One of the largest floodplain restoration projects in the nation provides a unique opportunity to Illinois' resource managers.

Restoration of the Emiquon Fish Population

Story By Trent Thomas and Rob Hilsabeck
Photos By Rob Hilsabeck

It's easy to spot the ongoing Emiquon floodplain restoration along the Illinois River in Fulton County: What had once been agricultural fields for decades are suddenly more than 4,000 acres of shimmering, restored wetlands. As waters continue to rise and cover this vast stretch of land along the river between Lewistown and Havana, huge flocks of migrating waterfowl rediscover this growing body of fertile water and continue to utilize its resources.

But, as they say, there is more than meets the eye at Emiquon. There is a magnificent fish story unraveling below the water surface.

When water was returned to the site just two years ago, a seed bank of aquatic vegetation emerged from decades of hibernation, as if by magic, to flourish in the clear waters that flooded the land. The story behind the magic was the restoration of the fish population, and this required a great deal of work to come to fruition. To accurately begin this fish story, we need to backtrack a few years.

Where agricultural fields stood just a few years ago, biologists now find rich aquatic animal diversity, including snails, dragonfly nymphs, bluegill (upper) and more.

The plan for restoring the wetlands at Emiquon included introduction of a diversity of native fishes, including spotted gar (*Lepisosteus oculatus*).

When The Nature Conservancy acquired the property that became Emiquon in 2000, they inherited a grid of 22 linear miles of drainage ditches that traversed the agriculture fields. These ditches had become contaminated with undesirable fish species over time, and the population was dominated by such species as common carp, grass carp, goldfish, black bullheads, gizzard shad and other rough fish. A cooperative fish management plan was developed by the Department of Natural Resources and TNC.

The first phase of the plan kicked off in early 2007 when TNC pumped the water levels down as far as possible in the ditches. On April 2, 2007, more than two dozen DNR and TNC personnel assaulted these ditches with 440 gallons of rotenone (a fish toxicant) to eradicate the contaminated fish population.

Two weeks later, the stocking of desired fish species began. Familiar fish species that anglers know and love were among the first to hit the water: largemouth bass, black crappie, white crappie, bluegill, pumpkinseed sunfish and channel catfish.

Here, the story takes a unique turn. From the beginning, intentions were to restore an historic assemblage of native fishes that likely occupied the original Thompson and Flag lakes, species such as bowfin, gars, brown bullheads, warmouth, lake chubsuckers and several species of minnows. In total, 36 fish species were stocked into Emiquon in these first two years.

The significance of this effort carries great weight, as many of these species once thrived in the numerous backwaters along the Illinois River but have dwindled to critically low numbers. As the land was developed, levees were built and backwaters drained, causing sediment to be delivered to the river at unprecedented levels. Compounding the problem was the introduction of exotic species, such as the common carp that incessantly stirs up the bottom mud in the river, the grass carp that devours any and all aquatic vegetation, and the infamous bighead and silver carps that gorge themselves on plankton filtered from the water. Collectively, these events have changed the river forever, and the habitats that supported many of the native fishes have all but disappeared.

With its clear water, lush growth of vegetation and absence of exotic species, Emiquon provides a glimpse of what the Illinois River backwaters once looked like. And, in just a short amount of time, Emiquon has become a home to the largest populations of several

Fishing regulations

Emiquon Preserve, Thompson Lake, Fulton County
A complete list of Emiquon use regulations is available on The Nature Conservancy's Web site (see At a glance).

- All state licensing requirements and regulations apply.
- A Boating/Fishing Permit is required and may be purchased from 8:30 a.m.-4:30 p.m. at Dickson Mounds Museum, 10956 N Dickson Mounds Rd, Lewistown, IL 61542.
- Fishing and boating are allowed only on the west half of Thompson Lake. All watercraft must remain west of the orange buoys that demarcate the approximate middle of Thompson Lake. Only registered watercraft are allowed on the lake.
- Only pole and line fishing is allowed, with a maximum of two poles per person. All gear must be removed daily.
- Fish harvest limits are: largemouth bass 18 inches minimum length, 1/day; crappie 9 inches minimum length, 25/day; channel catfish 6/day; bluegill (*Lepomis* sp.) 25/day; walleye/sauger 14 inches minimum length, 6/day.
- Hours are sunrise to sunset. No trespassing sunset to sunrise. No boating or fishing access before 1 p.m. on Tuesdays, Thursdays and Saturdays during waterfowl hunting.
- Minors must be accompanied by an adult 18 years of age or older, authorized by the minor's parent or legal guardian.
- Harvest of fish must be for personal use only and not for sale.
- The following are **prohibited** fishing activities: bank fishing, live bait except worms, bow fishing, tournaments, wading, belly boats, fish cleaning, gas motors (not even on the boat), alcohol, littering, pets, dumping, fireworks, weapons.

Emiquon now supports the largest known population of the state-endangered redspotted sunfish (*Lepomis miniatus*), once found throughout backwater lakes along the Illinois River.

rare fish species in Illinois.

Redspotted sunfish, an Illinois endangered species, was introduced to Emiquon in 2008. This fish once populated the backwater lakes along the Illinois River as the northernmost limit of its distribution. A remnant population of this species was discovered in 2007 in a small stream south of Havana. Biologists collected adult fish and released them in a small pond where they spawned. The adults were returned to the stream and more than 4,000 of their offspring were stocked into Emiquon waters where they now represent a population 100 times larger than any other population of redspotted sunfish known to exist in Illinois.

Likewise, the state-threatened starhead topminnow now thrives in the waters of Emiquon. The origin of its common name is readily apparent when the metallic scales on its head and back are seen reflecting sunlight in the shallow waters near shore. The Emiquon plan includes stocking other listed species, such as ironcolor shiners and weed shiners.

Most visitors to Emiquon will never see the majority of these species that quietly thrive here. However, the game fish population will not disappoint the angling constituents. The Nature Conservancy opened Emiquon to the fishing public in April of 2009. Abundant largemouth bass stole the show on opening day. But crappie and bluegill are showing tremendous growth rates in these fertile waters. The large and colorful pumpkinseed sunfish swimming at Emiquon are likely to prompt the development of a state record for this species.

Put Emiquon on your list of getaway destinations. Dickson Mounds Museum is just up the hill. The scenery of migrating waterfowl is amazing.

And, with more than 30 species of fish swimming there, if you wet a fishing line you never know what you might catch.

Game fish weren't the only species introduced as the waters at Emiquon rose. The state-threatened starhead topminnow (*Fundulus dispar*) can be found in shallow waters along the shore.

At a glance

Address: Emiquon Preserve, The Nature Conservancy Thompson and Flag lakes restoration
Web site: www.nature.org/wherewework/northamerica/states/illinois/preserves/art1112.html
Telephone: (309) 547-2730

Address: Emiquon National Wildlife Refuge, Route 97/78, Havana, IL 62644
E-mail: emiquon@fws.gov
Telephone: (309) 535-2290
Web site: http://midwest.fws.gov/illinoisriver/emq.html
Directions: Emiquon Preserve and the Refuge are located at the confluence of the Spoon and Illinois rivers in Fulton County. Just west of Havana on Route 97/78, the refuge is accessible by State Highway 24 from Peoria or Lewistown, and State Highway 136 from Havana.

Trent Thomas is a DNR stream biologist in the Gibson City office and Rob Hilsabeck is a DNR district fisheries manager based in the Jubilee College State Park office.