SD: Zebra Mussels Discovered in McCook Lake (6/2/16)

Pierre, S.D. - Boaters enjoying South Dakota’s McCook Lake should be aware that the waterbody is now classified as infested for zebra mussels by the South Dakota Game, Fish and Parks (GFP). Special precautions are necessary to prevent spreading mussels to other waters.

AZ: Invasive species takes over more Arizona lakes (5/27/16)

….But there's something out in the lake that's not supposed to be in Arizona -- quagga mussels. They're an invasive species that has now spread not just to Canyon Lake, but also to Apache and Saguaro lakes. "Frustration" is how Mr. McMahon described his first reaction to finding evidence of the mussels in more lakes. "They didn't come on a duck butt," he said, "they probably came on a boat somehow." Just like they did back in 2007, when the mussels migrated from the Great Lakes and infested Lake Mead. Since then, the state has spent hundreds of thousands of dollars every year on its "Don't move a mussel" campaign.

MN: Zebra mussels found on Red River at Moorhead intake (5/24/16)

MOORHEAD – The Department of Natural Resources has confirmed that zebra mussels were found at the Moorhead pumping station intake on the Red River. Moorhead Public Service announced Tuesday, May 24. The zebra mussels were discovered during routine maintenance on pumping equipment. The discovery of adult zebra mussels comes nearly
one year after an adult zebra mussel was found on an intake screen at the Fargo Red River intake.....

IA: An invasive species has locals and DNR officials uncertain about the future of Lake Okoboji (5/31/16)

.........West Lake Okoboji is the deepest lake in the state and one of four bodies of water that make up the Iowa Great Lakes. Everything is fed by either watersheds or natural springs and home to the famous 'blue' water, as locals call it.....

Lake Mead declines to lowest level in history (5/20/16)

The nation's largest reservoir has broken a record, declining to the lowest level since it was filled in the 1930s. Lake Mead reached the new all-time low on Wednesday night, slipping below a previous record set in June 2015.....

BOAT INSPECTION/DECON NEWS

UT: Stop or risk a ticket: Boaters must stop at Daniels Canyon point of entry (5/19/16)

HEBER CITY — Boaters 'discovered' a watercraft inspection station in Wasatch County the hard way recently: they were pulled over and ticketed for not stopping at the station. The station is at the Daniels Canyon port of entry. The point of entry is along U.S. Highway 40, just southeast of Heber City (near mile marker 22). The Utah Department of Natural Resources established the station to reduce the chance that quagga mussels make their way into Utah. This is the second year the station has been in operation.....

U MN research targets zebra mussel (6/1/16)

As several Minnesota lakes continue to be infested by zebra mussels, University of Minnesota researchers are helping boat companies understand how humans spread the invasive species. To help combat the spread of the mussel, the Minnesota Aquatic Invasive Species Research Center, the state Department of Natural Resources and boat companies Tonka Bay Marina and Brunswick Freshwater Group are collaborating on a project to help uncover how zebra mussels spread through water that is left in boats....
**Veliger presence in residual water – assessing this pathway risk for Minnesota watercraft (5/19/16)**

Zebra mussels (*Dreissena polymorpha*) have moved to many inland waters across the U.S. and trailered recreational watercraft are suggested as a significant pathway for spread. Uncertainty exists on whether veligers in residual water (water remaining in boats after draining) are capable of creating new infestations. Over 100 samples of residual water from boats which were exiting Minnesota lakes with established zebra mussel populations were collected in July and August over three boating seasons (2013–2015). The majority of the boats were sport fishing boats, with most of the samples coming from live wells and bilges. Very few veligers were found in these samples, with over 90% of the samples containing 5 or fewer veligers, and 70% had zero veligers. Residual water volumes were generally less than 400 ml, and there was no correlation between volumes of water and numbers of veligers. Due to factors such as low veliger density, dispersion and high veliger mortality, residual water may present a low risk for spread of this invasive species.....

**Volume and contents of residual water in recreational watercraft ballast systems (4/18/16)**

Transient boaters are a known vector of aquatic invasive species. This has led to the establishment of prevention guidance to reduce the risk of most boating activities. However, this guidance may not adequately reduce the risk of invasive species transport in wakeboard boats due to the presence of ballast systems, which may be difficult or impossible for a boater to drain. We documented that these watercraft transport relatively large volumes of residual water (mean water volume 31.7 L) even after drain pumps run dry and that live organisms can be found in residual water for at least a week after use. The amount of residual water found in ballast tanks was variable (range of 1.0 L to 86.8 L), indicating that there may be factors that would allow for more complete drainage of ballast tanks. Analyses of the invertebrate communities from the residual water found that native zooplankton were common in the samples, with two of the watercraft transporting small numbers of dreissinid veligers. Future efforts should identify factors that can reduce the amount of residual water and identify what other invasive species may potentially be transported through this new pathway. Additionally, more effort should be made to better understand the boating behaviors of wakeboard boat users.

**BC: Mobile Quagga and Zebra Mussel Prevention Trailer Takes to the Road (5/31/16)**

PENTICTON - The Okanagan and Similkameen Invasive Species Society (OASISS) is taking to the road in their newly constructed, educational, trailer.

This highly visual addition to the existing aquatic invaders prevention program was made possible by the RDOS, who received a generous grant from the Royal Bank of Canada through the RBC Blue Water Project Fund.
NM: Reclamation Awards $1.4 Million Contract for Aquatic Invasive Species Inspection Services at Elephant Butte and Navajo Reservoirs (5/24/16)

The Bureau of Reclamation has awarded a contract for $1.4 million to Pyramid Enterprises, Inc. of Valencia, California, to provide aquatic invasive species inspection services for watercrafts entering Elephant Butte Reservoir and Navajo Reservoir, New Mexico. Aquatic invasive species continue to be a threat to waters in New Mexico. Currently, every state adjacent to New Mexico has one or more waterbodies with a population of zebra and quagga mussels…..

CO: San Juan National Forest considers projects targeting wildfires, mussels (5/25/16)

Efforts to prevent forest fires and invasive mussels are among the list of projects that may receive funding from the U.S. Forest Service this year. On Tuesday, the San Juan Title II Resource Advisory Committee recommended several projects throughout Dolores, La Plata, Montezuma and San Juan counties to the Forest Service. The projects, if approved by the Forest Service, will be funded under the Title II provision of the Secure Rural Schools Act, designed to fund projects that improve conditions in national forests. In general, the work is done by private contractors. Notably, $15,000 will be geared toward continuing the inspection of non-native, invasive aquatic species at McPhee and House Creek boat ramps on McPhee Reservoir…..

MN: Record number of watercraft inspectors on Minnesota lakes this year (5/26/16)

The 2016 Minnesota boating season will be another record-breaker, with more than 800 watercraft inspectors helping to prevent the spread of aquatic invasive species in Minnesota. Counties employ and supervise the vast majority of the inspectors, all trained by the Department of Natural Resources…..

NV: Keep Northern Nevada water free of quagga mussels with boat inspections (5/26/16)

…..NDOW currently operates 12 "free of charge" Inspection and Decontamination Stations throughout the state. The stations operate through a coordinated effort between National Park Service at Lake Mead, Nevada State Parks, and U.S. Fish and Wildlife Service….

NE: Aquatic Invasive Species Boat Inspectors Working Across the State (5/25/16)

LINCOLN – Boaters enjoying some of Nebraska’s major public waters may be contacted by boat inspectors this summer. Inspections will reduce the risk of aquatic invasive species (AIS) being spread across the state. Inspections will include a brief examination of the watercraft and a survey of boat operators about their recent boating activities.
Participants also will be provided information on ways to prevent the spread of AIS. Inspection and survey results will be used to determine if a risk of spreading an invasive species exists. Regulations state that boaters are not allowed to launch or leave a boat ramp facility with any water unless it is from a domestic water source. In addition, boaters are required to drain all lake or river water from the watercraft and remove any vegetation or mud from the boat and trailer before leaving a boat ramp.

**TX: Working Dogs Help Spread 'Clean, Drain And Dry' Message To Prevent Zebra Mussels Invasion (5/26/16)**

…Parks and Wildlife has enlisted the help of some four-footed furry friends to help spread the message about emptying boats to ensure no zebra mussels hitch a ride to the next water outing.…

**Related Story: Boaters Urged to “Clean, Drain and Dry” to Protect Texas Lakes from Invasive Zebra Mussels (5/20/16)**

**MB: Gull Lake cottagers at odds over zebra mussel protection tactic (5/20/16)**

What seemed like a good way to keep zebra mussels out of one Manitoba water body is actually causing quite a stir amongst cottagers on one end of the lake. Scott Minty has a cabin on Gull Lake, located about 73 kilometres northeast of Winnipeg. The lake is bisected by the borders of the rural municipalities (RM) of St. Clements and Alexander, with the majority of the lake falling on the St. Clements side. Minty said recently cottagers on the St. Clements side of Gull Lake installed a gate at the communal boat launch that was only open during certain times of the day. He said the hope was "to allow boats entering the lake to be inspected and potentially disinfected prior to entering." …

**Record number of watercraft inspectors on Minnesota lakes this year (5/26/16)**

The 2016 Minnesota boating season will be another record-breaker, with more than 800 watercraft inspectors helping to prevent the spread of aquatic invasive species in Minnesota. Counties employ and supervise the vast majority of the inspectors, all trained by the Department of Natural Resources.

**Calif.: Mussel-sniffing dogs inspect boats at Lake Sonoma (5/22/16)**

SONOMA CO., Calif. - California boaters must pass the inspection of a detection dog before launching in Lake Sonoma or Lake Mendocino. Mussel Dogs, a team of trainers and dogs, will be checking boats and water crafts for invasive species of mussels - Zebra and Quagga. The mussels are found in neighboring states and in Southern California. They're known to multiply by the thousands quickly and disrupt the lakes' ecosystems and clog water intake pipelines.
TX: Editorial: All boaters owe local city taxpayers their patience in zebra-mussel scrutiny this summer (5/25/16)

In an era when Texas conservatism often seems to have slipped the bonds of common sense, it’s easy to imagine some folks resenting anyone inspecting their boats for zebra mussels before they’re free to slip into the waters that coincidentally represent much of the Waco area’s water supply. So here’s another conservative tenet: A lot of us don’t like paying anymore in taxes than we have to — and we sure don’t want some yahoo setting zebra mussels loose in Lake Waco. Should that happen, it could cost the city of Waco millions of dollars just to keep these mollusks from clogging our water piping.

NE: Public Power advisory: Don’t move a mussel (5/24/16)

Don’t move a mussel -- that’s the message Nebraska Public Power District is sending recreational boaters and fishermen to help prevent the spread of the invasive zebra mussels into lakes and waterways of Nebraska. Moving a mussel can cause problems on bodies of water and the utilities and recreational activities thereon. The zebra mussel is one of many invasive species that has clogged cooling intake structures of power plants and other utilities along the Great Lakes as well as inflicting millions of dollars in damage to recreation, water systems and fisheries.

AB: Boats must be checked for mussels before launching at Lake Minnewanka (5/21/16)

Starting this week, it has become a restricted activity to launch a boat in the lake in Banff National Park. “It started this morning,” Mark Taylor, aquatic ecologist with Banff National Park, said Friday in an interview. “It’s the very first time. “We are doing it to support the province in trying to prevent invasive mussels from entering into Alberta waters.”

MT: AIS inspection stations open in May - Clean. Drain. Dry (5/25/16)

Like other summers, FWP will operate 17 boat inspection stations around Montana this summer. Most of these inspection stations open on May 19 or shortly after in advance of Memorial Day weekend. All vehicles with watercraft must stop when they pass an inspection station…..

MARINE

The Shellfish Wars: Lobsters, Shoalies, Olys, Atlantics and Pacifics vie for supremacy (6/7/16)

If you’ve ever idly wondered why lobsters are such a big deal in New England and Maritime Canada but haven’t gained a claw-hold at our similar latitude in the Pacific, you’re not unique — the question has come up since at least the 1880s. Among many
instances of European-Americans endeavoring to reconfigure the West Coast’s animals, plants and landforms to our liking, efforts to establish lobsters here have to be counted as a failure ... so far.....

NOAA, Canadians fight Swedish lobster ban (6/6/16)

NOAA and its Canadian counterpart are ramping up opposition to a Swedish-led proposal to ban the import of American lobsters into the European Union, saying the Swedish risk assessment falls far short of the necessary scientific standards to support the ban.....

Break-even analysis for a green crab fishery in PEI, Canada (3/18/16)

The Department of Fisheries and Oceans in Canada is experimenting with a commercial fishery on the European green crab (Carcinus maenas), an invasive species in North America, to help reduce the negative impact this animal has on ecosystems and native shellfish populations. We determined the break-even price that fishers would require for green crabs under different fishing scenarios (i.e. different gear and catch per trap per day). We also determined, for a 21 day season, the minimum catch per trap per day for fishermen to break even at market prices of $0.50/lb, $1/lb, and $3.50/lb. Several scenarios were profitable, but our results suggest the price of crab (dockside) would have to be sufficiently high to motivate fishers to continue the fishing pressure needed to reduce populations of this invasive species. The most economically profitable scenario was a fyke net by-catch fishery, similar to what currently exists on Prince Edward Island during the eel fishing season.

Invasive Asian Sea Slugs Are Discovered in San Francisco for the First Time (5/18/16)

Dendronotus orientalis nudibranchs likely hitched a ride to California in ballast water....

Santa Cruz workshop teaches boaters to prevent invasive species (5/19/16)

.....However, regulations on biofouling on recreational boats do not exist. In Central California, around one-third of recreational boats carry between hundreds and thousands of tiny animals and plants, according to Zabin. Also, in the Monterey Bay, many recreational boats come from the San Francisco Bay, one of the state’s largest hotbeds of invasive species, she said.....

BALLAST WATER/BIOFOULING

Measure before Congress could undo Great Lakes ballast protections (6/8/16)
By Dan Egan of the Journal Sentinel: It took more than a decade of legal battles, but last fall a coalition of conservation groups convinced a federal appeals court that the U.S. Environmental Protection Agency had to get tougher with the shipping industry and its contaminated ballast discharges that have ravaged the natural order of the Great Lakes. Now Congress could reverse that order and pull some Clean Water Act protections from the Great Lakes and other U.S. waters by turning the regulation of ship-steadying ballast water over to the U.S. Coast Guard, an agency conservation groups argue is more in the business of keeping boats afloat than protecting the environment….. [also see VIDA article below]

**CLIA: Ballast with no discharge has ‘great potential’ (5/20/16)**

The cruise industry has flagged managing ballast internally without discharge as being a possible solution to the upcoming ballast regulations…..

**Bunker tanker owners push for ballast water exemptions (5/25/16)**

Bunker tanker owners could avoid purchasing millions of dollars worth of equipment if the International Maritime Organisation expands the scope of exemptions that apply to the Ballast Water Management (BWM) Convention, a major lobbying group claims. The International Bunker Industry Association (IBIA), which represents bunker suppliers and vessel owners at the IMO, is backing a proposal submitted to the IMO last year by Croatia, Denmark, Singapore, and other groups that would exempt coastwise and short-sea vessels operating within “same risk areas” (SRAs) from purchasing new ballast water equipment.

The proposal contends that vessels travelling within such areas would be exposed to the same aquatic species and therefore would be at minimal risk of introducing a potentially invasive species through a vessel’s ballast water. In a statement released on 24 May, IBIA noted that a bunker tanker operating in an SRA would not need a BWM system. It could also journey outside the SRA as long as it never makes any ballast water exchanges outside of the SRA. “Alternatively, the vessel could clean its BW tanks and use fresh water for such a foray,” IBIA stated….. [Note: you may need to register to view this free article]


Like the story about the boy who cried wolf, the shipping industry has been told several times that the entry into force of the Ballast Water Convention is ‘imminent,’ says the International Chamber of Shipping (ICS) in its newly published 2016 Annual Review. This included a false alarm during the IMO Assembly, in November 2015, when it was prematurely announced that the required 35 percent of world tonnage threshold had been reached following ratification by Indonesia. But with the ratification of Belgium in March 2016 (bringing the total tonnage covered, at 34.82 percent, to within a slither of
the threshold) it is currently assumed that the Convention will almost certainly cross the line during 2016 and enter into force during 2017.

An assessment of the efficacy of chemical scalers for managing non-indigenous marine species within vessel internal seawater systems and niche areas (3/18/16)

This study assessed the efficacy of commercially available scalers and factors that influence their efficacy as tools for marine biosecurity management. Laboratory experiments found calcium carbonate (CaCO$_3$) degradation varied up to 29% (from 111 to 143 g/l) amongst seven products tested. Increasing the concentration of hydrochloric, phosphoric and acid-surfactant scalers from 25 to 75% did not increase the rate or total degradation of the mussel, *Mytilus planulatus*. Warming descaling solutions (from 11 to 26°C) significantly increased the rate of mussel mortality, decay and total degradation in all treatments. Circulating treatments increased mussel mortality and decay rate in hydrochloric and acid-surfactant scalers, but had no detectable effect on total degradation after 24h. Hydrochloric acid based scalers (*Rydlyme®*, 3H® and *Dynamic Descaler®*) were more effective than phosphoric acid (*Barnacle Buster®*) and acid-surfactant (*Triple 7 Enviroscale Plus®*) treatments. Organic material was largely resistant to degradation under all treatments. The implications for scalers as marine biosecurity tools are discussed.

Another Ballast Water Management Convention Accession (5/26/16)

The state of Saint Lucia acceded to four IMO treaties, including the Ballast Water Management Convention, on May 26, bringing the number of states party to the Ballast Water Management Convention to 50. The conditions for entry into force are not yet bet, because Saint Lucia’s action leaves the tonnage from these 50 states still only representing 34.81 percent of the world's merchant fleet tonnage, not the 35 percent required. Despite, its imminent entry into force, issues remain. The International Chamber of Shipping (ICS), in its newly published 2016 Annual Review, said the convention’s entry into force will present ship operators with a serious challenge because of the expected lack of ship yard capacity needed to retrofit the expensive new treatment equipment (over a five year period) on around 70,000 ships……

FISH

Quebec fishermen catch first Asian [grass] carp found in St. Lawrence River (6/4/16)

There may be plenty of fish in the sea, but two fishermen in the Lanaudière region caught what may be the only Asian carp in the St. Lawrence River last week. Pierre Thériault and Gerald Boucher, commercial fisherman from Lanoraie, reeled in the 29-kilogram invasive species on May 27. "We really weren't sure what it was. It looked like a carp…
it had the same colour, but it was huge! We could see it was different from the others," said Thériault. Not long after contacting biologists from Quebec's Forests, Wildlife and Parks Ministry, it was confirmed that the fishermen's catch was a one-metre-long female grass carp, one of four Asian carp species.....

**Asian carp not ready for role in ‘Jurassic Park’ (5/22/16)**

….Jeff Tyson, the Lake Erie Program Administrator for the Ohio Division of Wildlife, said that while the presence of any grass carp in the Lake Erie system is certainly a concern, all indications point to an extremely low number of fish. He cited a huge joint field research effort last year when agencies from several U.S. states and Canada converged along the Michigan shoreline of Lake Erie for an intensive search for grass carp. After more than 20 vessels spent 96 hours in the water electroshocking in search of grass carp, just two fish were found.....

**University of Toledo Student Discovers First Grass Carp Eggs in Great Lakes Tributary (6/2/16)**

A graduate student at The University of Toledo is the first researcher to find direct proof of grass carp, a type of invasive Asian carp, spawning in a Great Lakes tributary. This research was conducted as a follow-up to U.S. Geological Survey findings in 2013 that indicated four young grass carp taken from the Sandusky River were the result of natural reproduction....

**Want to save the gulf? Whole Foods wants you to eat lionfish (6/2/16)**

TAMPA — You've seen their unicorn-like horns, venomous spines and distinctive stripes on movie screens and behind the glass walls of aquariums, but are you ready to see lionfish on your dinner plate? Environmentalists and supermarkets like Whole Foods sure hope so — and they say it may be the only way to control the invasive species' exploding population. Nature isn't solving the problem. These fish, whose natural home is the South Pacific and Indian oceans, aren't supposed to be in the Gulf of Mexico. Lionfish are the exotic species most destructive to marine life along the Florida and Caribbean coasts, according to experts. "Nothing is keeping their numbers in check but (humans)," said Florida Fish and Wildlife Conservation Commission spokeswoman Amanda Nalley......

**OR: Diamond Lake: Inaugural stocking of tiger trout (5/31/16)**

…..ODFW treated Diamond Lake with rotenone in 2006, ridding it of an estimated 90 million tui chub, an invasive bait fish that reproduces rapidly. In 2008, biologists discovered golden shiners, another illegally introduced bait fish in the lake. Late last fall, a single tui chub was found during routine monitoring. ODFW worked with the Umpqua National Forest, Oregon Department of Environmental Quality and Douglas County to form a joint action plan for managing the lake and its fishery. The plan includes monitoring and a fish stocking strategy. “We all felt tiger trout were the way to go,” said ODFW District Fish Biologist Greg Huchko. “Because these fish are sterile, there isn’t a
risk to North Umpqua River native fish. And once they’re about 14 inches, they should begin to prey on golden shiners and tui chub.”

Factors that influence salmon predation in the Sacramento-San Joaquin Delta (5/26/16)

……………… The reality is the question that the Delta is an unstable environment, ecologically or biologically, and every year, over time, there have been constant introductions of new invasive species which continue to perturb or alter the food web in the system. In case of the Asian clams that were introduced in the lower portion and eastern part of the bay from ballast water in the 80s, they resulted in two side effects: One, clams directly competed with juvenile striped bass for food, forcing juvenile striped bass into a more vociferous lifestyle at an earlier age; in addition, they increased water clarity which made small juvenile fish like juvenile salmon, which rely on avoidance from visual predators, more difficult. Aquatic plants, such as Egeria or hyacinth have contributed; In the case of the water hyacinth, its introduction and subsequent explosion in the Delta has come with a transition from 35 to 75% of the fish community in the Delta fish community to the centrarchidae which includes the black basses and some fish in the last 20 years.”

WA: Considering Predation Levels When Reintroducing Salmonids Above High Head Dams (5/20/16)

……………… Biologists on the North Fork of the Lewis River in Washington also want to know that, if salmon and steelhead are reintroduced upstream of a series of three dams, will they be devoured by predators? A recent study found that, yes, predators do have an impact, but not to the extent previously thought……

OTHER

California Invasive Species Action Week to Put the Spotlight on Habitat Invaders (6/2/16)

The California Department of Fish and Wildlife (CDFW) will kick off the third annual California Invasive Species Action Week on Saturday, June 4….

Calif: Invasive water snakes at Lake Machado could be here to stay, study says (6/5/16)

Lake Machado in the South Bay’s Ken Mallow Harbor Regional Park is an extreme example of what can happen when invasive species gain a foothold in an urban habitat. The 31-acre lake straddling the communities of Harbor City and Wilmington captures runoff from Los Angeles County storm drains, and along with it a thriving menagerie of creatures including bullfrogs, apple snails as big as baseballs and snapping turtles. (The
Lake’s most famous resident was Reggie, the abandoned alligator who eluded animal control officers for two years before finally being relocated to the Los Angeles Zoo.

**Potential problems of removing one invasive species at a time: a meta-analysis of the interactions between invasive vertebrates and unexpected effects of removal programs (6/2/16)**

Although the co-occurrence of nonnative vertebrates is a ubiquitous global phenomenon, the study of interactions between invaders is poorly represented in the literature. Limited understanding of the interactions between co-occurring vertebrates can be problematic for predicting how the removal of only one invasive—a common management scenario—will affect native communities. We suggest a trophic food web framework for predicting the effects of single-species management on native biodiversity. We used a literature search and meta-analysis to assess current understanding of how the removal of one invasive vertebrate affects native biodiversity relative to when two invasives are present. The majority of studies focused on the removal of carnivores, mainly within aquatic systems, which highlights a critical knowledge gap in our understanding of co-occurring invasive vertebrates. We found that removal of one invasive vertebrate caused a significant negative effect on native species compared to when two invasive vertebrates were present. These unexpected results could arise because of the positioning and hierarchy of the co-occurring invasives in the food web (e.g., carnivore–carnivore or carnivore–herbivore). We consider that there are important knowledge gaps to determine the effects of multiple co-existing invaders on native ecosystems, and this information could be precious for management.

**Idaho Launches new website on invasive species**

The Idaho Department of Agriculture (ISDA) has launched a new education and outreach campaign for invasive species and noxious weeds, including focused marketing and a new website. The new website has been designed to operate as a tool for stakeholders, industry experts and consumers with invasive species interests or questions. For information on invasive species in Idaho and what you can do in this battle against them please click [here...](#)

**Non-native Chinese mystery snail supports consumers in urban lake food webs (5/31/16)**

Non-native species are widely regarded as threats to ecosystem structure and function; however, these species may also provide benefits to ecosystems that have lost former functions to environmental degradation. This study evaluated whether non-native species provide prey resources or induce trophic cul-de-sacs (by diverting basal energy away from higher trophic levels) in developed ecosystems where native prey are in decline. We used stable isotopes of $^{13}$C, $^{15}$N, and $^{2}$H to assess whether non-native Chinese Mystery snail (*Bellamya chinensis*) provides a prey resource to consumers, and maintains the integration of benthic resources into food webs of lakes subjected to lakeshore development. Regardless of *Bellamya* presence, consumers in undeveloped lakes were supported primarily by benthic resources, and lakeshore development dramatically
reduced consumer reliance on these resources. This was at least partly due to a reduction in the availability of native snails, a high-quality prey item, to the dominant littoral consumer, molluscivorous pumpkinseed sunfish (*Lepomis gibbosus*). In developed lakes with non-native *Bellamya*, generalist yellow perch (*Perca flavescens*) and piscivorous largemouth bass (*Micropterus salmoides*) consumed benthic resources in proportions similar to undeveloped lakes, and pumpkinseed sunfish consumed *Bellamya* in higher proportions than in undeveloped lakes. Thus, *Bellamya* provided a prey substitute in developed lakes where native snail populations were depressed; and *Bellamya*’s influence extended to higher trophic-level consumers. Our study provides evidence that non-native species can ameliorate some effects of environmental degradation, and we suggest that future research considers how the effects of non-native species, either positive or negative, may vary across human-modified landscapes.

**AQUACULTURE**

*Genetically modified salmon approved for sale as food in Canada (5/19/16)*

The first genetically modified food animal has been approved for sale in Canada. At a news conference in Ottawa on Thursday, **Health Canada and the Canadian Food Inspection Agency** announced AquaBounty’s genetically modified salmon has been approved for sale as food in Canada. AquaBounty said it will be at least a year before the salmon will be available in stores…..

*Potential Diagnosis of Heart and Skeletal Muscle Inflammation in Atlantic Salmon at a B.C. Fish Farm (5/20/16)*

Vancouver, British Columbia - Applying newly introduced and integrated technologies, a team of international researchers, led by Fisheries and Oceans Canada’s (DFO’s) Dr. Kristi Miller, has diagnosed a potential Heart and Skeletal Muscle Inflammation (HSMI) in farmed Atlantic salmon samples collected from a B.C. aquaculture facility in 2013-2014. This research was undertaken as part of the Strategic Salmon Health Initiative (SSHI), a collaboration between DFO, the Pacific Salmon Foundation and Genome British Columbia to better understand the distribution of microbes and diseases in wild and cultured (hatchery and aquaculture) salmon in B.C.

**Related Stories:** [More revelations expected after disease found in farmed salmon (5/22/16) and HSMI is (still) not in BC (6/3/16)]

*Canada: Fisheries minister open to audit (5/9/16)*

OTTAWA — The Trudeau government, now helping B.C.’s controversial aquaculture sector expand, would welcome an outside auditor to assess its efforts to ensure fish farms don’t harm wild salmon, Fisheries Minister Hunter Tootoo said Monday…..
WEEDS

EBay traders of invasive species say they were unaware of legal restrictions (6/2/16)

A killer algae, a monstrous pondweed, a tree that has infested the Everglades and a dozen more of the US’s most environmentally destructive plants have been discovered for sale on eBay. Online traders told the Guardian that ignorance of the law led them to create listings that had spread hundreds of illegal specimens across the country. Ebay hosted multiple listings for 15 species from the federal noxious weeds list the nation’s highest level of plant biosecurity. Most offered import to the US from abroad. But six sellers were hawking plants from within the country.

AK: Seaplane pilots to help monitor invasive species (6/2/16)

Elodea is the first invasive species to threaten the waters of Alaska. While seaplanes have the potential to spread this plant which damages fish habitat, their pilots may also be part of the solution by helping monitor lakes and water bodies to determine its distribution. Toward this end a small group of float plane pilots recently attended a training session, organized by the Fairbanks General Aviation Association, to learn about this threat, and how to respond. The training included both lecture and hands-on sampling experience. Plans are being made to distribute sampling kits to pilots that attended, providing the means for them to sample lakes and rivers they use, and report findings back to the team actively working to eradicate this threat to Alaskan waters…..

AR: Biologists wrestle alligatorweed on Lake Conway (6/4/16)

LITTLE ROCK – Fish and anglers love aquatic vegetation. What’s not to like? It provides food, shelter, oxygen and shade. But too much of a good thing is always a recipe for disaster. Each year, Arkansas Game and Fish biologists spend thousands of dollars trying to control nuisance aquatic plants. One species in particular, alligatorweed has commanded the better part of biologists attention and resources in central Arkansas lakes like Conway for the last 15 years. Alligatorweed hitched a ride to the United States from South America in the ballasts of ships in the late 1890s. It first appeared in Florida and Alabama, but has since spread as far west as California and as far north as Illinois…..

WA: Fewer weeds, more jobs: Money obtained to attack invasive species in West Jefferson County (5/25/16)

Jill Silver of Port Townsend, executive director of the 10,000 Years Institute, has garnered $550,000 in legislative funding to create two full-time and eight part-time jobs with the Pulling Together Initiative (PTI), one of the projects funded in the Washington Coast Restoration Initiative. PTI adds prevention and early action to invasive species work on coastal rivers. The jobs are local, concentrated in the Olympic Peninsula's West
End. Silver's Hoh River crew and other "watershed SWAT teams" will do early detection and control of invasive plants that harm salmon and wildlife habitats and impact agriculture and timber production. "The PTI jobs will allow seasonally-hired crew members to work most of the year, and keep the benefits of local training on the coast," Silver said.

**TRAININGS/WEBINARS**

**PNW IPC Invasive Plant Workshop in Bellevue, Washington and Portland, Oregon**

The Pacific Northwest Invasive Plant Council (PNW IPC) has scheduled two summer workshops for 2016. Speakers at the 2016 workshops will present research and work on many of the Pacific Northwest’s most significant emergent and aquatic invasive species. The first will be held June 28th in Bellevue Washington at the Lewis Creek Visitor Center located east of 405 off of I90, take the Lakemont Blvd exit and head south up the hill on Lakemont Blvd 2 miles to the visitor center on the left. There is plenty of parking available. The second will be held June 29th in Portland Oregon at the Metro Council Chambers in downtown. Both workshops will include the opportunity for pesticide recertification credits as well as Society of Wetland Scientists PWS credits. Lunch and T-shirts will be provided to all participants.

**For further information and registration:** [PNW IPC 2016 Invasive Plant Workshop - Bellevue](#) and [PNW Invasive Plant Council - 2016 Invasive Plant Workshop - Portland](#)

**MT: Governor's Summit on Invasive Species Priorities Webinar**

Please join the Montana Invasive Species Advisory Council and Lisa DeBruyckere from Creative Resource Strategies, LLC for a webinar to discuss the top priorities that were identified in the Statewide Invasive Species Assessment and at the Summit, as well as next steps for developing *Montana's Invasive Species Strategic Framework*. When: **Monday, June 13, 2016, 10-11 a.m. MDT** [Click Here to Register](#)

**B.C. Invasive Plant Early Detection Rapid Response: Boot Camp Without the Sweat (slender false brome, flowering rush, shiny geranium)**

Featuring: Becky Brown, P.Ag. *Invasive Plant Specialist - Provincial Early Detection Rapid Response Coordinator, B.C. Ministry of Forests, Lands & Natural Resource Operations (MFLNRO)* Date: **Wednesday June 29th, 2016** from NOON - 1PM PST. Description: Find out how to become involved in the BC Invasive Species Early Detection Rapid Response Program by learning how to identify and report three important candidate species for eradication. Find out where these species are located,
why they are problematic, what is being done about them and how you can help! To register for upcoming, live webinars, email or call ISCBC at 250-305-1003 | 1-888-933-3722. Please indicate the webinar you wish to attend, and provide your name, email address and phone number. Thank you! - See more at:

JOBS/GRANTS

Brush Prairie, WA: Natural Areas Invasive Species Field Worker, Temporary

JOB DESCRIPTION: Are you looking for a great opportunity to be involved in your local community? We are seeking an experienced field maintenance worker to apply herbicide to parks, natural areas, storm water facilities, and campus infrastructures. Employees will also plant and maintain trees. This work includes a combination of herbicide application, tree planting, weeding, and summer watering. Position involves working in an environment with exposure to chemicals, pollen, insects, and bees. This is a three-month, temporary position, with hours of 7:00am-3:30pm, Monday-Friday. SALARY: $12-13.00/hour DOE

FEDERAL/STATE/PROVINCIAL LEGISLATION, RULES, ACTIONS

CANADA

Western Canada unites to prevent aquatic invasion (6/6/16)

Alberta, British Columbia, Saskatchewan, Manitoba and Yukon Territory have joined forces to prevent and manage aquatic invasive species and have formalized this commitment by signing a joint agreement to keep these threats at bay. The Inter-provincial-territorial Agreement for Coordinated Regional Defence Against Invasive Species is a step towards enhanced partnerships between jurisdictions on both prevention and response of invasive species in Western Canada.

Related Story: B.C. joins western Canadian fight against invasive species (6/6/16)

STATE

California - marine invasive species proposal (5/20/16)

The California State Lands Commission (SLC) issued a notice proposing adoption of regulations relating to the Marine Invasive Species Act enforcement and hearing process. Comments on the proposal must be received by 7/5/16.

The Washington Invasive Species Council: Final report and recommendations of the Aquatic Invasive Species Funding Advisory Committee (4/13/16)
In the 2015 operating budget, the Legislature directed the Council to create and administer a workgroup to advise the Washington Department of Fish and Wildlife on funding options to better address responses and prevention of aquatic invasive species in our state.

The Council invited members from a wide variety of interests such as recreational boating, shipping, ports, shellfish, public utilities, conservation, salmon recovery, and fishing and hosted several meetings to find common ground on funding options. With respect to the recommendations, the workgroup defined consensus as a recommendation that all participants can 'live with' even though it might not be their first - or even preferred - choice.

The report can be accessed at [http://1.usa.gov/28fJCi3](http://1.usa.gov/28fJCi3). If you have any questions on the contents of the report, please contact invisivespecies@rco.wa.gov. To learn more about the work of the Washington Invasive Species Council, please visit [http://www.invasivespecies.wa.gov](http://www.invasivespecies.wa.gov).

**Montana Noxious Weed List**

Petitions for new plants to be added the Montana Noxious Weed List are being accepted until September 31, 2016. Visit [agr.mt.gov/agr/Programs/Weeds/](http://agr.mt.gov/agr/Programs/Weeds/) for more information or contact Dave Burch at 406,444-3140 or dburch@mt.gov

**WA: State updates permit to treat aquatic invasive species -- Public invited to online public workshop and hearing**

OLYMPIA – Some minor updates are in store for a permit used by Washington state agencies to treat marine algae and aquatic animal species not native to state waters. Once non-native species become established in a new environment where there are few natural enemies or disease to keep them in check, they may spread rapidly and cause biological and economic harm. The permit, first developed by the Department of Ecology in 2011, is a regulatory tool that directs how chemicals or other control products may be used to manage invasive aquatic animals and invasive marine algae that threaten native species in state waters. The permit does not cover invasive aquatic weeds, which are covered by other permits. Changes to the permit focus primarily on streamlining environmental review, clarifications and removing one pesticide from the list of approved treatment products. Ecology will accept public comments on the proposed changes until July 1. It will hold an in-person and online webinar workshop/public hearing at 1 p.m. on June 21 at Ecology’s Lacey office, located at 300 Desmond Drive in Lacey. Visit [Ecology's website](http://www.ecy.wa.gov) to review the proposed permit changes, to sign up for the webinar, and to find out how to provide comments. Read more about the state’s efforts to manage invasive species. Contact: Sandy Howard, communications, 360-407-6408.
NY: Governor Cuomo Announces Adoption of Regulations to Protect New York’s Waterways and Natural Habitats from Invasive Species (5/26/16)

Governor Andrew M. Cuomo today announced the adoption of new regulations that will help protect New York State’s waters from the spread of aquatic invasive species and preserve local ecosystems. Signed into law by Governor Cuomo in September 2014, the regulations prohibit the launch of watercraft prior to taking ‘reasonable precautions,’ including the removal of visible plant or animal matter, proper material disposal in a receptacle or upland location, and treatment by operators launching watercraft or floating docks into public waters.

FEDERAL

Murkowski Works to Support Alaska’s Fisheries and Critical Nutrition Programs (5/20/16)

GE Salmon: After the FDA’s decision last year to approve GE salmon for human consumption, Senator Murkowski promised to fight back for the health of both consumers and Alaska’s fisheries. Murkowski successfully included a provision in the Agriculture appropriations bill that requires the Food and Drug Administration (FDA) to mandate labeling of GE salmon.

Stefanik Introduces Legislation to Combat Invasive Species (5/25/16)

Congresswoman Stefanik has introduced the Stamp Out Invasive Species Act (H.R.5334) which would direct USPS to issue a “Combating Invasive Species Semipostal Stamp.” Net proceeds from the sale of this stamp would be directed to the United States Department of Agriculture and the Department of the Interior for programs that work to combat invasive species. Additionally, Congresswoman Stefanik has introduced H.Res.754 -- a resolution expressing the commitment of the House of Representatives to work to combat the nationwide problem of invasive species threatening native ecosystems.

Language on California Nonnative Predator Fish Removal Program in Several Bills

Before leaving for the Memorial Day recess, House leaders named conferees to reconcile the chamber's revised energy bill with the Senate's own package, S. 2012 (North American Energy Security and Infrastructure Act of 2016). The House version has a section (See page 392, HERE) establishing a nonnative predator fish removal program to protect native anadromous fish in the Stanislaus River.

The House FY 2017 Commerce, Justice, Science funding bill also contains predator language see page 99 HERE and in the bill’s report language see page 16 HERE
NOW WHAT: As for S. 2012 -- “Whether or not the Senate launches the first conference committee on energy legislation in a decade is in the hands of Senate Democrats, who continue to express concerns with the House's revised version. Energy and Natural Resources Committee Democrats say legislation the House passed before recess is laden with veto-bait and doesn't bode well for efforts to reconcile the competing measures. Sen. Martin Heinrich (D-N.M.) said he would have "real issues" with going to conference with the House on its current bill.”

And as for FY 2017 appropriations: “Senate Democrats are threatening to halt work on all fiscal 2017 appropriations bills if Republicans try to add more money to Department of Defense coffers without also increasing domestic pending. Senate Republicans are weighing whether to attach an amendment to the annual defense authorization bill, S. 2943 [see below], that would increase Pentagon war accounts by $18 billion.”

House passes Zika Vector Control Act (5/24/16)

On 5/24/16 the House passed by a vote of 258-156, H.R. 897, the "Zika Vector Control Act" also called the "Reducing Regulatory Burdens Act,"). The bill:

.... amends the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Water Pollution Control Act (commonly known as the Clean Water Act) to prohibit the Environmental Protection Agency or a state from requiring a permit under the Clean Water Act for a discharge from a point source into navigable waters of a pesticide authorized for sale, distribution, or use under FIFRA, or a residue resulting from the application of the pesticide. Point source pollution is waste discharged from a distinct place, such as a pipe, channel, or tunnel. The bill establishes exemptions for the following discharges containing a pesticide or pesticide residue: (1) a discharge resulting from the application of a pesticide in violation of FIFRA that is relevant to protecting water quality, if the discharge would not have occurred but for the violation or the amount of pesticide or pesticide residue contained in the discharge is greater than would have occurred without the violation; (2) stormwater discharges regulated under the National Pollutant Discharge Elimination System (NPDES); and (3) discharges regulated under NPDES of manufacturing or industrial effluent or treatment works effluent and discharges incidental to the normal operation of a vessel, including a discharge resulting from operations concerning ballast water held in ships to increase stability or vessel biofouling prevention.

The bill’s sponsor Congressman Bob Gibbs (R-OH) said the following after the bill was passed:
“Because of a court decision [National Cotton Council v. EPA] that ignores not just decades of precedent, but the intent of Congress in regulating pesticides, entities that spray for mosquitos are spending time and money on administration and compliance rather than protecting public health. EPA has appropriate authority under FIFRA to protect human health and the environment. The requirements imposed by the court do nothing to enhance the safety of pesticide use but only increase costs. “This summer, it is becoming more and more evident the nation will be contending with the outbreak of the Zika virus. We need to be proactive and give those responsible for public health the tools to prevent an outbreak, not wait until there’s an epidemic. This is a responsible, common sense bill that will help ensure public health officials aren’t fighting Zika, a resurgent West Nile virus, or other mosquito-borne threats with their hands tied behind their backs.”

Democratic opponents have said if passed it will undermine protections under the federal Clean Water Act. The White House on 5/23/16 said it “strongly opposes H.R. 897, Reducing Regulatory Burdens Act of 2015, recently rebranded as the Zika Vector Control Act. H.R. 897 would weaken environmental protections under the Clean Water Act by exempting pesticide spraying from the currently required Pesticide General Permit.”

Similar legislation In the Senate S. 1500 passed the Environment and Public Works Committee on 10/29/15.

NOW WHAT: On 5/26/16 the House asked for a conference committee with the Senate.

LGBT Fight Dooms Energy and Water Spending Bill on House Floor (5/26/16)

…….Most Democrats voted against the bill due to its spending levels and policy riders. Taken together with Republicans who opposed the LGBT measure, the Energy Department spending bill didn’t have enough votes to pass …..

[Note: On 4/19/16 the House Appropriations Committee approved the fiscal year 2017 Energy and Water Development, and Related Agencies Appropriations bill. The legislation provides annual funding for national defense nuclear weapons activities, the Army Corps of Engineers, various programs under the Department of Energy (DOE), and other related agencies. For the draft bill report, go HERE, and see Page 32: Aquatic Plant Control Program.—Funding is provided for watercraft inspection stations and related monitoring, as authorized by section 1039 of WRRDA 2014. ]

NOW WHAT: According to House Appropriations Committee Chairman Hal Rogers (5/26/16) “I’m very disappointed that this bill could not clear the House today, but I remain dedicated to working this bill and all other Appropriations bills through regular
order – through the Committee, through the Congress, and to the President's desk. Today's result will not stop our process, but is merely a temporary pause.”

**IN THE SENATE:** On 5/12/16 The Senate passed the FY2017 Energy and Water Development Appropriations Bill.

Report language can be found [HERE](#). Report language included the following (page 19)

Aquatic Plant Control Program
—The Committee recommendation includes $9,000,000 for the Aquatic Plant Control Program. Within available funds, $4,000,000 is recommended for nationwide research and development to address invasive aquatic plants; $4,000,000 is for watercraft inspection stations, as authorized by section 1039(d) of WRRDA; and $1,000,000 is for monitoring and contingency planning associated with watercraft inspection stations as authorized by section 1039(e) of WRRDA. The Corps of Engineers is encouraged to support cost-shared aquatic plant management programs.

**House: Committee Approves Water Resources Development Act (WRDA) (5/25/16)**

On 5/25/16 the House Transportation and Infrastructure Committee unanimously approved [H.R.5303](#), the Water Resources Development Act (WRDA) of 2016, bipartisan legislation to address the needs of America’s harbors, locks, dams, flood protection, and other water resources infrastructure and help strengthen the Nation’s economic competitiveness. ... The legislation, which contains no earmarks, maintains the strong bipartisan reforms included in the Water Resources Reform and Development Act of 2014, and adheres to the new transparent process established in that law for congressional review of proposed Corps water resources development activities....

**WRDA voted out of Senate panel (4/28/16)**

WASHINGTON, DC – U.S. Sens. Jim Inhofe (R-Okla.), chairman of the U.S. Senate Environment and Public Works (EPW) Committee, and Barbara Boxer (D-CA), ranking member of the Senate EPW Committee, praised broad bipartisan support for the *Water Resources Development Act (WRDA) of 2016* [S. 2848](#) at the Senate EPW markup on 4/28/16. The legislation was reported out of the committee by a vote of 19 to 1.

**Note:** See page 72 of the bill. This “technical fix” language will allow the use of federal funds (USACE) to support watercraft inspection stations outside of the Columbia River Basin drainage:
(b) Watercraft Inspection Stations, Columbia River Basin. — Section 104(d) of the River and Harbor Act of 1958 (33 U.S.C. 610(d)) is amended—

(1) in paragraph (1), by striking “stations in the Columbia River Basin to be located in the States of Idaho, Montana, Oregon, and Washington” and inserting “stations to protect the Columbia River Basin”;

Also: S. 2848 (See page 222) includes language similar to the Lake Tahoe Restoration Act (S. 1724), including $45 million in funding for the TRPA’s AIS and watercraft inspection program.

NOW WHAT: SENATE: According to E&E Daily, Senate Environment and Public Works Chairman Jim Inhofe (R-Okla.) said yesterday [5/10/16] that he expects Congress to pass the 2016 Water Resources Development Act by mid-July. The massive water resources and infrastructure bill is a priority for Inhofe and EPW Committee ranking member Barbara Boxer (D-Calif.), both of whom will step down from their committee leadership positions at the end of the year. "My timing for WRDA is going to be for the work period between June and July 15, and that's when I'd like to see it completed. [Source: Reprinted from E&E Daily with permission from Environment & Energy Publishing, www.eenews.net; 202/628-6500]. In the HOUSE, Transportation and Infrastructure Committee Chairman Bill Shuster (R-PA) recently said he has been talking to House leaders about a possible slot for the bill on the House’s tight floor calendar.

S.373 - Vessel Incidental Discharge Act (VIDA) Passes House as Part of Defense Authorization (5/18/16)

S.373, the Vessel Incidental Discharge Act, was introduced by Sen. Rubio, Marco (R-FL) on 02/04/2015. Similar legislation was also introduced into the House H.R.980 by Rep. Duncan Hunter (R-CA).

Most recently, language mirroring VIDA was amended to H.R.4909 - National Defense Authorization Act for Fiscal Year 2017. Report language can be found HERE.

H.R. 4909 was passed by the House on 5/18/16 by a vote of 277-147.

Reaction

Many in the shipping industry including groups like the American Waterway Operators support VIDA. However, the States of California, Oregon and Washington, the Great Lakes state legislators, the White House and conservation groups have raised concerns
about the VIDA legislation in this and the last congress. Most recently (6/7/16) Governor Kate Brown (OR) and Governor Jay Inslee (WA) said this about VIDA:

We write to express our strong opposition to the Vessel Incidental Discharge Act (VIDA), and specifically request it be excluded from the 2017 National Defense Authorization bill, by the eventual conference committee. As Governors who rely on the National Guard in times of state emergencies, the Defense Authorization bill is too important for non-germane provisions that impede on states’ rights, and that warrant veto threats from the Administration. We concur with the letter sent by multiple states’ Attorneys General [WA, OR, NY, ME, and MI] on May 9, 2016, which stated that this VIDA legislation will dramatically weaken or remove existing laws that protect our nation's waters against the continual threat of aquatic invasive species and water pollution introduced by commercial and recreational vessels. In addition to the points by the Attorneys General, we add the following concerns:

- **VIDA is not germane to national security.** We concur that incidental discharges from non-military vessels are an environmental issue and are not germane to inclusion in a federal National Defense Authorization Act.

- **VIDA preempts state authority.** We do not support preemption of state authorities that limit states’ ability to protect state waters from harmful invasive species and water pollution. Many states have active invasive species and water quality management programs that are tailored to unique regional and local conditions. VIDA prohibits states from enforcing existing and adopting new laws and would only allow states to enforce existing federal laws on large vessels.

- **In place of effective state standards, VIDA sets an insufficient national standard or no standard at all.** Many states support an exemption under the U.S. Environmental Protection Agency’s (EPA) Small Vessel General Permit requirements (sVGP). However, VIDA goes too far by fully exempting over 21 million sVGP vessels from the existing body of federal and state invasive species and water pollution laws that apply to 31 categories of incidental discharges, most of which predate EPA’s 2008 and 2013 Vessel General Permits.

- **VIDA’s significant negative impacts extend far beyond ballast water.** Passing of VIDA will mean discharges that include toxic copper and zinc leachates from anti-fouling paints, invasive species from biofouling, greywater, and an unknown number of chemical pollutants under the broad definition of “any other pollutant associated with the operation of a marine propulsion system, shipboard maneuvering system, habitability system, or installed major equipment, or from a protective, preservative, or absorptive application to the hull of a vessel.”
NOW WHAT: The Senate version of the NDAA (S. 2943) is now under consideration, and while the original bill reported by the Senate Armed Forces Committee did not contain the VIDA language, an amendment (GO HERE; and see “SA 4436”) was just filed on 6/6/16 by Senator Rubio. For further information contact Allen Pleus, WDFW, Allen.Pleus@dfw.wa.gov.

Related Stories and Resources: Measure before Congress could undo Great Lakes ballast protections (6/8/16), Don’t put the Great Lakes more at risk to invasive species (6/5/16), Upton supports changes to ballast water rules (5/25/16), House votes to weaken federal crackdown on invasive species (5/19/16), Sage Grouse, Clean Water Act Under Attack by House—Again (5/23/16), Letter: Regulatory bureaucracy hurts shipping, economy (6/1/16) and Hawai‘i: CGAPS S. 373 VIDA Legal Analysis 06/01/15

MEETINGS

JUNE

Oregon Invasive Species Council Meeting: June 14 & 15, 2016  9:00 am - 4:00 pm
Deschutes Services Building, 1300 NW Wall Street, Bend OR 97703

The Washington Invasive Species Council will be meeting on Thursday, June 16th. The meeting information and agenda can be accessed at http://www.invasivespecies.wa.gov/meetings.shtml.

JULY

15th Ballast Water Management Summit Date: 13th July 2016 - 14th July 2016 Location: Singapore

PNWER 26th Annual Summit – July 17-21 Calgary, AB

AUGUST

Oregon Invasive Species Cook-off 2016 Saturday August 27, 2016, Corvallis, OR

OCTOBER

The [Northern Rockies Invasive Plants Council](http://northernrocksides.org) is holding a conference October 17-20, 2016, in Boise, ID.

[Western Regional Panel on Aquatic Nuisance Species](http://www.westernais.org/): October 19-21, 2016 - Jackson, WY

[Upper Midwest Invasive Species Conference](http://www.westernais.org/): October 17-19 2016 La Crosse, Wisconsin. Abstracts are now being accepted through the [UMISC website](http://www.umisc.org).

**NOVEMBER**

[36th Annual Symposium of the North American Lake Management Society](http://www.nalam.org): November 1-4, 2016; Banff Springs Hotel, Banff, Canada. **The Call for Abstracts is Now Open!** Submission Deadline: May 6, 2016. [Click here for details](http://www.nalam.org).

[16th Ballast Water Management Conference](http://www.bwmconference.org): Date: 9th November 2016 - 10th November 2016 Location: Antwerp - Belgium

________________

**TO UNSUBSCRIBE/SUBSCRIBE** to the *AIS NEWS* email [sphillips@psmfc.org](mailto:sphillips@psmfc.org)

Past issues of *AIS NEWS* can be found [@ http://www.westernais.org/](http://www.westernais.org/) under the “News” tab.