AQUATIC INVASIVE SPECIES NEWS
11/25/2019

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RECOMMENDED

An Invader’s Less-Than-Elegant Move From Water to Land (11/2/19)
The much-maligned northern snakehead fish might be less menacing than it was made out to be.

When invasive snakehead fish first appeared in the United States, in 2002, the secretary of interior herself called a press conference to warn of impending danger. “These fish are like something from a bad horror movie,” she told reporters. “They can eat virtually any small animal in their path. They can travel across land and live out of water for at least three days. They
reproduce quickly.” What’s more, they can breathe air, and they have razor-sharp teeth. The interior department banned the importation of snakeheads to the U.S.

Meanwhile, National Geographic dubbed the snakeheads “fishzilla.” They inspired actual bad horror movies, with titles such as Frankenfish and Snakehead Terror. And as snakehead fish have continued to spread to new parts of the U.S., most recently Georgia, the advice has been blunt and unsparing: “Kill it immediately.”

But after almost two decades in the U.S, the horror of the snakehead fish has not come to pass. They’ve had little ecological impact on most of their new habitats. They definitely haven’t chased any humans around on land. (Hello, Frankenfish.) In fact, after all that hype, it’s not even clear how well the species in the U.S., the northern snakehead fish, can travel across land—if at all. That’s how Noah Bressman, a graduate student at Wake Forest University, ended up spending the summer of 2018 catching northern snakeheads and trying to coax them out of the water. He was surprised, he told me, to find nothing in the scientific literature about how northern snakeheads move on land. The Interior Department’s ominous 2002 press conference had lumped together all snakeheads, which comprise a whole family of fish species found in Asia and Africa. Some were known to move on land. Others, such as the northern snakehead fish, were less studied.

[full article]

PUBLIC COMMENT

[USGS] Agency Information Collection Activities; Submission to the Office of Management and Budget for Review and Approval; Nonindigenous Aquatic Species Sighting Reporting Form and Alert Registration Form

In accordance with the Paperwork Reduction Act of 1995, we, the U.S. Geological Survey (USGS) are proposing to renew an information collection.

DATES:
Interested persons are invited to submit comments on or before December 5, 2019.

ADDRESSES:
Send written comments on this information collection request (ICR) to the Office of Management and Budget's Desk Officer for the Department of the Interior by email at OIRA_Submission@omb.eop.gov; or via facsimile to (202) 395-5806. Please provide a copy of your comments to U.S. Geological Survey, Information Collections Officer, 12201 Sunrise Valley Drive MS 159, Reston, VA 20192; or by email to gs-info_collections@usgs.gov. Please reference OMB Control Number 1028-0098 in the subject line of your comments.
NEW SPECIES SIGHTINGS

Want to get more new species alerts?
IMAP INVASIVES: https://www.imapinvasives.org

DREISSENIDS

[Minnesota]

Zebra mussels confirmed in Pimushe Lake in Beltrami County (11/14/19)
Careful monitoring by a county invasive species specialist led to the confirmation of zebra mussels in Pimushe Lake in Beltrami County. The Beltrami County aquatic invasive species staffer contacted the Department of Natural Resources after finding one adult zebra mussel on a settlement sampler hanging on a dock. Settlement samplers are solid surfaces placed in the water that people can regularly check for attached zebra mussels.

DNR, Red Lake Band specialists provide update on zebra mussel larvae in Red Lake in Beltrami County (11/8/19)
Since confirming zebra mussel larvae in Red Lake in Beltrami County earlier this year, the Minnesota Department of Natural Resources and the Red Lake Band Department of Natural Resources have conducted additional plankton surveys in Upper and Lower Red Lake. In 2019, 105 samples from 10 sites were collected by Red Lake tribal biologists and processed by the Minnesota DNR. Four samples contained zebra mussel larvae, called veligers (VEL-uh-jers)—two from Upper Red Lake and two from Lower Red Lake. Zebra mussel veliger numbers ranged from one to six per sample. Repeated occurrences of multiple veligers strongly suggest that zebra mussel reproduction is occurring in the lake. There is no viable explanation for seeing multiple veligers in two different sites in both Lower and Upper Red Lake other than an established zebra mussel population.

Water sample reveals zebra mussel larvae in Lake of the Woods (11/8/19)
The Minnesota Department of Natural Resources has confirmed zebra mussel larvae in water samples taken from one of three sites in Lake of the Woods on the northern Minnesota border. While no adult or juvenile zebra mussels have been reported, the number of larvae is substantial. The Minnesota portion of Lake of the Woods will be added to the infested waters list for zebra mussels, so that people who harvest bait, fish commercially or use water from the lake take necessary precautions. Other lake users should follow the same “Clean, Drain, Dispose” steps that are always legally required on all Minnesota water bodies, regardless of whether they are on the infested waters list. Recent DNR analysis of large lake zooplankton monitoring samples showed from four to 186 zebra mussel larvae, called veligers (VEL-uh-jers). “We don’t know if the lake’s water chemistry is conducive to zebra mussel survival,” said DNR research scientist Gary Montz. "It is possible that calcium levels or other factors might prevent propagation.”

[South Dakota]
Dreissena polymorpha (zebra mussel) was found in Fort Randall Reservoir, Missouri River [USGS NAS Report]

OTHER AIS

[California]
Cerax quadricarinatus (Australian redclaw crayfish) was found in Lake Balboa, Anthony C. Beilenson Park in Van Nuys, CA. [USGA NAS Report]

Potamopyrgus antipodarum (New Zealand mudsnail) was found in Bogus Creek, upstream of salmon weir, above Iron fish hatchery [USGS NAS Report]

[Texas]
Salvinia molesta (giant salvinia) was found in Houston County Lake, south cove [USGS NAS Report]

WATCH LIST

Be on the lookout for Bacopa rotundifolia along the Columbia River. Contact: Mark D. Sytsma (503) 307-6131 mark.sytsma@pdx.edu

DREISSENID MUSSELS

Algae could kill invasive mussels (11/15/19)
Scientists trying to control non-native mussels in the Great Lakes have come up with a new idea: kill them with the same destructive algae that sometimes blooms too much and threatens water quality. Recently, researchers at Wayne State University found that chemicals produced by blue-green algae, also called cyanobacteria, are toxic to larvae of invasive zebra and quagga mussels. These mussels are bad for the environment because they attach themselves to native species and suck all the juicy nutrients from the water. Such actions harm the ecology and the economy, according to the Great Lakes Commission. The WSU study, published in the journal Ecotoxicology and Environmental Safety, said if they can isolate that chemical in cyanobacteria, they could use it to control the spread of the invading mussels.

Montana FWP Considers Lifting Quarantine on Canyon Ferry (11/13/19)
Montana Fish, Wildlife and Parks has started the process to lift quarantine restrictions on Canyon Ferry Reservoir following a third year of no detections of invasive mussels. FWP anticipates the rule change, which requires public review, could take effect next spring. Canyon Ferry has been under quarantine since a suspected detection of invasive zebra or quagga mussels in 2016. If the quarantine is lifted, the lake’s certified boater program would end and boat inspections would be handled by a mobile roving crew.

[Texas] Fighting zebra mussels to be costly (11/8/19)
Zebra mussels, the tiny mollusks that have infested lakes from the Great Lakes to Lake Travis, have now proliferated in Lake Austin. “They’re on the docks and on the piers in the millions, maybe the billions,” according to Greg Meszaros, director of Austin Water…Meszaros told members of the Austin Water Oversight Committee on Thursday that while the Lower Colorado River Authority could kill millions of the invaders by lowering the level of the lake, the city is going to have to take a hard look at what might happen before requesting that LCRA take that action. In years past, LCRA has lowered the lake every two to three years to allow residents to more easily clean their piers and docks.

[Texas] Pflugerville treatment plant failure left customers susceptible to parasite (11/5/19)
Damage caused by zebra mussels in Lake Pflugerville left water customers in and around the city susceptible to a disease-causing organism for nearly a year, city staff said last week… The treatment plant did meet those minimum standards in December 2018 and April 2019, according to the notice. The violation cited by the Texas Commission on Environmental Quality specifically notes that damaged membranes used for water filtration at the treatment plant did not keep cryptosporidium from entering the city’s water system. The parasite — which can cause diarrhea, stomach cramps, nausea, fever and weight loss — sickens almost 750,000 people in the United States each year, according to the Centers for Disease Control and Prevention.

Invasive species short-circuiting benefits from mercury reduction in the Great Lakes (11/4/19)
According to a new study published today in the Proceedings of the National Academy of Sciences, 40 years of reduced mercury use, emissions, and loading in the Great Lakes region have largely not produced equivalent declines in the amount of mercury accumulating in large game fish. Researchers, including those from the University of Wisconsin-Madison, say it's largely due to aquatic invasive species in Lake Michigan—primarily quagga and zebra mussels—that have upended the food web and forced fish to seek atypical food sources enriched in mercury. [Full paper here]


BOAT INSPECTION/DECON/TECH NEWS

[Montana] Aquatic Invasive Species inspection season wraps up (11/22/19)
More than 111,000 watercraft were inspected this season in Montana by partners and Fish, Wildlife & Parks staff. Of those, 16 watercraft were intercepted transporting zebra or quagga mussels into the state. The most recent detection was on October 13, when a boat was intercepted at the Flowing Wells inspection station in FWP Region 7, traveling from Iowa to Fort Peck.
The provincial government says 19 vehicles contaminated with zebra or quagga mussels have been prevented from entering B.C. this season, three of which were headed to the Okanagan. The Okanagan Basin Water Board released the figures as part of its November board report, which outlined the results of the provincial program that completed more than 50,000 inspections between late April and Sept. 15. The 19 contaminated vessels had travelled from Ontario (14), Michigan (2), Utah (2) and North Carolina (1) and were headed for the Lower Mainland (8), Vancouver Island (4), Okanagan (3), the Kootenays (2), Skeena (1) and Alaska (1). The OBWB has been calling on the provincial government to increase funding for its inspection program, which this year saw 64 officers stationed at 12 stations across B.C. Just one of the stations operates 24 hours a day, while the majority, like one in Osoyoos, is open just 10 hours a day. "There is no requirement to get an inspection when a station is closed. We need to tighten things up," OBWB chair Sue McKortoff said in July. The OBWB is also asking the province to pass legislation requiring all watercraft entering B.C. be inspected before being allowed on the water.

Utah Division of Wildlife Resources stayed busy during the 2019 boating season, completing nearly 300,000 boat inspections in an effort to prevent invasive quagga mussels from spreading from Lake Powell and other infested waters to other waterbodies in Utah. The DWR and state park personnel completed a total of 295,238 boat inspections across Utah, a 22% increase from the previous year’s 241,557 inspections. They also decontaminated 8,683 boats, a 13% increase from the 2018 boating season. Lake Powell is currently the only waterbody in Utah with quagga mussels, and saw a majority of this year’s efforts. A total of 99,571 inspections were completed at Lake Powell, a 54% increase from the previous year’s inspections at the popular boating destination. The busiest weekend for boating inspections and decontaminations fell on the weekend after the Fourth of July. A total of 9,730 inspections were performed statewide July 6-7.

Oregon Department of Fish and Wildlife "intercepted and decontaminated two inflatable kayaks" in Ontario that were bound for the Deschutes River on Sunday - and still had remnants of invasive quagga mussels from Lake Powell on them.

**BALLAST WATER/BIOFOULING**

Ballast water is of crucial importance to the safe operation of ships by reducing hull stress, maintaining stability and improving propulsion and maneuverability. However, ships’ ballast water may also contain alien marine organisms which establish themselves in the host environment, threatening the survival of many native species and creating a
public health hazard in surrounding communities. According to the International Maritime Organization (IMO), “the spread of invasive species is now recognized as one of the greatest threats to the ecological and the economic well-being of the planet”.

**A midlife crisis? Ships above 15 years may miss the cut for ballast water system installation (11/19/19)**

Analysis from classification society ABS suggests that vessels up to 15 years of age are likely to be the oldest to install a ballast water management system (BWMS), with owners of ships aged 16-20 years and 21 years and above more likely to opt for scrapping. The five-year window to September 2024 in which to carry out retrofit of a BWMS will see installations peak in 2022 but not all the existing fleet will make it past this milestone. As retrofit capacity becomes tighter, projections indicate there will likely be a bottleneck of ships seeking installations, resulting in a peak of potential removals. This phenomenon can be attributed in part to the decision by IMO in MEPC.297(72), adopted 13 April 2018 and effective 13 October 2019, to de-harmonize IOPP certificate renewals from the BWM Convention compliance process.

**Ballast treatment commission system for improved efficiency (11/18/19)**

It is generally accepted that the implementation of the 2004 Ballast Convention was not well handled and that many challenges and obstacles were not foreseen at the time of its adoption. For that reason, the IMO at MEPC71 in November 2017, adopted resolution MEPC.290(71) establishing an Experience Building Phase. It also adopted a new timetable for installing systems in existing ships which is now under way.

**Residents protest cruise ships in California marine sanctuary (11/14/19)**

Fishermen are regularly asked, and often told, that they need to adapt their business in order to preserve, conserve, or maintain fish stocks and the health of the ocean. They comply despite the high costs to their business and with little reward for their efforts. They feel first-hand the impacts of the poor decisions people make on land and are held to a different standard than many of the other businesses that operate on the ocean. Like cruise ships. Threats to the ocean from cruise ships include sewage, gray water, bilge water, ballast water, hazardous materials, solid wastes, and even oil spills. The largest cruise ship is the twice the length of the Washington Monument!

**Update from September’s BWM Tech North America conference (11/1/2/19)**

In September, staff from Coast Guard Headquarters attended the Ballast Water Management Tech North America Conference in Fort Lauderdale, Florida. Lt. Jacob Baldassini, an engineer with the Coast Guard’s Marine Safety Center, gave attendees an update on the state of the Coast Guard’s type approval program, and guidance on several specific issues about which the MSC receives regular inquiries. “It’s always a positive experience for the Coast Guard to attend professional conferences, particularly on events that focus on topics that are so impactful to how the maritime industry conducts business,” Baldassini said. “All of us here from the Coast Guard value the opportunity to engage industry in face-to-face discussions and appreciate the opportunity to address your concerns and questions.”
Atlantic virus hits Alaska seals, otters (11/10/19)
Sea otters and seals in the Pacific Ocean, off the coast of Alaska, are infected with a virus that once was seen only in animals in the Atlantic. A new study suggests that melting ice in the Arctic may be to blame -- and that climate change may help spread the disease to new areas and new animals…Melting sea ice is a viable explanation for the spread of viruses -- but not the only one, said Charles Innis, a veterinarian and director of animal health at the New England Aquarium in Boston. "A skeptic could make arguments that maybe this virus could be transmitted through an intermediate host, like a bird that can fly long-distance," said Innis, who was not involved in the new study. "Or maybe it's being transmitted in the ballast water of ships or something like that."

BAWAT secures IMO Type Approval for pasteurisation treatment system (11/5/19)
Danish company BAWAT has secured IMO Type Approval from Lloyd’s Register for a pasteurisation treatment system. Lloyd’s Register issued the certification for the technology on behalf of the Danish Maritime Authority. The treatment system uses a ship’s waste heat from the main engine or other heat sources to neutralise any organisms in the ballast water through pasteurisation. It is one of the first systems to be tested and issued with approval under the new strict requirements of the IMO’s BWMS Code, officially known as the Code for Approval of Ballast Water Management Systems.

Marine Safety Center issues Ballast Water Management System Type Approval Certificate to HANLA IMS Co., Ltd. (11/5/19)
The Marine Safety Center issued the 24th U.S. Coast Guard Ballast Water Management System Type Approval Certificate to HANLA IMS Co., Ltd., after a detailed review of the manufacturer’s type approval application determined the system met the requirements of 46 CFR 162.060.

New Independent Lab accepted (11/4/19)
The Coast Guard’s Office of Operating and Environmental Standards announced that it accepted PIA GmbH located in Aachen, Germany as a new Independent Laboratory for testing of ballast water management systems. The Coast Guard accepts Independent Laboratories (ILs) under 46 CFR 159.010 as part of its ballast water regulatory oversight program. The ILs have a very important role in meeting the requirements of 46 CFR 162.060. Information regarding this new IL and its sub-laboratories are listed in the Coast Guard’s Maritime Information Exchange (CGMIX) main page.

Two more ballast water treatment systems have achieved USCG type-approval (11/2/19)
Hyundai Heavy Industries’ EcoBallast filtration and UV-based model and Miura of Japan’s filtration and UV-based HK- (E) C model ballast water treatment systems have both successfully achieved US Coast Guard type-approvals.

Ion Selective Electrode Technology (11/2/19)
Established techniques for monitoring total residual oxidants in wastewater suffer from several performance limitations. The latest ion-selective electrode technology offer a more accurate, sensitive and robust solution for ensuring regulatory compliance.
Marine Safety Center issues Ballast Water Management System Type Approval Certificate to Miura Co., Ltd. (10/29/19)

The Coast Guard Marine Safety Center issued its 23rd Ballast Water Management System Type Approval Certificate to Miura Co., Ltd., after a detailed review of the manufacturer’s type approval application determined the system met the requirements of 46 CFR 162.060. The treatment principle of the Miura HK-(E)C consists of filtration with UV treatment at uptake and discharge. This approval covers models with maximum intake treatment rated capacities between 160 m3/h and 900 m3/h.

MARINE

A new solution to California’s sea urchin problem: Ranch them and eat them (11/5/19)

Purple sea urchins have laid waste to Northern California coastal zones in recent years, decimating the kelp forest and ruining the habitat of other sea creatures that depend on it. The Norwegian company Urchinomics has a plan for that: Scoop the destructive urchins out of the ocean, fatten them up in a seaside urchin “ranch” and then sell them to sushi and seafood restaurants. For diners, the idea is that they can enjoy their uni and help the environment at the same time.

Invasive seaweed is taking over the Gulf of Maine, and new research says that’s bad news for fish (11/19/19)

University of New Hampshire researchers have found that a species of shrub-like seaweed that has invaded the seafloor of the Gulf of Maine now dominates the seabed and may be reducing the number of fish in the areas it occupies. Looking at decades of data and pictures of the ocean floor, researchers observed that warmer water temperatures caused by climate change are shortening the growing season of kelp, which thrives in colder conditions. This has opened the door for the invasive “turf seaweed,” a red, dense, and low-lying species known as Dasysiphonia japonica.

Chimera formation could favor the expansion of invasive species in the marine environment (11/6/19)

A new article published in the journal Scientific Reports reveals 44% of the colonies of Didemnum vexillum—a marine invertebrate tagged as invasive species—in the Ebro Delta (Tarragona, Spain) are formed by gene chimera: that is, cells with a different gene pool. According to the study, this ability to create chimera could be a determining factor in promoting genetic diversity and the colonizing success of this exotic species in natural ecosystems worldwide.

[Florida] Authorities: Dive boat owner faked invoices, photos to collect lionfish bounties (11/1/19)

The owner of a scuba diving business collected more than $10,000 in state bounties for taking customers out to kill invasive lionfish, but he faked invoices, doctored photos, and on at least 40 of 58 dates he supposedly was at sea, his boat sat in a warehouse, authorities allege…According to a report by the Florida Fish and Wildlife Conservation
Commission, Dickinson used fake names and doctored photos to inflate — or in some cases create from nothing — large catches of the invasive species in order to collect on the agency’s harvesting program. The program pays dive operators $50 when a client catches at least eight lionfish during a trip…But in September 2018, the report said, an FWC specialist who reviewed invoices said photos showed “pretty obvious Photoshopping.” It said a second specialist concurred. The agency said the sloppiness of some of the doctoring caught their attention. In some photos, people purported to have taken trips on separate dates wore the same clothes and stood in the same position. One person’s shirt was transparent and legs were missing. Other photos showed lionfish that were “floating” about decks, that were missing parts, that appeared discolored, that lay atop shadows and that appeared transparent. Other photos were blurred or parts of the boat changed color from photo to photo.

Species on the Move: European green crabs proliferate on the West Coast (10/23/19)

You can’t catch European green crabs on the Oregon coast with just any bait. As with native Dungeness and red rock crabs, fish heads and other processing delicacies attract the invasive greens. Sylvia Yamada prefers to use red “blood line” meat from albacore tuna loins. She gets them from Chuck’s Seafood in Charleston. She stakes baited minnow and Fukui fish traps into mudflats and also deploys coffee cans without bait, so-called pit-fall traps, into which crabs can fall as they forage at high tide. She has experimented with pheromones, chemicals that attract animals for mating and other purposes (they work about as well as tuna but cost more).


AQUACULTURE

Algae bloom killing farmed fish on Vancouver Island’s West Coast/DFO says four Cermaq Canada salmon farms affected, fish not infectious (11/21/19)

A rash of farmed salmon deaths at a collection of fish farms on Vancouver Island’s west coast is being blamed on a naturally occurring algae bloom. Fisheries and Oceans Canada (DFO) confirmed today four Cermaq Canada salmon farms (Binns Island, Bawden Point, Ross Pass and Millar Channel) north of Tofino in the Clayoquot Sound UNESCO Biosphere Region are affected.

Aquaculture and marine ecosystems: Friend or foe? (11/19/19)

Aquaculture production is an increasingly important component of global seafood production. Seafood production from aquaculture has expanded nearly six-fold since
1990, while capture fisheries production has remained relatively stagnant. According to the UN Food and Agricultural Organization’s most recent analysis of global fisheries and aquaculture, seafood production from aquaculture (excluding seaweeds) exceeded production from marine capture fisheries for the first time in 2016.

**National Sea Grant Law Center Launches Shellfish Aquaculture Podcast (11/11/19)**

The National Sea Grant Law Center at the University of Mississippi School of Law has launched a shellfish aquaculture podcast. The eight-episode “Law on the Half Shell” podcast is part of a National Sea Grant College Program-funded collaboration to examine impediments to shellfish aquaculture across the United States. Kerrigan Herret, a student in the UM School of Journalism and New Media, provided editorial and production assistance for the podcast.

**USDA Issues Federal Order to Prevent the Introduction of Tilapia Lake Virus to the United States (11/12/19)**

The U.S. Department of Agriculture’s Animal and Plant Health Inspection Service (APHIS) has responded to a request by the National Aquaculture Association and is issuing a Federal Order to prevent the entry or introduction of Tilapia Lake Virus (TiLV) into the United States. This Federal Order requires that imported shipments of all live fish, fertilized eggs and gametes from TiLV-susceptible species now have a USDA import permit, official health certificate and veterinary inspection. [Full Federal Order Here]

**Is the aquaculture of invasive and non-native species worth the risk? (11/6/19)**

Following a recent report from the FAO on the threats posed by the production of invasive (potentially non-native) species in aquaculture, Gregg Yan and Jonah van Beijnen argue that a number of measures are needed to steer the global aquaculture sector away from this potential ecological catastrophe.

**CRS Releases US Offshore Marine Aquaculture Regulation and Development Analysis (11/7/19)**

The Congressional Research Service (CRS), a legislative branch agency within the Library of Congress provides policy and legal analysis to the House and Senate, has published a report entitled, US Offshore Aquaculture Regulation and Development.

**EPA considering first fish farm in Gulf of Mexico (9/26/19)**

A Hawaii-based company wants to open the first offshore fish farm in the Gulf of Mexico about 45 miles west of Sarasota. The U.S. Environmental Protection Agency, which approved a draft permit in August, is seeking public comment on issuing a final permit on the project through Sunday. Fishing and environmental groups have already raised objections to the proposal by Kampachi Farms to anchor a chain-link mesh pen offshore to raise 20,000 Almaco jack fish – a relative of the popular amberjack – for human consumption. The company plans to hatch the fish from eggs in tanks on shore, then when they become fingerlings move them to the open ocean pen.
**Modeling Control of Common Carp in Malheur Lake (11/19)**
Researchers developed a population dynamics model called CarpMOD to explore control measures that eradicate invasive carp at multiple life stages. CarpMOD simulations at Malheur Lake, Oregon suggest 40 percent of carp need to be removed at each life-stage to achieve system recovery. Simulation models such as CarpMOD provide a structured approach for informing invasive species management efforts prior to implementing expensive and uncertain control measures. [https://doi.org/10.1007/s11273-019-09685-0]

**Sport fish decline in parts of the Upper Mississippi River, infested with Asian carp (11/16/19)**
A new study says sport fish have declined significantly in portions of the Upper Mississippi River infested with Asian carp. The study's lead author says it's among the first to establish a solid link between the presence of invasive carp and a drop-off of native species. It found that numbers of sport fish such as yellow perch and bluegill fell between 1994 and 2013 in three locations infested with silver carp.

**Sewers may be source of ‘highly irregular’ Asian carp DNA spike (11/13/19)**
Officials are eyeballing the metropolitan sewer system as a possible source for invasive carp genetic material found in the Chicago River last month in amounts that puzzled wildlife experts and triggered emergency searching for live fish. So far, netting and electrofishing have found no traces of silver or bighead carp after agencies announced Nov. 1 that routine testing around the Chicago Area Waterway System turned up 76 positive carp genetic material detections in Chicago’s Bubbly Creek.

**Asian carp: Turning a nuisance into a commodity for the Great Lakes (11/9/19)**
…Mr. Colgan’s company is in the business of trying to develop new markets for the Asian carp meat. It is used now for anything from fertilizer to pet food. “I feel like we have to view this fish as a commodity,” Mr. Colgan said. “Yes, it’s a nuisance fish. But it’s a commodity.” Dirk Fucik, owner of a Chicago-based seafood shop and restaurant, was one of the first to sell Asian carp burgers to humans when his business began slinging the patties in 2010. It gave away 800 carp burgers that year at what is billed as the world’s largest food festival, the five-day Taste of Chicago held in downtown Chicago’s Grant Park each July.

**Researchers Try New 'Acoustic Fence' To Target Invasive Asian Carp (11/8/19)**
The invasive Asian Carp is making its way south, impervious to efforts to curb the fish. Now, researchers are trying a new way to halt the spread of the species using an "acoustic fence."
AQUATIC PLANTS


FRESHWATER

Highly invasive giant Chinese pond mussels wiped out after making first U.S. appearance (11/22/19)
An invasive species never before documented in the United States was eradicated throughout summer and fall of this year. The Chinese pond mussels were discovered in the ponds of a former fish farm in Raritan Township in Hunterdon County. These mussels had been known to inhabit the waters of Eastern Europe prior to being discovered in 2010 by the New Jersey Conservation Foundation, which purchased the farm from its retiring fish owners in 2007.

Fungus Among Us: Researchers Map Lineages of Chytrid Fungus Affecting Sierra Nevada Frogs (11/7/19)
First identified in Australian frogs in the late ‘90s, this disease has since been detected on every continent besides Antarctica, spurred in part largely by human activities. Roland Knapp, a research biologist at UC Santa Barbara’s Sierra Nevada Aquatic Research Laboratory (S.N.A.R.L.) and Cherie Briggs, a professor in UCSB’s Department of Ecology, Evolution and Marine Biology, have collaborated with other researchers from numerous institutions to better understand the genetic lineage of the fungus responsible — batrachochytrium dendrobatidis, or Bd — and trace its migration across the globe. In a paper published in the Proceedings of the National Academy of Sciences, the team detailed their methods for genotyping Bd DNA samples from skin swabs, as well as their discovery of BdASIA3, a divergent lineage of the fungus.


CLIMATE CHANGE

From ‘rain bombs’ to ‘sunny-day flooding,’ climate change has become local (11/3/19)
From storm water management to invasive species control and removal to support for changing agricultural patterns, citizens and policymakers need advice and support (both
informational and sometimes, yes, financial) so that they can effectively grapple with climate impacts in their towns.

**What the climate’s ‘new normal’ is doing to Lake Superior (11/1/19)**
Here is a lake that can make its own weather, accommodate ocean-going vessels (and sometimes sinks them), whose resident aquatic species now include emigrants from all over the world thanks to irresponsible handling of ballast water. It’s not only wide but deep; as a newbie kayaker nearly 20 years ago, I was reassured by seasoned companions that the nice thing about paddling Superior is you’re always within a quarter-mile of land — if you count the bottom. Now the lake and its shoreline communities are experiencing a series of climate impacts that run queasily parallel to the problems of saltwater coasts that have become familiar in recent decades: storms of unusual fierceness and destruction, intensifying rainfall patterns, accelerating coastal erosion and infrastructure losses, overwhelmed wastewater treatment systems, icky (and potentially harmful) algal blooms.

**OTHER**

**Washington State Bolsters its Defense Against Urban Forest Pests with New Guidelines**
Pests looking to make their homes in Washington’s urban forests may now face a stronger defense, thanks to a new resource released this this month by the state’s Invasive Species Council. The Washington State Urban Forest Pest Readiness Playbook, published in partnership with the Washington State Department of Natural Resources (DNR), contains guidelines that towns, cities, counties and urban forestry programs can follow to address the threat of forest pests, which are estimated to cost local governments across the country an estimated $1.7 billion each year.

**[Hawaii] Invasive species inspection fee for air-flown commodities (11/17/19)**
…Lawmakers should give serious consideration to performing the fixes and working with USDOT and the airlines to pass and implement a legitimate inspection fee. Invasive species need to be caught and eliminated regardless of the means by which the species hitchhikes to Hawaii….

**Quick reporting is key to stopping feral swine from settling in Montana (11/18/19)**
Spotting a feral pig can be tough. While photographs from 2018 showed that feral swine that have recently exploded in population in Canada are only five miles from Montana's border, an aerial survey last year failed to find any of the hogs. At a summit hosted by the Montana Invasive Species Council on Friday, University of Saskatchewan researcher Ryan Brook showed aerial photos of what appeared to be simply a muddy patch breaking up a snowy landscape. But there were pigs buried in the mud, outed only because one had a radio collar. They'll also burrow into snow, creating "pigloos" — actually the technical term — to help ride out harsh winters.
Related: [Montana seeks to keep feral pigs from Canada at bay (11/18/19)]
Is it possible to eat meat ethically? Consider these wild burgers, that are made from genuine wild meat that might otherwise end up in the ground (11/9/19)

To improve the overall carbon footprint of our restaurant, we’ve pledged to serve only high-welfare, zero-carbon meat at Poco Tapas Bar in Bristol, and now cook only with generally unwanted cuts of meat such as offal, culled wild beasts and invasive pests, including red signal crayfish, squirrels and muntjac deer. All can be classified as waste food products: offal and unfavoured cuts are processed for pet food or rendered down for disposal, culled wild animals are buried in landfill, emitting further greenhouse gas emissions, and if pests aren’t culled, their numbers spiral, which impacts on woodland, river beds and other wildlife.

Survey finds growth, access and habitat loss are Montanans biggest public lands concerns (11/5/19)

A recently completed survey concludes 83 percent of Montanans would support a modest increase in state taxes if the funds are dedicated to addressing short-falls in the state's public lands management programs... Eighty-three percent of survey respondents reportedly said they either "strongly" or "somewhat" support increased funding to address priorities such as protecting wildlife habitat, improving water quality, controlling invasive species and improving access to public lands — even if these priorities were funded by "a modest increase in state taxes."

National-scale study shows that invasive grasses promote wildfire (11/4/19)

In a first national-scale analysis, ecologists at the University of Massachusetts Amherst, with colleagues at the University of Colorado-Boulder, report that across the United States, invasive grasses can double the number of fires. One species, invasive cheatgrass, has a long, well-earned reputation as a firestarter, making wildfires worse and more common. It is now clear that this effect is much more pervasive than a single species, they report. The new analysis finds at least seven other non-native grasses can increase wildfire risk around the country, some doubling or even tripling the likelihood of fires in grass-invaded areas. Details are now online in the Latest Articles from Proceedings of the National Academy of Sciences.


Article impact statement: False, unsupported claims of invasive species denialism threaten diversity, interdisciplinary, and progress in invasion biology.

The Aquatic eDNAtlas Project: A crowdsourced interagency database for the U.S. to share species occurrence data

Just sending a heads up regarding an open-access, crowd-sourced database of species occurrence records derived from aquatic eDNA surveys conducted by dozens of natural resource agencies in the U.S. The eDNAtlas Project website
hosts results for 16,708 species determinations at 11,018 unique stream & river sites (ponds, lakes & spring results coming this winter) for dozens of species and is updated biannually with additional results for a growing list of species (29 species at present with another ~50 species in the future). Most samples hosted at the website were collected in the western U.S in the last few years but the geospatial database framework has now been developed & expanded to the eastern U.S. to encompass the rest of the country. eDNA species occurrence results were processed through the National Genomics Center for Wildlife and Fish Conservation (NGC), which is a science collaborative within the Rocky Mountain Research Station of the U.S. Forest Service. All field samples were collected using the same standardized field protocol, are properly georeferenced to reaches in the National Hydrology Dataset, are accompanied by comprehensive metadata, and are easily downloadable as geodatabases using these nifty ArcGIS dynamic mapping tools. The website also contains information about the peer-reviewed publications supporting aquatic eDNA science and the design of species-specific markers, a predefined national sampling grid at 1-km resolution to facilitate planning of new eDNA surveys, and contact information for project staff that are willing and able to assist partners in designing new eDNA sample surveys. Additional details about the eDNAtlas are available at the project website, are summarized in the attached briefing paper, and this slide presentation.

JOBS/GRANTS

JOBS

The California Department of Fish and Wildlife seeks to fill several currently advertised and soon-to-be advertised positions within the newly established Nutria Eradication Program. We would greatly appreciate your assistance in helping spread the word about these vacancies. Please see below for descriptions of each position and visit for more information and to apply.

- **Senior Environmental Scientist (Specialist)**: responsible for coordinating with the Program Manager and Operations Supervisors to strategically develop and track spatial assignments for project field staff working across the multi-region project area, pursuing and managing access agreements to public and private lands containing habitat requiring nutria monitoring, collaborating with the project Geographic Information Systems (GIS) Analyst and Data Manager to review project data and ensure effective completion of spatial assignments and consistency with project strategies, conducting statistical
analyses and ecological/population modeling to evaluate, inform, and improve project methodologies and strategies, and communicating effectively with a wide audience, including stakeholders and the general public, through written products, presentations, and verbal communications. This position requires excellent written and verbal communication, critical thinking, and analytical skills, and the ability to work both independently and as part of a collaborative team. **Filing Deadline: 12/5/2019**

**Job Description and Duties**

- **Nutria Eradication Program Analyst:** Under the supervision of the Environmental Program Manager (EPM), the AGPA participates in the development, implementation, and administration of the Department’s Nutria Eradication Program and provides other related administrative support duties within the Program. This position serves as the Program liaison to the Human Resources Branch (HRB), Business Management Branch (BMB), Budget Office, Accounting Services Branch (ASB), and other Department administrative functions. The AGPA will play a critical and versatile role in the management of the multi-region Nutria Eradication Program. The primary duties for this position include, but are not limited to, all procurement for entire project, fleet and asset tracking, providing reports and assisting with budget and expenditure tracking, executing contracts and facilitating invoicing and payments, and assisting with logistics coordination. You will find additional information about the job in the [Duty Statement](#).
  **Final Filing Date: 11/26/2019**

- **Agricultural Technician I (Seasonal):** Under supervision of the Senior Environmental Scientist, Supervisor, the Agricultural Technician I performs duties of average difficulty in regards to the detection and survey activities of the Nutria Program for the Integrated Pest Control Branch. **Final Filing Date: Until Filled**

**Pennsylvania Fish and Boat Commission - Aquatic Invasive Species Coordinator**
The Pennsylvania Fish and Boat Commission is seeking a full-time Aquatic Invasive Species (AIS) Coordinator located at the Centre Region Office at Bellefonte, PA. The successful candidate will coordinate the implementation of the Pennsylvania Aquatic Invasive Species Management Plan. Primary responsibility is the initiation and development of programs for spread prevention, management, detection, inventory and assessment of AIS in PA Waterways. **Closing date: November 29, 2019**; For full job description and application instructions, [click HERE](#).

**State of Wyoming invites applications for the position of:**

FWWB11-11527-Aquatic Invasive Species Coordinator-Laramie or Cheyenne
Salary: $5,288.77 - $6,815.43 monthly
Location: Laramie **Closing date:11/30/19 11:59 pm**
The Wyoming Game and Fish Department is seeking an Aquatic Invasive Species Coordinator located in Cheyenne or Laramie, WY. This position coordinates aquatic invasive species (AIS) prevention and control activities for the state of Wyoming. The position implements the Wyoming AIS program, including coordination of outreach, watercraft inspections, statewide
monitoring and interagency and interstate coordination. Human Resource Contact: Laura Curtis 307-777-4507

**Biologist II - Aquatic Nuisance Species Coordinator North Dakota Game and Fish Department**

**Location: Jamestown, ND.** Salary Range: $4,366-$4,750/month hiring range

**Closing Date: December 1, 2019**

The Presidio Trust is seeking seasonal **Biological Science Technicians.** The park has a mosaic of cultural and natural plant communities, including historic gardens and forests and restored and remnant wetlands, sand dunes, grasslands and salt marsh. Almost 400 native plant species grow here, several of which are endangered and grow nowhere else in the world. - Our ideal candidates are passionate about conducting field work in ecological restoration, volunteer management and inventorying, monitoring, and research. You have experience with the tools and practices of the trade, strong plant and animal identification skills, and an understanding of ecological science. You care for the Presidio and enjoy establishing connections to the park through sharing your knowledge in plant and animal identification, wildlife management, and resource monitoring. You possess strong interpersonal skills and interact positively with the Presidio and local communities, including volunteers, colleagues, tenants and visitors.

**Applications received by December 5, 2019 will receive first consideration.**

**Project Coordinator - Research Scientist position at the Great Lakes Center, SUNY Buffalo State**

**Application Deadline: December 15, 2019.** Start date: February 2020. The Great Lakes Center at SUNY Buffalo State invites applications for a Project Coordinator - Research Scientist position funded through the Research Foundation for SUNY, working on the project “Great Lakes Long-term Biological Monitoring Program 2017-2022” funded by the U. S. Environmental Protection Agency. Within this project we analyze large long-term datasets of Great Lakes benthic communities and associated abiotic parameters and conduct extensive underwater video analysis of spatial distribution and changes in quagga and zebra mussel populations. This position involves excellent research opportunities in community, invasion, and aquatic ecology using large-scale data analysis. This project also provides extensive opportunities for collaboration with researchers and managers across the Great Lakes Region. Educational Requirements: Ph.D., or M.S. with an exceptional publication and data analysis record. This position involves mandatory field work for 4-6 weeks each June-September on all Great Lakes aboard EPA’s Research Vessel “Lake Guardian” and smaller boats. Required qualifications: strong scientific writing skills; knowledge of ecological data analysis in R, including large datasets; strong publication record; strong collaborative and organizational skills.

**John A. Knauss Marine Policy Fellowship Program**

The Knauss Fellowship provides a unique educational experience to graduate students who have an interest in ocean, coastal and Great Lakes resources and in the national policy decisions affecting those resources. The program, which is sponsored by the NOAA's National Sea Grant College Program, matches highly qualified graduate students with hosts in the legislative and executive branches of government located in the Washington, D.C. area for a one-year paid fellowship. Past fellows have developed successful careers in a variety of sectors, including

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government, academia, consulting, private companies, and nonprofit. **Application Deadline: February 21, 2020, 5:00PM PST**

The Delta Science Program and California Sea Grant are excited to announce another round of Delta Science Fellowships. This fellowship funds up to two (2) years for research projects that will advance the state of knowledge underlying high priority science issues that affect the California Bay-Delta and its management as a coupled human and natural system. Eligible applicants include postdoctoral researchers, Ph.D. students, and masters students. Priority topic areas are identified in the full request for proposals, and include research in both the natural and social sciences. **Application Deadline: December 20, 2019, 5:00 p.m. PT**

California Sea Grant and California Polytechnic State University-San Luis Obispo seek a California Sea Grant Extension Specialist, to be based in San Luis Obispo, California. The extension specialist will be a full-time employee of Cal Poly hired as a research scientist. **Application Deadline: January 03, 2020**

**GRANTS**

The first cycle of the new AIS Grant Program under the Montana Invasive Species Council is now open. Applications are due J**anuary 23, 2020** by 5:00 p.m. To apply visit: [fundingmt.org](http://fundingmt.org). Fundingmt.org [application instructions](http://fundingmt.org).

**Approaches to Reduce Nutrient Loadings for Harmful Algal Blooms Management**
U.S. Environmental Protection Agency, Office of Science Advisor, Policy and Engagement Office of Research and Development
Science to Achieve Results (STAR) Program
Approaches to Reduce Nutrient Loadings for Harmful Algal Blooms Management
This is the initial announcement of this funding opportunity
Funding Opportunity Number: EPA-G2020-STAR-A1
Catalog of Federal Domestic Assistance (CFDA) Number: 66.509
Solicitation Opening Date: October 25, 2019
Solicitation Closing Date: **December 10, 2019**: 11:59:59 pm Eastern Time

The Oregon Invasive Species Council is excited to announce that we are now accepting applications for a new Outreach & Education Grant program in 2020! Please see the announcement below and visit [https://www.oregoninvasivespeciescouncil.org/grants](https://www.oregoninvasivespeciescouncil.org/grants) for more information and to download the application packet. Grant TimeLine: Applications due: **January 30, 2020.** Awards announced: April 2020.

The Aquatic Plant Management Society is soliciting proposals for the 2020 Michael D. Netherland Graduate Student Research Grant (GSRG). This two-year, $40,000 grant is awarded biannually to provide for a full-time graduate student to conduct research in aquatic plant or algae management techniques, or in aquatic ecology related to the biology or management of

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regionally or nationally recognized nuisance aquatic vegetation (macrophytes, algae, or cyanobacteria). Please visit the APMS web site at www.apms.org for details about the Michael D. Netherland GSRG and for the 2020 GSRG Announcement. Please address all inquiries about the 2020 Grant to Dr. Ryan Thum, whose contact information is on the GSRG Announcement. Applications must be postmarked no later than April 17th, 2020.

FEDERAL/STATE/PROVINCIAL LEGISLATION, RULES, ACTIONS

State/Province

Michigan affirms offer to share Asian carp project costs (11/5/19)

Michigan says it remains willing to contribute $8 million toward initial stages of a project to prevent Asian carp from reaching the Great Lakes. Department of Natural Resources Director Dan Eichinger affirmed the commitment Tuesday in a letter to the U.S. Army Corps of Engineers. The funding would pay for preconstruction, engineering and design of a planned barrier system at the Brandon Road Lock and Dam near Joliet, Illinois.

Related: An $8 million question: Why won’t Illinois get serious about beating back Asian carp? (11/15/19)

Executive

Lawmakers ask President Trump for help with eliminating Asian carp (11/18/19)

Members of congress from seven Great Lakes states on Friday asked President Donald Trump to release a plan to slow the infiltration of Asian carp into the Great Lakes and nearby freshwater lakes and rivers. A draft report for fighting the invasive species at the Brandon Road Lock and Dam project near Joliet, Ill., was due to be released by the U.S. Army Corps of Engineers on February 28, but was delayed at the last hour at the direction of the Trump administration.

Divide: Federal agencies, advocates differ on Asian carp strategy (11/6/19)

It has been nine years since the possible presence of Asian carp past the electrical barriers designed to keep them out of Lake Michigan was first detected with environmental DNA—or eDNA —and experts and advocates remain divided on the best way to keep the carp at bay. That divide was on full display this week in Illinois when visiting journalists toured the front lines of the carp fight, getting a briefing on commercial fishing designed to remove carp from the path to Lake Michigan and an update on the effectiveness of the electrical barriers. Both are stopping the carp advance, according to representatives of the U.S. Geological Survey and the Army Corps of Engineers, Great Lakes Now reported earlier this week. But a Michigan Department of Natural Resources representative and two long-time Great Lakes environmental advocates painted a different picture in a separate briefing for the journalists.
Group Seeks Columbia River Treaty Funding For Aquatic Invasives (11/4/19)

Federal funds apportioned since 2015 to the four Northwest states to help keep quagga and zebra mussels out of the Columbia Basin are now at risk of being diluted, after Congress added four more basins spanning another 11 states, without increasing the total appropriation. The funding, from the Water Resources Reform and Development Act of 2014, has provided between $4 million and $6 million annually for setting up boat inspection stations, deploying mussel-sniffing dogs and launching public education campaigns. Matt Morrison, executive director of the Pacific NorthWest Economic Region, a statutory public-private nonprofit spanning five U.S. states and five Canadian provinces, told NW Fishletter that potential damage caused by invasive mussels to hydroelectric systems, recreation, irrigation and salmon recovery in the Columbia River is too great to continually fight for funding… Morrison said PNWER has asked lead negotiators in both Canada and the United States to consider adding a new provision to a renegotiated treaty. The idea, he said, is that before the two countries divvy up the benefits of the Columbia River's hydroelectric projects, a small portion of the net proceeds should be taken out to provide for a comprehensive prevention program—evenly divided between the U.S. and Canada--for aquatic invasive species prevention, with an emphasis on invasive mussels, he said. Prevention is less costly than dealing with established populations, he added.

Stakeholders express concerns about USCG VIDA draft policy letter (11/5/19)

The US Senate’s passage of the Vessel Incident Discharge Act (VIDA) was specifically designed to bring the US Coast Guard’s ballast water treatment technology type-approval process in line with that of IMO. In response, the USCG’s draft policy letter has effectively rejected the Senate directive, and industry stakeholders have now asked the USCG to reconsider its position…As part of VIDA, the USCG had 180 days to produce a draft policy letter (DPL) detailing how it would implement the requirements laid out in VIDA. Once the DPL was published, concerned stakeholders had 30 days to respond. The contents of the DPL took many stakeholders by surprise. Rather than agreeing to accept “best possible science” and implement MPN as used by IMO, the USCG took the stance that "the Coast Guard does not know of any type-approval testing protocols for BWMS that render non-viable organisms in ballast water that are based on best available science."

Congressional

An AIS federal legislative table is up on the web on the www.westernais.org website... go to https://www.westernais.org/regulations and scroll all the way to the bottom

Recovering America’s Wildlife Act Reaches 150 Co-Sponsors (11/13/19)

The Recovering America’s Wildlife Act, a bipartisan House bill aimed at addressing America’s growing wildlife crisis, now has 151 cosponsors. Since the bill was introduced in July, 113 Democrats and 38 Republicans have signed on. The bill would fund locally led, proactive efforts to help 12,000 species of concern identified by the state wildlife agencies. This figure includes the more than 1,600 U.S. species listed under the Endangered Species Act.
House Sub-Committee on Livestock and Foreign Agriculture holds: Hearing on Safeguarding American Agriculture from Wild, Invasive, and Non-Native Species (11/14)
Related: Chairman Costa’s Opening Statement

Harder Continues Nutria Fight as Washington Focuses on Impeachment (11/14/19)
Representative Josh Harder (CA-10) is educating his colleagues on the House Agriculture Committee on the devastating threat posed by swamp rats to Valley agriculture, environment, and infrastructure as the rest of the Washington establishment focuses on impeachment. During a hearing in the Livestock and Foreign Agriculture Subcommittee, Rep. Harder visually illustrated the exponential growth rate and cost of inaction in regard to the nutria – and compared it to another invasive species – the feral hog in the American South.

Budget and Appropriations

House, Senate reach deal on fiscal 2020 spending figures (11/23/19)
Top negotiators from the House and Senate have reached a long-stalled deal on top-line spending figures for the fiscal 2020 bills. House Appropriations Committee Chairwoman Nita Lowey (D-N.Y.) and Senate Appropriations Committee Chairman Richard Shelby (R-Ala.) have settled on 302(b)s, which set the top-line number for each of the 12 government funding bills, two sources familiar with the negotiations told The Hill…….. "The subcommittees are getting to work immediately in an effort to pass all 12 bills before the CR expires on Dec. 20," a source familiar with the talks added about the agreement.

And according to Greenwire (11/25/19):

Negotiators are close on spending for Interior-EPA, which could provide EPA its first notable boost in years. The House Interior-EPA proposal would provide $37.2 billion, while the Senate has backed $35.8 billion. Environmental riders remain an issue to be resolved. New riders proposed by House Democrats blocking regulatory rollbacks seem likely to fall out…..For Energy and Water, the House passed a $46.1 billion bill, while the Senate's version calls for $48.9 billion. The compromise is expected to contain more spending for clean energy research, a priority that has bipartisan support (Greenwire, Sept. 12)…….But policy provisions from past years could stay in, including provisions allowing biomass to be considered carbon neutral and limits on making the sage grouse an endangered species (E&E Daily, Nov. 19). Another complication toward any broad omnibus could be billions of dollars in spending sought by the White House for a wall along the U.S.-Mexico border. Negotiators, for now, have set that issue aside and will return to it when crafting bill details. E&E Daily [Source: Reprinted from Greenwire, 11/25/19, with permission from Environment & Energy Publishing, www.eenews.net; 202/628-6500].
December stopgap funding seems likely path forward for long-delayed appropriations (11/8/19)
Congressional leaders and the White House agree they’ll need another three or four weeks to wrap up negotiations on 12 annual spending bills and are likely to extend stopgap funding to Dec. 13 or Dec. 20, a decision that may finally propel the fiscal 2020 appropriations process forward.

Bill Addresses Imported Orchids, Invasive Pests (10/31/19)
The bipartisan FY 2020 appropriations package includes annual funding for the federal Departments of Commerce, Justice, Interior, Agriculture, Transportation, Housing and Urban Development, the Environmental Protection Agency, Food and Drug Administration and several others. The bill now moves to a conference committee to reconcile differences with the House-passed appropriations bills…The Hirono-Rubio amendment responds to concerns that Hawaiʻi and other agricultural producers have raised about the threat posed by microscopic pests hitching a ride on imported orchids in media to Hawaiʻi’s fragile ecosystems. This provision would, for the first time, require the collection of data from local orchid growers on a state-by-state basis to include incidences of pest detection on orchids imported in growing media. It also mandates an analysis of additional resources needed to prevent and mitigate the introduction of pests resulting from importing orchids in growing media.

TRAININGS, WEBINARS, CONFERENCES AND MEETINGS

Events: Archived Materials

For those of you who were unable to attend, the webinar was recorded and can be found on our website at: https://www.wildlifeforever.org/home/invasive-species/rapid-response-kit/

Webinar: A recording of the Invasive Mussel Collaborative webinar, Using eDNA As An Early Detection Tool For Invasive Mussels, is now available on the Invasive Mussel Collaborative’s website.

Feral Swine Summit Live Stream Link
To view the recorded version of the Feral Swine Summit, click on the following links:
- 01 Morning Keynote Session: https://youtu.be/DPb_hAtTVw0 [youtu.be]
- 02 Morning Panel Session: https://youtu.be/Bw4XR04W6Eg [youtu.be]
- 03 Afternoon Session: https://youtu.be/fmXbf7B9gu0 [youtu.be]
Events: Webinars, Trainings, Conferences and Meetings

Watercraft Inspection Training
The Pacific States Marine Fisheries Commission has added additional trainings to the WIT schedule:

**WIT II**
January 14-15, 2020  
February 11-12, 2020  
March 10-11, 2020

**WIT III**
January 28-30, 2020

**HOSTING OPPORTUNITIES**
If you would like to host a WIT training in 2020 there are some dates still available. Contact quaggadee@cox.net if interested in a WIT II/WIT III/Advanced Decontamination Training

April 7-8, 2020  
April 21-22, 2020  
May 5-6, 2020

For more information, go to website links or contact Quagga D @ (702)236-3814 or quaggadee@cox.net

December

**Quagga/Zebra Mussel Prevention Plan Webinar** The California Department of Fish and Wildlife, will be hosting a webinar on: Wednesday, December 4, 2019, 10:00 a.m. to 11:30 a.m. The California Department of Fish and Wildlife (CDFW) will describe what content is required in a Quagga/Zebra Mussel Prevention Plan, and what resources are available to those who manage waterbodies for recreation. The agenda is posted at the CDFW Quagga/Zebra Mussel Prevention Programs webpage.

The webinar will include:

- The Benefits of Prevention Planning  
- Code and Regulation Requirements  
- Preparing or Updating a Prevention Plan  
- Help From CDFW Regional Staff

**Innovations in Invasive Species Management Conference and Training.** December 10-12th, 2019. Coeur d’Alene, Idaho. The conference hosts people from throughout the US and World looking for new techniques and inspiration from successes to manage a wide range of invasive species. The 2019 innovations Conference is being hosted by the Pacific Northwest Invasive
Washington Invasive Species Council: December 19, 2019, Olympia, Natural Resources Building Room 172.

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2020

January

Idaho Invasive Species Council Meeting will be held January 17th, 2020 @ 9:00 AM MST:
The 2019 end of season council meeting date has been rescheduled due to an overwhelming amount of schedule conflicts with the previously proposed dates and the holiday season quickly approaching. The council meeting will be held Friday January 17th, 2020 in conjunction with several Idaho noxious weed meetings held in Boise earlier that week. Apologies for any inconvenience or travel issues this has caused. Please RSVP for either conference phone or in-person that way we can get a rough head count for attendance. nicholas.zurfluh@isda.idaho.gov

The next meeting of the 100th Meridian Initiative Columbia River Basin Team is scheduled for Wednesday and Thursday, January 22 & 23, 2019 at the Embassy Suites, Portland Airport. The next meeting of the 100th Meridian Initiative Columbia River Basin Team is scheduled for Wednesday and Thursday, January 22 & 23, 2019 in Portland, OR at the Embassy Suites Portland Airport. We anticipate starting at ~ 9 am on Wednesday 1/22/20 and ending Thursday ~ 3 pm on 1/23/20. On the morning of day one we will have a meeting of the CRB Dreissenid Monitoring Forum. Please contact Tim Counihan if you have questions on the monitoring forum (tcounihan@usgs.gov). REGISTRATION: Please register by going HERE for the Eventbrite registration page.

80th Midwest Fish & Wildlife Conference
Includes symposiums on Partnerships to Inform Aquatic invasive Species Management and Recent Advancements in Behavioral Guidance Technologies to Deter Invasive Carp

February

Columbia Gorge 9th annual Invasive Species and Exotic Pest Workshop
In partnership with USDA's Animal and Plant Health Inspection Service, Washington Invasive Species Council, Washington State University Extension, and Skamania County, the Columbia Gorge CWMA is proud to be co-hosting the ninth annual Invasive Species and Exotic Pest Workshop at the Hegewald Center on February 27th, 2020! Questions? Email the CWMA Coordinator directly at cumbriagorgecwma@gmail.com.
March

Mississippi River Basin Panel on Aquatic Nuisance Species Meeting  March 3-5, 2020; Cedar Creek, Texas. Location: The meeting and workshop will be held at the Lower Colorado River Authority, McKinney Roughs Nature Park, 1884 SH 71 West, Cedar Creek, Texas 78612 Lodging: A block of lodging rooms is being reserved in nearby Bastrop, TX. We will share reservation information as soon as it is available.

More information is forthcoming, but please save the date and mark your calendars for the USGS NAS town hall on eDNA - Monday, March 30, 2020 (time TBA).

May

The next meeting of the ANS Task Force will be hosted by the Northeast Regional Panel and is tentatively scheduled for the week of May 4, 2020.

July


August

2020 105th Ecological Society of America Annual Meeting

October


Happy Thanksgiving

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