FOX RIVER CURRENT

Winter 2013 Vol. 16, No. 3 Update from the Fox River Intergovernmental Partnership

Agencies oversee sunken ship removal, museum display

By Susan Pastor, U.S. Environmental Protection Agency

PHOTO COURTESY OF THE BOLDT TEAM

Remnants of a sunken ship are being removed near the "railroad bridge."

Remnants of five ships discovered in 2008 just north of the southern "railroad bridge" in Green Bay were pulled out of the Lower Fox River in November and December. The work was done under an agreement signed by the U.S. Environmental Protection Agency, Wisconsin Department of Natural Resources, the state historic preservation officer, the Neville Public Museum of Brown County and Lower Fox River Remediation Limited Liability Company, or LLC.

The ships, two of which date back to the 1880s, were discovered by archaeologists hired to document artifacts found in the river from Appleton to Green Bay. With the help of Wisconsin historians, nautical organizations and maritime museums, two were identified as the *Bob Teed* and the *Satisfaction*. Little information is available on the other wooden barges near the shoreline by the State Street sediment processing facility. Five years ago, the archaeologists were charged with making recommendations on how to handle the ships, which are also referred to as artifacts, so that the cleanup could proceed on schedule.

Because these sunken vessels are considered to be cultural resources, they must be "replaced" after they are removed. The LLC

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Paper company completes fifth year of cleanup

By Susan Pastor, U.S. Environmental Protection Agency

Approximately 580,000 cubic yards of PCB-contaminated sediment were dredged in the Green Bay area this year, as year five of the cleanup came to an end in November.

According to reports submitted by NCR Corp., the paper company funding and conducting the cleanup, the total amount of sediment dredged from Little Rapids to Green Bay stands at 2.7 million yards. U.S. Environmental Protection Agency Remedial Project Manager Jim Hahnenberg said the goals outlined in the project's design have been met nearly every year. "We are pleased with the results so far," he stated. "The amount of dredged sediment would be like piling it as high as a 200-story building. That's a lot of sediment."

PHOTO COURTESY OF THE BOLDT TEAM

Gary Kincaid, Wisconsin DNR, inspects dredge pipe that transports the river sediment water and waste mixture from the dredge to the dewatering facility.

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Fish advisories change; winter safety warnings continue

By Anke Hildebrandt, Wisconsin Department of Health Services

Fish consumption advisories along the Lower Fox River are being updated this year.

Fish tissue sampling results have shown that contaminant levels are continuing to decrease in some fish. In December, you might spot Wisconsin Department of Health Services staff putting new stickers on the fish advisory signs along the river to reflect these changes.

"This is good news," according to Dr. Henry Anderson, Wisconsin DHS health officer. "However, it is still important for people to check the consumption advisories and understand which fish are safe to eat."

The updates include no restrictions on eating northern pike caught from Little Lake Buttes Des Morts to the DePere Dam and fewer restrictions on eating white bass from the DePere Dam into Green Bay. As before, many varieties of fish caught in the river or Green Bay are safe to eat once a month. For example, walleye less than 21 inches, northern pike less than 33 inches, brown and rainbow trout, whitefish, smallmouth bass, and chinook salmon less than 30 inches are safe to consume once a month. The advisory against eating carp caught anywhere in the Lower Fox River remains in place. Wisconsin DHS still recommends that people not consume carp because, by nature, they are bottom feeders and tend to have higher levels of contamination.

More information about the new advisories can be found on the Department of Natural Resources website at http://dnr.wi.gov (enter the keywords: Eat Your Catch).

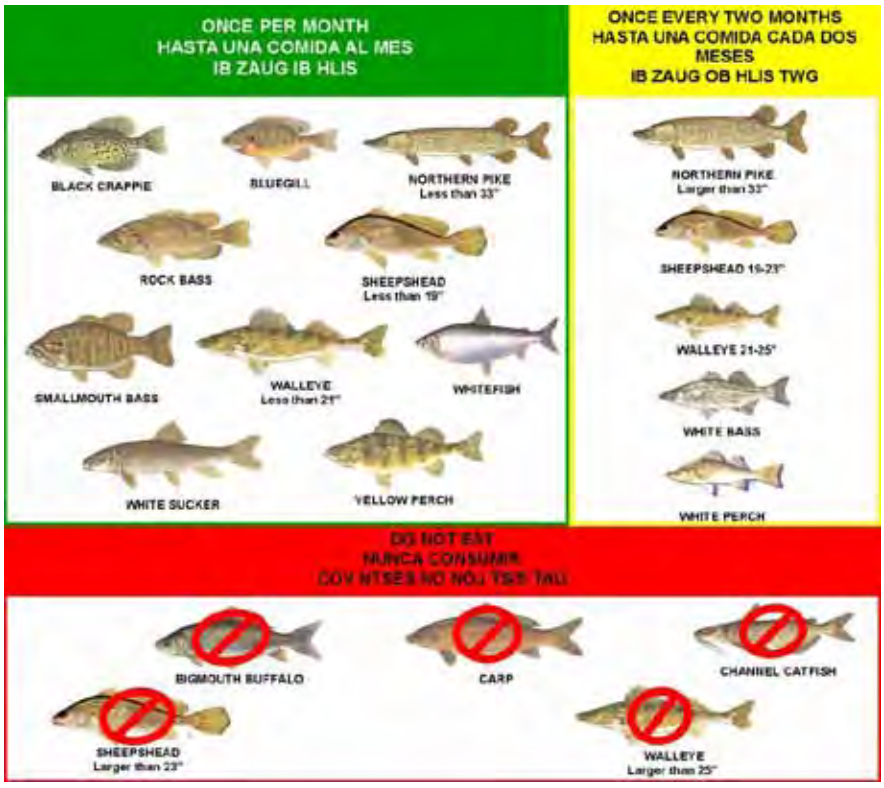
In other fishing-related news, Wisconsin DHS reminds those who enjoy ice fishing in the Lower Fox River to check or install carbon monoxide detectors in their ice shanties.

Portable heaters and wood burning stoves produce a gas known as carbon monoxide, which can be dangerous. "Breathing high levels of carbon monoxide can be deadly," said Anderson.

Carbon monoxide exposure can result in headaches, fatigue, dizziness, shortness of breath, chest pain, nausea and confusion. If you suspect carbon monoxide poisoning, or your carbon monoxide detector sounds an alarm, go outside immediately for fresh air and call 911.

Anglers should check their heat sources to ensure that they are working properly before heading out to the lake. Also, gas and charcoal grills should not be used indoors and generators should be kept at a safe distance from doors and windows.

Further information on carbon monoxide is available at http://dhs.wi.gov/eh/Air/fs/CO.htm.



Wisconsin DHS updated fish advisories.

Trustee council, EPA help fund restoration of west shore marsh

By Ed Culhane, Wisconsin Department of Natural Resources

Three years of work by the Wisconsin Department of Natural Resources, Ducks Unlimited and The Nature Conservancy have resulted in the rebirth of a historic marsh.

Largely funded by private sources, the $755,859 restoration of the Sensiba Unit of the Green Bay West Shore Wildlife Area in Brown County was greatly aided by significant grants from the U.S. Environmental Protection Agency's Great Lakes Restoration Initiative ($237,175) and the Lower Fox River/Green Bay Natural Resource Trustee Council ($34,984).

The 220-acre wetland lies along the west shore of Green Bay, immediately north of the Suamico River. Long ago, the Suamico fanned out into a fertile delta as it fed the waters of a bay named for the lush green vegetation that surrounded it. It was one of the most important wetland ecosystems along the west shore. Then, in the late 1800s, it was channelized along its southern boundary to make navigation easier for river commerce and the delta was cut off from its life source.

Decades later, efforts were made to restore the dry marshland just north of the river. In the late 1960s, dykes and a pump were installed to hold water and to protect the wetlands from the fluctuating water levels of Lake Michigan and the wrath of storms. What is now the Sensiba Unit of the Green Bay West Shore Wildlife Area in Brown County became a protected stop on the great migration corridor through the Great Lakes.

But after another half century the patchwork of dykes had deteriorated, the marsh was again in decline and use by waterfowl and other wild creatures was fading.

In 2010, the Wisconsin DNR, TNC and Ducks Unlimited launched an innovative restoration project. The 220 acres of the Sensiba unit were enhanced. Two dike systems were rebuilt, and water control structures and a pump were added. Invasive phragmites reeds, also known as elephant grass, were treated, which greatly reduced their presence.

As a result, the Wisconsin DNR now has the ability to hold water at a variety of depths and move it from one place to another on the property. This significantly improves habitat for native fish and wildlife. In addition, new spawning areas for northern pike and other Green Bay fish were created and waterways connecting Green Bay to upstream spawning areas were restored.

TNC secured funding, contributed ideas for the restoration design and coordinated the project. Ducks Unlimited surveyed the site, developed engineering plans, hired contractors and implemented the restoration. Wisconsin DNR staff worked with everyone to ensure the project was completed. The

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Out and About ...

By Susan Pastor,
U.S. Environmental Protection Agency

The Fox River Intergovernmental Partnership is made up of U.S. Environmental Protection Agency, Wisconsin Department of Natural Resources, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, Oneida Tribe of Indians of Wisconsin and Menominee Indian Tribe of Wisconsin. These partners, as well as other supporting agencies, regularly provide speakers to organizations in the Fox Valley area. To request a speaker, please contact the agency directly or Susan Pastor, EPA Community Involvement Coordinator, at 312-353-1325 or 800-621-8431, Ext. 31325, or via email at pastor.susan@epa.gov.

The Fox River Current is featuring Natural Resource Damage Assessment projects in and near the Lower Fox River.

Spotlight On:

Spotted Musky Population Enhancement Project

By Betsy Galbraith, Fox River/Green Bay NRDA Trustee Council Coordinator

Over the past few decades, sport fishermen have once again had the opportunity to catch trophy musky in the waters of Green Bay and the Lower Fox River.

This was not always the case. The Lower Fox River and Green Bay historically had a native population of musky that was effectively eliminated during the early to mid 1900s by habitat destruction, pollution and over fishing.

The Wisconsin Department of Natural Resources, in cooperation with several local musky clubs and the Musky Clubs Alliance of Wisconsin, initiated a Great Lakes strain muskellunge reintroduction program in the 1980s in the Green Bay waters of Lake Michigan.

A three-phase plan was drafted by Wisconsin DNR biologists to re-establish a self-sustaining population of muskellunge in Green Bay by doing the following: (1) identify an appropriate egg source, obtain eggs, and successfully hatch, rear and stock fish, (2) establish an inland lake broodstock population and (3) develop a self-sustaining population in Green Bay.

PHOTO COURTESY OF WISCONSIN DNR

Angler Tim Somonson holds a large musky caught in lower Green Bay.

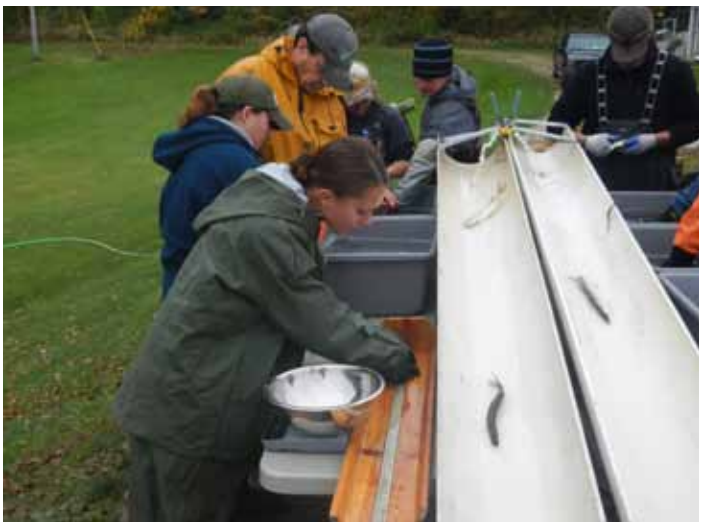

PHOTO COURTESY OF WISCONSIN DNR

Wisconsin DNR crew clip and collect length-weight data on musky at Besadny Anadromous Fisheries Facility.

Based on these efforts, the first musky fingerlings and yearlings were stocked in Green Bay in 1989. Concerns about viral hemorrhagic septicemia virus suspended stocking in 2008 and 2009, but efforts resumed in 2010. The original eggs originated from spawn collected from inland lakes in Michigan. Other wild egg sources from Canada were investigated and some were used as donor sources to improve genetic diversity. The Besadny Anadromous Fisheries Facility in Kewaunee and the Wild Rose Fish Hatchery supported these efforts.

In 2012, the average male length was 42.1 inches and the average female was 47.6 inches. “The age of returning adult musky likely ranges from 8 to 15 years for males and 10 to 15 years for female fish, but some of the larger fish may be older,” stated Steve Hogler, Wisconsin DNR fisheries biologist.

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Musky consume a wide variety of forage fish including yellow perch, gizzard shad and lake whitefish.

The population trend of adult muskies in Green Bay waters is unknown. Stocking currently maintains the population with few natural recruits captured during surveys. Increasing stocking numbers the past three years should increase the number of musky in Green Bay in upcoming years.

"The population appears to be spreading out from the Fox River and lower Green Bay as surveys have found good numbers of musky in the Menominee and Peshtigo Rivers and the Sturgeon Bay area," said Hogler.

Long-term plans to reintroduce and maintain healthy populations of musky are ongoing and require support for hatcheries, rearing facilities and staff. Healthy and self-sustaining musky populations, an important top predator in Green Bay, will help restore a balanced fish community and provide increased opportunities for sport fishing.

A new management plan for musky was developed by the Wisconsin DNR in March 2012.

The project was supported by the Lower Fox River/ Green Bay Natural Resource Trustee Council through Natural Resource Damage Assessment settlement funds. Other partner funds were contributed by the Wisconsin DNR, Ontario Ministry of Natural Resources and Michigan DNR.

The natural resource trustees include the Wisconsin DNR, Oneida Tribe of Indians of Wisconsin, Menominee Indian Tribe of Wisconsin, U.S. Fish & Wildlife Service, and National Oceanic and Atmospheric Administration.

For more information about Lower Fox River/Green Bay NRDA projects, contact Betsy M. Galbraith, trustee council coordinator, at betsy_galbraith@fws.gov or 920-866-1753. For more information about musky in Green Bay, contact Steve Hogler at 920-662-5480 or steven.hogler@wisconsin.gov.

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The sediment that was removed from the river was taken to a processing facility on State Street in Green Bay where it was treated before being loaded onto trucks and taken to Hickory Meadows Landfill in Calumet County or Ridgeview Landfill in Manitowoc County. Both are licensed to accept this type of waste.

Ridgeview was awarded a state permit in 2012 to take higher levels of hazardous waste while Hickory Meadows continues to accept sediment with lower levels.

Nearly 12,000 truckloads took about 266,000 tons of processed sediment to the landfills for proper disposal. Crews also worked on covering areas downstream from the DePere Dam with sand. A little more than 110 acres were covered with a layer of sand. Another layer of larger stones was spread over more than 13 acres. "We use sand and stone because they will stay in place during large storms or some other type of disruptive event. And, the cost is relatively low," Hahnenberg explained.

The only work remaining was the removal of underwater shipwreck debris near the processing plant. (See related article on page 1.) This work was expected to be completed by mid-December, however, that has been suspended until next spring due to freezing temperatures. Work is also continuing on the design for dredging, capping and covering that is expected to resume next spring when the cleanup continues to move downstream towards the city of Green Bay.

All aspects of the cleanup are being done under Wisconsin Department of Natural Resources and EPA oversight.

The project is still on track to be done by 2017. Hahnenberg said. "When the cleanup is deemed 'final' in about four years, the goal to reduce the risk to people and the environment will have been met."

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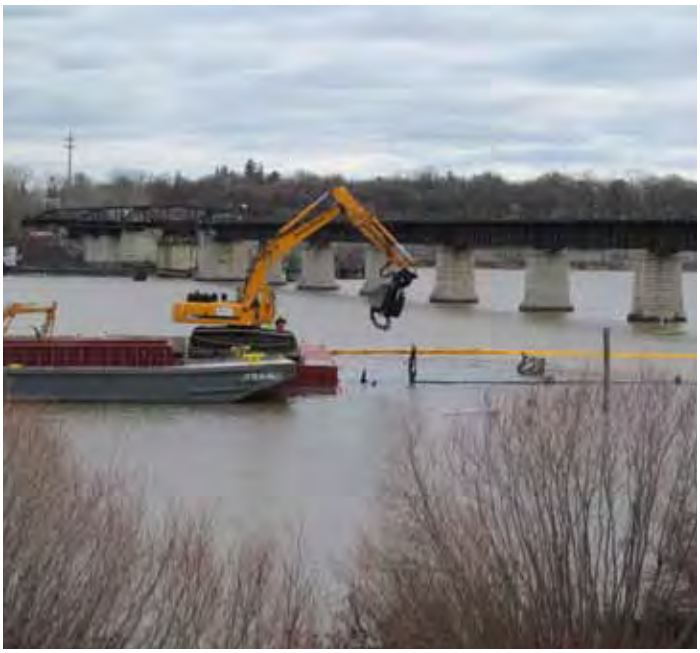

PHOTO COURTESY OF THE BOLDT TEAM

An excavator removes remnants of a sunken ship.

agreed to build a display for Green Bay's Neville Museum to "replace" these resources. The September 2013 agreement can be viewed under the "Technical Documents" section at www.epa.gov/region5/cleanup/foxriver.

According to Museum Curator Kevin Cullen, the display will be placed on the second floor as part of an existing exhibit. "It will be part of The Bay and The Port Story," he said. "It takes a look at commerce back through time."

The vessels that were removed from the river are definitely part of that story. What materials were used to build them and whether they have a name or number on them can "tell" historians when they were constructed and how they were used. "We are conserving a layer cake of various ships," Cullen explained. "The pieces are being documented and photographed as they are being pulled out. We were hoping to get some actual pieces for our display, but that doesn't seem to be possible because of the contamination."

Since the removal project started in mid-November, the crew had been focusing on five vessels. Cullen said at press time, however, that it looked like there may be two more underneath them. "We may be up to seven, but it's not official yet," he stated.

Cullen, whose background is in underwater archaeology, said the display currently being considered will consist of a 2-foot by 3-foot panel and a two-dimensional graphic board with photos taken during the removal as well as photos of other similar-looking historic ships. The curator said, depending on museum funding, he would like to add some ship models and an interactive kiosk with uploaded photos to the display.

He would also like to have some physical artifacts, if possible. "We would have the capability to display the bits which are the docking lines used to tie the ships to the shore," he added.

The display is expected to open to the public in late summer 2014.

Current moves to bi-annual schedule

As the Lower Fox River cleanup progresses with completion scheduled for 2017, the Fox River Current newsletter will move from a tri-annual schedule to a bi-annual schedule. Beginning in 2014, spring and winter editions of the newsletter will be sent in hard-copy form and posted at www.epa.gov/region5/cleanup/foxriver.

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EPA and the Lower Fox River/Green Bay Natural Resource Trustee Council backed the project with grants. Visitors to a dedication in late October were treated to a guided hike and demonstrations of water-control equipment. Village officials and neighbors celebrated the creation of new recreation opportunities, including walking trails.

Brian Glenzinski, regional biologist for Ducks Unlimited, said he was excited to work with a diverse group of public and private experts on a broadly conceived conservation project. "This is a comprehensive enhancement incorporating fisheries and wildlife habitat," he said.

Nicole Van Helden, TNC's director of conservation for the Green Bay watershed, said the marsh has not only been restored but upgraded.

"The Sensiba unit is a significant wetland on the west shore of Green Bay, however, its productivity had deteriorated," she said. "By working together, we were able to not only bring it back to what it was, but improve upon it by creating habitat for other species, including native fish."

For further information on the restoration of the Sensiba Unit, contact Nicole Van Helden at 920-634-6549 or nvanhelden@tnc.org.

Information available at local libraries

The Fox River Intergovernmental Partnership invites the public to review technical reports, fact sheets, newsletters and other documents related to the Lower Fox River cleanup at information repositories set up in the reference sections of the Wisconsin libraries listed below.

- **Appleton Public Library**, 225 N. Oneida St., Appleton; 920-832-6170
- **Brown County Library**, 515 Pine St., Green Bay; 920-448-4381, Ext. 394
- **Door County Library**, 107 S. Fourth Ave., Sturgeon Bay; 920-743-6578
- **Oneida Community Library**, 201 Elm St., Oneida; 920-869-2210
- **Oshkosh Public Library**, 106 Washington Ave., Oshkosh; 920-236-5205

In addition, fact sheets and newsletters only are maintained at the public libraries in De Pere, Kaukauna, Little Chute, Neenah and Wrightstown.

An Administrative Record, which contains detailed information upon which the selection of the cleanup plans was based, is available at:

Check out these websites:

http://www.epa.gov/region5/cleanup/foxriver
http://dnr.wi.gov/topic/greatlakes/greenbay.html
http://contaminants.fws.gov/issues/restoration.cfm
http://www.fws.gov/midwest/es/ec/nrda/index.html
http://www.foxrivernrda.org

- **Wisconsin DNR,** Northeast Regional Office, 2984 Shawano Ave., Green Bay
- **Wisconsin DNR,** Bureau of Watershed Management, 101 S. Webster St., 3rd Floor, Madison
- **Appleton Public Library,** 225 N. Oneida St., Appleton
- **Brown County Library**, 515 Pine St., Green Bay
- **EPA Record Center,** 77 W. Jackson Blvd., 7th Floor, Chicago

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INSIDE FOX RIVER *CURRENT*

Fox River *Current* is published tri-annually by the Fox River Intergovernmental Partnership. Its purpose is to provide information about cleanup and restoration efforts on the Lower Fox River. Call Susan Pastor at 312-353-1325 or 800-621-8431, Ext. 31325, weekdays, 8:30 a.m. - 4:30 p.m. to request a subscription. Feedback on articles and ideas for future issues are welcome. Send comments to Susan Pastor, EPA Superfund Division (SI-7J), 77 W. Jackson Blvd., Chicago, IL 60604 or email pastor.susan@epa.gov.