

Into the night: Monitoring for mercury

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RRANGELEY - David Evers crouches in the bow of his boat, a net clenched in his fists, as a searchlight punctures the darkness on Rangeley Lake.

Confused by the blinding shaft of light, a loon bobs nervously on the water as the boat inches closer. At the last moment the bird lowers its head, utters a loud wail and dives - too late.

Evers flicks his wrists, and the trapped loon thrashes wildly in the nylon net. "This is a big bird!" Evers grunts, nearly tumbling into the lake.

Evers, a wildlife biologist from Freeport, developed a technique several years ago for safely capturing the elusive loon in the wild.

His method gives researchers an invaluable tool for measuring mercury levels in the birds, studying how they're affected by the growing threat from the toxic metal and learning more about how mercury moves through the environment.

Until Evers came along, researchers could only speculate on how loons were affected by mercury, because no one has been able to keep the birds alive in the laboratory or any other captive setting.

Nearly 1,200 birds have been captured since the late 1980s using Evers' technique. Tests of their blood and feathers have provided information on mercury levels in freshwater lakes and ponds from Maine to Alaska.

Some of the loons have been recaptured four or five times over the years, yielding some of the most damning pollution information available: Mercury levels in the bird that symbolizes conservation in Maine are steadily rising.



A large male loon reacts as Kate Taylor, a biologist with the New Hampshire Loon Preservation Committee, removes a towel that had been wrapped around its head to quiet it during its brief capture on Rangeley Lake.

Wildlife biologist David Evers restrains the bird. Staff photo by David A. Rodgers.

Each captured loon fills in another piece of the mercury pollution puzzle. Evers' nighttime expeditions also offer a rare glimpse into the loon's furtive existence on the dark lakes of Maine's northern forest.

Rangeley Lake, encircled by mountains in western Franklin County, provides a home for at least six pairs of loons. By day, the birds share the lake with people - paddling canoes, trolling for fish and straddling jet-skis.

But at night, Rangeley belongs to its wildlife.

As Evers and three helpers motor across the lake in mid-June, their searchlights reveal only bats, ducks, insects and the glittery eyes of deer wandering to the shore for a midnight drink.

The crew cuts the engine and lets the boat drift. The stars admire themselves in the lake as Evers switches on a tape recorder with loon calls.

The wails drift into the night, echoing on the flanks of Bald Mountain and finally drawing an answering cry from the east.

"Over there," Evers whispers.

Behind wire-rimmed glasses and a boyish countenance, Evers, 35, possesses a deep knowledge of loons and their environment. His consulting firm, BioDiversity Inc., conducts cutting-edge research for the government and for private corporations on loons, other wildlife and toxic pollution.

In 1988, when he was a graduate student, Evers reasoned that loons might be caught by invading their territory during nesting season.

His technique relies on the hypnotic power of blinding light and the loon's overwhelming instinct to protect its eggs or chicks.

"Basically, we're trying to act like intruders," he explains, following the sweeping searchlight with his binoculars.

The light picks out a loon's downy white breast, and the outboard gurgles closer. Evers grabs his net, ready to pounce. But the bird pivots and dives, leaving a swirling eddy on the surface.



Biologists search for loons with a spotlight on Lake Aziscohos in northern Franklin County. Tests of blood and feathers provide information on mercury levels in lakes and ponds from Maine to Alaska. Staff photo by David A. Rodgers.

One of Evers' helpers guns the engine, and the boat cuts a tight circle. Evers picks up a second searchlight, and the two beams flash wildly over the water, trying to find where the loon will surface.

Fifteen seconds pass, then 20, then 30. The bird breaks the water 50 yards away, blowing a cloud of vapor into the air.

Again the boat closes. Again the bird dives. Again the crew circles.

After four or five tries, Evers decides the loon is too spooked. He directs the boat to another nesting territory, near South Bog Island.

"At this point, it's just a crapshoot," he says.

Impatience creeps into his voice, but there is no trace of surprise. It's early in the summer yet, and the loon chicks haven't hatched. So the adults lack that powerful instinct to protect their territories.

Loons lay one or two eggs in nests near the water's edge in early June. Both adults will sit on the nest during the incubation period - 29 days. Soon after they're born, the chicks learn to dive and catch prey.

For several weeks, they'll be fed tiny fish by their parents. Often the chicks will rest and avoid predators like snapping turtles or large fish by riding on their parents' backs.

During the chick-rearing period, Evers will catch 98 percent of the loons he pursues. Drew Major, a biologist at the U.S. Fish and Wildlife Service, has seen Evers spend hours patiently stalking a bird, refusing to give up even though it repeatedly dives to elude his net.

"It's just through sheer tenacity that he's gotten to where he is," Major says.

Out on Rangeley, tendrils of fog begin to rise from the water as the night wears on. The fog cuts visibility, and Evers knows this will probably be the last chance to catch a loon tonight.

Near the shore of the island he sights another bird, and the boat slips toward it. Three times the loon dives before Evers can reach it. Three times the crew circles for another try.



Kate Taylor takes notes as wildlife biologist David Evers and Rose Miconi of the Tufts University wildlife clinic take a blood sample from a loon. Staff photo by David A. Rodgers.

Finally, the boat makes a fourth approach, and the loon lingers on the surface a split-second too long. Evers wrestles the flapping bird into the boat, straddles it on the deck and wraps a hand around its powerful bill.

The boat's too crowded to examine the bird on board, so the crew ties up to a dock and clambers ashore near an unoccupied camp.

With Evers are Rose Miconi, from the wildlife clinic at the Tufts University School of Veterinary Medicine, and Kate Taylor, a biologist with the New Hampshire Loon Preservation Committee.

In a circle of light from one of the search lamps, the trio goes to work. They cover the loon's head with a bath towel to keep it calm and clip a feather from the back edge of each of its wings.

Miconi plunges a needle into one of its legs and draws 12 cubic centimeters of blood. Evers fastens bands on both legs for his record-keeping.

Taylor scribbles information on a data sheet, including the time and place of capture, general health observations and what was done to the bird.

Tests of the bird's blood will show how much mercury it was exposed to over the past two months, mostly from the fish it ate in Rangeley and the surrounding lakes where it might have fed.

Tests of the feathers will reveal long-term mercury levels. Loons get rid of mercury by moving it into their feathers, so regular tests of feathers can shed light on how much mercury the bird has been exposed to over the years.

Evers puts the loon back into the mesh net and hangs it from a spring scale. It weighs in at 16 pounds, prompting Evers to crack a grin.

"That's the largest loon ever captured in North America," he says.

Twenty minutes after stepping ashore, the crew gathers its gear and heads back to the boat. Evers cradles the loon in his arms, wades into the lake and gently releases the bird in knee-deep water.

It paddles aimlessly for a minute or two, giving eerie cries and calls. Finally, it dives below the surface and disappears.



David Evers releases a loon after capturing and processing it on Lake Aziscohos. Staff photo by David A. Rodgers.