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## ◆ Snake *(Continued from front)*

# Corps asks public to help protect snake

■ April 2001 marks the second full year of a "mark and recapture" study of the Eastern Massasauga Rattlesnake at Carlyle Lake. Local agencies use work done by Killbear Provincial Park in Ontario, Canada as a basis for a massasauga management plan at Carlyle Lake, but they need the public's involvement for success.

Bold yellow signs dot the main roadways in Killbear Provincial Park in Ontario, Canada cautioning motorists to "Please Brake for Snakes."

You see, several years ago a serious effort was started at Killbear to protect the threatened eastern massasauga rattlesnake. Usually light gray or tan with a series of black or brown blotches across its back, the massasauga lives today in isolated populations through the Midwest, as far north as Canada and south to southern Illinois.

Here at Carlyle Lake, near the southern limits of the species' existence, a similar effort started in spring of 1999. A research team recently marked its second anniversary of studying the eastern massasauga locally.

While researchers continue to learn more about the state endangered species, park rangers with the U.S. Army Corps of Engineers, which manages the lake, are urging residents to help with their proactive effort.

Over the past ten years, a massasauga research team at Ontario's Killbear Park has used education and public awareness to convince park visitors that they can co-

exist with the rattlesnake species.

Chris Parent, project leader of the research team at Killbear, has been visiting Carlyle Lake and southern Illinois for about five weeks learning more about the snake's population here. Last Thursday, he took time out to explain his work and how it parallels the research being done in Carlyle.

Parent said it is hard to determine how many rattlesnakes exist at Killbear since the snakes have extremely good camouflage abilities and are hard to find.

"I can say that many populations that we know did exist, don't exist today," he said.

Parent, who has been a member of the research team since 1990, said snakes, in general, are poorly studied. He said good information is needed if the species is going to be protected.

Parent said a lot of time is spent looking for rattlesnakes. When found, each snake is brought back to a laboratory. It is measured, its sex is determined and ultrasounds are performed on females to check for pregnancy.

Larger snakes are injected with a

**See SNAKE on back**

microchip called a "P.I.T. tag" or Passive Integrative Transponder tag, which enables researchers to maintain computerized information about each snake. Smaller snakes are photographed and distinctive marks and patterns on their backs and heads are noted. P.I.T. tags and photographs are instrumented for identification purposes and for survival management, Parent said.

The reproductive cycle is just one of many aspects of the species which has become more clear through research. The Candian research team has learned that female massasaugas are at least four- or five-years old before they reproduce, they have an average of 11 babies depending on the size of the mother, and they lose about half of their body mass when they give birth.

Another part of the Candian research process, also duplicated at Carlyle Lake, involves the use of radio transmitters which we implanted surgically under asnake's ribs. Locally, the snakes are taken to the St. Louis Zoo, where a veterinarian has donated his time to give the snakes a gas anesthetic and perform the surgery.

Parent said at Killbear Provincial Park, there are currently about 60 snakes with active radio transmitters. He said his team has tracked as many as 17 different snakes at once. Each transmitter uses a different frequency making them distinguishable. Frequencies can be picked up as far as 1/4 mile away.

Parent said tracking the snakes with radio telemetry gives the researchers a great deal of information about habitat. Each snake returns to the same hibernation spot year after year, usually either alone or in small groups of two or three. Therefore, relocating a snake can prove to be life-threatening since the snake strives to return to its same hibernation area, and, if relocated, it generally freezes to death in the process.

Parent said public education is one of the best protectors of the eastern massasauga. He said most people have a "deep seeded image" of rattlesnakes, like the massasauga, that is not completely accurate.

"When people hear 'rattlesnake,' they think 'snakebite,'" Parent said. "I won't lie. Snake bites do happen, but you would have to work to get bitten by a snake. In most cases, you either have to step on it or try to handle it."

Parent said eastern massasaugas are not aggressive snakes. They are quick to coil and may even rattle, but are actually inoffensive animals if left alone.

"As long as the snake is not cornered, stepped on or picked up, it usually does not strike," he said.

Parent, who has been bitten three times, said a rattlesnake bite is a

"serious medical emergency," but as long as the victim proceeds to a hospital and receives proper medical treatment, recovery is 100 percent.

At Killbear, Parent said education is the key and he uses a message of "respect, caution and protection" to teach about the eastern massasauga.

He said live snakes are available for the public to view, naturalist groups get involved, and the park has a "Rescue-A-Rattler" adopt-a-snake program.

"All of these efforts help visitors feel more connected, and most visitors view seeing the species as a positive experience," Parent said.

"The important thing is to stress to the public that the snakes are here, we're concerned about them and we need your help."

Parent said that 20 years ago, a snake moving through Killbear Provincial Park would have been killed.

"Now, based on education, visitors have a different approach," he said. "Now, they know to call the park staff. Once the snake is captured, we can tell them about it. If it doesn't already have a name, they can name it. We give them information and tell them precautions. Although we may bring the snake in (to the lab) for identification purposes, we usually will return it to the site where it was originally found."

Parent said about 40 times a year he has residents on private grounds calling about massasauga sightings.

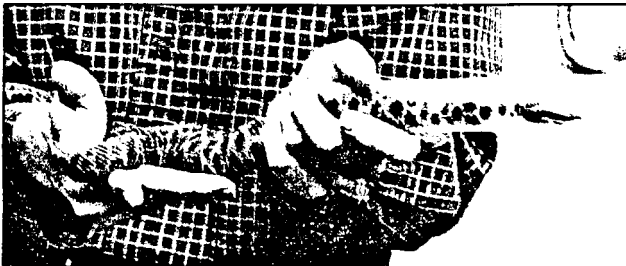
While the research in Canada is very similar to that of Carlyle Lake, varying environments have led to different results. At Killbear, snakes generally hibernate in rock crevices. At Carlyle Lake, they mainly hibernate in crayfish burrows found in open areas that are fairly wet.

Along with using the P.I.T. tags, a blood sample is taken from each snake captured at Carlyle Lake and a study of the species' genetic aspects is planned in the future. Another identification tactic used at Carlyle is the painting of each snake's rattle with a different shade of nail polish.

This April marks the second full year of a "mark and recapture" study of the eastern massasauga at Carlyle Lake. Three snake biologists, Ben Jellen, Don Shepard and Mike Dreslik from the Natural History Survey, a part of the Illinois Department of Natural Resources, are involved.

To date, transmitters have been placed in 16 snakes captured at various locations around the lake. When a snake is found, various factors are recorded including measurements to the nearest crayfish burrow, the nearest retreat, nearest road, treeline and shrub. Canopy cover around the snake is measured and readings are taken for ground and air temperature, windspeed and humidity.

"All of these factors provide infor-



An eastern massasauga found at the Dam West Recreation area, which is identifiable by the fingernail polish on its rattle and a small microchip known as a Passive Integrative Transponder or P.I.T. tag, which has been injected inside.



Jay Carter (right) uses a device to scan a microchip, known as a Passive Integrative Transponder tag or P.I.T. tag, which is inside an eastern massasauga rattlesnake found at Carlyle Lake. The snake is being held by snake biologist Ben Jellen.

mation on the timing and conditions at which a snake will come out," said Dreslik. "Our data is only as good as how we measure the variables."

Carlyle Lake Park Ranger Joe Smothers said this area is going through the same learning process that Killbear went through ten years ago.

Locally, the eastern massasauga claimed a great deal of media attention when efforts began to locate a resort at Carlyle's Southshore State Park. Resort construction was

delayed due to environmental concerns regarding the impact of the development on the snake's existing habitat.

"Today, we're working to move forward," Smothers said. "In 1994, the eastern massasauga became a state endangered species. In 1999, at the federal level, it received candidate status. What we want to do is take a proactive stand."

The Corps, the Illinois Department of Natural Resources and the U.S. Fish and Wildlife Service is

working on a massasauga management plan for the future, but its success depends on public involvement.

### What the public needs to know...

News releases issued last summer prompted residents to report sightings of the eastern massasauga. Readers found and reported eastern massasaugas in areas surrounding Carlyle Lake, as well as the Shoal Creek basin, the Kaskaskia River basin and four sites in Madison county.

Smothers said knowing the species' past is important to its future. Historically, massasaugas occurred in the northern four-fifths of Illinois. In 1893 the massasauga was described as "extremely abundant" in Illinois. Today, the species appears to be restricted to a few isolated populations within the state.

The principle cause of the massasauga's decline is the modification and destruction of suitable habitat. The wet prairie habitat favored by the species was once widespread across large portions of Illinois and the midwest. As these areas were converted to agriculture use or developed for residential or commercial uses, massasaugas were either: forced from the area, killed directly, or left without suitable habitat for hibernation, reproduction, feeding and survival.

Smothers said one of the best

ways for the public to assist with protecting the eastern massasauga is by reporting recent sightings. Along with their black and brown blotches, massasaugas have three rows of smaller, alternating dark blotches along each side. There is one black stripe behind each eye and two on top of the head. The belly is black with irregular white or yellow markings. The small rattle on the end of its tail is made of keratin, the same material that comprises fingernails.

Locally, the rattlesnake hibernates in wet crayfish burrows in low, wet areas from mid-October through mid-May. The species is rarely encountered due to its scarceness and ability to blend into the surrounding area; however, it is most often seen in early spring and late fall when the snake stays near its winter hibernating area for a few weeks.

Often referred to as the "pygmy rattlesnake," massasaugas average between 18 and 24 inches in length, and are an extremely shy and reclusive animal. Research data shows that massasaugas rarely strike at humans, and when they do, it is because they've been stepped on or harassed.

The Corps and the Fish and Wildlife Service are asking the public to report any recent sightings of massasaugas. They are also interested in finding areas where massasaugas have been sighted in past years on a

regular basis.

Sightings can be reported to one of the following individuals: Joe Smothers, Carlyle Lake/Kaskaskia Navigation Project, at 618-594-2484; Tom Keevin, Corps of Engineers, 314-331-8462; or Joyce Collins, U.S. Fish and Wildlife Service, 618-997-3344.