



**Asian Carp Update**

At a February [Congressional hearing](#), Corps of Engineers (Corps) Lieutenant General Thomas P. Bostick told the House Appropriations Subcommittee on Energy and Water Development that “established populations” of Asian carp are 143 miles from Lake Michigan, that Asian carp spawning areas are 67 miles away, and that they have essentially been “stalled” there since about 2006, not moving closer to Lake Michigan. But according to the Chicago based *Healthy Waterways Solutions Coalition*, researchers and scientific data say otherwise. Results from monitoring efforts released by the U.S. Fish and Wildlife Service (USFWS) in April, found a number of year-old silver carp – part of what the USFWS considers an “established population” – in the Peoria Pool of the Illinois River. The *Healthy Waterways Solutions Coalition* says this puts the young Asian carp 33 miles closer to Lake Michigan than they had been found previously. Adding to the *Healthy Waterways Solutions Coalition’s* concerns, fragments of DNA from Asian carp have been found in numerous spots throughout the Chicago Area Waterway System and very close to Lake Michigan. The USFWS released environmental DNA or “eDNA” [test results](#) in January for 240 samples collected on October 20, 2014. Although all samples were negative for bighead carp, silver carp eDNA was found in 23 spots along Chicago area waterways, including just a few city blocks from the locks separating the Chicago River from Lake Michigan.

These data were summarized in an article posted on the Coalition website, [Healthy Water Solutions](#), where the Coalition contends that Asian carp are still “on the march” and that they pose a serious risk to the Great Lakes. The Coalition states further that government agencies and others involved in the effort to block Asian carp from Lake Michigan must keep moving forward both with immediate measures to curb their advance, and with a long-term solution that separates the Mississippi River basin from the Great Lakes basin. Currently, an electric barrier in the Chicago Sanitary and Ship Canal 37 miles from Lake Michigan is meant to block Asian carp. But eggs and smaller Asian carp can pass through that barrier – that’s why the April finding of small, young fish closer to the barrier than ever before raised concerns. Also it is known that even larger fish may occasionally get through such an electrical field.

Chris Jerde, a biologist who worked with prominent scientist David Lodge and *The Nature Conservancy* to develop [the eDNA test](#) at the University of Notre Dame’s *Center for Environmental Change*, said the Corps’ methods of looking for Asian carp – netting and electroshocking – are not good ways to measure populations in the Sanitary and Ship Canal. “If you set nets, you have to set them for a long time, and in a canal it’s hard to do because you have so much boat traffic,” he said. “The only place you can set them is places that may be sub-optimal for Asian carp. Even in

<b><u>Inside This Issue</u></b>		
Asian Carp Update	1	<a href="#">Fishing Closure and Climate Change</a> 12
<a href="#">Asian Carp Strategies in MN</a>	3	<a href="#">Court Supports Green Sturgeon Habitat</a> 12
<a href="#">New Clean Water Rule Summarized</a>	4	<a href="#">Construction and Sturgeon Deaths</a> 13
<a href="#">Nitrates Plague Midwestern Cities</a>	7	<a href="#">Drought Caused Sturgeon Deaths</a> 13
<a href="#">Gulf Dead Zone Case Reopens</a>	8	<a href="#">Liver Disease Threatens Frogs</a> 14
<a href="#">Cover Crops Boost Yields</a>	9	<a href="#">Bee-Killing Pesticide Persists in Water</a> 14
<a href="#">Farmers Role in Carbon Emissions</a>	9	<a href="#">Consolidating Water Data</a> 15
<a href="#">Arch Coal Pays \$2 Million Penalty</a>	10	<a href="#">Public Lands Generate Dollars</a> 15
<a href="#">Quakes Linked to Oil and Gas Wastes</a>	10	<a href="#">Voters Support the ESA</a> 16
<a href="#">Corps Studies Deepening Lower Miss</a>	10	<a href="#">Meetings of Interest</a> 16
<a href="#">Native Trout in Trouble Nationwide</a>	11	<a href="#">Congressional Action</a> 17
<a href="#">Conviction in Paddlefish Egg Sale</a>	11	

areas where we know Asian carp are in high density, these nets are not very effective in catching them.” He noted that the canal is much deeper and more rectangular than rivers where electroshocking or netting are typically used, another reason that Asian carp could likely evade those techniques. “The question that never gets answered is, ‘Why would they stall?’” Jerde continued. “They’re not stalling anywhere else.” In 2010 an Asian carp was [found in Lake Calumet](#) six miles from Lake Michigan. “Not to mention it was one of the healthiest specimens I’ve ever seen,” Jerde said. “It was a big guy.”

Meanwhile, the Corps is investigating options for add-ons to the Brandon Road lock and dam near Joliet, IL. That lock and dam creates a choke-point in the Des Plaines River and a potential location for another layer of protection to prevent Asian carp from moving towards the lakes. This proposed \$25 million project would include high-speed circulating water and other technologies to block fish of all sizes. While additional protection measures at Brandon Road would likely do much to slow the spread of Asian carp, experts still say the only real long-term solution is ecologically separating Lake Michigan from the Mississippi River basin. There are various structural ways this could be done, and options have been studied by a variety of agencies. [Restoring the Natural Divide](#), a ground-breaking report by the *Great Lakes Commission* and the *Great Lakes-St. Lawrence Cities Initiative* released in January 2012, outlined several options for separating the basins. In January 2014, the Corps released the [Great Lakes and Mississippi River Interbasin Study](#), which was undertaken in response to Congressional demand. The Corps’ cost estimates were very steep, up to \$18.3 billion. But other experts say that the agency may have overestimated the price tag, and that more importantly, people must consider the costs of Asian carp and other aquatic invasive species (AIS) transfer between and establishment in these two basins.

“Only ecological separation has been found to be a permanent and totally effective solution,” said *Sierra Club* Illinois director Jack Darin. “I don’t think we can be too careful in protecting Lake Michigan and the Great Lakes.” He added that, “Separation is only going to work when our local governments and leaders really design a solution that’s going to work for Chicago. The Corps told us that separation can be done and that it’s the most effective way to protect the Great Lakes. Where they fell short was designing a plan that could work for Chicago. We really need our local leaders to lead that process.” Chad Lord, policy director for the *Healing Our Waters Coalition*, said it’s clear that ecological separation is both necessary and possible. “The bottom line is if we want to do something, we’re going to do it,” he said. “We reversed the Chicago River a hundred years ago. The engineering is not the problem, the problem is with building the political will. That’s why we build a coalition and a multi-stakeholder process looking at what’s best for the Great Lakes.” Such a separation would also provide significant ecological benefits to the Mississippi River Basin by blocking the invasion of AIS already established in the Great Lakes.

Meanwhile, the USFWS Midwest Region has provided \$800,000 in funding to assist state partners in the Upper Mississippi River and Ohio River basins in their Asian carp prevention and control efforts. The funding comes from a \$2.3 million increase in the USFWS 2015 base budget to support integrated Asian carp management efforts outside of the Great Lakes basin. In the Ohio River basin, Kentucky and West Virginia received \$240,149 and \$95,000, respectively for (1) research on distribution and movement, (2) control and removal, (3) limiting dispersal at lock and dams, (4) monitoring and response in the Ohio River, and (5) coordination and outreach. Indiana received \$62,351 for (1) research on distribution, movement, and impacts

## River Crossings

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on native fish. Pennsylvania received \$2,500 for monitoring and response in the Ohio River. In the Upper Mississippi River basin, Minnesota received \$140,000 for (1) surveillance monitoring to determine presence and invasion fronts in the Upper Mississippi River, and (2) evaluation of Asian carp and native fish passage at Mississippi River locks and dams. Illinois received \$170,000 for (1) surveillance monitoring to determine presence and invasion fronts in the Upper Mississippi River, and (2) control and removal. Missouri received \$85,000 for evaluation of Asian carp and native fish passage at Mississippi River locks and dams. More information on USFWS work and the work of their partners in Asian carp control and management in the Midwest can be found at [AsianCarp.us](http://AsianCarp.us).

Sources: [Healthy Water Solutions](#), 6/22/15; [Asian Carp Regional Coordinating Committee](#), 6/30/15; and [USFWS Midwest Region News Release](#), 6/30/15 [BACK TO TOP](#)

## Strategies for Invasive Carp Control in Minnesota

A report entitled, [Ecological Implications and Science-Based Strategies for Invasive Carp in Minnesota](#) was released by the Minnesota Department of Natural Resources (MDNR) in April. The 87 page report authored by Luther Aadland, Amy Childers and Ian Chisholm of the MDNR Stream Habitat Program argues against fish barriers as a solution to the bighead and silver carp problem. Aadland and his colleagues examined the following four underlying questions to address the bighead and silver carp management issue:

- Why are some introduced species successful while many native species decline?
- What are the effects of carps on native species and their populations?
- How effective are barriers for introduced carp?
- What are the effects of barriers on native fish species in Minnesota?

*Question 1. Why are some introduced species successful while many native species decline?* – Native species have adaptive traits that favor their survival under prevalent historical conditions. Their life history cycles take advantage of river networks that provide corridors for migrations to allow access to a range of habitats. Their adaptation to connected river ecosystems allows them to recolonize after droughts, floods, and other disturbances. Many native species are vulnerable to poor water quality, including low dissolved oxygen, and depend on the ability to migrate in response to these impairments. Eutrophication, habitat degradation, hydrologic changes, impoundment and fragmentation have altered and degraded stream habitat and conditions, resulting in depleted native stream biodiversity. Meanwhile these conditions favor tolerant native and introduced species. For example, Asian carps (silver and bighead) have adaptations that include their ability to: (1) tolerate impaired water quality – while they have become widely distributed, they often reach highest densities in impoundments and (2) consume and digest blue-green algae (cyanobacteria) that are inedible or toxic to most native fishes, which provides an otherwise unexploited food resource to these fishes. The bighead and silver carps have been selectively bred in Asia for over 1,000 years to tolerate conditions in hyper-eutrophic ponds. River and lake systems with elevated nutrient levels, particularly in agricultural watersheds, create eutrophic conditions favorable to these species.

*Question 2. What are the effects of carps on native species and their populations?* – Even at extreme biomass levels, bighead and silver carp have not been shown to be causative in the extirpation of native species. Correlated declines in abundance of some primarily planktivorous species in the Illinois River began prior to the arrival of bighead and silver carps. Bighead and silver carps were associated with changes in zooplankton composition, which appeared to result in a slight decline in condition factor of two planktivorous fish species in the Illinois River. The effects of introduced carps are conditional, based on the degree of fragmentation and eutrophication. The case evidence suggests that as water quality deteriorates and fragmentation increases the risk of bighead and silver carp success also increases. It is unclear whether this high risk of effects on native species is primarily due to the bighead and silver carps or due to the degraded water quality and fragmentation.

*Question 3. How effective are barriers for introduced carp?* – Electric barriers have not been proven to be effective in limiting upstream dispersal or abundance of common carp or other introduced carps due to power outages, flood flows, alternate dispersal pathways, and other factors. Most dams have not proven to be effective barriers to introduced carp due to inundation by large floods or alternate dispersal pathways. The ability of silver carp to jump 10 feet and burst to over 20 feet per second makes them much more likely to pass barriers than most native species. Barriers may actually increase the success of carp and other tolerant species (native and non-native) by reducing competition and predation controls by native species. Based on case examples in Minnesota and elsewhere, barrier effectiveness for limiting range expansion and abundance of introduced carps is predicted to be low with high certainty.

*Question 4. What are the effects of barriers on native fish species in Minnesota?* – Barriers have been shown to be among the most definitive causes of loss of native species in Minnesota waters and globally. An assessment of 32 dams on streams throughout Minnesota ([Barrier Effects on Native Fishes of Minnesota](#)) found that barriers have a substantial negative effect on native biodiversity of fish and mussels. Species richness of native fish was an average of 41% lower upstream of nineteen complete barrier dams. When dams were removed or failed, an average of 68% of the absent fish species returned to the upstream watershed. In addition, three extirpated mussel species recolonized the Pomme de Terre River following removal of the Appleton Dam. Loss of biodiversity due to barriers was also shown to extend to entire watersheds. This loss in biodiversity can adversely affect (1) water quality through loss of filtration by mussels, (2) the bait industry through loss of shiners and other bait species, (3) recreation by loss of fisheries, and (4) overall watershed



health. Based on this assessment, effects of new barriers on native biodiversity are predicted to be high with high certainty. Documented adverse effects of barriers on native species are far greater than documented negative effects of bighead and silver carps on native species. Therefore, fish barriers should not be considered as a viable alternative on naturally free-flowing rivers.

Aadland and his colleagues state that alternative strategies for addressing a biomass dominated by bighead and silver carps include:

- improvements in water quality,
- dam removal, and restoration of natural habitat to increase native species abundance and diversity to increase resistance to invasion,
- increased protection of flathead catfish and other predators of bighead and silver carps, and
- commercial harvest of bighead and silver carps.

They note that these strategies can be used in combination with other strategies that specifically target carp without adversely affecting native species. Other strategies include construction of barriers that re-establish either watershed divides in artificially connected watersheds (ditches and canals) or natural barriers that would not adversely affect native biodiversity. Re-establishing natural barriers, such as Upper St. Anthony Falls on the Upper Mississippi River, is an example of reestablishment of a natural barrier.



*St. Anthony Falls Lock and Dam, MN - U.S. Army, Corps of Engineers Photo.*

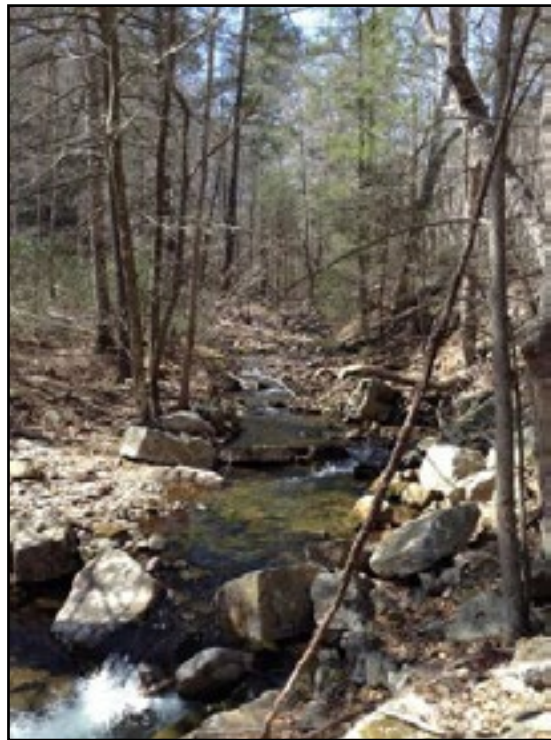
[BACK TO TOP](#)

### **EPA/USACE Clean Water Rule Changes Summarized**

On May 27 the U.S. Environmental Protection Agency (EPA) and the U.S. Army, Corps of Engineers (Corps) finalized their new Clean Water Rule. According to the two agencies, the new rule ensures that waters protected under the Clean Water Act (CWA) are more precisely defined and predictably determined, making permitting less costly, easier and faster for businesses and industry. They point out further that the rule does not create any new permitting requirements for agriculture and maintains all previous exemptions and exclusions. In developing the rule, the agencies held more than 400 meetings with stakeholders across the country, and reviewed more than one million public comments. EPA and the Corps also used the latest science, including a report summarizing more than 1,200 peer-reviewed, published scientific studies which showed that small streams and wetlands play an integral role in the health of larger downstream water bodies.

Specifically, the Clean Water Rule:

- Clearly defines and protects tributaries that impact the health of downstream waters. The CWA protects navigable waterways and their tributaries. The rule says that a tributary must show physical features of flowing water – a bed, bank and ordinary high water mark – to warrant protection. The rule provides protection for headwaters that have these features.
- Provides certainty in how far safeguards extend to nearby waters. The rule protects waters that are next to rivers and lakes and their tributaries because science shows that they impact downstream waters. The rule sets boundaries on covering nearby waters for the first time that are physical and measurable.
- Protects the nation’s regional water treasures. Science shows that specific water features can function like a system and impact the health of downstream waters. The rule protects prairie potholes, Carolina and Delmarva bays, pocosins, western vernal pools in California, and Texas coastal prairie wetlands when they impact downstream navigable waters.
- Focuses on streams, not ditches. The rule limits protection to ditches that are constructed out of streams or function like streams and can carry pollution downstream. Ditches that are not constructed in streams and that flow only when it rains are not covered.
- Maintains the status of waters within Municipal Separate Storm Sewer Systems. The rule does not change how those waters are treated and encourages the use of green infrastructure.
- Reduces the use of case-specific analysis of waters. Previously, almost any water could be put through a lengthy case-specific analysis, even if it would not be subject to the CWA. The rule significantly limits the use of case-specific analysis



*The new Clean Water Rule clarifies protection for streams like this small, headwaters tributary of the Shenandoah River in western Virginia – USEPA Photo.*

by creating clarity and certainty on protected waters and limiting the number of similarly situated water features.

A CWA permit is only needed if a water is going to be polluted or destroyed. The Clean Water Rule only protects the types of waters that have historically been covered under the CWA. It does not regulate most ditches and does not regulate groundwater, shallow subsurface flows, or tile drains. It does not make changes to current policies on irrigation or water transfers or apply to erosion in a field. The Clean Water Rule addresses the pollution and destruction of waterways – not land use or private property rights. Specific differences between the old rule, the proposed rule and the final rule are presented in Table 1.

**Table 1. Changes to the Clean Water Rule’s Requirements for Water Body Types.**

Subject	Old Rule	Proposed Rule	Final Rule
Navigable Waters	Jurisdictional	Same	Same
Interstate Waters	Jurisdictional	Same	Same
Territorial Seas	Jurisdictional	Same	Same
Impoundments	Jurisdictional	Same	Same
Tributaries to the Traditionally Navigable Waters	Did not define tributary.	Defined tributary for the first time as water features with bed, banks and ordinary high water mark, and flow downstream.	Same as proposal except wetlands and open waters without beds, banks and high water marks will be evaluated for adjacency.
Adjacent Wetlands/Waters	Included wetlands adjacent to traditional navigable waters, interstate waters, the territorial seas, impoundments or tributaries.	Included all waters adjacent to jurisdictional waters, including waters in riparian area or floodplain, or with surface or shallow subsurface connection to jurisdictional waters.	Includes waters adjacent to jurisdictional waters within a minimum of 100 feet and within the 100-year floodplain to a maximum of 1,500 feet of the ordinary high water mark.
Isolated or “Other” Waters	Included all other waters, the use, degradation or destruction of which could affect interstate or foreign commerce.	Included “other waters” where there was a significant nexus (i.e., connection) to traditionally navigable water, interstate water or territorial sea.	Includes specific waters that are similarly situated: Prairie potholes, Carolina & Delmarva bays, pocosins, western vernal pools in California, & Texas coastal prairie wetlands when they have a significant nexus with navigable waters. Includes waters with a significant nexus within the 100-year floodplain of a traditional navigable water, interstate water, or the territorial seas, as well as waters with a significant nexus within 4,000 feet of jurisdictional waters.
Exclusions to the definition of “Waters of the U.S.”	Excluded waste treatment systems and prior converted cropland.	Categorically excluded those in old rule and added two types of ditches, groundwater, gullies, rills and nonwetland swales.	Includes proposed rule exclusions, expands exclusion for ditches, and also excludes constructed components for MS4s and water delivery/reuse and erosional features.

According to the two agencies, the new rule protects clean water necessary for farming, ranching, and forestry and provides greater clarity and certainty to farmers about coverage of the CWA. The final rule specifically recognizes the vital role that U.S. agriculture serves in providing food, fuel and fiber at home and around the world. The rule does not create any new permitting requirements for America’s farmers. Activities such as planting, harvesting and moving livestock have long been exempt from CWA regulation, and the Clean Water Rule preserves those exemptions. But for the first time since passage of the CWA, EPA and the Corps are conceding that some wetlands and ponds are too remote from the tributary system to warrant federal protection. The geographic limits set in the new rule represent a compromise aimed at offering more clarity to developers, energy companies and other entities regulated under the 1972 law, while still protecting streams and wetlands that have an important effect on larger downstream waters.

“If you’re outside of those boundaries, there is no way to bring a water into the jurisdiction of the Clean Water Act,” Ken Kopocis, the top official in EPA’s water office, said. “We do think it’s a pretty big deal; we think that it was highly responsive to the comments that we received.” Lawyers and policy experts who have worked on CWA issues for years say this is a major milestone. “That’s a huge concession,” a former high-level EPA water office official said, speaking on the condition of anonymity. “The agency has always been reluctant to draw a line because they were afraid they’d leave something out.” The move is a marked change from the agencies’ current approach – and from the one initially proposed by the Obama administration last spring. Even in the wake of two U.S. Supreme Court decisions in which the justices ruled that federal authority is not limitless, neither the agencies nor Congress has been able or

willing to specify where federal jurisdiction ends. Instead, regulators in the field have been left to do laborious, case-by-case analyses of individual streams and wetlands to determine whether they have a significant impact on bigger rivers and lakes downstream. In practice, this has meant that property owners can hardly ever rest assured that a stream or wetland on their property isn't subject to federal regulation without going through one of these analyses. That these open-ended case-specific analyses remained in the proposed rule, which the Obama administration said was aimed at clearing up uncertainty, was a top criticism of industry groups. The *Waters Advocacy Coalition*, a group of industries opposing the water rule, said in its public comments that the provision "opens the door to essentially limitless jurisdiction."

The finalized rule expands the types of waters that can be considered automatically jurisdictional. That de facto protection newly applies to all tributaries, as well as all wetlands, ponds and other waters within a certain distance of a jurisdictional water. But beyond these categories, the rule limits case-by-case analyses to just two situations. The first is for five special categories of wetlands and waters that the agencies say merit special consideration. These waters – prairie potholes, Carolina and Delmarva bays, pocosins, western vernal pools in California, and Texas coastal prairie wetlands – are still subject to case-by-case analyses to see if they are important enough to warrant protection, but their importance is to be considered not individually, but for the system of which they are a part. Kopocis said the agencies did not think they had enough scientific grounding to rule these waters automatically in, as many conservationists had wanted. But the former EPA Water Office official said that for all intents and purposes, the new rule will count most of them. The agencies estimate a nearly 16 percent increase in jurisdiction thanks to this provision.

The second scenario under which case-by-case analyses can be conducted is when a water is in the 100-year floodplain of a jurisdictional water or within 4,000 feet of its channel. In comments on the proposed rule, some groups had argued that the agencies should use the 100-year floodplain as a rule of thumb because it is well-mapped and generally understood. Kopocis said the agencies looked to a number of sources in deciding where to draw those lines. "It's part science, it's part experience and expertise, and it's part policy," he said. How much these new limits will actually rule out is unclear, though. Kopocis said the agencies deemed it less likely that waters outside of the floodplain or the 4,000-foot mark would qualify for jurisdiction under the current approach anyway. In their economic analysis, the agencies estimate a 1.7 percent increase in jurisdiction under the overall provision that contains these limits.

Owen McDonough, who manages environmental policy programs for the *National Association of Home Builders*, said the fact that the rule defines tributaries broadly and makes them automatically jurisdictional means that not much on the landscape will fall outside of these new limits. "When you start to extend categorical jurisdiction to those dry channels that are even above the headwaters, you create a landscape that is crisscrossed with many, many, many ephemeral features, and if those are categorically jurisdictional, it becomes harder and harder and harder to get to those 4,000-foot limits," he said. For this reason, he said that while industry groups "won a few small battles" with the final rule, they "lost the war."

Environmentalists are still wrapping their heads around what these limits could mean on the ground. "It's going to take some close analysis of what that means in the field to figure out what that impact is going to be," said Jon Devine, a senior attorney with the *Natural Resources Defense Council* who has spent the last decade working on jurisdictional issues. Devine said he doesn't consider any of these waters unimportant, but that drawing a bright line could also have the benefit of better protecting waters that are within it. "We care about things that can effect water quality, and that's what these features do, even if that's over longer distances or longer periods of time," he said. "But what I think the rule does is make it much clearer when things like that will be in and out, and I think it will be easier for people who might be discharging into those kinds of features to figure out how close they are to a protected water, what the flow regime is and those kinds of things, and whether or not they've got responsibility under the Clean Water Act."

But not all environmental groups are happy with the compromise. The *Waterkeeper Alliance* came out in opposition, arguing that the final rule leaves too many streams and wetlands uncovered. "The final rule inexplicably rolls back protections for streams and rivers, which feed into our water supplies," Marc Yaggi, executive director of *Waterkeeper Alliance*, said in a statement. "Since only waters that are included within the final rule can be protected under the core water quality protections and pollution prohibitions of the Clean Water Act, it is frightening to think what this will mean for the tributaries that are no longer covered." To be sure, although the distance limits the final water rule imposes for jurisdiction are a first, certain types of waters and certain activities – particularly related to agriculture – have long been excluded from CWA regulation. Those include wetlands that were drained for farming before a specified date, and treatment ponds and lagoons. The rule adds specific exclusions for ditches that go further than those initially proposed. The final rule offers a more plain-language take on the ditches that aren't covered – those that flow only after precipitation and those with only occasional flow, as long as they aren't channelized streams and don't drain wetlands.

"When you put all the language together, I think it's pretty clear that ditches are very frequently going to be no longer subject to protection," said William Buzbee, a professor at the Georgetown University Law Center who has testified in support of the Obama administration's rule. The rule also offers new exemptions for stormwater control features and water-delivery systems – infrastructure that agency officials said they never intended to regulate, but that municipal officials from across the country had raised concerns about. State and local governments, however, are free to extend protections further than the federal government does under the CWA. The agencies note this frequently in documents supporting the water rule and say they are prepared to offer additional support for them to do so.

However, at least 26 states are unhappy with the new Clean Water Rule and have filed suit against it arguing, in part, that "...the Environmental Protection Agency and the Army Corps of Engineers, through the Final Rule, are attempting to expand their authority to regulate water and land use by the states and their citizens." Texas, Louisiana and Mississippi attorneys general argue that the rule "violates the Administrative Procedure Act and the Constitution's Commerce Clause and infringes on states' 10th Amendment sovereignty rights." Nebraska's Attorney General Doug Peterson said, "Farmers, ranchers, and landowners will find it difficult to operate without added permits and additional obstacles." Ohio and Michigan attorneys general argued that the rule's definition of tributary would "include almost every conceivable water tributary in the country." States joining in at least three separate multi-state lawsuits include: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Georgia, Idaho, Kansas, Kentucky, Louisiana, Michigan, Mississippi, Missouri, Montana, Nebraska, Nevada, New Mexico, Ohio, South Carolina, South Dakota, Texas, Utah, West Virginia, Wisconsin and Wyoming.

The EPA's [Clean Water Rule website](#) offers detailed information about the new rule (including what it does and does not do), and includes fact sheets for individual stakeholder groups: agriculture, business, community, developers, local government, recreation and utilities. Educational videos, infographics and slideshows are also available.

Sources: *NonPoint Source News-Notes*, July 2015, Issue #98; and Annie Snider, *Greenwire*, 6/28, 6/29 and 6/30/15 [BACK TO TOP](#)

### **Nitrates Plague Midwestern Cities**

More than 60 Iowa municipalities have faced high nitrogen levels in their drinking water in the past five years, according to state data. The pollution affects the state's largest cities, including Des Moines and Cedar Rapids, as well as many of the state's smallest towns, suggesting a widespread contamination issue. The 60 cities have nitrate levels of 5 milligrams per liter or higher. Another 260 cities and towns are at risk of becoming contaminated, according to the data. While Des Moines has water treatment plants to remove nitrates, many of the other areas do not. "Many communities have been struggling with this issue for years and years," said Susan Heathcote of the *Iowa Environmental Council*. Last year, 11 public water sources across Iowa – including municipalities, churches, residential care facilities and mobile home parks – exceeded the federal nitrates limit, according to a report released in early July by the Iowa Department of Natural Resources. Many believe the nitrate pollution comes from farming and fertilizer use.

Weather can play a large role in nitrate levels, along with land use, drainage, soil types and other factors. Farm groups have argued that reducing nitrate levels is extremely complex and will require increased conservation efforts from most of the state's nearly 90,000 farmers. Conservation practices include building wetlands, bioreactors and saturated buffers and expanding cover crop usage. Cutting nitrate and phosphorus levels is expected to be costly, an estimated \$1.2 billion annually over five decades. Luke Nelson, administrator in the small town of Boone, said the changes are worth it. "It costs more and more to produce water and treat effluent each year," he said. Nick MacGregor, Griswold's city manager, said investing in nitrate removal equipment would cost taxpayers about \$1 million. Instead, the community is working with nearby farmers to plant up to 500 acres of cover crops over three years. Crops such as cereal rye should help absorb nitrogen in the fall and spring, when fields aren't covered with traditional corn and soybeans that use the nutrient to grow. MacGregor hopes the partnership will help protect the town's water and avoid big infrastructure improvements. Other options include drilling a new, expensive well. Nelson said Boone also will likely look to area farmers to help improve water quality – and potentially avoid other high-cost solutions for the city's 13,000 residents.

Heathcote and Bill Northey, Iowa's secretary of agriculture, say it can be easier for small towns to build collaborative efforts than for cities such as Des Moines. For example, the watershed that feeds the Raccoon River, a drinking water source for 500,000 Des Moines area residents, encompasses 3,625 square miles. That's 2.3 million acres. The farmland changes that Boone, Griswold and other rural communities need are much smaller, said Heathcote. And the motivation to find solutions is stronger. "Farmers are part of the community in these small towns. You probably go to church with people in town, your kids all go to school together. You're much more motivated to resolve the issue," she said. Northey agreed. "There are a lot of willing partners," he said. "No one is forcing it to happen, because it's in everyone's best interest." Replicating that experience in bigger cities, with larger watersheds and many more land users, is more challenging.

Officials at the *Des Moines Water Works* said in March that it sued Sac, Buena Vista and Calhoun counties because the state's plan to reduce nitrogen and phosphorus in its waterways was ineffective. The Des Moines utility wants to force rural drainage districts to receive permits under the federal Clean Water Act, but farm activities are mostly exempt from federal oversight. A successful lawsuit could push drainage districts to install wetlands and require farmers to adopt conservation practices that help reduce nitrogen and phosphorus levels in Iowa waterways. Iowa Gov. Terry Branstad said earlier this year that Des Moines had declared war on rural Iowa. Bill Stowe, *Des Moines Water Works*' CEO, has said urban leaders are tired of paying for farm pollution. The lawsuit has "caused frustration on both sides," said Nelson, Boone's city manager. "But I think it's also raised awareness about water quality." Northey said farmers in northern Iowa haven't shut the door on working with the *Des Moines Water Works*. "Farmers, with the help of farm groups and private industry, are working on this on their own, but they'd welcome more people to the effort," he said. Iowa's *Nutrient Reduction Strategy*, designed to reduce nutrients that contribute to the Gulf of Mexico's dead zone, is voluntary and has no



deadline for reaching the state’s goal of a 45 percent reduction in nitrogen and phosphorus levels.

Iowa isn’t the only state suffering from a nitrate problem. A similar situation was reported in Columbus, Ohio in early June when high nitrate levels were recorded in that city’s water supply. City officials say the nitrates in their water supply likely washed into the Scioto River from farms more than 60 miles away. Water managers said they were prepared for the contamination because they knew farmers had applied fertilizer to their land shortly before heavy rainstorms on June 1. The city issued a do-not-drink warning for pregnant women and infants younger than 6 months who live in areas served by the Dublin Road water plant. Then when nitrate levels rose even higher, city officials offered bottled water to those affected by the do-not-drink advisory. Columbus was hit with a similar issue in 2006, when nitrates from fertilizers forced an eight-day-long do-not-drink order. After that event, the city began planning a \$35 million water treatment facility to filter out nitrates, but construction did not begin until this year and is not expected to be completed until 2017.

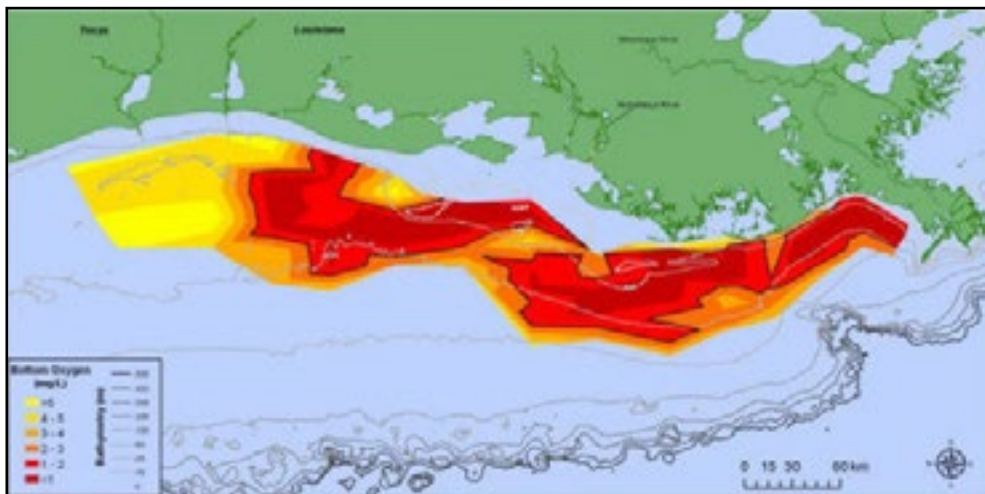
Sources: Donnelle Eller, *Des Moines Register*, 7/7/15; Laura Arenschiold, *Columbus Dispatch*, 6/10/15; and *Greenwire*, 6/10 and 7/9/15 [BACK TO TOP](#)

### Judge Reopens Case Over ‘Dead Zone’ Pollution Standards

A federal judge in Louisiana in late July reopened litigation on whether the U.S. Environmental Protection Agency (EPA) must set water quality standards for the “dead zone” in the Gulf of Mexico. Judge Jay Zainey for the Eastern District of Louisiana set a briefing schedule for the case after a federal appeals court reversed his previous decision and sent the case back to him for further consideration. The case was brought by environmental groups seeking to force EPA to set numeric standards for phosphorous and nitrogen from fertilizer and other sources that are soaking up oxygen in the northern Gulf of Mexico. EPA has steadfastly denied the efforts by the *Gulf Restoration Network* and others without making a “necessary determination” regarding whether such standards are warranted under the Clean Water Act to protect public health and the environment. The groups sued, and Zainey sided with them. In September 2013, the judge ruled that the agency could not simply refuse to make the necessity determination.

But EPA appealed, and the New Orleans-based 5th U.S. Circuit Court of Appeals reversed Zainey’s judgment. The court held that the agency was not mandated to make such a finding in response to the environmental groups’ request. Zainey’s conclusion, the three-judge panel found, “was in error.” The 5th Circuit held that EPA need not make such a threshold determination, as long as it provides a reasonable explanation. The panel did not say whether EPA met that bar in this case, remanding the issue back to Zainey to further consider. However, the appeals court said that EPA’s “burden is slight” and that courts should largely defer to the agency’s interpretation. In his July order Zainey set a briefing schedule that extends through next March for EPA and the challengers to submit briefs on that issue alone. The case has been closely watched by local environmental groups and has put the agency in a difficult position. EPA acknowledges that the pollution is significant but has sought to persuade states to set their own numeric standards. The 5th Circuit ruling also allows EPA to avoid going on the record saying such standards are not necessary, which would downplay the environmental problems in the area.

Meanwhile, this year’s Gulf of Mexico “dead zone” is almost as large as Connecticut and Rhode Island combined – above average and larger than federal experts had predicted. During a weeklong survey cruise that ended in early July, scientists measured 6,474 square miles where explosive algae blooms had sucked up oxygen and driven away or smothered marine life. Based on the volume of nutrients washing into the Mississippi River in May, federal scientists had predicted that this year’s dead zone would be 5,483 square miles. But heavy rains in June and additional nutrient runoff into rivers could explain why it exceeded predictions, said Nancy Rabalais, the scientist who led the cruise. Federal and state agencies in the Mississippi River Basin have been working for nearly a decade and a half to shrink the dead zone, with a goal of reducing it to 1,900 square miles this year. But in February, scientists said they will need an additional two decades to reach that mark.



**Distribution of bottom water dissolved oxygen in the 2015 Gulf of Mexico dead zone. Black line denotes levels less the 2 mg/l - NOAA Image.**

Sources: Jeremy P. Jacobs, *Greenwire*, 7/21/15; and Annie Snider, *E&ENews PM*, 8/4/15

[BACK TO TOP](#)



## Cover Crops Boosted Yields 3 Years in a Row

Farmers who planted cover crops in fields before planting corn and soybeans reported significant yield increases, according to an Agriculture Department-funded survey. The [survey](#) of more than 1,200 farmers during the 2014-2015 growing season found that corn yields rose on average 3.7 bushels per acre (2.1 percent) and soybean yields increased 2.2 bushels per acre (4.2 percent) when planted in fields with cover crops. This marks the third year in a row that farmers observed a boost in yield when cover crops are incorporated. “It’s great to see the immediate benefits of yield increases from cover crops and very exciting to see that the use of cover crops continues to expand,” said Chad Watts, program director for the *Conservation Technology Information Center*, which conducted the survey.

Last year’s survey of nearly 2,000 farmers led to slightly higher results. The 2013-2014 growing season reported 5-bushel-per-acre increases for corn, about 3.1 percent, and increases of 2 bushels per acre, or 4.3 percent, for soybeans. Respondents to the survey represented all of the states except three – Delaware, Nevada and Wyoming. States with the highest numbers of respondents were Iowa, Illinois and Indiana. Cover crops, or plants that are sown in the ground and grown before the cash crop season, are noted for their environmental benefits. They help reduce soil erosion, lower the need for synthetic fertilizers and help clean up local waterways. Examples include cereal rye or tillage radish, a large white root that helps break up the soil and build organic matter.

But promoting the plants for their yield-building properties has not always been an easy sell. Many farmers have been told in the past that keeping the crops in for too long can shorten the growing season for other crops. Others worry that cover crops could invite unwanted insects. The survey also found that yield increases aren’t the primary reason why farmers choose to plant cover crops, with 22 percent of growers saying they planted the seeds to increase soil health, 20 percent saying they hoped to build soil organic matter and 15 percent expecting to reduce soil erosion. The survey was funded by USDA’s *Sustainable Agriculture Research and Education* program and the *American Seed Trade Association*.

Source: Tiffany Stecker, *Greenwire*, 7/16/15

[BACK TO TOP](#)

## Study Outlines Path for Farmers to Slash Country’s Carbon Emissions

New research puts numbers on how farming (plowing, fertilizing and raising livestock) have contributed to greenhouse gases from 1870 to 2000, illustrating how big a role farmers could play in reducing the entire country’s emissions in the future if they adopted certain land management strategies. The [study](#), published in early August in *Proceedings of the National Academy of Sciences*, analyzed historical data going back 145 years on crops and livestock from the U.S. Department of Agriculture. The research team, based at Colorado State University, focused on the Great Plains region, which encompasses most of the center of the country from Texas to North Dakota and Iowa to Montana. It then plugged the massive county-level records into a widely used computer model it has developed called *DayCent*, which approximates carbon and nitrogen fluxes.

The study found that the plow-out of native grasslands contributed the most to carbon emissions before the 1930s, but that changed with new conservation strategies starting in the 1960s, said William Parton, an ecosystem ecologist at Colorado State’s *Natural Resource Ecology Laboratory* and the lead author. “After the ‘60s, about a quarter of the land that used to be in dryland agriculture is now in grasslands, so we are storing carbon in those soils,” Parton said. However, the use of fertilizers – which boost nitrogen dioxide – and equipment that burns fossil fuels have gone up. But with development of new technologies farmers can now plow their land less or not at all, which keeps both carbon and moisture in the ground. Such no-tillage has come under debate as an effective practice, but Parton said it could work well in a dry region like the Great Plains. Recent advances in the chemistry of the feed given to livestock could also curb methane. And “slow-release fertilizers” could put brakes on the chemical reaction that turns ammonium into nitrogen dioxide and nitrate in the soil, reducing pollution from both.

That the agriculture sector has the potential to eliminate or even sequester carbon represents a key paradigm shift, said Justin Derner, who leads research in rangeland resources for the Department of Agriculture and focuses on climate adaptation. “That’s a tremendous message to send home to land managers, because they’ve been beaten over the head in the past,” Derner said. The historical trends for the rest of the agricultural greenhouse gases in the country haven’t been so thoroughly quantified yet. Parton hopes to replicate the Great Plains study in other regions to identify the best strategies to cut emissions nationwide. “This kind of analysis could be done for the whole country, which would give us a baseline,” he said. “It certainly relates to policy. Where do we have the greatest potential in reducing greenhouse gases in agriculture?”

Unfortunately, recent research found that the conversion of grasslands to croplands from 2008 to 2012 in the country generated emissions equivalent to those of 34 coal-fired power plants, or the addition of 28 million cars on the road.

Source: Camille von Kaenel, *ClimateWire*, 8/5/15

[BACK TO TOP](#)

## Arch Coal to Pay \$2M Penalty to Resolve 1,200 Violations

*Arch Coal Inc.* entered into a \$2 million settlement with the Obama administration in early August to resolve more than a thousand Clean Water Act (CWA) violations in several states. The agreement with the St. Louis-based mining giant and 14 subsidiaries operating as the *International Coal Group Inc.* also requires the companies to implement “comprehensive upgrades” to protect against future violations. “Businesses have an obligation to ensure that their operations don’t threaten the communities they serve,” U.S. Environmental Protection Agency (EPA) Assistant Administrator Cynthia Giles said in a statement. “This settlement will prevent future environmental and public health risks by making sure these companies comply with federal and state clean water laws.”

EPA inspections and an investigation found widespread violations of the companies’ CWA permits at mines in Kentucky, Pennsylvania, Maryland, Virginia and West Virginia. In total, the companies discharged aluminum, iron and other pollutants beyond permitted limits 1,200 times, leading to more than 8,900 days in violation. Some infractions were resolved in separate enforcement actions brought by Kentucky and West Virginia. Under the terms of the settlement, the companies are required to implement a compliance management system and submit their mines to third-party environmental compliance audits. They’ll also face stiffer fines if they violate the CWA again. “Today’s settlement is good news for water quality in the Appalachian region, especially people living in vulnerable and underserved communities,” said EPA Region 3 Administrator Shawn Garvin. “It represents an important next step forward by requiring these companies to take necessary actions to reduce pollution from their mining operations.”

Source: Jeremy P. Jacobs, *E&ENews PM*, 8/6/15

[BACK TO TOP](#)

## Studies Link Quakes to Oil and Gas Wastewater Disposal

Two studies published in mid-June point to oil and gas activity, specifically deep injection of wastewater, as the cause of a surge in earthquakes in Oklahoma and the central United States. To slow or stop the earthquakes, the studies say, oil and gas producers will need to cut the volume of waste fluid they’re injecting into wells. But the studies differ on where to focus those efforts. One from the University of Colorado and the U.S. Geological Survey, published in *Science*, suggests regulators look at high-volume disposal wells. The other [study, from Stanford University](#), looking at Oklahoma, puts the focus on cumulative injection across broad areas of earthquake activity. “You just can’t put an arbitrary limit on how much any individual well should be injecting,” said Stanford geophysicist Mark Zoback, whose study was published in the journal *Science Advances*. The cause of the quakes, he found, “was this cumulative process from so many wells over such a large area injecting such large volumes in the past five to 10 years.”

Seismologists have been saying for several years that disposal of oil and gas waste causes earthquakes, though not all disposal wells trigger quakes. The new studies go deeper by digging into the injection data kept by states and comparing them broadly with earthquake locations. The Colorado study by doctoral candidate Matthew Weingarten looked at the correlation across the central and eastern United States between earthquakes and wastewater disposal wells, sometimes called saltwater disposal wells or SWD wells. It found that earthquakes are more likely near wells that inject more than 300,000 barrels (12.6 million gallons) a month. “High-rate SWD wells are nearly twice as likely as low-rate wells to be near an earthquake,” the study says. But that’s not the only factor. There are high-rate injection wells in areas such as North Dakota not associated with earthquakes.

The Stanford study focused on Oklahoma, where the number of quakes has skyrocketed since 2009. Last year, the state had 585 quakes of magnitude 3 or greater, compared with an average of about two a year before 2009. This year, the state has averaged 2.5 quakes a day. If that rate continues, Oklahoma would have more than 912 quakes this year. The study notes that the volume of wastewater getting disposed of in Oklahoma has doubled since 1997. But in one of the earthquake-prone areas of the state, around the *Mississippi Lime* play, it has risen tenfold. “We really think the important concept is how much water has been injected in those areas,” Zoback said. The Stanford paper also points out that the earthquakes are not linked to hydraulic fracturing. They’re not really even linked to disposal of wastewater from fracking (often called “flowback”). “Hydraulic fracturing flow-back water comprises an extremely small fraction of the injection into the SWD wells,” the study states. Overall, though, the studies agree that the sharp increase in quakes in Oklahoma and the central United States is related to oil and gas wastewater disposal. “This population of earthquakes,” Weingarten said, “is associated with this population of wells.”

Sources: Mike Soraghan, *E&ENews PM*, 6/18/15 and Mike Soraghan, *EnergyWire*, 8/19/15

[BACK TO TOP](#)

## Corps Considers Deepening the Lower Mississippi River Channel

The U.S. Army Corps of Engineers (Corps) is drafting an environmental impact statement to gauge the effects of deepening the Mississippi River’s shipping channel from a depth of 45 feet to as much as 50 feet between the Gulf and Baton Rouge, LA. The Corps is also planning to submit a report confirming that the dredging project is still economically justified and will provide significant benefits to the country. Shipping officials and members of Port of New Orleans have argued that deepening the Mississippi River Ship Chan-

nel would reap broad economic benefits by allowing larger ships to reach Louisiana's ports in the wake of the Panama Canal expansion. A 2013 study showed deepening the river would add \$11.49 billion in increased U.S. production. The impact statement would address existing conditions, alternative designs and an analysis of the potential environmental effects of deepening the channel an additional five feet. The statement would also consider such questions as where the dredged materials should be moved. The Corps invites public comment on the draft statement and already held public meetings in New Orleans, Belle Chase and Baton Rouge.

Sources: Jed Lipinski, *New Orleans Times-Picayune*, 5/21/15; and *Greenwire*, 5/22/15

[BACK TO TOP](#)

### **Native Trout Are in Trouble Nationwide**

Climate change is the biggest threat facing native trout, prompting the need for large-scale restoration projects that reconnect streams to floodplains and provide the diminishing fish with more habitat, according to a new report from *Trout Unlimited* (TU). The 80-page [TU report](#) takes an exhaustive look at the status of trout in each of 10 regions. In a call with reporters, TU President Chris Wood touted the report as the "most comprehensive" of its kind. The steps to protecting trout are clear, he argued, but "we're running out of time." So far, three species of trout have gone extinct. Of those left, more than half occupy less than 25 percent of their historical habitat, according to the report. Some have retreated to just 10 percent of their range. The report outlines four major threats: climate change, non-native species, energy development and water use. The first two pose the biggest problem and can be alleviated somewhat through restoration and more aggressive control of non-natives, according to the report.

The regional challenges of implementing such steps were evident by the variety of questions Wood fielded on a call with reporters. Trout are in streams throughout various localities, where their habitat has been fragmented and degraded by dams, logging, mining, grazing and other land uses. Various non-native species also sometimes compete. In southern Minnesota, for example, the native brook trout lives in the same streams as the non-native brown trout – an introduced fish that is popular among anglers. Asked whether TU was advocating for the removal of brown trout, senior scientist Jack Williams said officials "have to draw the line somewhere" to control the non-native population. "I think the specific answer to that is where the brown trout are invading the strongholds of brook trout, then that's the areas we really need to make an effort to control them," Williams said. Wood added that such issues need to be considered on a case-by-case basis.

Williams, who is the main author of the report, also emphasized the need to stop any new energy developments in places where trout are still living in good-quality habitat. But his main message was the need for "diverse" partnerships – including agencies, companies and conservationists – that can implement expensive restoration work. "I think that's one of the big things that comes out of this – is how we should tackle restoration if you're working at large scales across an entire watershed," Williams said. "One small stream segment isn't going to do it."

Source: *Trout*, Summer 2015, pp. 44-73; and Emily Yehle, *E&ENews PM*, 6/23/15

[BACK TO TOP](#)

### **Grocery Owner Convicted of Trafficking Paddlefish Eggs**

A New Jersey man was convicted in mid-August for buying paddlefish eggs in Missouri, after he was caught in a federal sting to catch traffickers in the sought-after caviar. A federal jury found Petr Babenko guilty of violating the Lacey Act. Babenko owned a specialty grocery called *European International Foods*, and the 45-year-old negotiated with undercover agents to buy 70 pounds of paddlefish eggs in Missouri. The conviction is the latest from the "Operation Roadhouse" sting, named after the area in Missouri where federal agents operated during the 2011 and 2012 paddlefish seasons. Babenko's "co-conspirator," a Missouri resident named Bogdan Nahapetyan, is among those who have already pleaded guilty to trafficking. Nahapetyan set up the sale for Babenko, telling undercover agents that he had a "big order" and that there was "no limit" on the amount he would buy, according to the original complaint. "You hook me up with the good stuff, you going to have a very good business for the future," Nahapetyan said. "He wants a lot more."

Missouri has several restrictions on the purchase and possession of whole paddlefish and prohibits the sale or purchase of paddlefish eggs without a permit. Neither Babenko nor Nahapetyan had a valid roe fish dealer permit. The Lacey Act prohibits interstate commerce of wildlife taken in violation of a state law. On April 24, 2012, Babenko and Nahapetyan negotiated with the undercover investigators to purchase 80 pounds of paddlefish eggs and five female paddlefish for \$4,625. While loading the purchased caviar and female paddlefish into their 2011 Mercedes-Benz cargo van, they place an additional order with the undercover investigators for more fish and caviar. Babenko faces up to 10 years in federal prison without parole, as well as a fine up to \$500,000, after the conviction in the U.S. District Court for the Western District of Missouri. He also must forfeit the Mercedes-Benz cargo van.

Source: Department of Justice, *Press Release*, 8/19/15; and Emily Yehle, *Greenwire*, 8/20/15

[BACK TO TOP](#)

## Minnesota Walleye Closure Could be Due to Climate Change

The Minnesota Department of Natural Resources issued an order to close walleye fishing on Mille Lacs Lake on August 2, saying that because the walleye population of the 200 square mile lake was dangerously low, and the 40,000-pound annual quota had been exceeded, there would be no more walleye fishing there for the rest of the season. Mille Lacs Lake is perhaps the most popular place in the state to fish for walleye. The decision prompted howls of protest from business owners and residents, who said the department had mismanaged the lake's walleye population for years and had, in effect, threatened to devastate the local economy, which is dependent on anglers who rent charter boats, stay in nearby motels and eat at bars and restaurants.

Two hours' drive to the south, in the Twin Cities, Gov. Mark Dayton, a Democrat, has scrambled to placate people affected by the walleye fishing ban, even suggesting that the Legislature be convened for a special session to find a solution to the crisis in the Mille Lacs area, possibly through interest-free loans or tax abatements. This is a "dark day for Minnesota fishing and certainly the people of Mille Lacs," Mr. Dayton said at a news conference announcing the ban. He has said that he is considering a move to restock the lake with walleye, a plan that could begin next spring.

Fishing is at the heart of Minnesota culture, with more fishing licenses issued per capita than in any other state. The Department of Natural Resources says there are 5,493 fishable lakes, and about 4.6 million pounds of walleye are harvested each year for sport. There is little agreement on the reasons for the apparent drop-off in the walleye population, but experts at the state's natural resources agency say that

larger predators – especially large walleye – appear to be eating younger walleye in alarming numbers. This could be because of a shortage of other fish like perch or tullibee, species that large walleye typically like to eat, but that have struggled to survive as lakes in Minnesota have gradually warmed as a result of climate change, some fish biologists say.

"There were signals this spring that this was going to be a problem, but I don't think anybody expected this to happen," said Dr. Raymond M. Newman, a professor of fisheries at the University of Minnesota. "It is a fairly big deal in closing the season. And they could have, perhaps, put on more stringent regulation a year ago, but people resisted it. Now they're in crisis mode." Meanwhile, the Minnesota tourism office has proposed to spend \$400,000 in the next two years, marketing the lake as a place that has more to offer than walleye fishing.

Sources: Julie Bosman, *New York Times*, 8/13/15; and *Greenwire*, 8/13/15

[BACK TO TOP](#)



*A 26-foot fiberglass walleye statue greets visitors at Mille Lacs Lake in Garrison, MN - Jenn Ackerman, The New York Times Photo.*

## Appeals Court Backs Habitat for Threatened Green Sturgeon

Federal appeals judges in early July rejected a challenge to designated critical habitat for the threatened green sturgeon on the West Coast from developers and other business groups. The 9th U.S. Circuit Court of Appeals upheld the National Marine Fisheries Service's (NMFS) designation of 8.6 million acres of critical habitat in California, Washington and Oregon. Groups including the *Building Industry Association of the Bay Area* and *Bay Planning Coalition* challenged the designation of several areas in the Sacramento-San Joaquin River Delta on the grounds that the NMFS should have more carefully considered the economic impact of the 2009 habitat designations, which included coastal and river areas in Northern California.

But the San Francisco-based court rejected their arguments in a 20-page opinion. Senior Judge Barrington Parker, a Republican appointee writing for the unanimous three-judge panel, wrote that the administrative record showed that the NMFS considered the economic impact of the designations "but ultimately determined that they were critical to the recovery ... and could not be excluded." He added that "this approach is within [NMFS's] powers." The challengers contended that the NMFS was required to conduct a balancing test, considering the conservation benefits of the designation along with the potential economic benefits of not designating the area. But Parker found that the NMFS was not required to conduct such a test. He also rejected the challengers' claims that the NMFS failed to comply with the National Environmental Policy Act.

The species at issue is one of two green sturgeon populations. It was listed as threatened in 2006. Conservation groups applauded



the ruling. “The green sturgeon faced extinction without these critical habitat protections, and we’re happy to see the courts affirming their importance,” Miyoko Sakashita, an attorney with the *Center for Biological Diversity*, said in a statement. “The Sacramento River is the sturgeon’s last remaining spawning grounds and it needs to be protected from destruction.”

Source: Jeremy P. Jacobs, *E&ENews PM*, 7/7/15

[BACK TO TOP](#)

### Bridge Construction Project Blamed for Sturgeon Deaths

An environmental group in early July asked the National Marine Fisheries Service (NMFS) to investigate a possible link between construction of a new commuter bridge across the Hudson River and a spike in fish deaths. *Riverkeeper* and the *Pace Environmental Litigation Clinic* petitioned NMFS to review the Tappan Zee Bridge project to see whether endangered sturgeon have been dying en masse as a result of vessel strikes in the shallow waters surrounding the construction zone. According to *Riverkeeper*, sturgeon mortalities have surged to 76 deaths in the last three years since construction started in 2012. In the three years prior to construction, the group noted that six sturgeon deaths were reported to the New York State Department of Environmental Conservation.

*Riverkeeper*, which patrols the river in a boat named for the group, says the fish have been found cut in half or severed at the head or tail due to vessel strikes. The group says the fish deaths have coincided with the start of pile installation testing in 2012, dredging and pile-driving work that began in 2013, and ongoing bridge construction, involving close to 200 project vessels in and around the Tappan Zee. The captain of *Riverkeeper*’s patrol boat, John Lipscomb, said one precaution that should be adopted immediately is enforcing a 5 mph speed limit for crafts on the water in the construction zone. “The situation is urgent. Statistics like these on sturgeon mortality have never been seen before in the Hudson, and they must not be ignored,” Lipscomb said.

NMFS reviewed the proposed Tappan Zee project and issued a decision in 2013 that the project was “likely to adversely affect but not likely to jeopardize the continued existence” of endangered populations of Atlantic and shortnose sturgeon. *Riverkeeper* now questions that conclusion, saying the recent deaths could put the species in jeopardy. The group also wants a requirement of propeller cages for deeper draft tugs and push boats, doubling the size of “bubble curtains” to control shock waves from pile driving, and mandating that dredge buckets be lowered slowly to allow fish more time to escape.

The \$4 billion bridge project has been a political football, although *Riverkeeper* did ultimately decide to support its construction after years of internal fighting over the group’s position. The new Tappan Zee will replace the old span and include eight traffic lanes as well as mass transit corridors. The current bridge carries an estimated 134,000 vehicles daily and 160,000 on some weekends.

Source: Colin Sullivan, *E&ENews PM*, 7/9/15

[BACK TO TOP](#)



**Lake sturgeon nearly cut in half, apparently by a large prop, in Mississippi River Pool 15 in the early 1980s - Jerry Rasmussen, USFWS Photo.**

### Drought Caused Sturgeon Deaths in the Northwest

Drought and warming temperatures are restricting fishing access across the Columbia River Basin. A recent spate of dead sturgeon in Oregon prompted the state Department of Fish and Wildlife to ban fishing for the ancient species from Bonneville Dam to McNary Dam east of Portland. While the exact cause of the die-offs is uncertain, biologists believe the bottom-dwelling fish might be eating diseased sockeye salmon, which are infected at higher rates in warmer water. The closure announcement follows restrictions on various species in the lower Willamette and Clackamas rivers to keep fish from being caught during the hottest times of day, which leads to stress and fish death upon release. “What we’re seeing right now is higher levels of summer mortality and indications that sturgeon are under a lot of stress this summer,” Chris Kern, the Oregon agency’s fish division deputy administrator, said in a statement. “This is something we can do immediately to give them some relief.”

To the north, the Washington Department of Fish and Wildlife implemented fishing access cuts in more than 30 rivers statewide as the ongoing drought creates dangerously warm conditions for fish. Effective until further notice, the restrictions range from complete closures to “hoot-owl” restrictions (i.e., fishing only between midnight and 2 p.m.) to avoid fish stress during the hottest periods of the day.

Sources: Kelly House, *Portland Oregonian*, 7/16/15; Mark Yuasa, *Seattle Times*, 7/16/15; and *Greenwire*, 7/17/15 [BACK TO TOP](#)

### Liver Disease Threatens Frogs Worldwide

Researchers have found a newly identified parasitic disease in tadpoles – one that could threaten global frog populations. The unnamed disease is caused by a parasitic protist, a single-celled microorganism, which invades tadpole livers. Scientists at the University of Exeter in England recently tested tadpoles from six countries across three continents, and found the protists present in a variety of species. “Global frog populations are suffering serious declines and infectious disease has been shown to be a significant factor,” Exeter professor Thomas Richards said. “Our work has revealed a previously unidentified microbial group that infects tadpole livers in frog populations across the globe.” “We now need to figure out if this novel microbe – a distant relative of oyster parasites – causes significant disease and could be contributing to the frog population declines,” Richards said.

The researchers, who published their findings in the journal *Proceedings of the National Academy of Sciences*, say their findings further highlight the growing ecological stress facing all amphibians. More and more science suggests frogs, salamanders, newts and other amphibians are increasingly threatened by climate change, habitat loss, disease and more. More than a third of the world’s frogs are either threatened or extinct. Some scientists have suggested Earth is witnessing a “sixth extinction” – likening the rapid decline of amphibians and other vulnerable animal groups to the disappearance of the dinosaurs.

Sources: Brooks Hays, *UPI*, 8/11/15; and *Greenwire*, 8/13/15

[BACK TO TOP](#)

### Bee-killing Pesticide Persists in Water

An insecticide linked to the decline of honeybees and other pollinators can take several days to degrade in water when present just inches below the surface, a new study has found. Neonicotinoid pesticides, common chemicals in modern agriculture, have been scrutinized for their effect on bee health. While less toxic to humans than traditional pesticides, studies have found that the neonicotinoids, which are chemically similar to nicotine and are applied by coating plant seeds, can hurt insects, including bees. Even though neonicotinoids don’t drift through the air like a traditional pesticide, scientists have found they can still make their way into waterways, like herbicides and fertilizers. Honeybees actively forage for water for cooling off and consumption, according to Diana Cox-Foster, a professor of entomology and a bee expert at Pennsylvania State University. Sunlight typically helps break down the pesticides, reducing the risk of harm to wild insects and animals. But when the chemicals were tested in waters more than 8 centimeters (about 3 inches) deep, the degradation rate was negligible. The [findings](#) were published in *Environmental Science and Technology Letters*, a journal of the *American Chemical Society*.

This persistence at shallow depths could increase the chances that aquatic life, insects and other animals could get exposed to the insecticide, Charles Wong, the study lead and a professor of ecotoxicology at the University of Winnipeg said. Wong and other scientists at the University of Winnipeg and the University of Manitoba looked at how five pesticides in the neonicotinoid class break down when exposed to light, both in a laboratory setting and, in one case – for the insecticide thiamethoxam – in an outdoor environment. Even in the lab, where the water was clear, the 3-inch depth was enough to shield the chemical from breaking down. In a natural setting, where leaves and other plant matter block sunlight, traces of neonicotinoids are even less likely to break down.

“This study will help us better understand the potential environmental pathways of neonicotinoids that may affect aquatic and terrestrial life,” said Mike Focazio, program coordinator for the USGS *Toxic Substances Hydrology Program*. USGS will soon release additional results for its own analysis of neonicotinoids in waterways and in the tissue of pollinators, he added. Meanwhile in a separate study, USGS researchers found neonicotinoid pesticides in more than half of urban and agricultural streams in the U.S., in the broadest examination to date of their presence in the environment. The study included sampling in 24 states and Puerto Rico from 2011 to 2014, the agency said. The study, “[First National-Scale Reconnaissance of Neonicotinoid Insecticides in Streams Across the USA](#),” was published in mid-August in the journal *Environmental Chemistry*.

Researchers found that the pesticides were present throughout the year in urban streams, while the chemicals typically were seen at higher levels in agricultural streams in “pulses” during crop planting season, USGS research chemist Michelle Hladik, the study’s lead author, said in a statement. The researchers said they detected six neonicotinoids at varying levels, including the pesticide imidacloprid in 37 percent of samples, clothianidin in 24 percent, thiamethoxam in 21 percent, dinotefuran in 13 percent and acetamiprid in 3 percent. The researchers did not detect the neonicotinoid thiacloprid in streams. None of the concentrations exceeded U.S. EPA’s aquatic life criteria or are likely to be carcinogenic to humans, the study said. The new findings about the prevalence of neonicotinoids in streams and rivers should be seen as a wake-up call to policymakers that aquatic exposures deserve the same scrutiny as other pathways, said Michele Colopy, the program director at the *Pollinator Stewardship Council*. “One of the issues we all forget with pesticide exposure and bees is that bees drink water,” Colopy said. “We think that they just go and get all their liquids from the nectar in the plants, and they do not.”

Professor Wong and his colleagues were able to find the “quantum yield,” a number that will allow future researchers to predict the rates at which the chemicals break down. Neonicotinoids are very water-soluble and tend to stay in the water, said Wong. “Based on the chemical structure, they’re not likely to stay in soil or sediment,” he said. He hopes the study will spur more peer-reviewed science in a field where few studies exist, he said. Environmental groups have called on the U.S. Environmental Protection Agency to restrict the insecticides, which are often found in seed treatments for crops.

Sources: Tiffany Stecker, *Greenwire*, 7/9/15; and Sam Pearson, *Greenwire*, 8/18/15

[BACK TO TOP](#)

### Consolidating Data to Help Respond to Droughts and Floods

The *Open Water Data Initiative* (OWDI), launched about a year ago and spearheaded by a wide-reaching collaboration including state agencies, USGS, the Bureau of Reclamation, the National Oceanic and Atmospheric Administration and the Federal Emergency Management Agency, among others, could change the way we respond to droughts and floods. The OWDI goal is to make different sets of data related to water resources compatible with each other and to integrate all the information into an easy-to-use online tool for researchers, disaster responders, urban planners and the public. The initiative comes as governmental policies are increasingly encouraging open data. Droughts and floods are putting the nation’s water resources under strain, making accurate and accessible information more important, the briefing emphasized.

Right now, however, information about water in the United States is often disjointed. Hundreds of organizations collect different types of data at different scales and in different formats. The project focusing on floods, called the *National Flood Interoperability Experiment*, gathered experts to figure out how to combine that information this past year. It will wrap up this summer. “What we’re trying to do is take national-level flood forecasting and bring it down to the local level,” Steve Kopp, an engineer at the mapping software company *Esri* said. “At the street level, we can look at the probability of flooding at individual locations in the landscape.” “Imagine this,” Kopp said, “you’re driving on a road, and you can get an alert (on your phone) saying you’re approaching a low-level water crossing that is flooded or will likely be flooded soon.” Integrating existing information in the right way could forecast changes in the flow of 2.7 million streams within 10 minutes, Kopp said. “You need a lot of data and a supercomputer, but it’s doable,” he said. This summer, the project gathered university students at a summer institute to develop different prototypes of monitoring tools. But it could still be years before an interactive and user-friendly portal comes online.

Another section of the OWDI focuses on what happens when there is too little water, instead of too much water. Late last year, it launched an interactive [visualization](#) of the California drought. The website shows reservoir volume, water use profile and drought intensity, all overlaid on a map of the state. The data came from the *U.S. Drought Monitor*, the Bureau of Reclamation, the U.S. Army Corps of Engineers and other agencies. In the spirit of sharing and accessibility, the group posted the code making the visualization work behind the scenes on open-source website *GitHub*. Now, the initiative is developing a similar tool for the Colorado River Basin, said Angela Adams, who works in the Bureau of Reclamation and leads the drought team for the initiative. The website could come online later this year. Adams said that having useful information at the ready will become even more key as the region’s water faces an uncertain future. Demand for water from the Colorado Basin is expected to rise, surpassing a decreasing supply, she said. “Even if we may not balance those negatives in the future, we can have that data to help us make better policies and find solutions,” she said.

Policymakers won’t be the only ones benefiting from the consolidation of all these data, said Sara Larsen, who manages the water data exchange program for the *Western States Water Council*. The tools will target urban planners, journalists, business leaders, first responders and anyone who has an idea on how to use the massive records. “In the future, your performance metric will not be how many people visit your website, but how many applications does your data support, how recyclable the data can be,” she said.

Source: Camille von Kaenel, *ClimateWire*, 8/3/15

[BACK TO TOP](#)

### Spending on Public Lands Generates Billions in Return

The U.S. Department of the Interior and its various agencies pump billions of dollars into the U.S. economy, according to the report entitled, “[Economic Report for Fiscal Year 2014](#),” and released in late June. The report found that national parks, wildlife refuges, national monuments and other public lands managed by the department hosted an estimated 423 million recreation visitors in fiscal 2014 and that these visits contributed \$42 billion to the economy and supported about 375,000 jobs nationwide. The report also shows that activities overseen by Interior – including renewable energy and oil and gas development, hardrock mining and recreation – contributed \$358 billion to the U.S. economy in 2014, supporting more than 2 million jobs.

Conservation groups said the report puts pressure on Congress to adequately fund Interior, which manages about 20 percent of the nation’s lands, and the many programs the department oversees. “The report shows what incredible bang for the buck federal investments in our public lands and waters really are,” said Alan Rowsome, senior director of government relations for lands at the *Wilderness*

ness Society. “Given we’re at a time where we are watching the House and Senate debate Interior funding levels and we’re looking at cuts shows that we are really cutting economic activity and jobs by not finding funding for such an important department.”

Interior Secretary Sally Jewell said in a statement that many of Interior’s activities – such as scientific research and conservation of parks – have economic values that are not easily calculated and are not included in the report’s totals. “While this report quantifies some of the economic benefits of public lands, the full value of our lands and historic sites cannot be expressed in dollars,” she said. “Many of these are simply priceless treasures that belong to all Americans and define our cultural, historic and natural heritage for present and future generations.”

Source: Scott Streater, *Greenwire*, 6/24/15

[BACK TO TOP](#)

### Voters Support ESA, Dislike Congressional Delisting Efforts

Americans strongly back the Endangered Species Act (ESA) and don’t like it when lawmakers decide which species are protected under the law, according to an online poll released in early July by conservation groups. Ninety percent of voters included in the survey – conducted by *Tulchin Research for Defenders of Wildlife* and *Earthjustice* – indicated that they strongly support or somewhat support the ESA, which was described to them as “an environmental law established to protect all wildlife, plants and fish that are in danger of extinction.” The majority of respondents – 53 percent – strongly supported the law, and only 8 percent somewhat opposed or strongly opposed the ESA. Self-described liberals were the biggest backers of the law, with 96 percent expressing some support. But 94 percent of moderates and 82 percent of conservatives also supported the ESA. At the same time, more than seven in 10 voters agreed that “decisions about which species should or should not be protected under the ESA should be science-based and made by U.S. Fish and Wildlife Service (USFWS) biologists.” The alternative, which proposed that such decisions should be made by Congress, was supported by only 18 percent of voters, while 11 percent said they didn’t know who should decide.

There was also little geographic variability in support for the law or agreement over who should make decisions about which species to protect. For example, 89 percent of Westerners, who live among many of the nation’s most imperiled species, supported the ESA, and 69 percent agreed that USFWS biologists should make decisions about the species to protect. The survey also found that 66 percent of voters agreed with supporters of the law who say that “it is necessary to prevent species from going extinct and that we can protect our natural heritage for future generations while growing our economy and creating jobs.” But nearly a quarter of voters agreed with critics’ argument that the ESA “hurts our economy and destroys jobs,” and 10 percent responded that they didn’t know which they found more convincing. Finally, 68 percent of voters told the pollster they would be more likely “to vote for a member of Congress who supports environmental safeguards such as the ESA, the Clean Air Act and the Clean Water Act.”

*Tulchin Research*, a Democratic-leaning polling firm, put together the survey by compiling responses from a representative sample of 600 registered voters from across the United States. The respondents had previously volunteered to take part in online surveys and were contacted via email between June 25 and 29. The survey has a 4-point margin of error. Separately, lawmakers this session have introduced a raft of measures to delist protected species such as the gray wolf, the Mexican gray wolf and the lesser prairie chicken. “Congress is on the wrong side of public opinion on this issue,” *Defenders of Wildlife* President and CEO Jamie Rappaport Clark said in a statement. “The vast majority of Americans strongly believe in upholding the Endangered Species Act and that’s what they want their elected officials to do.” Trip Van Noppen, president of *Earthjustice*, added, “This Congress is obviously listening to Big Oil and other special interests – not the American public – in its mad dash to deny protections for endangered species.”

Source: Corbin Hiar, *Greenwire*, 7/7/15

[BACK TO TOP](#)

### Meetings of Interest

**Oct. 25-30:** [Second Mississippi-Yangtze River Basins Symposium](#), Wuhan, China.

[Waterfronts and Waterways Symposium](#), Tampa, FL.

Pittsburgh, PA.

**Apr. 10-14, 2016:** [19th International Conference on Aquatic Invasive Species](#), Winnipeg, Manitoba.

**Oct. 19-22:** [North American Sturgeon and Paddlefish Society Annual Meeting](#) - Oshkosh, WI

**Dec. 1-3:** [Nutrient Management and Edge of Field Monitoring: From the Great Lakes to the Gulf](#), Memphis, TN.

**Apr. 18-22, 2016:** [National Conference on Ecosystem Restoration 2016](#), Coral Springs, FL.

**Nov. 1-5:** [SETAC North America 36th Annual Meeting](#), Salt Lake City, UT.

**Jan. 24-27, 2016:** [76th Midwest Fish and Wildlife Conference](#), Grand Rapids, MI.

**Mar. 13-15, 2016:** [3rd International Muskellunge Symposium](#), Minnetonka, MN.

**Nov. 16-19:** [National Working](#)

**Mar. 13-18, 2016:** [81st North American Wildlife & Natural Resources Conference](#),



**Jul. 17-20, 2016:** [2016 N. Am. Congress for Conservation Biology](#), Madison, WI.

**Oct. 17-19, 2016:** [Upper Midwest Invasive Species Conference](#), La Crosse, WI.

[BACK TO TOP](#)

## Congressional Action Pertinent to the Mississippi River Basin

### Climate Change

**S. 66.** Vitter (R/LA). Prohibits any regulation regarding CO<sub>2</sub> or other GHG emissions reduction in the U.S. until China, India, and Russia implement similar reductions.

**S. 1601.** Whitehouse (D/RI) and **H. R. 2804.** Cartwright (D/PA) and 15 Co-sponsors. Responds to extreme weather and climate change by protecting, managing, and conserving the fish, wildlife, and plants, and maximizing Government efficiency in cooperation with State, local, and tribal governments and other entities, and for other purposes.

**H.R. 383.** Luetkemeyer (R/MO) and 18 Co-sponsors. Prohibits U.S. contributions to the *Intergovernmental Panel on Climate Change*, the *U.N. Framework Convention on Climate Change*, and the *Green Climate Fund*.

**H.R. 1961.** Honda (D/CA) and 11 Co-sponsors. Authorizes the NOAA to establish a Climate Change Education Program.

**H.R. 1971.** Lieu (D/CA) and 29 Co-sponsors. Reduces greenhouse gas emissions and protects the climate.

### Conservation

**S. 330.** Heller (R/NV) and 41 Co-sponsors and **H.R. 641,** Kelly (R/PA) and 54 Co-sponsors. Amends the IRS Code to make permanent the tax deduction for charitable contributions by individuals and corporations of real property interests for conservation purposes.

**S. 338.** Burr (R/NC) and 16 Co-sponsors and **H.R. 1814,** Grijalva (D/AZ) and 142 Co-sponsors. Permanently reauthorizes the Land and Water Conservation Fund.

**S. 384.** Crapo (R/ID) and 4 Co-sponsors. Amends the IRS Code of 1986 to facilitate water leasing and water transfers to promote conservation and efficiency.

**S. 890.** Cantwell (D/WA) and 26 Co-sponsors. Provides consistent and reliable authority for, and funding of the Land and Water Conservation Fund to maximize the effectiveness of the Fund

**H.R. 338.** Young (R/AK). Amends the IRS Code of 1986 to encourage charitable contributions of real property for conservation purposes by Native corporations.

**H.R. 781.** Connolly (D/VA) and 13 Co-sponsors. Amends the IRS Code of 1986 to allow a credit against income tax for qualified conservation contributions which include National Scenic Trails.

**H.R. 2346.** Wittman (R/VA) and Thompson (D/CA). Amends the North American Wetlands Conservation Act to extend the authorization for the Interior Department to carry out certain wetlands conservation projects through FY 2020.

### Endangered Species

**S. 112.** Heller (R/NV) and **H.R. 2098,** Crawford (R/AR) and 4 Co-sponsors. Amends the ESA to require the Interior Secretary to publish and make available for public comment a draft economic analysis at the time a proposed rule to designate critical habitat is published.

**S. 292.** Cornyn (R/TX) and 14 Co-sponsors and **H.R. 1667,** Lummis (R/WY) and 9 Co-sponsors. Amends the ESA to require publication on the Internet of the basis for determinations that species are endangered or threatened, and for other purposes.

**S. 293.** Cornyn (R/TX) and 17 Co-sponsors and **H.R. 585,** Flores (R/TX) and 9 Co-sponsors. Amends the ESA to establish a procedure for approval of certain settlements.

**S. 736.** Enzi (R/WY) and 5 Co-sponsors and **H.R. 2352,** Neugebauer (R/TX) and 8 Co-sponsors. Amends the ESA to require making available to affected States all data that is the basis of threatened or endan-

gered species determinations, and for other purposes.

**S. 855.** Paul (R/KY) and Heller (R/NV). Amends the ESA to permit Governors of States to regulate intrastate endangered species and intrastate threatened species, and for other purposes.

**S. 1142.** Lee (R/UT) and 4 Co-sponsors. Clarifies that noncommercial species found entirely within the borders of a single State are not in interstate commerce subject to regulation under the ESA or any other provision of law enacted as an exercise of the power of Congress to regulate interstate commerce.

**H.R. 1668.** McClintock (R/CA) and Rohrabacher (R/CA). Amends the ESA to provide for suspension of application of the Act to water releases by Federal and State agencies in river basins that are affected by drought, and for other purposes.

**H.R. 2109.** Huizenga (R/MI) and 18 Co-sponsors. Amends the ESA to replace the current standard for awarding court costs, including attorney fees, in citizen suits with the federal judicial code standard for awarding costs to a prevailing party.

**H.R. 2134.** Olson (R/TX) and 3 Co-sponsors. Amends the ESA to require review of the economic cost of adding a species to the list of endangered or threatened species, and for other purposes.

**H.R. 2735.** Conaway (R/TX) and Westerman (R/AR). Amends the ESA to require establishment of objective numerical recovery goals for removal of species from endangered and threatened species lists, and for other purposes.

**H.R. 3162.** Collins (R/GA) and 7 Co-sponsors. Amends the ESA to improve the disclosure of certain expenditures under that Act, and for other purposes.

### Energy

**S. 490.** Inhofe (R/OK) and 9 Co-sponsors and **H.R. 866,** Black (R/TN) and 22

Co-sponsors. Permits a state to seek to transfer to itself, and to implement, existing federal responsibilities for leasing, permitting, and regulating oil and natural gas development.

**S. 1236.** Murkowski (R/AK) and Risch (R/ID). Declares hydropower a renewable resource for purposes of all federal programs, and an essential source of energy for the U.S. Also, significantly changes procedures for consideration of new projects.

**S. 1338.** King (I/ME). Amends the Federal Power Act to provide licensing procedures for certain types of projects.

**H.R. 1902.** Pocan (D/WI) and 24 Co-sponsors. Bans hydraulic fracturing on land owned by the U.S. and leased to a third party, and for other purposes.

### Fish Culture

**H.R. 393.** Young (R/AK) and 9 Co-sponsors. Amends the Federal Food, Drug, and Cosmetic Act to require the labeling of genetically-engineered fish.

**H.R. 591.** Johnson (D/TX) and 2 Co-sponsors. Provides for a coordinated Federal research program to ensure continued U.S. leadership in engineering biology.

**H.R. 2235.** Crawford (R/AR) and 3 Co-sponsors. Ensures the continuation of successful fisheries mitigation programs, and for other purposes.

### FWPCA and Water Quality

**S. 54.** Vitter (R/LA). Amends the FWPCA to define the period of time in which the EPA is authorized to restrict or deny a permit for the discharge of dredged or fill materials into navigable waters.

**S. 234.** Vitter (R/LA) and 9 Co-sponsors. Amends the FWPCA to confirm the scope of the authority of the EPA to deny or restrict the use of defined areas as disposal sites.

**S. 371.** Murkowski (R/AK) and 6 Co-sponsors. Removes a limitation on a prohibition relating to permits for discharges incidental to normal operation of vessels.

**S. 518.** Cardin (D/MD). Requires each

state to develop for approval a state highway stormwater management program consisting of management measures to prevent, reduce, or control highway runoff from federal-aid highway projects.

**S. 785.** Casey (D/PA) and 11 Co-sponsors. Amends the Safe Drinking Water Act to repeal a certain exemption for hydraulic fracturing, and for other purposes.

**S. 1140.** Barrasso (R/WY) and 43 Co-sponsors. Requires the Corps and EPA to propose a regulation revising the definition of the term "waters of the United States", and for other purposes

**S. 1424.** Gillibrand (D/NY) and 7 Co-sponsors and **H.R. 1321.** Pallone (D/NJ) and 31 Co-sponsors. Amends the Federal Food, Drug, and Cosmetic Act to ban cosmetics that contain synthetic plastic microbeads beginning on January 1, 2018.

**S. 1554.** Cardin (D/MD) and 5 Co-sponsors and **H.R. 1460.** Cartwright (D/PA) and 66 Co-sponsors. Amends the FWPCA and directs the Interior Secretary to conduct a study with respect to stormwater runoff from oil and gas operations, and for other purposes.



**H.R. 349.** Latta (R/OH) and 12 Co-sponsors. Requires the NOAA Administrator to create an electronic database of research and information on the causes of, and corrective actions being taken with regard to algal blooms in the Great Lakes, their tributaries, and other surface fresh waters, and for other purposes.

**H.R. 594.** Gosar (R/AZ) and 185 Co-sponsors. Prohibits the Corps and EPA from implementing the proposed rule entitled, "Definition of 'Waters of the United States' Under the Clean Water Act," issued on April 21, 2014, or the proposed guidance entitled, "Guidance on Identifying

Waters Protected By the Clean Water Act," dated February 17, 2012.

**H.R. 896.** Gibbs (R/OH). Amends the FWPCA to clarify when the EPA has the authority to prohibit the specification of a defined area, or deny or restrict the use of a defined area for specification, as a disposal site under section 404 of such Act, and for other purposes.

**H.R. 897:** Gibbs (R/OH). Amends the Federal Insecticide, Fungicide, and Rodenticide Act and the FWPCA to clarify Congressional intent regarding regulation of the use of pesticides in or near navigable waters, and for other purposes.

**H.R. 1203.** McKinley (R/WV) and 5 Co-sponsors. Amends the FWPCA to clarify that the EPA does not have the authority to disapprove a permit after it has been issued by the Corps under section 404 of such Act.

**H.R. 1623.** Graves (R/MO) and 6 Co-sponsors. Amends the FWPCA to increase the length of time for a certain permit.

**H.R. 2097.** Newhouse (R/WA) and 4 Co-sponsors. Sets provisions governing feasibility studies for surface water storage projects initiated by the Interior Department under the Reclamation Act of 1902.

**H.R. 2111.** Johnson (R/TX) and 2 Co-sponsors. Eliminates certain programs of the U.S. EPA, and for other purposes.

**H.R. 3270.** Young (R/AK). Amend the FWPCA to exempt Indian tribes from compensatory mitigation requirements in connection with certain discharges of dredged or fill material, and for other purposes.

**H. R. 3271.** Young (R/AK). Amends the FWPCA to allow preservation leasing as a form of compensatory mitigation for discharges of dredged or fill material affecting State or Indian land, and for other purposes

### Grazing

**H.R. 1897.** Hice (R/GA) and Labrador (R/ID). Amends the Federal Land Policy and Management Act of 1976 to apply certain requirements for permits and leases

for domestic livestock grazing on National Forest System lands regardless of where located.

### Invasive Species

[S. 373](#). Rubio (R/FL) and 25 Co-sponsors. Provides for establishment of nationally uniform standards governing discharges incidental to the normal operation of a vessel, rolling back water protections against the spread of invasive species through ballast water disposal.

[S. 589](#). Stabenow (D/MI) and 7 Co-sponsors and [H.R. 1135](#). Miller (R/MI) and 24 Co-sponsors. Prevents the interbasin transfer of aquatic nuisance species between the Mississippi River and Great Lakes watersheds at a lock and dam choke point downstream from Chicago through measures such as electric barriers, carbon dioxide bubble screens, underwater sound cannons and pheromones.

[H.R. 1485](#). Amodei (R/NV) and Lummis (R/WY). Directs the Interior and Agriculture depts. to control and manage invasive species on lands under their management.

### Mining

[S. 1458](#). Coats (R/IN) and 18 Co-sponsors. Amends the Surface Mining Control and Reclamation Act of 1977 to ensure scientific transparency in the development of environmental regulations and for other purposes

[H.R. 1644](#). Mooney (R/WV) and 12 Co-sponsors. Amends the Surface Mining Control and Reclamation Act of 1977 to direct the Interior Secretary to make publicly available, 90 days before publication any information used to develop any rule, analysis, or assessment.

### Public Lands

[S. 146](#). Flake (R/AZ) and 5 Co-sponsors. Authorizes funding for national parks, federal refuges and units of national forests during any period in which the Interior or Agriculture secretaries are unable to maintain normal levels of operations at the units due to a lapse in appropriations, and for other purposes.

[S. 361](#). Lee (R/UT) and McCain (R/AZ) and [H.R. 435](#). Chaffetz (R/UT). Di-

rects the Interior Secretary to sell certain Federal lands in AZ, CO, ID, MT, NE, NV, NM, OR, UT, and WY, previously identified as suitable for disposal, and for other purposes.

[S. 755](#). Alexander (R/TN) and Corker (R/TN). Designates as wilderness certain public lands in the Cherokee National Forest in the State of Tennessee, and for other purposes.

[S. 1780](#). Heinrich (D/NM) and Flake (R/AZ). Amends the Omnibus Public Land Management Act of 2009 to promote watershed health, and for other purposes.

[H.R. 792](#). Griffith (R/VA). Provides for no net increase in the total acreage of certain Federal lands under the jurisdiction of the BLM, NPS, USFWS, or FS, and for other purposes.

[H.R. 1445](#). Hardy (R/NV) and 2 Co-sponsors. Bars the Interior Department from purchasing land resulting in a net increase of land acreage under the jurisdiction of the NPS, USFWS, or BLM unless the federal budget is balanced for the year in which such land is purchased.

[H.R. 1931](#). Poe (R/TX) and 2 Co-sponsors. Directs the Secretaries Interior and Agriculture to sell 8% of federal lands held by the BLM and Forest Service each fiscal year from 2016 to 2021 and direct the proceeds be applied to reduce the Federal budget deficit, and for other purposes

[H.R. 2324](#). Amodei (R/NV). Provides for conveyance of small parcels of FS and BLM lands to private landowners, State, county, and local governments, or Indian tribes whose lands share a boundary with subject lands, and for other purposes.

### Public Works

[S. 1160](#). Udall (D/NM) and 3 Co-sponsors and [H.R. 2167](#). Grijalva (D/AZ) and 10 Co-sponsors. Expands authorities of the Agriculture, Commerce, and Interior secretaries to provide service opportunities for young Americans, to help restore natural, cultural, historic, archaeological, recreational, and scenic resources of the U.S.

[S. 1993](#). McCain (R/AZ) and Bennet (D/CO). Establishes the 21st Century

Conservation Service Corps for youth and veterans to protect, restore, and enhance the great outdoors of the United States, and for other purposes.

[H.R. 1966](#). Kaptur (D/OH) and 6 Co-sponsors. 21st Century Civilian Conservation Corps Act.

[H.R. 1978](#). Polis (D/CO) and 29 Co-sponsors. Establishes a veterans conservation corps in conservation, resource management, firefighting, law enforcement, and historic preservation projects on public lands and for other purposes.

### Recreation

[S. 225](#). Thune (R/SD) and Klobuchar (D/MN). Amends the Toxic Substances Control Act to clarify EPA jurisdiction with respect to certain sporting good articles related to hunting and fishing (i.e., lead based materials), and to exempt those articles from a definition under that Act.

[S. 263](#). Crapo (R/ID) and 2 Co-sponsors and [H.R. 578](#), Gibbs (R/OH) and 88 Co-sponsors. Protects the right of individuals to bear arms at water resources development projects.

[S. 390](#). Tester (D/MT). Ensures that amounts in the Land and Water Conservation Fund are made available for projects to provide recreational public access, and for other purposes.

[S. 405](#). Murkowski (R/AK) and 21 Co-sponsors; [S. 556](#). Murkowski (R/AK); [S. 659](#), Sullivan (D/AK); and [H.R. 2406](#), Wittman (R/VA) and 29 Co-sponsors. Protects and enhances opportunities for recreational hunting, fishing, and shooting, and for other purposes.

[S. 834](#). Thune (R/SD) and 3 Co-sponsors. Amends the law relating to sport fish restoration and recreational boating safety, and for other purposes.

[S. 1464](#). Schumer (D/NY) and [H.R. 2700](#), Israel (D/NY). Requires all recreational vessels to have and to post passenger capacity limits and for other purposes.

[S. 1995](#). Schumer (D/NY). Provides grants for projects to acquire land and water for parks and other outdoor recreation purposes and to develop new or renovate existing outdoor recreation facilities.

**H.R. 176.** Womack (R/AR) and Westerman (R/AR). Amends WRDA of 1992 to permit the collection of user fees by non-Federal entities in connection with the challenge cost-sharing program for management of recreation facilities, and for other purposes.

**H.R. 528.** Benishek (R/MI) and 41 Co-sponsors. Facilitates use of and access to Federal public lands for fishing, sport hunting, and recreational shooting, and for other purposes.

**H.R. 974.** Lummis (R/WY). Directs the Interior Secretary to promulgate regulations to allow the use of hand-propelled vessels on certain rivers and streams that flow in and through certain Federal lands in Yellowstone National Park, Grand Teton National Park, and the John D. Rockefeller, Jr. Memorial Parkway, and for other purposes.

**H.R. 1991.** Bishop (R/UT) and Grijalva (D/AZ). Extends the authorities of the Interior and Agriculture secretaries to carry out the Federal Lands Recreation Enhancement Act, and for other purposes.

**H. R. 3173.** Waltz (D/MN) and 6 Co-sponsors. Promotes conservation for the purpose of enhancing hunting, fishing and other outdoor recreational opportunities.

## Regulations

**S. 110.** Heller (R/NV) and **H.R. 352.** Duffy (R/WI) and 4 Co-sponsors. Requires the EPA to satisfy certain regulatory requirements within 30 days.

**S. 226.** Paul (R/KY) and 36 Co-sponsors and **H.R. 427,** Young (R/IN) and 171 Co-sponsors. Requires Congress to approve all new major federal regulations.

**S. 280.** Portman (R/OH) and 9 Co-sponsors. Improves the efficiency, management, and interagency coordination of the Federal permitting process through reforms overseen by the OMB Director, and for other purposes.

**S. 544.** Barrasso (R/WY) and 18 Co-sponsors and **H.R. 1030,** Smith (R/TX) and 28 Co-sponsors. Amends the Environmental Research, Development, and Demonstration Authorization Act of 1978 to prohibit the EPA from taking an action

unless all scientific and technical information relied on to support such action is the best available science and made publicly available.

**S. 828.** Inhofe (R/OK) and 28 Co-sponsors. Gives states the sole authority to promulgate or enforce any regulation, guidance, or permit requirement regarding hydraulic fracturing on or under any land within their boundaries.

**S. 1067.** Blunt (R/MO) and 3 Co-sponsors and **H.R. 2010.** Hultgren (R/IL) and 5 Co-sponsors. Requires the periodic review and automatic termination of Federal regulations.

**H.R. 1993.** Walberg (R/MI) and 3 Co-sponsors. Permits the chief executive of a State to create an exemption from certain requirements of Federal environmental laws for producers of agricultural commodities, and for other purposes.

**H.R. 2497.** Denham (R/CA) and 12 Co-sponsors. Directs the DOT Secretary to eliminate duplicative environmental reviews and approvals under state and federal law for rail and highway transportation projects, and authorizes states to use state environmental review and approval laws and procedures in lieu of federal environmental laws and regulations.

## Water Resources

**S. 176.** Boxer (D/CA) and 2 Co-sponsors and **H.R. 291,** Napolitano (D/CA) and 31 Co-sponsors. Establishes within the EPA a *WaterSense* program to identify, label, and promote water efficient products, buildings, landscapes, facilities, processes, and services.

**S. 653.** Cardin (D/MD) and Boozman (R/AR). Water Resources Research Amendments Act of 2015.

**S. 980.** Paul (R/KY) and 6 Co-sponsors and **H.R. 2705.** Thornberry (R/TX). Clarifies the definition of navigable waters, and for other purposes.

**S. 982.** Barrasso (R/WY) and 11 Co-sponsors, and **H.R. 1830,** Tipton (R/CO) and 26 Co-sponsors. Prohibits conditioning any permit, lease, or other use agreement on the transfer of any water right to the United States by the Interior and Agricul-

ture Secs. and for other purposes.

**S. 1657.** Barrasso (R/WY) and **H.R. 2749,** Valadao (R/CA) and 17 Co-sponsors. Authorizes the Interior Department to develop additional project benefits (including additional conservation storage capacity) through the construction of new or supplementary works when it exercises its authority to modify BOR dams and related facilities.

**H.R. 813.** Huffman (D/CA) and 11 Co-sponsors. Supplements the Corps' existing authorities to review the operations of reservoirs to encompass climatic and atmospheric trends.

**H.R. 1370.** Graves (R/MO) and Hartzler (R/MO). Directs the Corps to revise the *Missouri Mainstem Reservoir System Master Water Control Manual* and any related regulations to delete fish and wildlife as an authorized purpose of the Corps and elevate flood control as the highest priority of authorized purposes of the Corps at all times.

**H.R. 1732.** Schuster (R/PA) and 70 Co-sponsors. Preserves existing rights and responsibilities with respect to waters of the U.S., and for other purposes.

**H.R. 2097.** Newhouse (R/WA) and 4 Co-sponsors. Facilitates and streamlines the BOR process for creating or expanding surface water storage under Reclamation law.

**H.R. 2489.** Maloney (D/NY) and Gibson (R/NY). Requires FEMA to provide grant assistance to states for use in rehabilitating publicly-owned dams that fail to meet minimum safety standards of the state or an Indian tribe and pose an unacceptable risk to the public

**H.R. 2689.** Walters (R/CA) and 30 Co-sponsors. Clarifies the scope of eligible water resources projects under the Water Resources Development Act of 1986 and the Water Resources Reform and Development Act of 2014, and for other purposes.

**H.R. 3315.** Babin (R/TX) and 2 Co-sponsors. Amends the Water Resources Development Act of 1986 with respect to the maximum cost of projects, and for other purposes.

[BACK TO TOP](#)