the culvert connecting the two lakes. Over a period of five extremely dry months after the fence was erected, almost 5000 turtles were intercepted, sometimes as many as 200 per day. Over the course of the entire study period, a total of 8,842 turtles from 10 species were intercepted, 612 of which climbed the fence and were killed by the

road. At a rate of just 2% road-crossing survival, only 177 of the 8,842 turtles would have survived had the silt fence not been in place. Unfortunately, this silt fence is not a permanent solution. It tends to degrade very quickly, needs constant monitoring so that turtles do not die of over-heating while trying to find the culvert, and does not prevent all species from climbing the fence and crossing the highway.

Luckily, the future is bright for the turtles and other species of Lake Jackson. In 2004, the [Capital Regional Transportation Planning Agency](#) (CRTPA) voted to approve a feasibility study that will consider alternative solutions to the Lake Jackson road mortality problem. These alternatives include replacement of the existing

silt fence and the addition of 3-4 other large culverts (each at least 12 feet wide) for wildlife passage. They also plan on the construction of a five-foot high wildlife wall that requires less upkeep and more protection for turtles.

How you can help save the turtles of Lake Jackson:

- Spread the word – tell friends and write letters to officials urging them to support the Lake Jackson ecopassages
- Join the **Lake Jackson Ecopassage Alliance** at <http://www.lakejacksonturtles.org/alliance.htm>
- Make a donation or purchase bumper stickers, pens, hats or buttons



Proof of the devastating effect roads can have on native turtle populations.

Microchips: How they can Help Save the Lives of Turtles

By: Lisa Sealock

Conservationists in Cambodia and Vietnam actively work to prevent poachers from removing native turtles and sending them to the markets in China. A recent event has given these conservationists reason to celebrate. It seems a tiny microchip implanted in the skin of a turtle, saved the reptile from being eaten.

In July of this year, wildlife inspectors in Vietnam stopped a smuggler at a check point in Tay Ninh Province between Cambodia and Vietnam. Inspectors discovered a large 33 pound *Batagur baska* turtle, commonly known as a Mangrove turtle because of the mangrove fruit that it eats, hidden amongst other more common turtles. Inspectors confiscated the mangrove turtle along with more than 300 pounds of other turtles.

The shipment was headed to China, where turtle meat is often used in soups and the shells are ground to make traditional medicines.

Vietnamese wildlife officials used photographs from an old field guide to identify the turtle, and then phoned an Asian turtle specialist named Doug Hendrie. While Hendrie was skeptical, a photo soon confirmed that the turtle was in fact a mangrove turtle.

When Vietnamese wildlife officials inspected the 20 year old male turtle, they discovered that a microchip had been inserted under the reptile's skin. The chip revealed that the turtle had come from the Sre Ambel River in southern Cambodia where these turtles were once considered the exclusive property of Cambodia's Royal Family.

First caught by fishermen in 2003, the turtle was turned over to biologists who implanted it with the tiny microchip as part of a conservation program. The turtle had not been seen again.

The rescued reptile underwent a check-up that revealed its claws were worn down. This suggests that the turtle had been in captivity for some time and had attempted to escape its holding tank. After a clean bill of health the turtle was returned back to Cambodia's Sre Ambel River, the site where it was first found.

Turtle populations are known to be very small in Sre Ambel and every turtle saved counts. Mangrove turtles are considered the most endangered river-dwelling turtles in Asia. Just a decade ago, tens of thousands were thought to exist. Now in many parts of its range (Cambodia, India, Malaysia and Thailand) only a handful remains.



A mangrove turtle, the most endangered river-dwelling turtle in Asia. Photo: Cleveland Metroparks Zoo.

Conservationists attribute the declining numbers to poaching, habitat loss, and the use of fishing nets which can catch turtles and cause them to drown.

Of the estimated 72 turtle species native to Southeast Asia, half are endangered.

There are many individuals working with Asian governments, non-government organizations, institutions, agencies and individuals to develop well-managed captive turtle colonies.

This case has been the first of its kind, the first time that an animal of any type has been repatriated across borders and returned to its habitat of origin. It was also the first time that a microchip implanted in a turtle has been used to identify the origin of a species in an enforcement action in that part of the world.

Protection efforts are getting much better, but can they reverse the crisis that Asian turtles currently face? Experts like Doug Hendrie are not sure. "Some species are too close to the edge of extinction to probably survive this critical period," he has said.

Editor's Note – Many organizations including Cleveland Metroparks Zoo, the Turtle Survival Alliance and the Asian Turtle Conservation Network are working towards solving this turtle crisis.

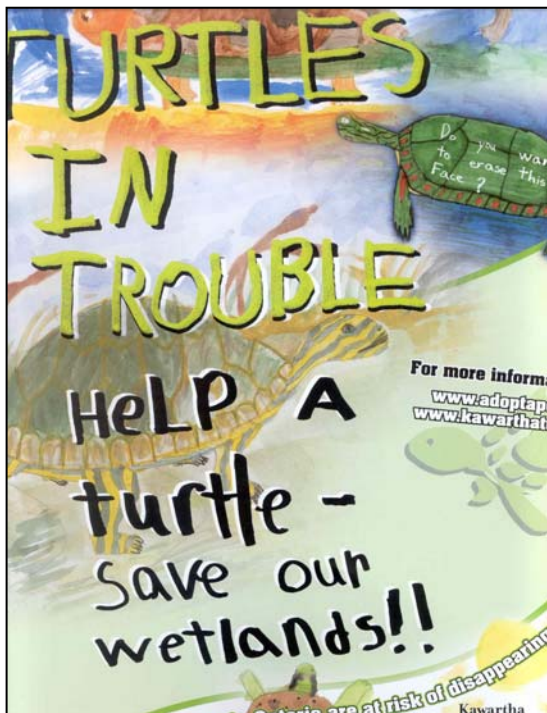
Lily Pads & Cattails

KTTC & AAP 'Turtles in Trouble' Art Contest

By: Lisa Sealock

Earlier this year, Toronto Zoo's Adopt-A-Pond Programme and the Kawartha Turtle Trauma Center decided to hold an art contest to raise awareness about the issues facing turtle species here in Ontario. School students from Kindergarten to Grade 8 were invited to submit original artwork depicting Ontario turtle species along with a conservation message.

The art contest was a huge success, with over 80 entries. So many incredible submissions made judging the contest a very difficult task! We judges finally decided to use a collage of the artwork of both contest winners and runner-ups to create a unique and memorable poster.



Contest Winners:

- Laura, Age 9 – Father Serra School
- Jessica, Age 7 – Annunciation School
- Mrs. Nigro's Grade 2/3 class – Blessed Sacrament School

Contest Runner-ups:

- Amanda, Age 9 – Millbrook Public School
- Sarah, Age 9 – Annunciation School
- Natalie, Age 7 – Annunciation School
- Alexa, Age 8 – St. Louis Catholic School

Kristy Hiltz, veterinarian at the Kawartha Turtle Trauma Centre, felt "the poster was a very profound expression of the understanding these children have about the fragility of the natural world around us. Their pleas were much more poignant and powerful than any message we could have developed. But children today are very perceptive and expect the adults in the community to be environmentally responsible, so that turtles can continue to be a part of our natural heritage, and the world they will inherit."

Production costs were covered by: Adopt-A-Pond, KTTC, Lazergraphics, Otonabee Conservation Foundation, the Habitat Stewardship Program and Brooks Lab at the University of Guelph.

Anyone interested in obtaining a copy of this poster, please email aap@torontozoo.ca or call 416-392-5999.

Turtle Tally Tid Bits for 2005

By: Lisa Sealock

Another turtle-monitoring season has officially come and gone, and this season saw many new turtle sightings added to the Turtle Tally database. Here is an idea of where Turtle Tally stands:

- 33 individuals have contributed to 59 data entries (however many entries involve numerous sightings)
- Sightings range from Toronto to North Bay
- In total, 13 dead turtle observations have been recorded
- Many turtle monitors have been lucky enough to see nesting females. The database has 11 reports of nesting locations. Unfortunately there are also 3 reports of predated nests.
- The most frequently reported species is the Midland Painted turtle, with 56 sightings
- Dave Watkins, one faithful turtle tally participant, has submitted valuable data on the Eglinton Flats Pond. He has reported sightings of turtle nests, hatchlings emerging, dead turtles and exotic species (the red-eared slider)

Thank you to each and every one of our Turtle Tally participants.

The Frog in the Shallow Well

A Chinese Fable

Have you not heard of the frog that lived in a shallow well? It said to a turtle that lived in the East Sea, "I am so happy! When I go out, I jump about on the railing beside the mouth of the well. When I come home, I rest in the holes on the broken wall of the well. If I jump into the water, it comes up to my armpits and holds up my cheeks. If I walk in the mud, it covers up my feet. I look around at the wriggly worms, crabs and tadpoles, and none of them can compare with me. Moreover, I am lord of this trough of water and I stand up tall in this shallow well. My happiness is full. My dear sir, why don't you come often and look around my place?"

Before the turtle from the East Sea could get its left foot in the well, its right knee got stuck. It hesitated and retreated. The turtle told the frog about the East Sea.

"Even a distance of a thousand *li* cannot give you an idea of the sea's width; even a height of a thousand *ren* cannot give you an idea of its depth. In the time of King Yu of the Xia dynasty, there were floods nine years out of ten, but the waters in the sea did not increase. In the time of King Tang of the Shang dynasty there were droughts seven years out of eight, but the waters in the sea did not decrease. The sea does not change along with the passage of time and its level does not rise or fall according to the amount of rain that falls. The greatest happiness is to live in the East Sea."

After listening to these words, the frog of the shallow well was shocked into realization of his own insignificance and became very ill at ease.

***li*: a Chinese unit of length equal to half a kilometre.
ren: a Chinese unit of length, approximately equal to 2^{1/3} metres.**

You can find this Chinese fable, along with several others, at the following website:

<http://www.chinavista.com/experience/fable/fable1.html>

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Amphibian Voice is distributed to schools and communities participating in the Adopt-A-Pond programme. The purpose of this newsletter is to provide information on amphibian, turtle and wetland conservation issues and efforts in Ontario.

Send in your stories, drawings and photographs to the address below and we will "hoppily" include them in future issues.

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We welcome support of our programme! Please make cheques payable to "Toronto Zoo" and send them to the following address. Thank you!

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