A series of feature articles examine the diverse careers within the Department of Natural Resources. This month, learn of the work of Illinois' mussel team.

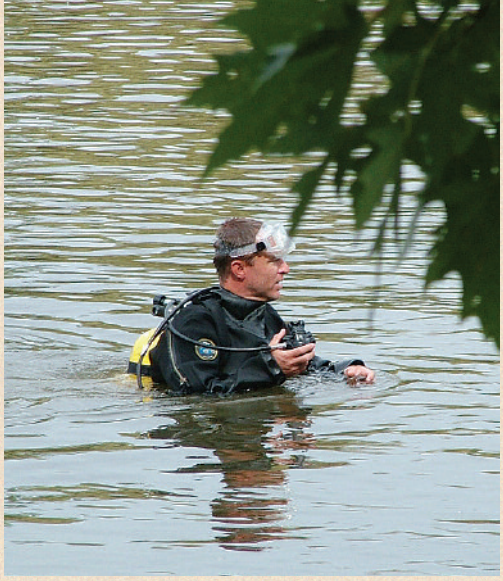
We Are DNR

Spending the day crawling along the bottom of the Mississippi River—in near complete darkness—isn't something many folks view as a good day at the office. But, Bob Schanzle and Rich Lewis, biologists with the Department of Natural Resources' Office of Realty and Environmental Planning, Impact Assessment Section, welcome the chance to do just that several days a year.

As part of a multi-agency team, Schanzle and Lewis have participated in an effort to reintroduce the federally endangered Higgins' eye pearly mussel (*Lampsilis higginsii*) into the Mississippi and Rock rivers.

Retrieved from the Illinois River on a recent dive were two pink papershells (*Potamilus ohiensis*) and a white heelsplitter (*Lasmigona complanata*, largest shell). Biologists anticipate their time spent flinging juvenile mussels into the river may aid in the recovery of an endangered species.

Most efforts to reintroduce this mussel to its historic range have involved caging host fish (larvae of this species implant in the gills of bass, walleye and other fish), and then releasing the fish after the mussel larvae drop off. Three to four months later, the cages are pulled up and the juvenile mussels are released.



(Photo courtesy Tatsuaki Nakato.)

(Photo courtesy Adam Thiese.)

Rich Lewis is one of the divers routinely sampling the Mississippi and Rock rivers for Higgins' eye pearly mussels (*Lampsilis higginsii*). Young mussels (right) ready for release.

Annually for the last 7 years, DNR SCUBA divers have entered Illinois' rivers to monitor numbers of mussels. Results indicate that Higgins' eye survive, but determining an actual number remains impossible because river currents move many individuals downstream.

Determined to increase the probability that enough juveniles remain in a river stretch to ensure reproductive potential, a new strategy was developed for the fall 2007 reintroduction effort. Mussels were raised at Wisconsin's Genoa Fish Hatchery, and released at about one year of age.

A highly efficient release method was developed to ensure the quick release of 9,000 juvenile mussels—biologists from the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers and Illinois and Iowa Departments of Natural Resources met on the riverbank to fling mussels into their new watery home.

One day this summer, Schanzle and Lewis and fellow divers will crawl on the river bottom, bagging all the mussels they find. Biologists on the surface will identify and measure the mussels, and return them back to the water. With luck, the inventory will find juvenile Higgins' eye pearly mussels, a sign that active reproduction is taking place.

"Freshwater mussels are the most imperiled group of animals on the planet," Schanzle explained. "Of about 80 species of mussels historically known to occur in Illinois, more than 0ne-half have been extirpated or are now on the Illinois threatened and endangered species list. Working with the U.S. Army Corps of Engineers and DNR Office of Water Resources, we dive to monitor populations of all species of mussels on Illinois' large rivers (Mississippi, Illinois, Kankakee, Rock, Ohio, Fox) and pollywog—wading in and searching for mussels by hand—on smaller rivers, such as the Sangamon, Kaskaskia and Green."

Despite minimal time outdoors, both men take great satisfaction in the work they do.

"This job has allowed me to see a lot of Illinois that I would never have been able to see, and to meet people who are working very hard to leave the rivers, prairies, forests and landscape in better shape than when they were entrusted to care for them," Lewis said.

And once in a while, they are rewarded with a chance to do something crazy, like flinging mussels into the river, as direct evidence of their commitment to the health of Illinois' rivers.

(Photo by Kathy Andrews.)

(Photo courtesy Tatsuaki Nakato.)

Rich Lewis (foreground) and Bob Schanzle were members of the multi-agency team reintroducing the federally endangered Higgins' eye pearly mussel.