

MICRA Chairman’s Comments

As we prepare to ring in a new year, I want to inform you of a couple significant changes for MICRA in 2016. Ron Brooks, Fisheries Division Director for the Kentucky Department of Fish and Wildlife Resources, will ascend to MICRA Chairman and Brian Canaday, Fisheries Division Chief for the Missouri Department of Conservation, has graciously agreed to serve as MICRA’s Chair-elect. Please welcome and support these two gentlemen who I know will do a fantastic job leading MICRA over the next several years.

Despite recent changes to make *River Crossings* a quarterly, electronic newsletter, the publication remains MICRA’s greatest expense. MICRA has decided to indefinitely suspend publication of the *River Crossings* newsletter until a Strategic Communications Plan is completed to evaluate MICRA’s current communications objectives and the most cost-effective tools to achieve those objectives. This final issue of 2015 may be the final issue of *River Crossings*.

For almost 23 years this “mechanism for communication, information transfer, and coordination between agencies” has been published and disseminated to many throughout the Mississippi River basin and beyond. We have learned about current events involving paddlefish and sturgeon, MICRA’s surrogate species. We have also learned about the effects of various pesticides and practices such as mountain top removal for mining and fracking for petroleum and natural gas extraction on fish and aquatic resources. *River Crossings* has been at the forefront of aquatic invasive species issues affecting the basin, such as the need to address the “revolving door” known as the Chicago Area Waterway System that allows for the interbasin exchange of species such as zebra mussels, round gobies, and Asian carps between the Great Lakes and Mississippi River basins. We have been informed about Congressional bills that were being proposed that had something to do with MICRA’s cause. And of course climate change articles kept us informed globally.

None of these issues would have been possible if it were not for a man who is and has always been passionate about rivers and streams. Jerry Rasmussen was the original and only editor of *River Crossings*. Former MICRA Chairman Bill Reeves said that “he has never seen anyone more dedicated to the principles and ideals of MICRA than Jerry Rasmussen.” I’m sure all of us who know Jerry would echo Bill’s comment.

So in closing I would like to say thank you Jerry for the many years of dedication to MICRA. Without your contributions to *River Crossings* we would all be less informed. Smooth sailing to you.

Bobby Wilson, MICRA Chairman

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Asian Carp Update

Preliminary results of recent studies conducted by U.S. Fish and Wildlife Service (USFWS) biologists indicate that small fish can become entrained between barges and subsequently be transported measurable distances, through a lock and dam system, and across electrical barriers. Such electrical barriers are employed by the U.S. Army, Corps of Engineers (Corps) in the Chicago Area Waterways (CAWS) to prevent the spread of Asian carp from the Mississippi River Basin to the Great Lakes.

Over this past year, researchers conducted [studies](#) using golden shiners as surrogates for Asian carp to examine the potential impact of commercial barge traffic on small fish movements to better understand the potential risk of small Asian carp passing through the CAWS electrical fish dispersal barriers. But since the study exclusively used golden shiners, researchers said they do not know if juvenile Asian carp would respond in the same way. They said further, that there is no evidence that Asian carp have ever crossed the electrical barriers in this way. However, this study indicates that there is the potential risk that commercial barge traffic could inadvertently facilitate the movement of small Asian carps in this way. Earlier (2013) research by the [Corps](#) and [USFWS](#) showed that metal barges can essentially suck electricity out of the water as they motor through the barrier zone, creating a moving “bubble” of water that isn’t pulsing with the intended electrical current. The studies also revealed that small fish are not always incapacitated by the electrical currents in the water. In fact, a sonar camera lowered into the canal at the barrier site regularly captured schools of small fish swimming freely through the barrier. On 72 occasions capturing 10 minutes of video each time, entire schools of small fish, not believed to be Asian carp, were recorded swimming through the barrier 61% of the time.

“This study further underscores the urgency of this matter and I hope it will serve as a wake-up call to those throughout the Great Lakes region that we cannot stand idly by,” U.S. Rep. Candice Miller (R/MI) said. “Asian carp have made their way up the Mississippi River, devastating every ecosystem in their path, and they are now within striking distance of the Great Lakes basin. We cannot wait. It is critical that we take swift, substantive action,” Rep. Miller said. Miller and other Michigan members of Congress, including U.S. Sen. Debbie Stabenow (D/MI), have called on the Corps to more seriously consider physically separating waterways around Chicago from the Great Lakes, but many business interests remain opposed. Such a project could be hugely expensive, taking 25 years to complete and costing as much as \$18 billion, according to the Corps. This year, Miller and Stabenow introduced legislation giving the Corps authority to take “immediate and long-term action” as it sees fit to stop Asian carp from infiltrating the Great Lakes. Though, for now, the electronic barriers remain the primary line of defense.

Meanwhile, this summer’s [interagency monitoring efforts](#) detected silver carp less than six inches in length in the Starved Rock Pool of the Illinois River, just a few miles downstream from Marseilles Lock and Dam near Ottawa, IL (See accompanying figure). In April 2015, silver carp less than six inches in length were found as far upstream as Peru, IL. These fish were likely spawned in 2014. Focused monitoring through June 2015 did not detect any of these small fish in the Starved Rock, Marseilles, or Dresden Island Pools of the Illinois River, despite historically high sampling rates. However, from July 2015 to early September (Sept. 7, 2015), 99 silver carp less than six inches in

River Crossings

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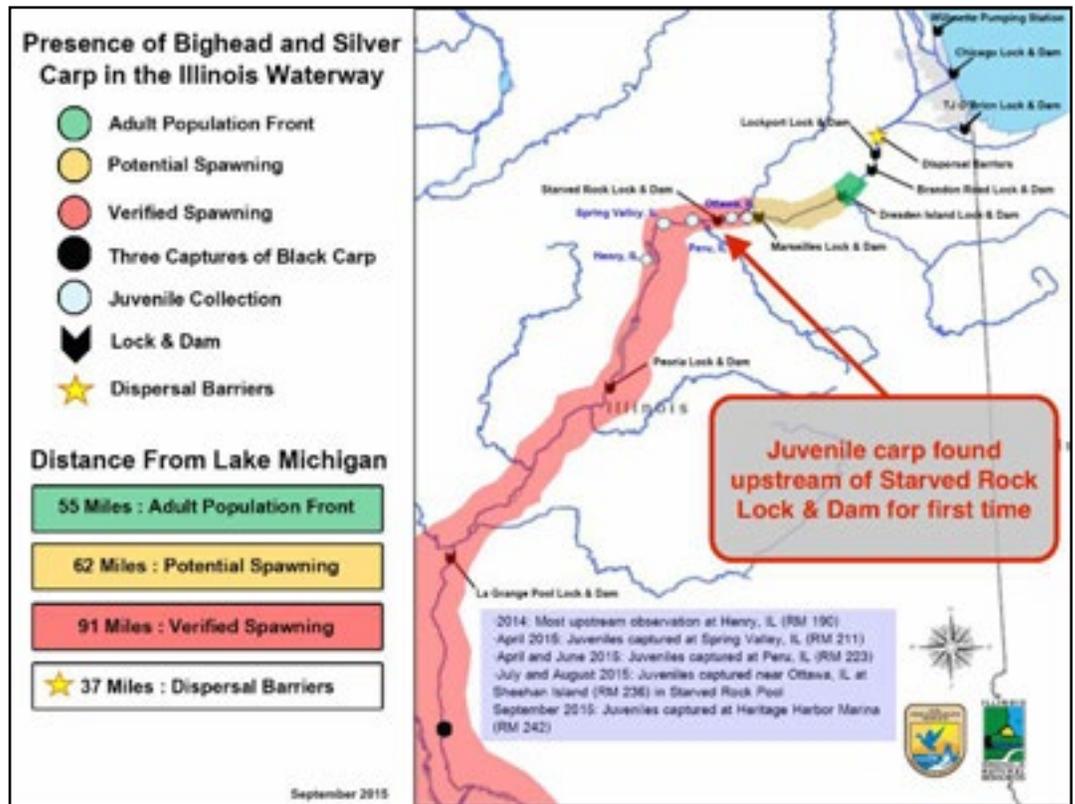
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River Crossings is a mechanism for communication, information transfer, and coordination between agencies, groups and persons responsible for and/or interested in preserving and protecting the aquatic resources of the Mississippi River Drainage Basin through improved communication and management. Information provided by the newsletter, or opinions expressed in it by contributing authors are provided in the spirit of “open communication,” and do not necessarily reflect the position of MICRA or any of its member States or Entities. Any comments related to “River Crossings” should be directed to the MICRA Chairman.

length were collected, all within the Starved Rock Pool. This marks a point 52 miles upstream from Peru where small Asian carp were found in 2014.

Monitoring for young-of-the-year Asian carp in the Illinois River, Des Plaines River, and the CAWS takes place through sampling identified in an interagency Monitoring and Response Plan prepared by the Illinois Department of Natural Resources (IDNR), USFWS, Corps, and research organizations from throughout the state of Illinois. Most notably, USFWS efforts targeted smaller fish with standard and experimental gears to increase detection of small Asian carp, concentrating on the historical locations and identifying any upstream movement. Small Asian carp are typically missed with adult sampling gears and sampling focused on small fish provides the information needed to help determine where Asian carp are successfully recruiting young.



“This information allows us to update our risk map and show that small fish have now been detected within 91 miles of Lake Michigan,” said Kevin Irons, IDNR Aquatic Nuisance Species Program Manager. “Efforts to detect these fish farther upstream are ongoing and to date have not resulted in the capture of any small silver carp upstream of Starved Rock Pool,” Irons said.

Other ongoing IDNR efforts include removal of 3.5 million pounds of adult Asian carp by contracted commercial fishing crews, telemetry studies identifying the movement of Asian carp throughout the Illinois River, and assessments of Asian carp populations. Hydroacoustic assessments have documented reductions in populations of Asian carp within the river at all locations, with consecutive and significant declines in successive years (2013-2014) near the leading edge of the Asian carp population (Dresden Island Pool). The closest adult Asian carp found in the Illinois River are approximately 55 miles from Lake Michigan, and as noted above, no small Asian carp have been observed closer than 91 miles from Lake Michigan.

Research conducted in recent years at the University of Illinois had shown that bubbling high concentrations of carbon dioxide (CO₂) into water is a deterrent to invasive Asian carp adults. The gas makes them feel ‘woozy’ and they choose to swim away. Now researcher Cory Suski has shown that even fish no longer than an eyelash also experience negative consequences following CO₂ exposure. “We conducted carbon dioxide challenge experiments on juveniles of four species – largemouth bass, bluegill, silver carp, and bighead carp, and on eight-day-old hatched fry of both carp species,” Suski said. “Results from the study demonstrate that juvenile fishes of all four species actively avoid areas of water with elevated CO₂ levels once concentrations reached approximately 200 milligrams per liter, which is lower than that in a can of carbonated soda.” Suski explained that the larvae they used were so tiny that their behavior couldn’t be tested so gene expression data were used. “Even at only eight days old, there are physiological problems happening to those animals when they are put into a high CO₂ environment,” he said. “The biomarkers of stress turned on. So we now have evidence all the way from large adult fish to eight-day-old fish that CO₂ causes disturbance.” Believing that two barriers are better than one, Suski suggests that CO₂ be used to keep invasive species from entering Lake Michigan by working in tandem with electric barriers.

Meanwhile, a [new report](#) by the *Natural Resources Defense Council* (NRDC) calls on the Chicago region to assess the state of its inland waterway system and invest in a future that best serves residents and other stakeholders. “Chicago faces a stark choice for its inland water system: allow it to decline into an ever more marginal backwater and source of pollution or seize the moment to revitalize the city’s water economy and communities,” said Meleah Geertsma, attorney in NRDC’s *Midwest Program* and report author. Shipping via the CAWS has declined nearly 40% from about 29 million tons in the most heavily trafficked point in 1994 to less than 17 million tons in 2012. Despite significant challenges, including deteriorated shipping infrastructure and a long downward trend in commercial shipping on the CAWS, NRDC makes clear that a commitment to re-envision and reinvest in the CAWS could transform it into a commercially and environmentally sound resource for the region, fostering livable communities and clean industries, and protecting the region and nation from invasive aquatic species that threaten treasured Great Lakes water resources. The report also

provides an overview of enforcement actions taken against polluting businesses along the CAWS in recent years, and urges the development of land use plans that envision vibrant riverfront communities anchored by sustainable businesses.

Additionally this summer, Canada initiated what they call the “[Asian Carp Canada Innovative Solutions Competition](#).” This competition is a platform for university and college students to network and showcase their original ideas for designs and technologies which could be used in the prevention, control and/or elimination of Asian carps in the Great Lakes basin. The one day event will be hosted at the University of Toronto at Scarborough on March 5, 2016. A panel of judges will be comprised of subject matter and academic experts who will determine the winning entry based on pre-established criteria.

Sources: Steiger-Meister, Katie. *USFWS Shares Results of Studies on Small Fish Movement and Barge Traffic – USFWS White Paper*, 10/15/15; Dan Egan, *Milwaukee Journal Sentinel*, 12/23/13; Todd Spangler, *Detroit Free Press*, 10/15/15; Chris Young, *Illinois Department of Natural Resources News Release*, 9/11/15; *ScienceDaily*, 11/18/15; ACES, *College News*, 11/18/15; *Healthy Water Solutions*, 10/28/15; and *Livestream*, 9/3/15

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America’s Watershed Initiative Develops Report Card for the MRB’s Resources

More than 400 businesses, associations, government agencies, science organizations, academic institutions and non-profit organizations who are part of [America’s Watershed Initiative](#) (AWI) have worked together over the past two years to create the first-ever [Report Card for the Mississippi River Watershed](#). AWI seeks to find shared solutions for the serious challenges we face in managing the Mississippi River and the 250 rivers that flow into it. The report card, released in mid-October, evaluates the following six resource areas: ecosystems, recreation, flood control and risk reduction, water supply, and transportation and the economy. Grades were provided for the overall Mississippi River Watershed as well as for the following five sub watersheds: [Upper Mississippi](#), [Lower Mississippi](#), [Missouri](#), [Ohio and Tennessee rivers](#), and [Arkansas and Red rivers](#). AWI gave the overall Mississippi River Watershed a composite grade of D+ for all six resource areas, collectively, then broke the overall grade down for each of the six resource areas and five sub watersheds as shown below:

- [Ecosystems](#) (Grade C) - The grades for ecosystems varied more across the basins than for any other goal, with some basins showing very positive results while others face significant challenges. The industrialized eastern portion of the watershed and the Lower Mississippi River show the greatest threats to natural areas. Poor water quality is a result of high nutrient runoff from agriculture and industry and is a major cause of low oxygen in the waters of the northern Gulf of Mexico.
- [Recreation](#) (Grade C) - Participation in recreation for most sub basins was at or below what has been seen in the recent past. Much more needs to be done to support current and emerging recreational opportunities through effective management of natural resources that support recreation. Additional information is also needed to evaluate some recreational uses.
- [Flood Control & Risk Reduction](#) (Grade D+) - This resource area was rated poor, especially because development within floodplains is increasing. Risks from severe river floods were highest in the eastern portion of the watershed and along the Lower Mississippi River, although intensive investment in flood control infrastructure avoided huge losses from the record flood in 2011.
- [Water Supply](#) (Grade C-) - All five sub watersheds received D or C grades for this goal. The overall watershed’s grade was a result of low grades it scored across the indicators used to measure water supply, including “water depletion” (Grade B-) and “treatment violations” (Grade D), which revealed that municipal systems are not performing well throughout the watershed.
- [Transportation](#) (Grade D-) - Critical components for locks and dams are in relatively poor condition across the watershed, and a dangerous lack of funding for infrastructure maintenance means that multiple failures may be imminent. River transportation currently functions with some delays, but as these systems continue to deteriorate, significant failures could be expected which would result in severe economic, public safety and water security problems.
- [Economy](#) (Grade B to D+) - The grades for the five sub watersheds reflect general economic conditions nationwide, differing only slightly among them. Additional data is needed to better reflect how local economies directly tie to the management of the watershed and its rivers. Such data will be included in future versions of the Report Card.

Harald Jordahl, AWI director, said the public and private sector needs to work together and invest more to address problems if the Mississippi is to remain viable in all resource areas.

Sources: Jim Salter, *AP/ABC News*, 10/14/15; <http://americaswatershed.org/reportcard/>; and *Greenwire*, 10/14/15

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Mayors Home in on Water Quality and Climate to Protect Economies

Communities along the Mississippi River should address water quality and climate change to protect the economic value of the Mississippi River moving forward, according to a new report compiled by a river advocacy group. The [Mississippi River Cities and Towns Initiative](#), a group of 68 mayors in cities from the headwaters of the Mississippi to its mouth, in mid September revealed the economic profile of the upper portion of “America’s original Main Street” in Dubuque, Iowa. The mayors had estimated that the

Upper Mississippi River generated around \$200 billion a year, but analysis found the river yields \$404.9 billion annually, including \$253.2 billion in the 60 counties directly adjacent to the waterway north of Cape Girardeau, MO. The new report – produced in partnership with the U.S. Fish and Wildlife Service, the *Upper Mississippi River Basin Association* and *The Nature Conservancy* – covers the river from the headwaters near Bemidji, MN, to Cape Girardeau. The first analysis since 1999, the profile complements the lower-river profile released in 2014.

According to the mayors, the country’s “most important river” sustains 755,000 jobs in the upper river and 1.3 million jobs overall, the majority of which are in its three largest sectors: the \$366 billion agriculture, manufacturing and tourism industries. The economy along the river has grown by 6.6 percent annually despite the economic downturn, but automation and outsourcing still cost the region 112,646 jobs from 1999 to 2014, mostly in manufacturing, which saw a 36 percent drop, just under the national average of 42 percent. The figures will be used to fuel the group’s lobbying effort in statehouses and Congress to address climate change and water quality along the river. Hiram Copeland, mayor of Vidalia, LA, said that clean water benefits manufacturers, irrigators and the 20 million people drinking the river’s surface water that pull out 633 million gallons a day. A chief concern for the mayors is nutrient loading, a surplus of nitrogen, phosphorous and other elements driving algae blooms that consume oxygen necessary for plants, fish and wildlife, leaving behind toxic drinking water.

John Dickert, mayor of Racine, WI, said agriculture is the main culprit, but negotiations with an industry that makes the United States the world’s food exporting leader must hinge on mutual respect. “We need your food as much as you need our water. So instead of constantly butting heads, there’s much more opportunity for success in collaboration,” said Dickert, a former chairman of a sister organization the *Great Lakes and St. Lawrence Cities Initiative*. He added: “We can’t afford to have another Toledo ever again.” In 2014, algae in Lake Erie rendered the drinking water of half a million people in and around Toledo, OH, undrinkable. Dickert said Congress also needs to pay attention to the “people that are doing the work on the ground level to protect this incredible resource.”

Extending their efforts outside U.S. borders, the mayors are sending a delegation to Paris this November to meet other leaders from the world’s other major waterways at the international climate talks, where leaders from more than 200 countries will negotiate toward an international climate agreement. Mayor Chris Coleman of St. Paul, MN, who is leading the delegation, said climate change is already having a marked effect on people, wildlife and the larger ecosystem of the Mississippi River, including successive 100-, 200- and 500-year flood events and Hurricanes Katrina and Isaac. “As mayors, we’re concerned that as climate change impedes the ability of our major food-exporting river valleys, the gap will fall to the Mississippi River to fill,” he said.

Source: Dylan Brown, *E&ENews PM*, 9/16/15

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Iowa Farmers Committed to Clean Water but Unsure of Gulf Impact

Most Iowa farmers want to protect water quality in their state, but fewer feel their growing practices contribute to the Gulf of Mexico’s “dead zone,” a recent poll shows. More than 75 percent of respondents expressed concern over agriculture’s impacts on water quality in the state, according to the poll. However, only 52 percent believed that nutrients from Iowa farms contribute to hypoxia – the depletion of dissolved oxygen in the water – in the Gulf of Mexico, with more than 40 percent uncertain about the issue. This could be attributed to the “proximity effect,” said J. Gordon Arbuckle, an associate professor of sociology at Iowa State University who conducted the survey as part of the annual [Iowa Farm and Rural Life Poll](#). “People are generally more concerned about things that are closer to them than far away,” Arbuckle said. Matt Lechtenberg, water quality initiative coordinator for the Iowa Department of Agriculture and Land Stewardship’s Division of Soil Conservation and Water Quality, agreed that the local tie was an important one for promoting the strategy. “That is something that is more tangible and would resonate with farmers more,” he said.

Nearly 84 percent of farmers polled agree or strongly agree that Iowa growers should do more to reduce nutrient and sediment runoff into waterways. Almost 73 percent said they would like to improve conservation practices to meet the [Iowa Nutrient Reduction Strategy’s](#) (INRS) goals, with 47.6 percent deeming it a “high priority.” The INRS is a 2008 framework designed to study and reduce the flow of nitrogen and phosphorus runoff to the Gulf of Mexico. But many feel economic barriers could hinder progress of the INRS. Fifty-six percent of farmers surveyed agreed that landlords are often unwilling to spend money on conservation. Nearly the same percentage believe short-term pressures to boost profits made it difficult to invest in conservation, where benefits are visible only after several years. However, only 30.5 percent said they couldn’t afford to take land out of production for conservation, and even fewer – 16.4 percent – said the costs to reduce nutrient losses were too high. Arbuckle added that awareness of water quality issues has grown since the farmers completed the survey, due in part to the high-profile lawsuit filed by water utility *Des Moines Water Works* against several of the state’s agricultural drainage districts. That issue was addressed in *River Crossings* Vol. 24, Issues 2 and 3.

The survey was conducted during the spring of 2015, published in May and released publicly in late August. Iowa State University researchers sent the questionnaire to 2,218 farm operators. The results are based on usable surveys from 1,128 farmers.

Source: Tiffany Stecker, *Greenwire*, 8/27/15

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USDA Commits \$30 Million to Mississippi River Restoration

The U.S. Department of Agriculture (USDA) has set aside \$30 million over three years to improve water quality in watersheds in the Mississippi River Basin. USDA's Natural Resources Conservation Service (NRCS) will use the funds to support [33 new projects and 40 existing projects](#). "By targeting small priority watersheds within the Mississippi River basin, we are helping to deliver local water quality benefits and contributing to large-scale improvements for the Basin as a whole," Agriculture Secretary Tom Vilsack said in a statement. NRCS's [Mississippi River Basin Healthy Watersheds Initiative](#) relies on the *Environmental Quality Incentives Program* and other 2014 farm bill programs to provide financial and technical assistance to farmers and ranchers to enhance water quality, protect wildlife habitat and curb soil erosion. The funds come from the \$100 million enacted in the last farm bill for the program.

USDA also has made \$350 million available for conservation easements. NRCS officials announced the funds in mid-November as part of the Agricultural Conservation Easement Program (ACEP), which is the result of consolidating several conservation programs in the 2014 farm bill. ACEP consolidated the Grasslands Reserve Program, Wetlands Reserve Program, and Farm and Ranch Lands Protection Program of previous farm bills. ACEP helps private landowners set aside acres to improve water quality, protect wildlife and preserve farming and ranching lands.

Sources: Tiffany Stecker, *E&ENews PM*, 11/3 and 11/19/15

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Court Upholds EPA Livestock Data Rule in Win for Ag Groups

The U.S. District Court for the District of Columbia in late September ruled in favor of U.S. EPA's decision to withdraw a 2012 rule to collect pollution data from large livestock operations, marking a blow for environmental groups that have long pushed for more accountability on agriculture's impact on waterways. Speaking for the court, Judge Randolph Moss wrote in his opinion that the plaintiffs – the *Environmental Integrity Project*, *Food and Water Watch*, the *Humane Society of the United States*, and other environmental and health groups – could not show that EPA's decision to pull the rule was "arbitrary and capricious," citing the agency's deference on rulemaking decisions. A court opinion against EPA would "unduly encroach on the discretion of the agency to decide how best to allocate its resources and to perform its assigned functions," wrote Moss, the President Obama appointee.

Environmentalists have pushed the agency for years to track the amount of nitrogen and phosphorus pollution from manure on concentrated animal feeding operations (CAFOs) that is released into nearby streams. As part of a 2011 legal settlement, EPA agreed to issue the so-called CAFO reporting rule, which would have authorized the agency to collect information on the large-scale animal facilities. EPA withdrew the rule a year later, saying the regulation would duplicate existing state efforts to collect the information. Greens took the agency to court in 2013, claiming withdrawal of the rule was arbitrary and capricious under the Administrative Procedure Act.

The defeat is disappointing but not surprising, said Scott Edwards, co-director of the food and water justice program at *Food and Water Watch*. Courts typically give agencies wide deference on rulemakings, and the fact the challenge was over the withdrawal of a rule – not the rule itself – set the threshold even higher. "There's already an uphill battle when you go into these cases," said Edwards, adding that the plaintiffs would consider options for future action. Meanwhile, Michael Formica, senior environmental counsel for the *National Pork Producers Council*, said he was thrilled with the decision but not surprised. "It's not EPA's job to do discovery and litigation prep for a bunch of environmental and activist groups," he said.

Source: Tiffany Stecker, *Greenwire*, 9/30/15

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EPA Agrees To Revisit Rules For Stormwater Runoff By Next Year

A federal court has approved a settlement in which the U.S. EPA will update its national regulations for stormwater runoff, one of the nation's largest sources of water pollution, by November 2016. The EPA agreed to the deadline after the *Natural Resources Defense Council* (NRDC) and the *Environmental Defense Center* (EDC) filed a lawsuit last year to force the agency to act, more than a decade after a federal court had first ordered EPA to do so. "This settlement puts an end to more than a decade of foot-dragging on a huge water pollution problem," said NRDC Senior Attorney Larry Levine. "We welcome the Administration's commitment to act, and we will work to ensure EPA develops new rules that reflect a more modern, green technology approach to protecting the waters where we fish, swim, and drink."

In a 2003 case brought by NRDC and EDC, *Environmental Defense Center v. EPA*, a federal court ordered EPA to correct and strengthen urban runoff rules for communities with populations under 100,000. The 2003 ruling also ordered the EPA to make a science-based determination of whether polluted runoff from forest roads is so severe that national pollution control standards are necessary. In response to a new lawsuit NRDC and EDC filed last December with the U.S. Court of Appeals for the Ninth Circuit in San Francisco, EPA conceded that it had failed to implement the earlier court order. The agency agreed to strict deadlines to comply. "We

are pleased that the clean water victory NRDC and EDC achieved over a decade ago will finally be realized,” said Maggie Hall, Staff Attorney for EDC. “Stormwater runoff continues to be one of our nation’s most widespread forms of water pollution, and we applaud EPA’s agreement to set firm deadlines to address such runoff.” The settlement does not address the substance of regulations but sets timelines for EPA to take action on pollution from “urban runoff” and “forest road runoff.”

“Urban runoff” is the dirty water that runs off roads, parking lots and other hard surfaces in cities and suburbs after rainstorms and snowmelt, carrying toxic metals, pesticides, excess nutrients and harmful bacteria into waters nationwide. It causes beach closings around the country every year, and fouls tens of thousands of miles of streams and hundreds of thousands of acres of lakes, ponds, and reservoirs. Improved EPA regulations should drive greater use of green infrastructure solutions (e.g. porous pavement, green roofs, parks, roadside plantings and rain gardens) that stop rain where it falls, before it can wash pollution from dirty streets to our rivers and beaches. EPA’s current rules allow most communities to set their own pollution control standards without meaningful oversight – resulting in lax pollution control measures that the *National Research Council* has deemed a failure. The court order requires EPA to update its stormwater permitting rules with a proposed rule by Dec. 17, 2015 and a final rule by Nov. 17, 2016.

“Forest road runoff” is the sediment-laden runoff from forest roads that threatens drinking water supplies and kills fish and other aquatic life. Road construction and road use are the main sources of this pollution on forested lands. EPA has identified many effective pollution control measures to solve this problem (e.g. identifying special areas for protection including wetlands and streamside vegetation, limiting forestry activities to certain times of the year, and designing roads, construction and maintenance to reduce and control sediment in runoff), but the agency does not currently require that any of them be used. The court order requires EPA to decide by May 2016 whether regulation of forest road runoff is necessary to protect water quality. If the agency determines forest road runoff must be regulated, the Clean Water Act requires that EPA proceed to develop appropriate pollution control rules.

Source: [Natural Resources Defense Council](#) (NRDC), News Release, 9/16/15

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Unprecedented Ohio River Algae Bloom

Ohioans are used to hearing about toxic algae blooms forming on Lake Erie and other state lakes, but not on the Ohio River, where a late summer bloom stretched over nearly 650 river miles. The bloom started in August, when tests at drinking-water plants in eastern Ohio and West Virginia showed levels of microcystin, the toxin produced by a particular type of algae that can damage human livers and kill pets. By early October the bloom was causing problems for drinking water and recreation along more than two-thirds of the Ohio River’s length. “It’s unprecedented,” said Greg Youngstrom, an environmental specialist at the *Ohio River Valley Water Sanitation Commission*, which oversees the health of the river. “What we think is going on is that the conditions have just set up perfectly for this.” After a rainy June and July, August was mostly dry. The river, laden with runoff from the land that surrounds its watershed in New York, Pennsylvania and Ohio, slowed almost to a standstill. The weather was warm, the river wasn’t moving and the algae had plenty of food.

Forty-four days after it was first spotted, the bloom had flowed well into Indiana. Before this summer, the largest algae bloom on the Ohio River occurred in 2008, spanned about 30 miles and lasted about 10 days. Sanitation commission scientists aren’t sure what specifically caused this algae bloom to form and grow. Microcystin feeds on phosphorus, a key ingredient in human waste, manure and some fertilizers. Farm runoff, overflowing septic systems and failing municipal wastewater lines can contribute to microcystin blooms. There always is some level of microcystin and other algae in the Ohio River, but its fast flow usually keeps blooms from forming. Scientists have been monitoring the algae and collecting data that they will analyze this winter to try to understand what started the bloom. The toxin in the Ohio River is the same type that contaminated Toledo’s drinking water in 2014, making it unsafe for several days for about 500,000 customers. *Greater Cincinnati Water Works*, which supplies drinking water to customers in Hamilton, Butler and Warren counties in Ohio and Boone County in Kentucky, spent about \$7,500 a day to keep the water safe from algae toxins.

Gina McCarthy, administrator of the U.S. EPA, has said that harmful algal blooms are one of the nation’s most serious and growing environmental challenges. But not all blooms are toxic, said Gary Fahnenstiel, an algae expert with Michigan Technological University’s Great Lakes Research Center. Still, a huge bloom on the Ohio River should be a wakeup call, he said. “What we’ve learned is



Ohio River algae bloom at the confluence of the Licking River, Oct, 2015 - Patrick Reddy, The Cincinnati Enquirer Photo.

these things are increasing,” Fahnenstiel said. As water temperatures fell this fall the amount of toxin in the river declined and the bloom died off. Fall rains also helped to speed the river’s flow and disperse the bloom.

Sources: Laura Arenschield, *Columbus Dispatch*, 10/3/15; John Seewer, *AP*, 10/19/15; and *Greenwire*, 10/5/15

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Lawsuit Filed Over Tennessee River Pollution

An Alabama water authority (*West Morgan-East Lawrence Water and Sewer Authority*) and three local residents have filed a class-action lawsuit against three companies they accuse of polluting the Tennessee River. The lawsuit accuses the companies (the *3M Company*, *Dyneon* and *Daikin America*) of polluting the Tennessee River with perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). The chemicals are man-made and used to make items fire resistant and oil, stain, grease, and water repellent. In the 1990’s, *3M* discontinued the manufacturing of PFOS after the EPA brought forward concerns with the chemicals. The lawsuit states that those chemicals can cause health problems like cancer, immune system issues, thyroid disease, ulcerative colitis and high cholesterol. The plaintiffs accuse *3M* of discharging wastewater, containing those chemicals, into the Tennessee River or a tributary of the river. The lawsuit states *3M* had knowledge of the issues with PFOA and PFOS for more than 30 years. It goes on to say *3M* has known PFOA and PFOS are not effectively treated by typical water treatment processes. The *Water Authority* accuses *3M* of misleading them concerning the levels of pollution stating that: “Despite access to confidential studies and first-hand experience with the hazards of PFOS and PFOA, *3M* assured the *Water Authority* that documented levels of pollution posed no threat to the Plaintiffs. Contrary to the representations by *3M* to the *Water Authority*, *3M* knew the levels for safe drinking water were inadequate to protect the Plaintiffs and that under new proposed standards, the PFOS and PFOA levels in the *Water Authority* water supply were dangerously high.

3M denies any evidence that PFOA and PFOS present harm to human health at levels typically found in the environment or in human blood. Dr. Carol Ley, vice president and corporate medical director of the *3M* Medical Department said, “In more than 30 years of medical surveillance we have observed no adverse health effects in our employees resulting from their exposure to PFOS or PFOA. This is very important since the level of exposure in the general population is much lower than that of production employees who worked directly with these materials.” But according to the lawsuit, the *Agency for Toxic Substances and Disease Registry* analyzed the blood serum of 121 people in the area affected. All had elevated levels of PFOA in the blood serum. The lawsuit states the number of affected residents will likely exceed 25,000 people. But William A. Brewer III, partner at *Brewer, Attorneys & Counselors* and counsel for *3M* said “Needless to say, *3M* believes these claims lack merit. Although these types of lawsuits capture headlines, it is important to remember they are often based on groundless allegations. *3M* believes there has been no harm to plaintiffs’ property due to the mere environmental presence of these materials.” He states further that the companies actions were legal and fully permitted.

Legal analyst Mark McDaniel said it could take years to resolve the lawsuit because of the environmental claims. According to McDaniel, the court will look to clean up any problems if they exist before they look at individual or class action suits. “You’ve got to stop that problem,” said McDaniel. “You don’t want more people being damaged.” The plaintiffs have requested a jury trial. Meanwhile, the environmental group *Tennessee Riverkeeper* also notified *3M*, *BFI Waste Systems of Alabama*, *Decatur Utilities*, and the *City of Decatur* of their intent to sue over dangerous chemicals in the Tennessee River. A U.S. EPA [fact sheet](#) on PFOS and PFOA can be found on line.

Sources: Amanda Jarrett and Nick Lough, *WAFF*, 10/5/15 and *Greenwire*, 10/7/15

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Water Quality Offset Program Criticized

A new report alleges that several companies in Ohio and Pennsylvania took advantage of water quality credit schemes to pollute waters while operating legally. *Food and Water Watch* (FWW), a watch dog group, released a [new report](#) in mid-November highlighting a consulting company, a cheese maker and a power plant for using pollution offsets to operate without reducing discharges of nitrogen and phosphorus. The report calls the programs, which have been implemented at various levels in 22 states, “a regulatory avoidance scheme fraught with unaccountability that is destined to destroy waterways and communities.” “We’re looking at trading as it’s being implemented on the ground,” said Scott Edwards, co-director of FWW’s food and water justice program. “We’re hoping that when [environmental advocates] see this being implemented on the ground, they’ll think about the future of our pollution control.”

Water quality trading, much like cap-and-trade carbon trading, allows a polluter to buy a credit from pollution reduction elsewhere to offset emissions under a regulatory system. Certain environmental groups, including the *Chesapeake Bay Foundation*, have endorsed water quality trading as a method to curb overall nutrient pollution to regulated waterways like the Chesapeake Bay, provided that the programs can operate under a set of rules and with strong oversight. In an effort to check the efficacy of the system, FWW made a series of public record requests under the Freedom of Information Act (FOIA) over the course of a year to the Ohio Environmental Protection Agency and Pennsylvania Department of Environmental Protection (DEP) to check the system.

The resulting report singled out *Red Barn Consulting*, a nutrient trading broker that FWW accuses of operating with little oversight. The firm was able to quantify nutrient reductions by moving manure from a location on the Chesapeake Bay watershed to a location in western Pennsylvania in the Ohio River Basin – another sensitive watershed. “They’re literally moving these piles of manure from one impaired watershed to another,” Edwards said. Though critical of Pennsylvania’s program, the report notes that the documents uncovered “no direct evidence of fraud,” a finding it attributes to the purported lack of oversight. Peter Hughes, one of *Red Barn*’s principals, said in an email that the firm’s credits are certified, verified and registered by Pennsylvania’s DEP and that the credit-earning practice of transporting manure is “not just shoving nutrients to other watersheds as claimed.”

FWW also laid out findings from FOIA documents from the Ohio EPA on Clean Water Act (CWA) violations from the *Alpine Cheese Co.* in Winesburg, OH. The report alleges the company, which operates under a permit to discharge into a nearby waterway, was able to operate without reprimand due to the number of credits it had purchased. According to the report, FOIA documents show the company was allowed to relax standards in a five-year water quality permit by paying 25 farms to undertake best management practices, actions that reduce the flow of farm nutrients into the water. The company has 1,251 permit violations between 1999 and 2014, according to FWW. A representative from *Alpine Cheese* was not immediately available for comment.

Finally, the report looks at *Brunner Island Steam Electric Station* in York County, PA., which has used credits to comply with CWA requirements to its discharges of nutrients from coal emissions scrubbers. The power plant operates under a “net zero” nutrient discharge permit, which means it is “free to discharge as much nutrient pollution as it purchases credits for.” Todd Martin, media relations manager for *Brunner Island* owner *Talen Energy*, said in a statement that the plant operates under a valid permit issued by Pennsylvania DEP and approved by U.S. EPA. FWW’s Edwards said that FWW is considering litigation on nutrient trading programs. “There are no provisions under the Clean Water Act to allow these industries to buy their way out of” their permitting requirements, he said.

Source: Tiffany Stecker, *E&ENews PM*, 11/18/15

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Government Failing to Assess Mine Contamination

The Government Accountability Office (GAO) warned Congress in mid September that federal agencies are failing to keep tabs on the health risks posed by thousands of abandoned mines they oversee. The U.S. Department of the Interior (DOI) and the U.S. Department of Agriculture (USDA) have flagged thousands of contaminated or potentially contaminated sites on properties they manage, but those agencies “do not have a complete inventory of sites, in particular, for abandoned mines,” warned J. Alfredo Gómez, GAO’s director of natural resources and environment. DOI’s Bureau of Land Management, for example, had identified more than 30,000 abandoned mines that had not yet been assessed for contamination. Officials at USDA estimated that there were between 27,000 and 39,000 abandoned mines on U.S. Forest Service lands – and about 20 percent of those may pose health or environmental risks – Gómez said in his testimony to a House Energy and Commerce subcommittee. Still, “USDA did not have a reliable, centralized site inventory or plans and procedures for completing one, in particular, for abandoned mines,” he said. Those agencies “have, we believe, quite a bit of work to do when it comes to abandoned mines,” he told the House panel.

Rep. John Shimkus (R/IL), chairman of the Subcommittee on Environment and the Economy, said the panel had invited a witness from the DOI to testify at the mid September hearing on the cleanup of federal properties, but “they in essence said they wouldn’t.” The August mine spill in Colorado, which sent 3 million gallons of polluted water down the Animas River, has prompted outrage from politicians, activists, tribes and others. But environmentalists and some other groups say the incident pales in comparison to the broader problem of tens of thousands of mines leaking across the country. The federal government owns more than 700 million acres of land, according to GAO, which is primarily managed by DOI, USDA, the Defense Department (DOD) and the Energy Department (DOE). Some of that land is contaminated by hazardous waste from prior use, including landfills and mining sites. DOD reported in June 2014 that it had 38,804 contaminated sites in its inventory, GAO said, and DOE reported that it had 16 contaminated sites in 11 states.

Source: Robin Bravender, *Greenwire*, 9/11/15

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Limited Study Supports Findings on Bigger Brine Spill Risks

Environmental damage from brine spills is more severe and longer-lasting than the impacts of oil releases, according to a limited study shared at a conference in Baltimore in early November. The preliminary findings, presented by Duke University doctoral candidate Nancy Lauer, support earlier reports that wastewater flows are major contributors to environmental impacts from hydraulic fracturing. “Inorganic contamination from brine spills is not going to biodegrade with time,” Lauer told an audience at the fall meeting of the *Geological Society of America*. Lauer and her colleagues collected 30 surface water and sediment samples from North Dakota’s *Bak-*

Fish Struggle in Warming, Acidified Southeast Streams

Warming temperatures combined with already high acidity levels in southern Appalachian streams could significantly reduce habitat for native fish and other cold-water aquatic species, possibly resulting in the disappearance of brook trout in some areas of the Southeast, according to a new federal study. The [study](#), led by researchers with the U.S. Forest Service and published in the journal *PLOS ONE*, found that cold-water species like native brook trout in streams draining seven national forests in the region will not always be able to take refuge in cooler waters at higher elevations because they cannot tolerate high acidity levels in those waters. The high acidity levels have been present in the higher-elevation streams for decades due to atmospheric deposition of sulfur and nitrogen from man-made sources, as well as the chemical composition of rocks and soils in the streams. “Our results indicate that climate-induced stream warming and headwater stream acidity represent a significant dual challenge to maintaining suitable habitat for cold-water species” in the southern Appalachian mountain region, says the 23-page study, which also included researchers from Oregon State University and *E&S Environmental Chemistry Inc.*

The study’s goal is to help U.S. Forest Service managers in an area stretching from the George Washington National Forest in Virginia to the Chattahoochee-Oconee National Forest in Georgia develop climate adaptation plans to reduce future impacts. The study – billed as the first to analyze the potential impacts of climate warming and acidity on cold-water species on a regionwide scale – comes amid a year-long effort in the region to restock Appalachian streams with native brook trout, and the study suggests warming temperatures and acidity could affect this effort in the future. The first step to developing mitigation strategies was to identify and assess “specific stream reaches that are potentially vulnerable to stress from warming, acidification or both,” said Andrew Dolloff, a Forest Service research fishery biologist in Blacksburg, VA, and one of the study’s authors. “We then used models to forecast future habitat loss in the national forests from expected temperature increases in the region,” Dolloff said. They found that, on average, an increase in ambient air temperatures of 2 °C would result in the loss of about 10 percent of stream habitat for cold-water aquatic species in the streams in the seven national forests in the southern Appalachians.

But in the Pisgah and Nantahala national forests in North Carolina, which contain the most cold-water habitat in the study area, the dual impacts of climate warming and acidity could result in losses of habitat as high as 21 percent in Pisgah and 18 percent in Nantahala, the study says. “In these forests the combined effect of acidification in headwater streams and stream warming will restrict acid-sensitive cold-water species such as brook trout to a narrowing band of mid-level stream reaches, increasing the likelihood that these species will disappear locally and possibly regionally,” according to a summary of the study. Possible strategies to mitigate the impacts could include adding lime to the streams to reduce acidity levels, as well as working to keep thick stands of trees along the waterways to shade them and keep the water cooler. Forest managers may also need to limit reintroduction of brook trout into these “mid-level stream reaches” best suited for cold-water species, the study says.

Source: Scott Streater, *Greenwire*, 9/1/15

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State/Federal Partnership to Restore Cold Water Refuges in the Face of Climate Change

Oregon will work with federal officials to restore cold water “refuges” for salmon in the Columbia and Willamette rivers, after the National Oceanic and Atmospheric Administration (NOAA) found that the state’s temperature standards are not sufficient to protect the fish in warming waters. U.S. EPA and NOAA announced the agreement in early November. The aim is to locate, protect and restore cold water habitat for salmon and steelhead that can’t survive warm temperatures. But federal officials have not specified how that will be done. A NOAA spokesman said possibilities include reopening floodplain connections or managing releases from dams on tributaries to sometimes feed colder water into the main river.

The agreement comes just months after hundreds of thousands of sockeye salmon died while migrating up the Columbia River. State officials attributed the die-off to warmer waters amid a long-standing drought. “We know that Climate Change means higher river temperatures need to be factored into our planning,” Dennis McLerran, EPA’s Region 10 administrator in Seattle, said in a statement. “By locating, documenting and protecting cool water refuges for fish, we can help give endangered salmon and trout a fighting chance.” The agreement is the first step in a long process. Over the next three years, state and federal officials will map cold water zones where fish can seek refuges, detailing what needs to be protected and restored. EPA will lead the development of a plan for the Columbia River, while Oregon’s Department of Environmental Quality will develop a plan for the lower Willamette River. NOAA’s National Marine Fisheries Service (NMFS) recommended the plans in a new biological opinion that reviewed Oregon’s water temperature standards.

The opinion – also released in early November – is part of a settlement with *Northwest Environmental Advocates*. The Portland-based group had sued over the temperature standards, asserting that Oregon allowed temperatures that were too high for salmon and exempted sources that warmed streams. The state uses its temperature standards to regulate facilities that affect the river, such as dams. A federal judge did not vacate the state’s standards but ordered NMFS to again review how the standards affect salmon, steelhead and other species listed under the Endangered Species Act. In its new opinion, NMFS concluded that the fish need enough cold water ref-

uges to migrate safely through the warming waters of the Columbia and Willamette rivers. That does not mean Oregon must change its temperature standards but instead requires the cold water mapping on top of those standards.

Source: Emily Yehle, *Greenwire*, 11/4/15

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Cold Water Climate Shield Being Developed to Protect NW Trout Species

Federal scientists using new technologies have mapped what is being called a [*Cold Water Climate Shield*](#), an area spanning five western states (ID, OR, WA, MT and WY) that could support viable populations of native species if the region continues its warming trend. Scientists say streams in the region have warmed up about a degree over the last three decades and are getting hotter. “One of the things we’re seeing is that the colder areas are typically in the headwaters,” said Dan Isaak, a research fisheries biologist with the U.S. Forest Service in Boise. “Those are warming up a lot more slowly than streams at lower elevations.”

The mapped area contains streams with temperatures preferred by cutthroat trout and bull trout but are too cold for non-native species, particularly brown trout and brook trout, thus forming the climate shield. The climate shield has practical applications, Isaak said. “Rather than spending money to build artificial barriers on streams to prevent the upstream advance of invasive species (which is very expensive and commonly done in some areas), the climate refugia streams we’re highlighting are so cold that you wouldn’t need to build a barrier to preserve the native community,” Isaak said. Within this climate shield, scientists say some areas will remain capable of supporting bull trout even if the more extreme future climate models turn out accurate. “It’s quite possible much of the habitat for bull trout will become too warm,” and it will disappear from those areas, said Mike Young, a research fisheries biologist for the U.S. Forest Service based in Missoula, MT, also working on the climate shield. “But we think that even under extreme climate scenarios bull trout will persist in the lower 48.”

Advances in stream temperature sensors and environmental DNA sampling have provided a flood of information and allowed scientists to create the climate shield map. Temperature sensors are glued to underwater rocks and can store hourly temperature recordings for a year. About 4,000 of the sensors are in streams in the five states. Isaak said there are about 16,000 more unique sites recording information less frequently plus information going back even further. In total, he said, scientists have about 50 million hourly temperature recordings.

The other part of the *Cold Water Climate Shield* involves environmental DNA sampling. That began about eight years ago and has radically changed how scientists survey streams. Rather than electroshocking stream sections and seeing what floats to the top, scientists can take a water sample and check it to see if a particular species is present. “It’s not only better, but it costs less,” Young said. “You can suddenly afford to go places and sample very broadly.” The result is that entire river basins can be sampled, meaning streams that have never been sampled have now been analyzed or soon will be, Young said. That information could then be used for making decisions about where biologists should try to remove non-native brook trout, for example. “Being able to make wise conservation investments is one of the most important things that we can do when protecting the biodiversity that we have,” Young said. Isaak said the *Cold Water Climate Shield* idea is being taken up in other western states as well, but is mostly just getting started in those areas.



Sensor glued to an underwater rock to record hourly temperatures over extended time periods - Dan Isaak, U.S. Forest Service Photo.

Source: *AP*, 10/18/15

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State Judge Strikes Down Utah Law Restricting Access to Streams on Private Land

A Utah judge in early November invalidated a 2010 state law that restricted members of the public from fishing in streams flowing through private land. The *Public Waters Access Act* closed off 2,700 miles of streams to public fishing, according to the *Utah Stream Access Coalition* (USAC), despite the fact that many of those miles had received public restoration, flood abatement and other types of funds. “This is a case where policy triumphed over profits; where law prevailed over lobbying,” said the USAC’s president, Kris Olson. “The rivers and streams of our state are gifts of providence, and the lifeblood of this arid land. Since before statehood, these rivers have been used by all, and we’re grateful the court prevented that use from becoming exclusive to a privileged few.”

The law violated the Utah Constitution, Judge Derek Pullan ruled, which requires public easements to use waterways to be “held in

trust for the people of the state.” “Every parcel of public land, every reach of public water, is unique. If Wasatch, Kodachrome Basin and Snow Canyon State Parks were disposed of for reasons unrelated to their acquisition, the public’s right to recreate in other places would be of little consolation,” Pullan wrote in a ruling after five years of litigation. “That individual citizens must bear the initial expense of the litigation adds insult to constitutional injury,” he wrote. “Boaters should be able to go down that river irrespective of bed ownership, and not have to worry about whether the river has sufficient width, depth and flow, not worry about [whether] getting out of the boat and touching the bed is required for safety,” attorney Craig Coburn said in the USAC’s closing argument.

The state plans to appeal the decision, but, in the meantime, can no longer enforce the law. “This ruling is long and complicated, and the decision appears to make several contradicting opinions which we will seek to clarify with the court,” Utah Department of Natural Resources spokesman Nathan Schwebach said in a statement. “It’s important for water recreationists to know that private property laws are still in effect throughout Utah. We encourage them to seek permission from landowners before crossing private land to access state rivers and streams.” USAC’s Kris Olson believes the ruling allows anglers to walk along streams as long they remain below the “ordinary” high water line. “The state needs to come out and say what the limits of the easement are. How far up the stream banks does it (the high water line) go?” Olson said.

Sources: Brian Maffly, *Salt Lake Tribune*, 11/5/15; and *Greenwire*, 11/6/15

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Obama Overhauls Process for Offsetting Environmental Harm

President Obama in early November ordered five federal agencies to streamline regulations for offsetting environmental harm and to promote independent mitigation efforts. The [memorandum](#) – sent to the secretaries of Defense, Interior and Agriculture and the administrators of U.S. EPA and the National Oceanic and Atmospheric Administration – establishes for the first time a “net benefit goal” for natural resource use. At minimum, the memo calls for no net loss of land, water, wildlife and other ecological resources from federal actions or permitting. To reach that goal, Obama said the agencies should “adopt a clear and consistent approach for avoidance and minimization of, and compensatory mitigation for, the impacts of their activities and the projects they approve.” The agencies, he said, should also use landscape- or watershed-scale planning to take the full impacts of their decisions into account and to pick the best spots for mitigation. Whenever possible, such mitigation should occur ahead of projected impacts, provide additional benefits to those that would have already occurred and rely on proven methods, the memo says.

“Agencies are encouraged to pay particular attention to opportunities to promote investment by non-profit and private sectors in restoration or enhancement of natural resources,” Obama wrote. Some resources should also be recognized as “of such irreplaceable character that minimization and compensation measures, while potentially practicable, may not be adequate or appropriate.” As a result, the memo says, “agencies should design policies to promote avoidance of these resources.” The memo also calls for increased “public transparency in the implementation of their mitigation policies and guidance.” Specifically, there should be measurable performance standards at the project and program level and going forward, the President directed the Department of Agriculture’s Forest Service to develop and implement additional manual and handbook guidance on mitigation within 180 days. Those policies should be finalized within two years. At Interior, the Bureau of Land Management (BLM) and Fish and Wildlife Service (USFWS) each have a year to finalize their mitigation policies. USFWS was also ordered to create an additional policy for compensatory mitigation under the Endangered Species Act and more guidance for actions states, landowners and others can take to conserve species ahead of federal protections. The memo also clearly states that it is “intended for the internal guidance of the executive branch and is inapplicable to the litigation or settlement of natural resource damage claims.”

Environmentalists were quick to praise the memo, which has been in the works for many months. “The White House is setting a new precedent that human needs for food, fuel and fiber must not come at the expense of the environment,” *Environmental Defense Fund* President Fred Krupp said in a statement. “The President is creating a path for economic and environmental prosperity because he understands that, as our nation’s industries grow and thrive, we must also protect and enhance the natural systems that sustain us. “In calling for landscape-scale approaches, market-based solutions, and net benefit to our nation’s land, water and wildlife, the presidential memorandum will ensure that economic development spurs environmental growth, and vice versa.”

Upon receipt of the President’s memorandum, the U.S. Department of the Interior almost immediately released its own formal landscape scale [mitigation policy](#) to allow “no net loss” of land, water, wildlife and other ecological resources from federal actions or permitting. The department wide policy also “reaffirms the department’s authority to require and determine the scope of compensatory mitigation,” while also establishing goals for mitigation outcomes and standards for achieving them. “The department will effectively avoid, minimize and compensate for impacts to department-managed resources and their values, services and functions; provide project developers with added predictability, efficient and timely environmental reviews; improve the resilience of our nation’s resources in the face of climate change; encourage strategic conservation investments in lands and other resources; increase compensatory mitigation effectiveness, durability, transparency and consistency; and better utilize mitigation measures to help achieve departmental goals,” the policy reads.

In particular, for resources that are considered “important, scarce, sensitive or otherwise suitable to achieve established goals,” the bureaus are to strive for “no net loss” or “a net benefit” in outcomes. Mitigation planning should address the effects of climate change and improve ecosystem resilience. Goals should include the protection of biological diversity and core, unfragmented habitats and linkages, with an eye toward future wildlife movements. Bureaus are also to focus development in ecologically disturbed areas; slow the spread of invasive species; consider greenhouse gas emissions in project design, analysis and development; and protect and restore habitats that store carbon, the policy states. A key requirement would ensure compensatory mitigation actions are long-lasting and “additional” to baseline standards, meaning they would not have occurred in the absence of compensatory mitigation commitments. The *National Law Review* summarized the [content and implications](#) of the President’s memorandum and the Interior Department’s policy.

Sources: Corbin Hiar, *Greenwire*, 11/3/15; and Phil Taylor, *E&ENews PM*, 11/3/15

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The Threat of Introduced Pathogens to Native Fish Biodiversity

A recent threat to European fish diversity was attributed to the association between an intracellular parasite, *Sphaerothecum destruens*, and a healthy freshwater fish carrier, the invasive *Stone moroko* *Pseudorasbora parva* originating from China. The pathogen was found to be responsible for the decline and local extinction of the European endangered cyprinid *Leucaspis delineatus* and high mortalities in stocks of Chinook and Atlantic salmon in the USA. The emerging *S. destruens* is also a threat to a wider range of freshwater fish than originally suspected such as bream, common carp, and roach. This pathogen is a true generalist as an analysis of susceptible hosts shows that *S. destruens* is not limited to a phylogenetically narrow host spectrum. This disease agent is a threat to fish biodiversity as it can amplify within multiple hosts and cause high mortalities.



Stone moroko, Pseudorasbora parva, Wikipedia Photo.

Source: Andreou D, Arkush KD, Gue’gan J-F, Gozlan RE (2012) [Introduced Pathogens and Native Freshwater Biodiversity: A Case Study of Sphaerothecum destruens](#). PLoS ONE 7(5): e36998. doi:10.1371/journal.pone.0036998

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Estrogen Exposure Drives Female Frog Boom in Suburbs

Estrogen exposure in suburban areas appears to be affecting the hormonal systems of frogs, according to a new study. “The most striking thing we saw is that the sex ratio – that is, the number of males versus females that we recovered in the ponds that we studied, and we looked at over 20 ponds – gradually trended towards more females when we were working in ponds that were in more developed, more suburbanized sites,” said author David Skelly, a professor and director of the *Yale Peabody Museum of Natural History*. “And that was really surprising.”

A potential explanation is that male frogs are being “sex-reversed” by exposure to estrogen from chemicals. “So you have genetic males becoming, in terms of their morphology and perhaps their physiology, they’re turning into females because of the chemicals they’re encountering in the environment,” Skelly said. The estrogen in the environment could come from many sources, he said, making it a potentially difficult problem to solve. “We’re not going to be able to just get, for instance, you know plasticizers, like BPA, out of baby bottles or just de-register one kind of pesticide and take care of the problem,” he said. “Not that those things might not make some kind of a difference. But they’re not going to be comprehensive, effective solutions.”

Meanwhile, earth’s frogs appear to be on the brink of a mass extinction, and they would likely be the first of many, according to a [new study](#). John Alroy, a professor of biology at Australia’s Macquarie University, decided to look back and tally frog species already gone to help predict trends for future extinctions. The survey “suggests that about 200 frog extinctions have occurred and hundreds more will be lost over the next century, so we are on pace to create a mass extinction,” Alroy wrote in the paper. The data suggest that amphibians and reptiles are going extinct at rates 10,000 times higher than the rates for all other species. If these rates continue, nearly 7 percent of Earth’s frogs could be gone in the next century. Frogs are particularly vulnerable to extinction, but scientists are troubled by not knowing what exactly is causing this mass die-off and what it could potentially mean for other species. “They’re seen as a ‘canary in the coal mine’ group because they seem to suffer large population losses more easily than other groups,” Alroy said.

Sources: Rebecca Williams, *Michigan Public Radio*, 9/15/15; Chelsea Harvey, *Washington Post*, 10/5/15; John R. Platt, *Scientific American*, 10/13/15; and *Greenwire*, 9/16 and 10/6/15

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Zebra Mussel Outbreak on Bull Shoals Lake, MO

The accompanying pictures were taken in mid-October by David Casaletto, Executive Director of *Ozark Water Watch* and published in the group's newsletter *Ozark Waters*. One needs only to look at the pictures to appreciate the impact on the Bulls Shoals Lake ecosystem. Casaletto said that Bull Shoals Lake levels were high all summer and now that levels are dropping, the mussels are exposed. He said that local scuba divers found mussels as far as 50 feet below the water surface. Its too late for Bull Shoals, but boaters need to be alert to the problem and follow the guidelines to prevent the spread of zebra mussels to other unimpacted lakes. That means draining, disinfecting and drying live wells and other such water storage compartments on their boat before traveling from one lake to another.



Zebra Mussels attached to various hard structures and substrates in Bull Shoals Lake, MO - David Casaletto, Ozark Water Watch Photo.

Source: *Ozark Waters*, Vol. IX, Issue 43 [BACK TO TOP](#)

The National Stream Internet Project

The [National Stream Internet](#) (NSI) is a network of people, data, and analytical techniques that interact synergistically to create information about streams. According to their web site, the NSI is needed because accurate, high-resolution status and trend information does not exist for most biological and water quality attributes across the 5.5 million stream kilometers in the United States. Without that information, prioritization of limited resources for conservation and management proceeds inefficiently. In recent decades hundreds of natural resource agencies have invested millions of dollars to collect stream datasets that contain massive amounts of untapped information. That information can now be developed inexpensively using nationally consistent sets of geospatial data products with new [spatial stream-network models \(SSN\)](#). The SSN models outperform traditional statistical techniques applied to stream data, enable predictions at unsampled locations to create status maps for river networks, and work particularly well with databases aggregated from multiple sources that contain clustered sampling locations.

The NSI project is funded by the U.S. Fish & Wildlife Service's [Landscape Conservation Cooperative](#) program and has two simple objectives: 1) refine key spatial and statistical stream software and digital databases for compatibility so that a nationally consistent analytical infrastructure exists and is easy to apply; and 2) engage a grassroots user-base in application of this infrastructure so they are empowered to create new and valuable information from stream databases anywhere in the country. The website is a hub designed to connect users with software, data, and tools for creating that information. As better information is developed, it should enable stronger science, management, and conservation as pertains to stream ecosystems. An [overview](#) and [user guide](#) of the NSI can be found online.

Source: <http://www.fs.fed.us/rm/boise/AWAE/projects/NationalStreamInternet.html>

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USFWS and NOAA Scientists Worried About Political Influence

A majority of scientists at the U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration (NOAA) believe their agencies give too much consideration to "political interests," according to a recent survey from the science advocacy group, *Union of Concerned Scientists* (UCS). The UCS survey – which was sent to 37,593 scientists and technical experts at USFWS, NOAA, the *Centers for Disease Control and Prevention*, and the Food and Drug Administration – found that concerns about inappropriate political influence were highest at USFWS. Seventy-four percent of the USFWS respondents said the level of consideration of political interests was "too high." At NOAA, 56 percent of respondents were concerned about political interference – the second-highest level of the four surveyed agencies. A [UCS report](#) about the survey was released in early October.

The response rate for the anonymous forty question online survey was almost 19 percent at the four agencies and higher than that at both USFWS and NOAA. The full results also address perceptions of effectiveness, barriers to timely decisions, review of communications about scientific research, and the adequacy of data, among other topics. The survey was done to monitor the effectiveness of recently implemented scientific integrity policies at agencies with significant levels of scientific work and past evidence of scientific integrity concerns. U.S. EPA was originally included in the analysis, but UCS declined to question agency scientists when officials there informed the group that they would conduct their own scientific integrity survey.

In general, the report found that "progress has been made" since UCS first began surveying federal scientists in 2005. "However,

much more work is needed to protect science and scientists from political interference and to enable scientist to share their expertise publicly,” the report says. At USFWS, the survey found problems when scientists were asked about “the extent to which the agency collects scientific monitoring information needed to meet its mission effectively. “Nearly 60 percent of USFWS respondents chose “occasionally,” “seldom” or “never.” That result was distinct from NOAA, where only a combined 28 percent of respondents chose those three answers. Almost a third of USFWS scientists also reported that the effectiveness of their division or office had decreased in the past five years, the highest percentage of scientists across the four surveyed agencies. Those problems at USFWS may be due in part to the agency’s overworked employees. The report says, “From 2012 through 2015, the USFWS budget has not increased substantially despite inflation, and the number of full-time-equivalent staff positions has decreased 13 percent.” At NOAA, “the agency appears to have vastly improved in terms of perceived agency effectiveness and adherence to scientific integrity principles,” the report says. Still, UCS noted that respondents there raised concerns about “barriers to scientists publishing their work and communicating to the media and public” and about “the overuse of contractors.” Spokespersons for both agencies said they would take the results of the survey under consideration.

Meanwhile, the watchdog group *Public Employees for Environmental Responsibility* (PEER) is suing the U.S. Department of Agriculture (USDA) in the U.S. District Court for the District of Columbia, alleging the agency has improperly censored its scientists. PEER alleges that USDA’s scientific integrity policy infringes on its scientists’ First Amendment rights “by preventing them from speaking or writing” publicly “in their capacity as citizens.” The watchdog group’s complaint alleges that USDA refused to consider its petition regarding “serious flaws” with the agency’s scientific integrity policy and failed to follow appropriate notice and comment requirements. In March, PEER warned that USDA managers were increasing their intimidation of agency scientists, and the group petitioned USDA to revise its policies to allow scientists to continue working without pressure to hide or manipulate results that could be sensitive to industry. According to PEER, that petition was declined by USDA Chief Scientist Catherine Woteki, who said in a June memo that the scientific integrity process was exempt from the public notice and comment process typically required of agency rules. USDA has defended the agency’s scientific integrity policies.

Source: Corbin Hiar, *Greenwire*, 10/6/15; and Robin Bravender, *E&ENews PM*, 11/19/15

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2015 Projected to be the Warmest on Record

The average temperature for 2015 through October is 1.55 °F (or 0.86 °C) above the 20th Century average, according to the latest monthly climate report from the National Oceanic and Atmospheric Administration. This October was the warmest on record by an unprecedented 0.31 °F. Overall, 2015 has also been warmer than 2014 by around 0.22 degrees. That lead is “larger than the uncertainty associated with the dataset,” which means this year is undoubtedly unprecedented in the current era. NASA climatologist Gavin Schmidt sent out a tweet in late November that the chances this year will be the warmest on record are 99.9 percent.

Sources: Jason Samenow, *Washington Post*, 11/18/15; and *ClimateWire*, 11/20/15

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Meetings of Interest

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

Winnipeg, Manitoba.

[Conservation Biology](#), Madison, WI.

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

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

Jul. 24-27: [Managing Great River Landscapes - 71st Soil and Water Conservation Society International Annual Conference](#), Louisville, KY.

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

June 12-16: [12th International Congress on the Biology of Fish](#), San Marcos, TX.

Oct. 2-6: [1st International Trout Congress](#), Bozeman, MT.

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

June 19-23: [40th Annual Larval Fish Conference](#), Solomons, MD.

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

Jul. 17-20: [2016 N. Am. Congress for](#)

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Congressional Action Pertinent to the Mississippi River Basin

Climate Change

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, man-

aging, 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 13 Co-sponsors. Authorizes the NOAA to establish a Climate Change Education Program.

H.R. 1971. Lieu (D/CA) and 30 Co-sponsors. Reduces greenhouse gas emissions and protects the climate.

Conservation

S. 330. Heller (R/NV) and 50 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 18 Co-sponsors and **H.R. 1814,** Grijalva (D/AZ) and 196 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 30 Co-sponsors. Provides consistent and reliable authority for, and funding of the Land and Water Conservation Fund to maximize the effectiveness of the Fund.

S. 2165. Cantwell (D/WA) and 7 Co-sponsors. Permanently authorizes the Land and Water Conservation Fund.

S. 2169. Tester (D/MT) and 6 Co-sponsors and **S. 2101,** Burr (R/NC) and 9 Co-sponsors. Extends the Land and Water Conservation 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 endangered 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 10 Co-sponsors and **H.R. 866,** Black (R/TN) and 23 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 32 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-spon-

sors. 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 47 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 9 Co-sponsors and **H.R. 1321**, Pallone (D/NJ) and 36 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 69 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 186 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). Amends 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

S. 937. Hatch (R/UT) and **H.R. 1792**, Stewart (R/UT). Amends the Federal Land Policy and Management Act of 1976 (FLPMA) to require BLM upon the request of a state governor, to enter into 20-year cooperative agreements providing for a state to manage grazing allotments on eligible federal land in that state.

H.R. 1897. Hice (R/GA) and Labrador (R/ID). Amends the FLPMA to apply certain requirements for permits and leases for domestic livestock grazing on National Forest System lands regardless of where located.

H.R. 3410. Smith (D/WA) and 11 Co-sponsors. Authorizes the voluntary waiver and termination of permits or leases for grazing on federal lands managed by the Depts. of Agriculture or Interior.

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 inter-basin 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.

S. 2240. Barrasso (R/WY) and 6 Co-sponsors and **H.R. 1485**, Amodei (R/NV) and Lummis (R/WY). Directs the Interior and Agriculture Depts. to control and man-

age invasive species on lands under their management.

Mining

S. 1458. Coats (R/IN) and 21 Co-sponsors. Amends the Surface Mining Control and Reclamation Act of 1977 (SMCRA) to ensure scientific transparency in the development of environmental regulations and for other purposes

S. 2254. Udall (D/NM) and 4 Co-sponsors. Hardrock Mining and Reclamation Act of 2015.

H.R. 1644. Mooney (R/WV) and 34 Co-sponsors. Amends the SMCRA 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). Directs 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 of 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 Secs. 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) and **H.R. 1966.** Kaptur (D/OH) and 10 Co-sponsors.. 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. 1978. Polis (D/CO) and 31 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.

H.R. 3310. Ros-Lehtinen (R/FL) and 36 Co-sponsors. Preserves access to public waters and maintains the vital role of States in fisheries management decisions.

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 90 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 23 Co-sponsors; **S. 556.** Murkowski (R/AK); **S. 659.** Sullivan (D/AK); and **H.R. 2406.** Wittman (R/VA) and 37 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 and **H.R. 3462.** Graves (R/LA) and Graham (D/FL). 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.

S. 2219. Shaheen (D/NH) and Gardner (R/CO). Requires the Secretary of Commerce to conduct an assessment and analysis of the outdoor recreation economy of the United States, and for other purposes.

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 42 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 Secs. to carry out the Federal Lands Recreation Enhancement Act, and for other purposes.

H. R. 3173. Waltz (D/MN) and 8 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 12 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 7 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 20 Co-sponsors. Requires the periodic re-

view 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 Agriculture Secs. and for other purposes.

S. 1657. Barrasso (R/WY) and **H.R. 2749.** Valadao (R/CA) and 18 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.

S. 1837. Boxer (D/CA) and **H.R. 2983.** Huffman (D/CA) and 37 Co-sponsors. Drought Recovery and Resilience Act of

2015.

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. 2072. McCollum (D/MN) and 29 Co-sponsors. National Park and Wilderness Waters Protection Forever Act.

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 36 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.

H.R. 3720. Cartwright (D/PA) and 23 Co-sponsors. Water Advanced Technologies for Efficient Resource Use Act of 2015.