



Wisconsin Chinook spawning run brings in enough eggs to help supply other states

MILWAUKEE— The 2015 fall Chinook spawning run in the Wisconsin waters of Lake Michigan is winding down and has produced enough eggs to supply hatcheries operated by the Wisconsin Department of Natural Resources and support neighboring states.

Although the 2015 spawning run has been later than usual this year and fish numbers have been down as expected, DNR fisheries staff at the [Strawberry Creek Chinook Facility](#) in Sturgeon Bay met their goal of 1.5 million eggs needed to produce the approximately 810,000 fish planned for spring 2016 stocking. Meanwhile, the [Root River Steelhead Facility](#) in Racine provided 450,000 eggs to the state of Indiana and the [C.D. "Buzz" Besadny Anadromous Fish Facility](#) in

Kewaunee provided 100,000 eggs to the state of Illinois.

Dave Boyarski, northern Lake Michigan fisheries supervisor, said one last Chinook egg collection will take place at Strawberry Creek to ensure genetics from some of the later spawning fish are captured.

"Using this phased approach is a key part of our brood stock management program," Boyarski said. "By collecting eggs throughout the run, we ensure maximum genetic diversity in our spawning stock. We have been pleased with the returns at Strawberry Creek, which remains our primary location for Chinook egg collection. We are also fortunate to have the Root River and Besadny facilities serving as backups and providing help to neighboring states this year."

Brad Eggold, DNR southern Lake Michigan fisheries supervisor, said fisheries managers anticipated this year's Chinook spawning run would be off from recent record highs because in 2013, Wisconsin decreased stocking levels by 30 percent.

"We reduced stocking – as did other states – to better match the availability of alewives, the main food source for Chinook," Eggold said. "This is part of the collaborative management we practice on Lake Michigan to help ensure a healthy and sustainable sport fishery that benefits anglers throughout the region."

This year, it is in large part fish from the reduced 2013 stocking class that made their way back home to spawn. Boyarski said this year's run **Chinook spawning run**

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Fantastic fishing forecast for Lake Erie

COLUMBUS, OH – The Lake Erie walleye hatch is one of the largest in recent history according to fisheries biologists with the Ohio DNR. Results from combined Ontario and Ohio surveys show that the 2015 hatch index is the highest since 2003. The excellent hatch should start to show up as catchable fish in the next three years.

With these hatch index results, we are expecting the walleye fishing in Lake Erie in the next three to five years to be exceptional," said ODNR Director James Zehringer. "This is outstanding news for Ohio anglers and out-of-state anglers who enjoy fishing on Lake Erie, the Walleye Capital of the World."

To estimate the basin-wide hatch of walleye, ODNR and the Ontario Ministry of Natural Resources and

Forestry combine their bottom trawl survey data. The resulting basin-wide average catch for 2015 is 84 walleye from the spring hatch per hectare (about 2.5 acres), which is well above the long-term average of 32 per hectare.

The 2015 yellow perch hatch also appears to have been successful in both Ohio and Ontario waters of the western basin. This is the fifth-best yellow perch hatch in the western basin since the interagency survey began in 1987.

"Three good yellow perch hatches in a row should help the perch population in the western basin rebuild and lead to quality yellow perch fishing over the next couple of years," said Jeff Tyson, head of Lake

Fantastic fishing

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ODNR reminds fall boaters how to stay safe by being prepared

COLUMBUS, OH – Even as cooler nights lead to falling water temperatures across the state, the days can still be perfect for paddling and boating on Ohio's lakes, rivers and streams. In an effort to reduce late season boating accidents from exposure to cold water, the Ohio DNR is prompting boaters to be aware of the dangers associated with cold water and to always wear a life jacket when on the water.

Properly loading your boat, dressing for the air and water temperature and wearing a life jacket are especially important in the late fall when waters are very cold.

It's important to be aware of the risks associated with boating this time of year and the necessity of being prepared should something go wrong while you're on the water. Information regarding boating safety and tips for avoiding hypothermia are available at watercraft.ohiodnr.gov/safetytips.

More than one-third of Ohio's boating-related fatalities from 2010-2014 resulted from people falling overboard and boats capsizing or swamping. Operation Overboard is a statewide boating safety campaign that emphasizes the dangers associated with overloaded and improperly loaded boats that can become swamped and capsize in frigid waters.

Ohio boaters are encouraged to get outside and take advantage of the beauty of this season. Powerboating and paddling provide excellent opportunities for people to take in the wonderful colors of fall from a unique viewpoint from their boats.

The ODNR Division of Watercraft is responsible for boating safety, education and law enforcement on all waters of the state. This statewide area includes the nearshore area along 451 miles of the Ohio River, approximately half the entire surface area of Lake Erie, more than 605 inland lakes and more than 60,000 miles of inland streams, rivers and other waterways. Ω

NOAA seeks public input on National Marine Sanctuary in Lake Michigan

For the first time since 2000, NOAA has announced its intent to designate new sanctuaries under the National Marine Sanctuaries Act. NOAA is asking for the public's input on protecting [Wis. – Lake Michigan's](#) maritime heritage resources.

Wisconsin – Lake Michigan is an 875 square mile area of Lake Michigan with waters extending from Port Washington to Two Rivers. The state of Wisconsin nominated this area through the Sanctuary Nomination Process with broad community support.

The area encompasses historic shipwrecks of national significance that merit the additional management authority of the Marine Sanctuaries Act. The area contains a collection of 39 known shipwrecks, 15 of which are listed on the National Register of Historic Places.

Fourteen of the shipwrecks are essentially intact and three vessels possess standing masts – a rarity in the Great Lakes. The area also includes Wisconsin's two oldest known shipwrecks. Research indicates that the proposed sanctuary also includes 123 vessel losses.

In December 2014, the state of Wisconsin [submitted a nomination](#) to be added to NOAA's inventory of places to consider as national marine sanctuaries. The nomination is focused on protecting and interpreting the nationally significant collection of shipwrecks, fostering partnerships with education and research partners, and increasing opportunities for tourism and economic development.

Comments must be received by **January 15, 2016**. Submit all electronic public comments via the [Federal eRulemaking Portal](#). Click the "Comment Now!" icon, complete the required fields, and enter or attach your comments.

More info: Ellen Brody, Great Lakes Regional Coordinator, 734-741-2270 - ellen.brody@noaa.gov. Ω



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Position Statement

Representing a major interest in the aquatic resources of the Great Lakes states and the province of Ontario, the Great Lakes Sport Fishing Council is a confederation of organizations and individuals with a concern for the present and future of sport fishing, our natural resources and the ecosystem in which we live. We encourage the wise use of our resources and a search for the truth about the issues confronting us.

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DEC joins innovative Lake Erie fisheries study

The first phase of an innovative binational study designed to characterize walleye movements throughout Lake Erie just came to a close, DEC Acting Commissioner Marc Gerstman announced.

A 2007 statewide angler survey estimated more than 1.1 million angler days were spent on Lake Erie and major tributaries. The estimated value of these fisheries contributed more than \$26 million annually to the local New York economy.

DEC, together with partners from other Lake Erie fisheries agencies and the Canadian province, is studying walleye movements in Lake Erie using cutting-edge acoustic telemetry technology that was unavailable just a few years ago. Acoustic telemetry technology employs a network of stationary acoustic receivers located on the lake bottom and surgically implanted acoustic tags in fish. Acoustic tags are the size of an AA-size battery and continually transmit signals to identify individual fish. When a tagged fish swims near a

receiver, the receiver records the signal from the tag.

Researchers from the DEC deployed acoustic receivers and surgically implanted acoustic tags in 70 adult walleye during the spring 2015 spawning period, with additional acoustic tagging planned in 2016 and 2017. Collaborators from other State and Provincial agencies around Lake Erie are also implanting acoustic tags in walleye and deploying acoustic receivers in their waters as part of this study. Results from this study will provide fisheries managers with important insights into walleye migration patterns, habitat use and survival.

"This will allow us to learn a great deal more about Lake Erie walleye movements than any previous study," said Don Einhouse, Lake Erie Fisheries Research Unit Leader.

There are currently over 100 acoustic receivers in Lake Erie recording the movements of walleye and other fish species. In the next several weeks, DEC staff will begin

to retrieve the receivers and download the fish detection data.

Early results have confirmed large-scale walleye movements in the lake, with fish tagged by DEC in New York caught in Ohio waters. Previous studies documented movement of walleye produced in Lake Erie's western basin moving into New York waters as adults during the summer months, only to return to the western basin in fall.

Angler cooperation is critical to the success of this effort. Anglers that capture an acoustic tagged walleye will receive a \$100 reward for returning the transmitter and fish. Tag return and reward information can be found on an orange tag visible on the back of each tagged walleye. Several walleye tagged in New York waters have already been returned in 2015.

For further information on Lake Erie Fisheries research, visit <http://www.dec.ny.gov/outdoor/7967.html> or contact Don Einhouse, Lake Erie Fisheries Research Unit Leader at (716) 366-0228. Ω

Wisconsin's expanded early trout season gets underway January 2

MADISON, Wis. – An expanded early trout season that opens January 2 will give Wisconsin anglers one more reason to love winter.

While ice fishing will still rule the day on most inland waters, rivers and streams with strong groundwater flows should be open and ready to greet anglers interested in catching and releasing trout.

The expanded early catch and release trout season runs from 5 a.m. on January 2 until May 6, 2016 on waters where the early season currently exists. The regular trout season opens May 7, 2016.

Joanna Griffin, Wisconsin Department of Natural Resources trout specialist, said the expanded early season was developed in response to feedback from anglers and the resulting rule received extensive public review.

"We appreciate the angler

interest in our world class trout waters and we believe the early catch and release season will provide exciting opportunities while protecting the resource," Griffin said. "We hope by providing more opportunities we will recruit more people to trout fishing and the extended seasons will have a positive impact on local economies."

Since 2011, the department has held more than 30 public meetings, conducted three surveys and convened additional task force meetings to develop the regulations.

Following the early season, anglers will see simplified regulations during the regular season. The regulations were developed to create more uniformity for anglers who fish on different trout streams and within small geographic areas. Under the new system, maps online and in the regulation pamphlet will indicate which regulation is in place:

► Green means go fish, with no

length limit, a bag limit of five fish and no bait restrictions;

► Yellow means caution, with an 8 inch length limit, a bag limit of three fish and no bait restrictions; and

► Red means special regulations are in place. Anglers are advised to stop and understand the regulations before fishing.

In addition to the early spring season, the fall harvest season will extend from the current September 30 to October 15 in 2016. To learn more about the regulations, visit DNR.wi.gov and search "[trout review](#)." Early season anglers must have a valid fishing license and a trout stamp; licenses are valid from the start of the license year in early March through March 31 the following year. Access DNR's online licensing system by searching for "[licenses, permits and registrations](#)." Ω

NE Michigan tributaries surveyed for presence of invasive Eurasian ruffe

Surveys were conducted in spring 2015 to detect the presence of Eurasian ruffe in tributaries of northeastern Michigan. The surveys are part of an annual effort to assess the status of ruffe in tributaries to northern Lake Huron. The ruffe is a small invasive fish native to Eurasia. Ruffe only reach sizes of five to six inches in length and are not of value as a sport species; however, due to their small size, they may compete with juvenile perch and other valuable bottom dwelling species for food and habitat.

Ruffe were first found in northeastern Michigan in 1995, where they were discovered at the mouth of the Thunder Bay River in Alpena, MI. Alpena FWCO initiated annual spring and fall surveillance for ruffe in U.S. waters of Lake Huron in 1996. Ruffe were not detected at other sampling locations on Lake Huron, however they persisted in the Thunder Bay River and produced a large year class (young-of-the-year) during 1999. Their numbers declined abruptly by 2000, and ruffe have not been captured from the Thunder Bay River or other nearby locations since 2003. Recent ruffe sightings reported from the Trout River (Rogers City, MI) and the Cheboygan River (Cheboygan, MI) spurred Alpena FWCO to expand surveillance in these areas.

During May, Alpena FWCO staff and volunteers sampled the Thunder Bay River, Lafarge Corporation on Thunder Bay, the Devils River (Ossineke, MI), Trout River, and Cheboygan River to detect the presence of spawning-phase ruffe. Boat electrofishing, backpack electrofishing, windermere traps, and small fyke nets were used during sampling. No ruffe were captured following 41 trap/fyke net lifts and 2.8 hours electrofishing effort. Ruffe sampling will continue in fall 2015 at these locations and ports in U.S. waters of Lake Huron.

Indiana receives Wis Chinook salmon eggs

Wisconsin and Indiana fisheries biologists worked together earlier this fall to save Indiana's plan for stocking Chinook salmon in Lake Michigan in 2016.

Indiana normally receives Chinook eggs each year from Michigan, but record-low numbers of fish returning to streams from Lake Michigan to spawn left Michigan unable to spare eggs for Indiana. On short notice, the Wisconsin DNR offered to let Indiana use the Root River Steelhead Facility in Racine, Wisconsin, as a backup source for Chinook salmon eggs.

On October 10, Indiana DNR biologists and hatchery staff worked alongside Wisconsin DNR staff to spawn more than 100 pairs of Chinooks. Approximately 539,000 viable eggs are now resting in incubation trays at Mixsawbah State Fish Hatchery near Walkerton. That is likely more than enough to meet the 2016 production goal of 200,000 fingerlings.

Had the Indiana DNR not taken advantage of Wisconsin DNR's offer, no Chinooks would be stocked in Indiana waters in 2016.

The Chinooks will be given a coded wire tag in March 2016, and stocked in late April 2016. These tagged fish will be identified by having a missing adipose fin, and be the fifth-year class of Chinook salmon marked under the lake-wide federal Great Lakes Mass Marking Program.

The rapidly changing Lake Michigan ecosystem further underscores the need for agencies around the lake to work together to manage the fishery. These partnerships have been in existence for decades but the partners involved expect their importance to increase. Ω

Early detection and increased public awareness about ruffe and other invasive species may aid in slowing or preventing their spread to new areas. For more info about ruffe, please visit the Aquatic Nuisance Species (ANS) Task Force website at <http://anstaskforce.gov>. Ω

Seasonal lake sturgeon releases put more than 6,300 fish into Michigan waters

The Michigan DNR and several partners released more than 6,300 juvenile lake sturgeon into various public waters across Michigan this summer and fall in an effort to rehabilitate this culturally significant fish species. All juvenile lake sturgeon were collected from the wild last spring and reared in streamside facilities until they reached at least 7 inches or larger in size. All fish are tagged prior to being released into their respective rivers.

"Many of these stocking efforts were public events that shined a spotlight on how important lake sturgeon are to our state," said DNR Fisheries Division Chief Jim Dexter. "Michigan has a long history with lake sturgeon, and working with our partners helps us to move forward toward protecting them for the future."

These annual stocking efforts are critical to restoring the state's lake sturgeon population. Along with the DNR and tribes, it takes the work of many partners to secure funding and resources to make restoration of the population possible. These partners include: the DNR, Black Lake chapter of Sturgeon For Tomorrow, Kalamazoo River chapter of Sturgeon For Tomorrow, Little River Band of Ottawa Indians, Little Traverse Bay Band of Odawa Indians, Match-E-Be-Nash-She-Wish band of Potawatomi Indians, Keweenaw Bay Indian Community, Michigan State U, USFWS, and U.S. Forest Service.

For more information about lake sturgeon visit michigan.gov/sturgeon. Ω



Happy Thanksgiving

New walleye, yellow perch rules for Saginaw Bay

The Michigan Natural Resources Commission recently approved changes to walleye and yellow perch recreational fishing regulations in Saginaw Bay. The new regulations went into effect immediately.

For walleye, the daily possession limit is increased from five (5) to eight (8) fish and the minimum size limit is reduced from 15 to 13 inches. For yellow perch, the daily possession limit is reduced from 50 to 25 fish.

Walleye have recovered and are very abundant in Saginaw Bay, and while this recovery is considered a success story, walleye are now suppressing the available prey base. Some of the consequences of less available prey are slower walleye growth and poor survival of juvenile yellow perch. Yellow perch are reproducing very well (like walleye), but young perch are not surviving, which may be in part due to walleye predation. As a result, the adult yellow perch population has been greatly reduced.

The waters of Lake Huron where these regulation changes for walleye and yellow perch will change are known as [Lake Huron management unit MH-4](#), including the Saginaw River up to the Center Road Bridge in Saginaw. Fishing seasons for walleye and yellow perch were not changed for these waters.

“Both walleye and yellow perch are of great importance to anglers and the local economy in the Saginaw Bay Area,” said Jim Baker, DNR fisheries manager for Southern Lake Huron. “Historically, yellow perch were even more popular than walleye because they are easy to catch and easily available to anyone with a fishing rod – including shore-based anglers who can’t fish Saginaw Bay waters.”

The new regulations go into effect immediately and will remain in place for the 2016 fishing season (open April 1). These regulations are part of [Fisheries Order 215](#). For future reference in regard to these

Less restrictive Red Lake winter walleye regulations

Anglers fishing Upper Red Lake this winter will be able to keep three walleye – one more than last winter’s limit – and those fish can be from a broader size range. Effective Tuesday, December 1, the daily bag and possession limit for Red Lake will be three walleye, only one of which may be longer than 17". Last winter, anglers could keep two walleye, one of which could be longer than 26 inches. All walleye 17-26 inches had to be immediately released.

“In fall assessment netting by the Minnesota Department of Natural Resources and the Red Lake Band of Chippewa, there was high walleye abundance and large numbers of fish from 12 to 21 inches,” said Gary Barnard, DNR Bemidji area fisheries supervisor. “The coming winter’s less restrictive regulations are based on the excellent status of Red Lake’s walleye fishery.”

The DNR and the Red Lake Band have developed a joint harvest plan that governs walleye harvest on an annual basis. The harvest plan was recently revised for the first time since the walleye fishery reopened in 2006 after being closed in the 1990s due to overharvest. Harvest regulation options were the topic at a Red Lake Citizen Advisory Committee meeting in late September.

“The Citizen’s Advisory Committee wholeheartedly endorses the new winter regulations for the 2015-2016 ice fishing season,” said Advisory Committee member Joe Corcoran. “We are optimistic these regulations will be successful at keeping walleye harvest within the established target harvest range for the winter season.” For more info: www.mndnr.gov/fishing. Ω

regulations, anglers will be encouraged to call a toll-free phone number each year to get up-to-date information about possession limits for walleye and yellow perch on Saginaw Bay.Ω

Snowshoe-making workshops in Dec, Jan & Feb

At Sleepy Hollow State Park

The Michigan Iron Industry Museum will present a snowshoe-making workshop December 5, offering participants a chance to lace their own pair of traditional snowshoes.

[Sleepy Hollow State Park](#) in Clinton County will offer several two-day snowshoe-building classes at the park’s headquarters from December through February.

Class participants will learn to weave traditional wooden snowshoes similar to the ones Native Americans made for generations. These handmade snowshoes can be used for hiking – an easy, inexpensive way to get outside and burn some calories throughout the winter – given as gifts, or used as home decorations.

Class days and times include:

- Friday, Dec. 4: 5-9 p.m. (Part 1)
Saturday, Dec 5: 9 a.m.-1 p.m. (Part 2)
- Friday, Dec. 11: 5-9 p.m. (Part 1)
Saturday, Dec 12: 9 a.m.-1 p.m. (Part 2)
- Friday, Jan. 8: 5-9 p.m. (Part 1)
Saturday, Jan. 9: 9 a.m.-1 p.m. (Part 2)
- Friday, Jan. 22: 5-9 p.m. (Part 1)
Saturday, Jan. 23: 9 a.m.-1 p.m. (Part 2)
- Friday, Feb. 12: 5-9 p.m. (Part 1)
Saturday, Feb. 13: 9 a.m.-1 p.m. (Part 2)

Classes are limited to a maximum of eight participants, and reservations are required. This activity requires concentration over long periods of time and is recommended for ages 16 and older. The cost for making a pair of snowshoes is \$170, which includes preformed wooden frames, lacing, high-quality bindings and personal instruction.

For more info or to make a reservation: call Sleepy Hollow State Park, 517-651-6217, email Denise Smith smithd8@michigan.gov. Ω

New Michigan fishing regs adopted

The [Michigan Natural Resources Commission](#) approved several fishing regulations November 5, which immediately went into effect and will remain in effect for the 2016 fishing season (which begins April 1).

All of the changes are highlighted below and also will be reflected shortly in the online version of the 2015 Michigan Fishing Guide, available at michigan.gov/fishingguide. These regulation changes are part of [Fisheries Order 206](#).

Walleye Regulations on Ontonagon River

Walleye regulations for the Ontonagon River (Ontonagon County) have become more restrictive as only one (1) walleye in the daily possession limit may be possessed greater than 25 inches.

Lake Gogebic Walleye Size Limit

A modification to the minimum size limit for walleye on Lake Gogebic (Gogebic and Ontonagon counties) now allows anglers to possess up to two (2) walleye measuring 13 to 15 inches as part of the daily possession limit of five (5) walleye. The minimum size limit for walleye

remains at 15 inches otherwise.

Tahquamenon River Muskellunge Size Limit

The minimum size limit for muskellunge on the Tahquamenon River and tributaries (upstream from Upper Falls) in Luce County has been reduced to 38 inches. Anglers are reminded that a muskellunge harvest tag still is required and allows an angler to harvest one muskellunge in Michigan waters per fishing season (April 1 – March 31). The harvest tag is available at all license vendors.

Sand Lake (Montcalm County)

Sand Lake has been added to the list of waters with a 24- to 34-inch protective slot limit and daily possession limit of two (2) northern pike. This means northern pike measuring below 24 inches and greater than 34 inches may be kept. Northern pike within the protected slot limit must immediately be released.

Lake Lavine (Branch County)

Lake Lavine is managed as a trout lake but also has a northern pike population. The commission removed the minimum size limit and possession limit so anglers can help

remove northern pike from this water body to improve trout populations.

Waters with Northern Pike Daily Possession Limit of Five (5)

The following waters have been added to the list of waters where up to five (5) northern pike may be retained in the daily possession limit with only one (1) allowed greater than 24 inches:

- Paradise (Carp) Lake (Cheboygan and Emmet counties)
- Pickerel Lake (Newaygo County)
- Kimball Lake (Newaygo County)
- Emerald Lake (Newaygo County)
- Sylvan Lake (Newaygo County)
- Susan Lake (Charlevoix County)
- Orchard Lake (Presque Isle County)

There have been several regulation changes this year which do not show up in the printed version of the 2015 Michigan Fishing Guide (found at all major retailers). Anglers are encouraged to check the online version found at michigan.gov/fishingguide for the most up-to-date regulatory information. Ω

Reef Project will improve fishing and diving at Rockaway Reef

A new series of man-made reefs will be constructed off the south shore of Long Island to improve marine life habitat and bolster recreational opportunities for fishing and scuba diving, the NYSDEC announced.

The deployment of these new reef building materials will recreate vital marine habitat essential for improving the health of marine fish while also providing benefits for divers and fishermen alike.

Rockaway Reef, originally permitted in 1965, is a 413-acre area of man-made reefs located 1.6 miles south of Rockaway Beach off Long Island. Under a previous reef permit, thousands of tons of rock, concrete and steel had been placed there over the decades creating important marine habitat. The most current permit had

sunset in 1989, resulting in no new material being added to the reef, and recent reports had indicated much of the previously placed material had silted in or collapsed.

Rockaway Reef is one of 11 sites managed through NYSDEC's Artificial Reef Program.

Transco-Williams, the company associated with the Rockaway Delivery Lateral Pipeline Project, will pay for the \$1.6 million project.

More than 450 sections of concrete coated pipe will be placed to expand the network of individual patch reefs throughout the site.

The New York Artificial Reef Program is popular with many local fishermen and divers, and party charter boats.

All who fish in New York State

waters are required to enroll in the New York Recreational Marine Fishing Registry. For more info. on the Registry: www.dec.ny.gov/permits/54950.html, or contact the Marine Resources Marine Fishing Access Unit at (631) 444-0438.

The reef construction is part of Governor Cuomo's NY Open for Fishing and Hunting Initiative, an effort to improve recreational activities for in-state and out-of-state sportsmen and sportswomen and to boost tourism opportunities throughout the state. For more info. on this initiative: <http://www.governor.ny.gov/press/02202013-ny-open-for-fishing-and-hunting>.

More info: <http://www.dec.ny.gov/outdoor/7896.html>. Ω

Invasive northern snakehead carries bacteria as bad as its bite

The invasive northern snakehead fish found in the mid-Atlantic area is now cause for more concern, potentially bringing diseases into the region that may spread to native fish and wildlife, according to some USGS scientists.

The team found that a group of adult northern snakehead collected from Virginia waters of the Potomac River south of Washington D.C. were infected with a species of *Mycobacterium*, a type of bacteria known to cause chronic disease among a wide range of animals.

"Mycobacterial infections are not unusual among fish, but they are nonetheless noteworthy because they can have an impact at the population level and even affect other fish and wildlife," said lead author veterinarian Christine Densmore.

There are many known species of Mycobacteria that have been identified in fish, including fish from

the Potomac River and Chesapeake Bay area. Several years ago, mycobacterial infections were associated with severe disease typified by ulcerative skin lesions and wasting among wild striped bass from the Chesapeake Bay and its tributaries. Some species of *Mycobacterium* are also known to cause diseases among other animals, including mammals.

Mycobacterial disease in fish is often called piscine mycobacteriosis, and it is associated with many different species of mycobacteria. In this instance, no external signs of disease were noted on the infected snakehead fish, and the disease was discovered microscopically as lesions associated with the bacteria that were visible within internal organs.

"Another interesting feature of this particular organism is that we have not been able to identify it in the

available gene sequence data base, so this may be a unique, undescribed species of *Mycobacterium*. However, more research is needed to further characterize the bacteria and its potential effects on the northern snakehead population and other native species," said Densmore.

The researchers plan to continue to work closely with other federal and state agencies to investigate the pathogens and diseases carried by the northern snakehead fish in mid-Atlantic waters such as the Potomac River. This study of Mycobacterial infection in Northern snakehead from the Potomac River catchment, conducted in collaboration with fisheries biologists from the Virginia Department of Game and Inland Fisheries, is available [online](#) through the Journal of Fish Diseases. Ω

Mille Lacs ice anglers allowed to keep 1 walleye, 5 northern

Anglers may keep one walleye between 18 – 20" or one longer than 28" when ice fishing begins on Mille Lacs Lake this winter. The winter walleye regulation goes into effect Dec. 1, and extends to, Feb. 28, 2016.

The Minnesota DNR decision reflects the Mille Lacs Fisheries Advisory Committee's desire to keep winter fishing open all season.

"If winter walleye harvest approaches the established cap, catch-and-release will be implemented so angling can continue.

Last year, Mille Lacs anglers could keep two walleye 18 – 20", except one could be longer than 28".

DNR will monitor creel data every two weeks during the winter. If angler walleye harvest appears likely to exceed this year's 5,000 lb. cap, catch-and-release walleye fishing would go into effect. State anglers harvested 3,100 lbs. of walleye last winter.

www.mndnr.gov/millelacslake. Ω

Grass carp eggs compromised by settling on streambeds

Grass carp egg survival is compromised when they settle on streambeds and are potentially covered by sediments, according to a new study by the USGS. It has been long assumed that the eggs of Asian carps, including grass carp, must be carried in the water current in order to hatch successfully, but no previous studies have proven that theory.

This information is critical in helping managers mitigate effects of an Asian carp invasion. Results can be used to improve models that help predict where and when carp might successfully reproduce. Findings support the idea of engineering settling zones as a control mechanism. Full report: [online](#).

"This study constitutes the first actual evidence that falling to the sediment is detrimental to Asian carp eggs, allowing scientists more confidence in predicting where these fish could reproduce." Ω

DNR names 17 to Mille Lacs Fisheries Advisory Committee

The Minnesota DNR has appointed 17 Minnesotans to a newly formed Mille Lacs Fisheries Advisory Committee that will give input to the DNR on management programs and related issues for Mille Lacs Lake.

The committee will contribute to the broader understanding of biological, social and economic aspects of the Mille Lacs fishery and develop recommendations to advise the DNR on potential approaches and regulations to solve identified issues.

Group members will represent diverse perspectives and interests and provide us with valuable understanding and advice about Mille Lacs Lake.

Appointed to the committee are members who represent a diversity of angling interests; local business and tourism interests; tribal and academic representation; and local county officials. For more info: [Mille Lacs Fisheries Advisory Committee](#) Ω

Winnebago system sturgeon harvest caps increased for 2016

MADISON – The deadline to buy sturgeon spearing licenses for the 2016 Lake Winnebago System and Upriver Lakes seasons was October 31, with the upcoming seasons promising new opportunities to land 100-plus pound fish and celebrate a tradition with family and friends that dates to the 1930s.



Chad Cherney's 81.3-inch female topped the scales at 137.5 lbs., making his fish the largest fish harvested during the 2015 season.

The 2015 seasons marked the sixth highest harvest total on record with 2,158 fish taken including 1,870 from Lake Winnebago and 288 from the Upriver Lakes. Chad Cherney harvested the largest sturgeon, an 81.3 inch female weighing 137.5 pounds, said Ryan Koenigs, Lake Winnebago sturgeon biologist for the Wisconsin Department of Natural Resources.

There are separate seasons for Lake Winnebago and for the Upriver Lakes that occur simultaneously, with participation in the Upriver Lakes season determined by lottery. The

2016 season opens on Saturday, February 13.

Again this year, 12-year-olds can participate in the lake sturgeon spearing season if they buy a license. Also, adults whose names were drawn in the Upriver Lakes sturgeon spearing lottery can transfer their tags to youngsters, allowing youngsters a chance to spear on the lakes, where success rates have historically been higher.

Koenig said that thanks to careful management, the fishery continues to produce many fish in excess of 100 pounds, although the 2015 season saw a slight reduction in weights among the largest fish due to reduced abundance of gizzard shad and lake fly larvae. Still, the potential for trophy sized fish remains high in 2016 due to the distribution of age classes currently in the population as fish reach their growth potential.

Successful management of the fishery was among the topics discussed at the annual meeting of the North American Sturgeon and Paddlefish Society held in Oshkosh, Koenigs said. For 2016, the harvest caps have been raised to 430 juvenile females, 950 adult females and 1,220 males.

Licenses are again \$20 for residents and \$65 for nonresidents and can be purchased at any [license sales location](#); over the Internet by going to the DNR [Online Licensing Center](#); or by calling toll-free 1-877-WI LICENSE (1-877-945-4236).

The minimum spearing age is 12 years, and youth who turn 12 between November 1, 2015, and the last day of the 2016 spearing season can still buy a spearing license after October 31. Military personnel home on leave can also purchase a license after October 31.

There are unlimited license sales on Lake Winnebago, while the Upriver Lakes fishery is managed by a lottery and limited to 500 permitted spearers. Once a person is authorized to buy an Upriver Lakes license for a season, they are not able to buy a license for Lake Winnebago.

Spearers are now able to transfer Upriver Lakes spear licenses to youth spearers (age 12-17), and can do so by filling a transfer of license form at least 15 days before the 2016 sturgeon spear fishery.

For more info on harvest trends and management of the Lake Winnebago sturgeon fishery: DNR.wi.gov and search "[Lake Winnebago sturgeon spearing](#)." **Contact(s):** Ryan Koenigs, DNR Lake Winnebago sturgeon biologist, Ryan.Koenigs@wisconsin.gov, 920-303-5450; Jennifer Sereno, DNR communications, Jennifer.Sereno@wisconsin.gov, 608-770-8084. Ω

NMMA buys American Sportfishing Association shows

The National Marine Manufacturers Association acquired the rights to the American Sportfishing Association's four consumer shows, a strategic move that will boost the NMMA's ability to expand the fishing component at some of its existing shows.

The four shows are the [Chicagoland Fishing Travel and Outdoor Expo](#), which hosts its fourth annual event January 28-31 at the Schaumburg Convention Center in Illinois; the [Greater Philadelphia Outdoor Sportshow](#), which runs February 25-28 at the Greater Philadelphia Expo Center for the seventh year; the [World Fishing and Outdoor Exposition](#), which will hold its 39th installation March 10-13 in Suffern, N.Y., at Rockland Community College; and the [Saltwater Fishing Expo](#), which opens its 11th year at the Garden State Exhibit Center March 18-20 in Somerset, N.J. They will be added to the 23 shows the NMMA already runs and 12 of those are boat and sport shows. Ω

ODNR approves more than \$11 million for recreational projects

Communities throughout the state receive grant awards to improve outdoor opportunities

COLUMBUS, OH – The Ohio DNR recently announced the grant recipients for the Clean Ohio Trails Fund, NatureWorks and Recreational Trails Program. ODNR has approved more than \$11 million in funding to benefit local Ohio communities statewide.

“These three grant programs allow ODNR to invest in Ohioans and improve the quality of life by encouraging people to spend time outdoors here in the Buckeye State,” said ODNR Director James Zehringer. “Whether that involves adding more trails, building shelters and playgrounds or improving restrooms, our focus is to keep moving forward with better facilities so Ohioans will have even more reasons to spend time outdoors.”

Clean Ohio Trails Fund:

ODNR has approved \$6.1 million in Clean Ohio Trails Fund grants in this 10th round of funding to be awarded through the program. ODNR has awarded 19 Clean Ohio Trails Fund grants for community projects that will build and maintain infrastructure allowing citizens to conveniently connect with nature. The projects will complete regional trail systems and links to statewide trails, link population centers with outdoor recreation areas and facilities, preserve natural corridors and connect urban areas to support commuter access.

Administered by ODNR, the Clean Ohio Trails Fund is one of four components of the Clean Ohio Fund, which restores, protects and connects Ohio's natural and urban places. Ohioans approved the establishment of the \$400 million bond program in 2000. Grant recipients will provide a 25 percent local match for their projects.

NatureWorks:

ODNR has approved 98 NatureWorks state grants totaling nearly \$4 million to help develop and improve public access for outdoor recreation facilities

across Ohio. This 22nd round of the ODNR NatureWorks grant program will provide funding in 71 Ohio counties for community-based projects to create and renovate parks and outdoor recreation areas. The grants will support the acquisition of approximately 73 acres of green space and the development or improvement of 24 playgrounds, 16 park restrooms, 14 shelters/gazebos, 13 ballfields and play courts, 12 trails and five spray-splash pads and pool components.

NatureWorks provides up to 75 percent reimbursement assistance to local government subdivisions (i.e., townships, villages, cities, counties, park districts, joint recreation districts and conservancy districts) for the acquisition, development and rehabilitation of recreational areas. The projects are funded through the Ohio Parks and Natural Resources Bond Issue, which was approved by Ohio voters in November 1993. Additional legislation authorized the creation of the NatureWorks Grant Program.

Recreational Trails Program:

ODNR announced that 14 recreational trails in Ohio have been selected to receive more than \$1.56 million in federal funds through the Recreational Trails Program (RTP). More than 200 local trail projects across Ohio have received more than \$26.5 million in federal funds through ODNR since RTP began in 1993.

ODNR administers federal RTP grants for the development and improvement of non-motorized and motorized trails. RTP is a reimbursement grant program that provides up to 80 percent of a project's funding. This funding goes to projects that create and maintain trails and trail support facilities, improve access for people with disabilities and provide education about trail safety and the environment. Funding for RTP comes from the U.S. Federal Highway Administration via a portion of the federal motor fuel excise tax collected

from non-highway recreational fuel use.

For more info:
realestate.ohiodnr.gov/outdoor-recreation-facility-grants. Ω

Chinook spawning run

Continued from page 1

still occurred within the typical four-week window, although lack of rain likely played a role in the delayed start.

"The return of fish each fall can be affected by a variety of conditions including water temperature, lake levels and stream flow," he said.

Going forward, the fisheries managers said, the department will continue to rely on the best available population estimates and models from a variety of state and federal agencies including the U.S. Fish and Wildlife Service and U.S. Geological Survey to continue to balance salmon stocking with alewife numbers. Although Chinook were originally stocked in the late 1960s to help control alewife numbers, alewives are now at historic lows due to the effects of zebra and quagga mussels as well as predation from previously high numbers of Chinook.

At least one bright spot is that recent USGS fall surveys indicate that the alewives had a successful 2015 spawning season this spring and young of the year alewives are now present. Final alewife abundance estimates for 2015 are expected in March.

"The bottom line for anglers is that we are trying to maintain an equilibrium of predators and prey that has produced harvests the last two years that are close to the 46 year long-term average catch," Eggold said. "These average catches are more sustainable and necessary to maintain a productive trout and salmon fishery based on the changing ecology of the lake." Ω

Michigan egg collection efforts

The DNR has been working hard this fall, and will continue to this winter, to gather necessary eggs to maintain the production of hatchery fish to support management objectives for Michigan's world-class fisheries. Fall egg-takes have been completed or soon will start for wild Chinook and coho salmon and for broodstocks of brown, rainbow, brook and lake trout.

Chinook salmon eggs were collected at the Little Manistee River weir and from the Swan River weir near Rogers City. Coho salmon eggs were also collected at the Platte River State Fish Hatchery weir.

"Although we experienced a limited run of wild Chinook salmon this year, we anticipate collecting a total of 3 million eggs from the Little Manistee and Swan River weirs," said Aaron Switzer, state fish hatchery manager. "We're planning to collect around 4.4 million coho salmon eggs at the Platte River weir."

Because of the smaller than anticipated Chinook salmon run experienced this year, all eggs collected will be reared in Michigan. Traditionally, a portion of the eggs have gone to Indiana and Illinois to meet their fish-rearing needs. Michigan still will provide coho eggs to those states, with 2.5 million staying in Michigan, 1 million going to Indiana and 900,000 to Illinois.

Captive broodstock egg-takes for brook and lake trout took place through the end of October at the Marquette Fish Hatchery. Similarly, egg-takes for brown trout at Oden Fish Hatchery continued until mid-November. That will be followed by rainbow trout egg-takes at Oden starting in December and continuing until mid-January. Captive egg-takes occur every one to two weeks.

Captive broodstocks will provide 220,000 brook trout eggs, 410,000 lake trout eggs, 3.3 million brown trout eggs and 1 million rainbow trout eggs. An additional 640,000 splake eggs (brook trout and lake trout hybrid) also will be collected.

michigan.gov/hatcheries Ω

DTE Energy \$25,000 grant to construct boat dock & pier

DTE Energy Foundation has awarded a \$25,000 grant toward the construction of a school ship dock and world-class fishing pier at the Refuge Gateway in Trenton, Michigan. As the future site of the Detroit River International Wildlife Refuge Visitor Center, the Refuge Gateway will welcome thousands of annual visitors and serve as a hub for outdoor recreation and environmental education in southeast Michigan.

The contribution from DTE Energy Foundation helped the project to go to bid on October 12, with an expected contract award later this fall. A grand opening for the boat dock and fishing pier will occur in either fall 2016 or spring 2017.

The boat dock and fishing pier will extend 775 feet into the Detroit River to provide a free, universally accessible, shore-based fishing experience. The project includes a boardwalk, fishing pier, floating dock, seating areas, shade structures, and interpretive signage. Areas accessible from the boardwalk include deeper waters of the Trenton Channel well known as part of the "Walleye Capital of the World" and shallower waters rich in panfish. This fishing pier will allow the public to fish in water depths currently only available to those with a personal watercraft. It also will support vessel-based environmental educational opportunities for school children under Michigan Sea Grant's Great Lakes Education Program.

"Wayne County is proud to be part of this transformational project for southeast Michigan," noted Lawrence C. Hemingway, Director of Wayne County Parks. "The boat dock and fishing pier will provide access to the wonderful fishing that the Detroit River offers, as well as providing an environmental educational facility for students. Wayne County Parks is extremely excited about the quality of life enhancements this project will bring to the community." Ω

Fantastic fishing

Continued from page 1

Erie Fisheries Program for the ODNR Division of Wildlife.

Each August, wildlife agencies sample the waters using bottom trawls in search of young of the year walleye and yellow perch. Data are combined into a basin-wide index and compared to previous years to estimate the success of the walleye and yellow perch hatches. This provides biologists with an estimate on how many young fish will enter the fishable population two years later. Ω

Smallmouth sets new Michigan State Record

The Michigan DNR confirmed a new state-record catch for smallmouth bass. This marks the sixth state-record



fish caught so far in 2015.

The existing state record for smallmouth bass was broken October 18 by Greg Gasciel of Rhodes, Michigan. Gasciel was bait-casting with a green grub when he landed a 9.33-lb, 24.50" smallmouth bass from Hubbard Lake in Alcona County.

The previous state record for smallmouth bass was set back in 1906 with a 9.25-pound, 27.25-inch fish taken from Long Lake in Cheboygan County. Records show this fish was caught by W.F. Shoemaker. Ω

Illinois River Canoe & Kayak Trail open

The Union Sportsmen's Alliance (USA), Illinois American Water and Peoria Economic Development Council held a ribbon cutting ceremony on October 29 to mark the completion of a new Illinois River Canoe & Kayak Trail completed by union volunteers. Ω

Fall stocking well underway during third year of Wisconsin Walleye Initiative

MADISON – Fall walleye stocking is well underway as part of the Wisconsin Walleye Initiative, with some 355,000 of the 6- to 8-inch extended growth walleye now distributed primarily in northern lakes.

Plans are on track to distribute 760,000 fish this year, eclipsing last year's stocking record of 720,000 extended growth walleye. To date, 68 of 128 state waters have received the large fingerlings, with the scheduled deliveries now progressing to lakes in southern Wisconsin.

The stocking continues to go extremely well this year, with most of the fish measuring more than 7 inches. These larger fish have an increased chance of survival and we are already seeing positive results from the previous two years of increased stocking. Depending on local conditions and forage availability, fish from the first year class of the Wisconsin Walleye Initiative should be approaching legal size limits in most waters in the next two years – a real win for Wisconsin anglers.

An important part of the story in 2015 has been the growing contribution of private and tribal fish farms to the pool of fish available for stocking. During the first year of the Wisconsin Walleye Initiative, private and tribal fish farms contributed just under 22,000 fish. That number rose to nearly 213,000 fish in 2014 and should be even higher this year.

In addition to fostering growth in the private aquaculture industry, the stocking also represents a win for the broader economy. Wisconsin remains one of the top three fishing destinations in the U.S. with resident and nonresident anglers generating an economic impact of nearly \$2.3 billion per year, according to the American Sportfishing Association.

"Walleye remain a top objective for many recreational anglers and a large part of the tourism industry in the state is driven by anglers pursuing walleye," said Justine Hasz, DNR fisheries bureau director. "The Wisconsin Walleye Initiative is part of our overall management strategy to help restore reproducing populations in lakes that formerly supported

native populations and improve the numbers in lakes that need regular stocking to maintain good fisheries."

While stocking the larger, extended growth fingerlings makes sense in some lakes, this year's stocking schedule also calls for distribution of 1.4 million small fingerlings and 15.2 million fry. DNR's fisheries biologists develop stocking plans for the different sized fish based on specific lake conditions; in some lakes the fry and smaller fingerlings perform very well and are more cost effective.

==In 2013, Gov. Scott Walker and the Legislature approved the Wisconsin Walleye Initiative with \$8.2 million for state hatchery infrastructure improvements, \$1.3 million additional funding for annual state hatchery operating costs, along with a one-time allotment of \$2 million for private sector and tribal infrastructure improvements and \$500,000 for the annual purchase of extended growth walleye from non-DNR hatcheries. Funding totaling \$500,000 was approved earlier this year to continue the effort for 2015 and 2016. Ω

Grants available to develop "WILD School Sites"

Ohio teachers who have successfully used Project WILD in their classrooms can now provide students with additional hands-on learning about wildlife and habitat through grants from the Ohio DNR. ODNR grants, totaling \$500 each, will be awarded on a competitive basis to 40 schools currently participating in Project WILD, a supplemental environmental education curriculum for grades K-12. For the first time, grants will be available the entire school year through May 31, 2016.

Project WILD uses wildlife and wildlife management concepts to teach traditional school subjects, such as math, science and language arts. Now in its 10th year, the grant program provides teachers with funding to purchase the materials, equipment and activities needed to

develop "WILD School Sites" on their campuses.

A WILD School Site project allows teachers to take lesson plans outdoors, bringing conservation education concepts to life for students. An added benefit is the improvement of schoolyard habitat for wildlife and people, which enhances outdoor learning.

The grants are awarded to applicants that best meet the WILD School Site criteria. Criteria include participation in one of Ohio's Project WILD programs, direct improvement of the habitat on the school grounds, involvement of the students in the projects as much as possible and correlation of the projects to the school's curriculum.

Interested educators should submit an application from now

through May 31 to the ODNR Division of Wildlife, Outdoor Education Section, 2045 Morse Road, Bldg. G, Columbus, OH 43229. Complete details of the grant program and an application packet can be found at wildohio.gov. To learn more about Project WILD or to find an area workshop, go to wildohio.gov or call 800-WILDLIFE. Ω



Platte River Fish Hatchery big part of state's success with coho salmon

Some years back, when Michigan's Chinook salmon program was in its greatest glory, some anglers suggested the DNR abandon raising the smaller, less spectacular coho salmon and put more emphasis on the kings. The DNR demurred, preferring a multispecies approach.

It appears to have been a wise strategy; Chinook salmon populations are down significantly, largely because of stocking cuts necessitated by a diminishing alewife population in Lake Michigan. Chinooks depend almost entirely on alewives for their diet. Cohos are more adaptable. As a result, the coho population remains strong. It helped fill out the catch this past summer, as there were fewer Chinooks available to anglers.

Now, the DNR stocks nearly as many coho salmon as Chinooks.



"This is the birthplace of Michigan salmon, the only coho salmon facility we have," said hatchery supervisor Aaron Switzer. "This is where we put them when they first came here, this is where we get the best returns, and this is the best place for a rearing facility."

"The Platte River hatchery is perfect for salmon rearing," Switzer said. "The water doesn't get too warm. It does get cold in the winter – we've got to heat the water in winter – but we get good growth and we can predict when a lot of the intensive fish-culture work will take place."

There are two weirs on the Platte River – the lower weir controls how many fish are allowed upstream to the upper weir, located at the hatchery. The hatchery operates under an unusual set of circumstances; the number of fish allowed to make their way up to the hatchery is controlled by a consent judgement between the DNR and the Platte Lake

Improvement Association, which is downstream from the hatchery.

When the fish hit the upper weir, they slide off to the side into a holding area where they'll stay until egg take begins. The fish from the holding area are herded into an area immediately below the hatchery entrance, where they're collected in a cage, sedated with carbon dioxide to facilitate handling, and raised to a table. They're dispatched with pneumatic devices and bathed in an iodine solution to kill any external bacteria.

The females are opened up and the eggs are placed in a container. The carcass is inspected for anything unusual, such as water in the body cavity or nodules or discoloration of internal organs, and eggs are discarded if the workers detect any problems with the fish.

When the milt is added to the eggs fertilization is almost instantaneous.

"We only leave them like that for about 60 seconds," said Switzer. "We dump that water off, and add a solution of Erythromycin (an antibiotic) and thiamine (vitamin B1). The vitamin B1 prevents early mortality syndrome."

The eggs are water-hardened in 5-gallon buckets for an hour, and then moved indoors where they're placed in incubator trays.

Eggs will "eye-up" – when the eyes of a developing fish are visible – in about 30 days. The eggs are shocked; they're dumped at some height from the trays through a funnel into 5-gallon buckets. Any dead or nonviable eggs will crack. The next day, they're put in a salt solution. Dead eggs float.

"We can scoop them out and discard them," Switzer said.

The viable eggs, which have been returned to trays, will hatch in 30 days. The hatchlings will absorb their egg sacs and learn to swim over the next 30 days, when they're transferred into indoor tanks. They remain in the tanks until summer, when they're moved to outdoor

raceways where they'll remain until the following spring.

"All they do is grow out there," Switzer said. "The fish we spawn in the fall of 2015 will not be planted until April of 2017."

The DNR took 2.8 million coho eggs to produce the 1.45 million fish for stocking. It wasn't without its challenges this year; egg-take didn't begin until later than usual this fall.

"Coho were late this year and we're not sure why," said Paul Stowe, the hatchery manager. "I don't know if it's a function of water temperature, either in Lake Michigan or the Platter River. It seems strange; a lot of what controls the spawning timing is photo period and that didn't change."

Michigan isn't the only Great Lakes state behind on coho egg-take this year. "We got a request from Wisconsin for eggs earlier this fall because they said they weren't seeing any fish at their egg-take site," Stowe said. "But then I got a note just the other day saying that that water flow in the stream at one of their egg-take weirs had increased and they were starting to see some more fish, and



they thought they may be okay."

The hatchery's first stab at egg-take, in mid-October, was slowed by mechanical difficulties and too many not-yet-mature fish. By the end of the month, however, the problems were ironed out and egg-take went swimmingly. The Platte River hatchery crew will keep the eggs until eye-up, and then distribute them evenly if it can meet the full requests of the various states. "Their programs are important to the Lake Michigan fishery," Switzer said. For more info: www.michigan.gov/hatcheries. Ω

USGS estimates 21 million barrels of oil and 27 billion cu. Ft. of gas in the Monterey Formation of the San Joaquin Basin, Ca

The Monterey Formation in the deepest parts of California's San Joaquin Basin contains an estimated volume of 21 million barrels of oil, 27 billion cubic feet of gas, and 1 million barrels of natural gas liquids, according to the first USGS assessment of [continuous \(unconventional\)](#), technically recoverable resources in the Monterey Formation.

"Understanding our domestic oil and gas resource potential is important for many reasons, including helping policy makers to make informed decisions about energy policy, leasing of federal lands, and impact on other resources such as water," said Vito Nuccio, Acting USGS Energy Resources Program Coordinator. "That's why the USGS maintains a strong oil and gas assessment team whose goal is to assess new domestic and global areas and continually update previous assessments as warranted.

The volume estimated in the new study is small, compared to previous USGS estimates of conventionally trapped recoverable oil in the Monterey Formation in the San Joaquin Basin. Those earlier estimates were for oil that could come either from producing more Monterey oil from existing fields, or from discovering new [conventional resources](#) in the Monterey Formation. The area of the potential continuous accumulation assessed in this study is limited to where the Monterey Formation is deeply buried, thermally mature, and thought to be generating oil.

The assessment team concluded that most of the petroleum that has originated from shale of the Monterey Formation in the assessment area has migrated from the source rock, so there is probably relatively little recoverable oil or gas remaining there, and most exploratory wells in the deep basin are unlikely to be successful.

Geological data from more than 80 older wells that penetrated the deep Monterey Formation indicate that retention of oil or gas in the Monterey Formation shale source rock is poor, probably because of natural fracturing, faulting, and folding. The oil and gas readily migrates from the deep Monterey Formation to fill the many shallower conventional reservoirs in the basin, including some in fractured Monterey Formation shale, and accounts for the prolific production there.

Although the data suggest that there is apparently not a large volume of unconventional oil and gas resources in the Monterey in the deep part of the basin, there are still substantial volumes of additional conventional oil and gas resources oil in the Monterey Formation in the shallower conventional traps in the San Joaquin Basin, as indicated by



earlier assessments.

In 2003, USGS conducted an assessment of [conventional oil and gas in the San Joaquin Basin](#), estimating a mean of 121 million barrels of oil recoverable from the Monterey. In addition, in 2012, USGS [assessed the potential volume of oil](#) that could be added to reserves in the San Joaquin Basin from increasing recovery in existing fields. The results of that study suggested that a mean of about 3 billion barrels of oil might eventually be added to reserves from Monterey reservoirs in conventional traps, mostly from a type of rock in the Monterey called diatomite, which has recently been producing over 20 million barrels of oil per year.

The estimate of undiscovered continuous oil in the deep Monterey ranges from 3 million to 53 million barrels (95 percent to 5 percent probability, respectively). The estimate of natural gas ranges from 5 to 72 billion cubic feet (95 percent to 5 percent probability, respectively), and the estimate of natural gas liquids ranges from 0 to 3 million barrels (95 percent to 5 percent probability, respectively).

These new estimates are for technically recoverable oil and gas resources, which are those quantities of oil and gas producible using currently available technology and industry practices, regardless of economic or accessibility considerations.

USGS is the only provider of publicly available estimates of undiscovered technically recoverable oil and gas resources of onshore lands and offshore state waters. The USGS Monterey Formation assessment was undertaken as part of a nationwide project assessing domestic petroleum basins using standardized methodology and protocol.

The new assessment of the Monterey Formation in the San Joaquin Basin may be found [online](#). To find out more about USGS energy assessments and other energy research, please visit the USGS [Energy Resources Program website](#).
Ω

Spring Turkey Applications

Resident hunters may now apply for the first lottery for 2016 Illinois Spring Wild Turkey Season permits online. Go to the IDNR website for more information at this link: www.dnr.illinois.gov/hunting/turkey. The **application deadline** for the first lottery for 2016 resident spring turkey permits is December 1, 2015 Ω

Other Breaking News Items:

(Click on title or URL to read full article)

[What is happening to the salmon?](#)

In a four-year span between 2004 and 2008, Lake Huron went through a dramatic change in its ecosystem that greatly affected

[DEC fall salmon egg collection on target, new treatment tried](#)

Staff and volunteer at the N.Y.-run fish hatchery on the Salmon River recently finished their annual fall egg collection from spawning Chinook and coho salmon in the river – exceeding their goals for the number of eggs taken.

[Walleye hatch suggests fishing will be good for next few years](#)

Walleye fishing in Lake Erie is expected to be especially good for the next three to five years, officials at the Ohio Department of National Resources said.

[President declares new marine sanctuaries](#)

President Barack Obama this week announced new marine sanctuaries in Lake Michigan and the Potomac River in Maryland.

[Trout/salmon returns concern biologists](#)

Some weird stuff is going on with trout and salmon this fall, and anglers on the St. Joseph River in Michigan and Indiana are likely to suffer from it.

[Senators say young fish study highlights Asian carp threat](#)

Michigan's U.S. senators say a recent discovery about small fish and electric barriers shows the need for quick action to prevent Asian carp from reaching the Great Lakes.

[Minnesota DNR's dangerous solution to Mille Lacs walleye shortage](#)

The fishery in Mille Lacs was known for some of the best walleye fishing, but it has suffered in recent years to the point that the state's Department of Natural Resources put a restriction on the number of fish that could be kept from the lake this year.

[Chinook egg take could be record low on Little Manistee](#)

The Michigan Department of Natural Resources says it may harvest the fewest amount of Chinook eggs on the Little Manistee River since it opened almost 50 years ago.

[Concerns raised over presence of sea lamprey](#)

In New York, an effort is underway to eliminate sea lamprey in Cayuga Creek before it migrates to Lake Erie.

[Michigan DNR to replace Union Bay access site on Lake Superior](#)

The Michigan DNR announced the parking lot and ramp at the Union Bay boating access site at Porcupine Mountains Wilderness State Park will be closed beginning Monday for a boating access replacement project, which is expected to extend into next spring.

[Sturgeon making comeback in Lake Ontario](#)

Lake sturgeon in the Great Lakes are slowly making a comeback to the excitement of fisheries biologists like Dr. Dimitry Gorsky of the Lower Great Lakes Fish and Wildlife Conservation Office.

[Lake levels could cause more problems with waves](#)

While the National Weather Service is not predicting anything unusual for October, at this point, high water levels in Lake Erie could make storms more destructive.

[As Superior Lake Trout numbers ebb, groups angle for share of the catch](#)

Lake trout have declined in Lake Superior in the last several years. In 2014, the state took emergency action to limit trout harvests for sports fishermen. Officials have been seeking feedback from anglers on new proposed limits to help lake trout recover.

End