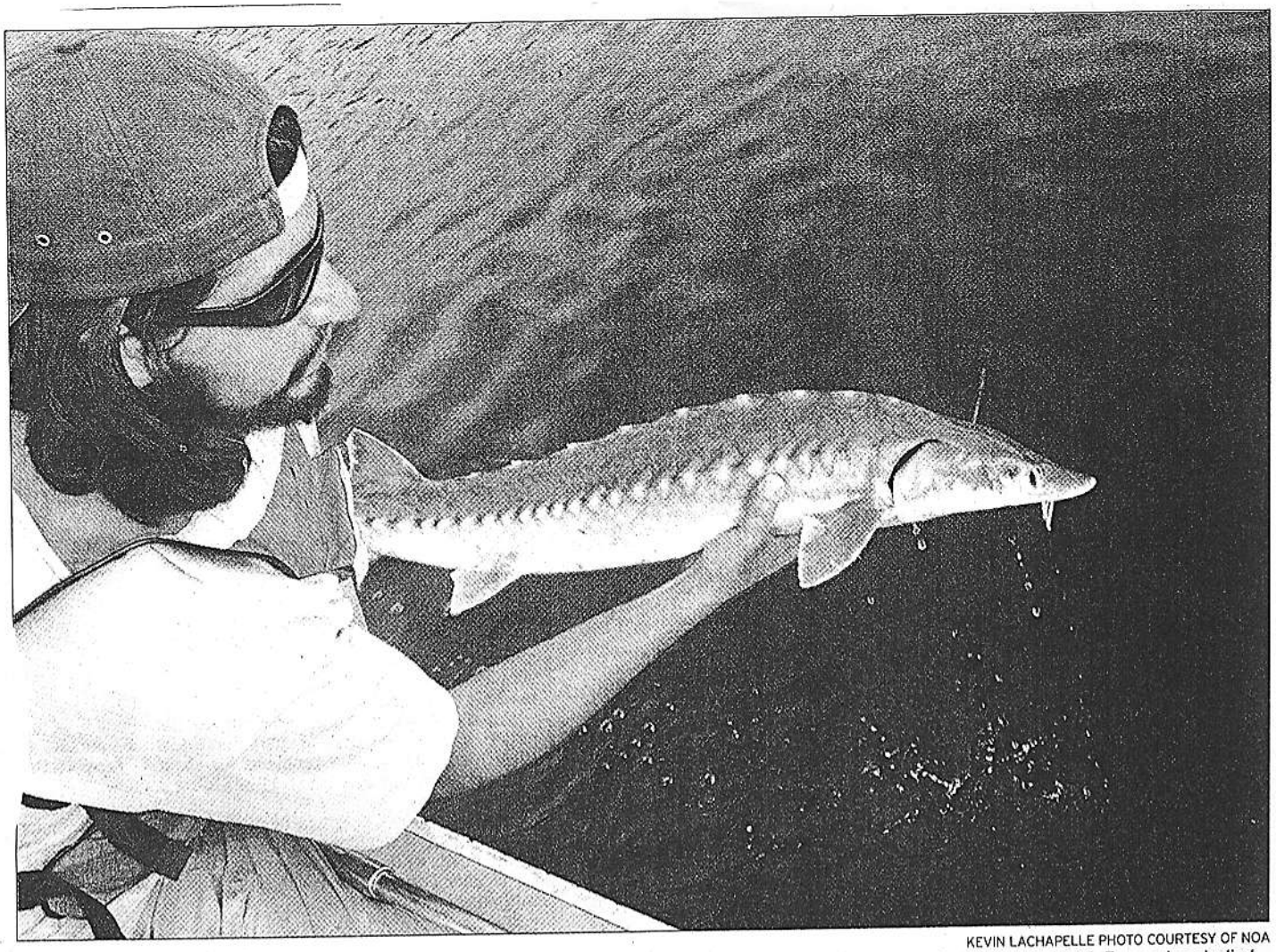

KEVIN LACHAPELLE PHOTO COURTESY OF NOA

Stephen Fernandes releases one of the first shortnose sturgeon caught in the Penobscot River during a project that began in 2006. Fernandes studied the abundance and distribution of sturgeon in the river under a National Oceanic and Atmospheric Administration permit, and defends his masters thesis at the University of Maine next week.

Sturgeon study nears end of first phase

Research to determine distribution, abundance, movements of fish in Penobscot

Back in 2005, local angler Keith Bates gained a bit of local notice when he inadvertently hooked, landed and released a shortnose sturgeon while fishing for striped bass in the Penobscot River.

The fish, which nobody really knew even existed in the Penobscot, was estimated at 5 to 5½feet long, and

As it turned out, it didn't take long before folks from Orono to Washington, D.C., started paying attention as well.

"That kind of prompted us to say, 'Well, gee, we need to do a really detailed study to find out what's out there,'" said Gayle Zydlewski, a professor in the school of marine sciences at the University of Maine.

JOHN HOLYOKE

Zydlewski and colleague Michael Kinnison soon had a study up and running, and over the past two years graduate student Stephen Fernandes has done a lot of the heavy lifting in an ambitious project.

On Wednesday, Fernandes, a Taunton, Mass., native, will defend his masters thesis. The project will continue in a second phase led by fellow grad student Phil Dionne.

Fernandes' advisors, Kinnison and Zydlewski, gave him a straight-forward mission, thanks in part to some prodding from the folks at the federal level.

"[The National Oceanic and Atmospheric Administration] told them that they were looking for someone to start a project on looking for abundance and distribution and movements of Atlantic sturgeon in the river," Fernandes said. "Just to find out basically if they were here, and if they were, how many and where they were."

Shortnose sturgeon are listed as endangered while the federal government considers Atlantic sturgeon a "species of special concern."

The shortnose sturgeon can reach lengths of

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Holyoke

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about five feet, while Atlantics can get much bigger, approaching 18 feet and weighing more than 1,000 pounds.

Zydlewski said the Penobscot seemed like an ideal place for sturgeon to live, but she and Fernandes said that concrete proof was lacking.

Before Bates caught his fish in 2005, the last documented sturgeon in the river — a shortnose — was in the late 1970s.

The fish are bottom-dwellers often described as "prehistoric" or "primitive looking." They feature a row of bony plates that run the length of their bodies, and their mouths are on the underside of their heads, which permits them to feed along river bottoms.

"Sturgeon will typically be in some of the larger river systems along the Eastern seaboard, and there was always the thought that there would be sturgeon in the Penobscot because it's such a large watershed, it's such a large river," Zydlewski said.

Fernandes said some of the people he talked to after taking on the project were a bit more skeptical.

"We had talked with a lot of people from the state and other folks who had said that they didn't think there were going to be many, if any, sturgeon at all in the river," Fernandes said. "So it was a pretty big surprise that we just started catching them like crazy. I guess that was in the spring of '06."

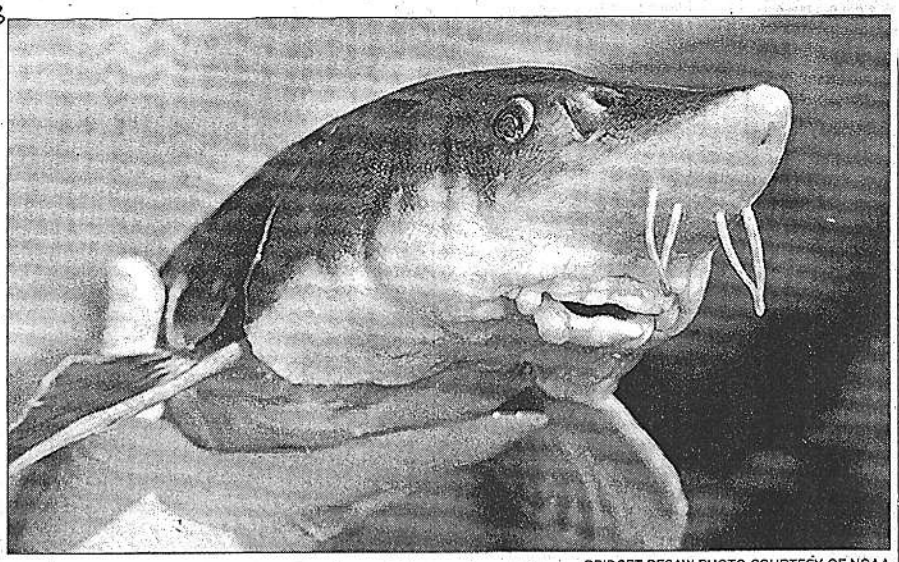
That was the year Fernandes and his crew began gill-netting the fish, fitting them with radio tags, and releasing them back into the Penobscot.

After some trial-and-error, he and his co-workers learned what worked best, and where they could count on finding fish. They adapted to the new information, and had a lot of success.

Since then, he and the crew have caught more than 150 shortnose sturgeon, and two or three dozen Atlantics. The largest fish caught was an Atlantic sturgeon Fernandes said was about six feet long and weighed about 130 pounds.

Some people have begun reporting seeing the fish in certain sections of the river, as they sometimes leap out of the water, or "breach."

"You don't see them very often," Fernandes said. "They're at the bottom in murky, deep rivers ... they do jump once in awhile. You see them breach, but only if you're in the right place at the right time and happen to be looking at exactly where the fish jump."



BRIDGET BESAW PHOTO COURTESY OF NOAA

Stephen Fernandes, a graduate student at the University of Maine, holds a shortnose sturgeon that he caught in the Penobscot River as part of a study conducted under a National Oceanic and Atmospheric Administration permit. Fernandes was trying to determine the abundance and distribution of sturgeon in the river.

While Fernandes learned plenty about sturgeon during his time working on the project, he admits that one of the goals couldn't be met.

Due to a number of factors, it proved impossible to accurately estimate the abundance of sturgeon.

> ***"We found [sturgeon in the Penobscot River] from as far up as Brewer and Bangor, even up almost as far as Veazie, as far downstream as Bucksport and moving out of the bay."***
>
> STEPHEN FERNANDES

"We tried to get a population estimate, but the big problem was because this was a first-time project, and a learning experience for everyone, our sampling was a little bit biased," Fernandes said. "We were netting in different locations in the river where we didn't find fish, so we moved the nets."

Moving those nets from season to season made comparisons impossible, he explained, but did lead to other information being gathered.

"We were able to catch a lot more fish the second year because we weren't fishing in the same areas [where we hadn't found fish]," Fernandes said.

Early in the study, although the stated goal was to ascertain abundance, Fernandes said the actual goal became to gather as many test subjects as possible.

"The real objective was to just catch fish, period," he said. "Once we caught fish, we didn't have time to re-evaluate our objectives. We just wanted to catch as many fish as possible."

And after catching them and fitting them with tags, Fernandes and his colleagues wanted to monitor the sturgeon and see where they went.

As a result of that tagging, the "distribution" phase of the study was a more tangible success.

The researchers set up an array of buoys with radio receivers anchored at the bottom of the river. Each time a tagged sturgeon swam past, the fish was logged and recorded, along with the date and time. Some information on depth and water temperature can also be gained from the buoys.

Another array of buoys, operated by the Maine Department of Marine Resources, exists in the Kennebec River, which came in handy.

"We found fish from as far up as Brewer and Bangor, even up almost as far as Veazie, as far downstream as Bucksport and moving out of the bay," Fernandes said.

In addition, some fish were found to have moved out of the Penobscot River system and into the Kennebec.

During his time working on the project, Fernandes admits that he's become known for his association with one of the world's least attractive fish.

"People call me the Sturgeon Hunter," he said with a chuckle. "It's kind of cool."

After Wednesday, the Sturgeon Hunter will have to move on ... his thesis on the topic is completed, after all.

But that doesn't mean that he wouldn't enjoy working with the fish some more if given the chance.

"I would love to continue doing sturgeon research," he said, while pointing out that there's not a lot of research money available for the little-known species.

If sturgeon work isn't forthcoming, he's confident the lessons he learned have given him a good basic background in fisheries science.

He's equally confident that the UMaine team will continue to learn more about sturgeon, a species he calls "cryptic."

Another graduate student is already on board, you see.

Phil Dionne is ready to become the new Sturgeon Hunter.

And Fernandes knows exactly what his successor will be asked to do.

"We weren't able to get a reliable estimate as to the number of fish," Fernandes points out. "That's one of the things that is one of Phil's primary objectives."

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