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## Rare turtle finds its voice

Biologist leads a charge to save a species from predators — and from the humans who want them gone

*By Candace Page, Free Press Staff Writer*

SWANTON — The morning sun burned hotly one day last week as biologist Steve Parren dug the wrong end of a paintbrush in a circle around a tiny escape hatch in a shale beach.

We'd come to this turtle nesting sanctuary at Lake Champlain's northeastern corner in search of just such little tunnels, a sign that hatchlings were emerging from the nest.

"Oh, shoot," Parren muttered in alarm. A creature the size of a quarter and the exact color of sandy gravel squirmed at the bottom of the hole where the paintbrush had struck it.

Parren plucked the newly hatched Eastern spiny softshell turtle, checked it for injuries and gently introduced it to its temporary home, a recycled Wilcox Dairy ice-cream tub.

This hatchling, at least, would get a helping hand in the harrowing, usually fatal, turtle journey toward adulthood.

"If this species is going to recover, it won't recover on its own," Parren had told me before our field trip. "I can give them a jump on most other turtles, but they still are just snack food for a lot of predators out there."

I hoped my morning with Parren would give me a snapshot of the sometimes extreme measures necessary to protect the locally rare softshell turtle, an ancient creature, a fast swimmer — and a political hot potato.

As a bonus, I came away with a picture of one biologist's dedication, and with an education in the biology of softshell turtles, their dangerous infancy, their 20th century decline and their surprising appeal despite a drab exterior and a really, really ugly nose.

### 'Who cares?'

To get to this beach — I promised not to reveal its precise location — Parren and I had to pass through three ranks of fences, one of them chest-high and one of them electric. The beach itself was covered with long mats of chicken wire laid on the ground.

The place was armored like Fort Knox, to protect a turtle that many bay residents wish would go away and stay gone.

Eastern spiny softshell turtles are included on Vermont's list of threatened species. They are a leathery-shelled, water-dwelling species with a long, brown nose like a tube. The Cyrano de Bergerac snout allows the turtle to stay submerged with only its nose sticking above the surface.

Although more common in the Midwest, softshell turtles in Vermont number just 200 to 300 and are found only in Missisquoi Bay and the Lamoille River. In Quebec, where the turtle also is a threatened species, it is found only in the Missisquoi watershed.

In the bay, softshells appear to rely on habitat created by the Vermont 78 causeway, the old link between Swanton and Alburgh. A big new bridge replaced the causeway in 2007, so it isn't needed except by turtles that bask there in autumn and submerge at its base in winter.

Residents ardently desire the causeway's removal in the belief that it will increase water circulation, rebuild eroded beaches and improve their sometimes poor water quality. (Scientific models show that removing the causeway would improve water quality 1 percent.)

Claire Taplin, a summer resident of the bay for nearly 77 years, speaks for many of her neighbors. As she sat in the shade contemplating the soupy-looking bay last week she said, "Because of those turtles, we can't remove the causeway and take our bay back to what Mother Nature gave us originally."

As long as scientists conclude the causeway is important to the health of a threatened species, it's unlikely the entire causeway will be taken out. In fact, Fish and Wildlife Commissioner Wayne Laroche told me last week the state no longer plans to remove the causeway's western arm at all, because it is more important to the turtles. Removing the eastern arm someday should be sufficient to open up the bay, he said.

Taplin's neighbor Colin Gray has been summering on Missisquoi Bay since he was 6 months old. He remembers when the turtles were so common that children would dig them up and bring the eggs home to hatch. He's now 78. He nodded vigorously as Taplin spoke.

"It's a waste of money to help those turtles," he said. "They're not a threatened species in the U.S. Maybe in Vermont, sure, but who cares?"

## A slim chance of survival

Parren would have to be counted among those who do care about the fate of the softshell turtle.

Turtles are part of his job, but 10-hour days on the beaches during nesting season and a home hallway converted to a turtle nursery are testament that his commitment outruns the time clock.

"I kinda work 24/7 this time of year," he said. "Predators don't take the weekend off."

At 57, he has a salt-and-pepper beard, a quiet voice and a matter-of-fact way of talking about the turtles that only occasionally lapses into anthropomorphism (he's christened one injured snapping turtle Wiggles).

"He deserves a lot of credit for the effort he's put in," herpetologist Jim Andrews of Salisbury said last week. "It's way above and beyond his job."

Parren has been interested in turtles since the day he brought one home from the woods as a boy. (His father made him put it back — good advice still today. It's illegal in Vermont to catch or possess a wild turtle.)

"I tend to look down more than up," he said, adding that he "self-assigned" himself to turtles when he was in charge of all the state's endangered species.

His work concentrates on the nesting beaches, because that's the place where turtles are most vulnerable. Beside aiding the hatchlings, he and volunteers clean the beaches in spring and fall, pulling up plants that would provide too much shade and hauling away debris. For a week before nesting season begins, he traps and removes skunks and raccoons to reduce their numbers.

"I just try to make it hard for them," he said, referring to the predators. "I don't want them to think this is a good place to come to eat eggs."

## 'Gallop like a horse'

Spiny softshell turtles — like many turtle species — are long-lived. Females that survive to maturity can live 50 to 60 years, laying a clutch of eggs each year. But only 1 to 2 percent of their hatchlings will make it to adulthood, Parren said.

"One year, of the 200 nests I found on one beach, predators found all but 12 before I did," he said.

Despite Parren's fences, we found evidence last week that some predators had sneaked in. A swath of plowed-up beach showed where a skunk had tunneled under the chicken-wire matting.

Humans haven't helped. They've made the turtle nests more vulnerable, by forcing the females to concentrate on fewer and fewer beaches.

Skittish females are looking for undisturbed stretches of sun-baked shale and sand to dig their nests. As Missisquoi Bay developed its summer colonies, more and more of the shoreline was converted to seawall and rip-rap, and to summer use by bathers and boaters.

The softshells, in particular, avoid beaches where they encounter people. Parren remembers the day he surprised a female on the beach.

"These guys can gallop like a horse," he said. "She came up off the ground and hit the water going so fast she hydroplaned for three feet."

small beach. Some spots are so crowded, the nests are nearly on top of one another.

## Rescuing babies

After we made our way through the protective fencing, Parren began a methodical patrol. He paced along the chicken wire looking for the telltale dimples of collapsed shale gravel that mark hatchling emergence.

He excavates those nests, because once one new born turtle emerges and crawls toward the lake, the remaining eggs are even more vulnerable to predators and to a parasitic fly whose larvae feed on the eggs and nestlings. He hatches any remaining eggs at home, cares for the hatchlings and releases the healthy ones back to the lake.

“What we’re hoping is that through my work we’ll see more young turtles reach reproductive age,” he said. One sign of that would be more of the small nests that are laid by females just reaching maturity. Since turtles take a decade or more to mature, that day remains far in the future.

On this warm morning, Parren quickly found signs of one, two, then three nests. I patrolled a bit on my own, but every dimple in the beach looked the same to me.

“I spent a lot of time digging up anthills, wasp nests and deer prints before I got the right search image,” Parren said.

I returned to where he was rolling up chicken wire. He pulled out a set of decidedly low-tech tools: a notebook, pencil, paintbrush and plastic tubs. He carefully excavated a 6-inch deep circle around each potential nest site, creating what looked like a child’s sandcastle surrounded by a moat. Then he brushed shale away from the central mound with cautious strokes.

He’s a self-taught turtle conservationist, he said, who has learned from his mistakes: Overlap your chicken-wire mats, or foxes will dig along the edges and get in; put your feet down evenly when walking on a turtle beach to avoid crushing nests; dig around a nest, not directly into it, again to avoid crushing eggs.

The day’s first nest yielded 11 empty shells, one spoiled egg and a single newly hatched map turtle, the concentric rings on its back looking just like the contour lines on a topographic map. Although map turtles aren’t an endangered species, Parren includes any hatchlings he finds on the beach in his work.

Unlike human and many animal babies, infant turtles look — to my eye anyway — like perfectly formed miniature replicas of adults.

Parren’s 2-inch-long infant snapping turtles carry all the heavy, spiky armor of their parents. Newly hatched softshell turtles show the distinct spots and leathery shells of the adults. They have the same long brontosaurus necks and long, skinny noses as the adults. I’d always found the adult softshells alien and slightly repulsive, but the infants were more endearing, with noses tiny and sharp as the point of pen.

## ‘God’s creatures’

The second nest we found turned up a disgusting mass of maggots eating map-turtle eggs and turtle embryos. The third nest yielded a clutch of empty map-turtle shells, their inhabitants recently escaped.

Then Parren began digging a wide circle around a fourth map-turtle nest.

But a softshell female had laid her eggs so close by that his paintbrush overturned one tiny hatchling.

That’s when he exclaimed, “Oh, shoot,” scooped up the infant, rinsed it off and tucked it safely in its own plastic tub.

He excavated a second circle around the softshell nest and brushed at the gravel until the startlingly white surface of an egg peeked out, then another and another. The hole in the sand held eggs buried three deep, 13 intact and two infertile.

Parren filled a bucket with gravel and gently reburied the eggs. He would take them home to hatch under a warming light in his front hallway. Once they were hatched and healthy he would bring them back to Missisquoi Bay and release them in the shallows.

He had brought two with him last Monday to release. He waded out among some lily pads and dropped a tiny female into the water. She darted away instantly, swimming like a pro, and stopped by a long blade of water grass. Her submerged body was the color of the water, nearly invisible. Only the little black dot of her nose poked up, taking in air.

About 200 baby softshells make it off this beach on their own in a good year. Parren rescues and releases another 90 — a

nearly 50 percent boost in the year's potential addition to the softshell population.

"In the larger scheme, all God's creatures have a place," Parren said. "Turtles have been here for millions of years. They survived the Jurassic when the dinosaurs didn't. They just aren't adapted to us, to people, roads and shoreline development. They need a little help."

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## Additional Facts

State is home to seven turtle species

By Candace Page, Free Press Staff Writer

Seven species of turtles can be found in Vermont, from the quite common snapping turtle to the endangered spotted turtle known from only two places in the state.

"I tell people, 'If you have been swimming anywhere outside a swimming pool in Vermont, you have been swimming with snapping turtles,'" said Jim Andrews of Salisbury. (A snapping turtle has powerful jaws, but the animals are not aggressive and usually avoid humans in the water.)

Andrews is a herpetologist, a biologist who specializes in amphibians and reptiles, and is the state's leading expert on those species. His list of Vermont turtles runs like this: snapping, spotted, spiny softshell, painted, wood, map and Eastern musk.

"On a grand scale, turtles are pretty popular critters," he said. "People generally like them, and compared to snakes, bats and wolves, they rarely get bad press."

Nevertheless, he said, humans are a danger to several species when development removes turtle habitat, or road-building turns a river valley into a killing ground for any turtle searching for food or moving from one body of water to another.

Suburban and rural subdivision also create "subsidized predators" — the raccoons, skunks and the like that flourish on human trash and human gardens.

"Then if we leave fewer and fewer pieces of nesting habitat, nests are concentrated in small areas. These predators figure it out," Andrews said — and they learn where to find an easy meal of turtle eggs.

### Eastern spiny softshell turtle

- **LATIN NAME:** *Apalone spinifera spinifera*.
- **APPEARANCE:** Leathery, olive-gray shell; three-clawed webfoot; tubular snout.
- **RANGE:** Lakes, rivers from Midwest to Vermont.
- **STATUS:** Threatened in Vermont and Quebec. Once lived in the Winooski, Richelieu and St. Lawrence rivers, but no longer found there. Limited to Lake Champlain and the Lamoille River.
- **SIZE:** In Vermont, females range up to 16 inches and 10 pounds. Males are much smaller, up to 7 inches and 1 pound.
- **FOOD:** Mostly carnivorous, feeding on crayfish, water insects, mollusks, worms, tadpoles, frogs and other organisms.
- **BEHAVIOR:** Spends long periods basking in the sun, particularly in autumn. Spends winter buried in lake bottom with only head and neck protruding. Swims well and can range long distances.
- **LIFE CYCLE:** Hatch from eggs laid on gravel/sand beaches. Hibernate for six months each year. Can live for up to 50 or more years, but eggs and young turtles are subject to heavy predation.

Source: *Vermont Department of Fish and Wildlife*

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