



## ***AQUATIC INVASIVE SPECIES NEWS***

8/6/21

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### **SPOTLIGHT:**

[Scientists study the genetics of invasive mussels seeking ways to turn off the genes that allow them to spread and survive \(7/31/21\)](#)

Zebra and quagga mussels hitched a ride into the Great Lakes from Eastern European seas three decades ago, filtering and blanketing their way across much of the freshwater haven, settling down as far away as California.

The search for solutions involves weighing the effect a treatment is likely to have on the mussels with the effect it may have on everything else in an ecosystem. Chemicals have been proven to kill mussels but can also be toxic to native mussels — many of which are already threatened or endangered. Some control methods may work for clearing mussels from a fixed structure but struggle to stand up against the unpredictability of open water. Or else end up being prohibitively expensive.

Now scientists are studying methods of genetic control — an approach that could spare other organisms from becoming collateral damage and potentially solve the scale problem. “It could provide a way to do what we can’t do now, which is to treat an infested body of water,” said Scott Ballantyne, a biology professor at University of Wisconsin River Falls who is part of the team that started researching RNA interference and zebra mussels this year. “So that’s the hope.” RNA can act as a translator, helping convert the information stored in a cell’s DNA into proteins essential to the body’s function. RNAi — RNA interference — can essentially block that process and “turn off” a gene.

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## PUBLIC COMMENT

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### [Agencies Seek Public Input on Aquaculture Regulatory Efficiency and Science Planning Task Force draft strategic plans](#) [Notice](#)

NOAA Fisheries and U.S. Department of Agriculture's Agricultural Research Service (USDA-ARS) are providing notification, on behalf of the National Science and Technology Council's Subcommittee on Aquaculture, of a 45-day comment period for the two Regulatory Efficiency and Science Planning Task Force draft strategic plans: The Strategic Plan to Enhance Regulatory Efficiency and the Strategic Plan for Federal Aquaculture Research. The 45-day comment period for both plans is **open through September 18, 2021**. These two plans establish a road map for federal agencies to increase the overall effectiveness and productivity of federal aquaculture regulation, research, and technology transfer. The Federal Register notice can be viewed at <https://www.federalregister.gov/documents/2021/08/05/2021-16711/notice-for-comment-on-two-strategic-plans-for-the-subcommittee-on-aquaculture-science-planning-and>

## NEW SPECIES SIGHTINGS

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### **Want to get more new species alerts?**

USGS NAS: <https://nas.er.usgs.gov/AlertSystem/default.aspx>

IMAP INVASIVES: <https://www.imapinvasives.org>

### [DREISSENIDS](#)

[Minnesota]

#### [Zebra mussels confirmed in Cedar Lake in Aitkin County, St. James Mine Pit in St. Louis County \(7/22/21\)](#)

The Minnesota Department of Natural Resources has confirmed zebra mussels in Cedar Lake, near the city of Aitkin in Aitkin County, and in the St. James Mine Pit, in Aurora in St. Louis County.

DNR invasive species specialists followed up on a report from a Cedar Lake user who found and photographed one adult zebra mussel in a swimming area. Three additional adult zebra mussels were found in the same area.

#### [Zebra mussels confirmed in Locke Lake in Wright County \(7/22/21\)](#)

The Minnesota Department of Natural Resources has confirmed zebra mussels in Locke Lake, near Clearwater in Wright County.

DNR invasive species specialists followed up on a report from a lake property owner whose children found numerous zebra mussels attached to native mussels. The DNR confirmed more adult zebra mussels in the lake, indicating a reproducing population.

[Zebra mussels confirmed in Clitherall Lake in Otter Tail County, Eagle Lake and Turtle Lake in Becker County \(7/22/21\)](#)

The Minnesota Department of Natural Resources has confirmed zebra mussels in Clitherall Lake, near the city of Clitherall in Otter Tail County; Eagle Lake, near Frazee in Becker County; and Turtle Lake, near Lake Park in Becker County.

DNR invasive species specialists followed up on a report from a lake property owner who found an adult zebra mussel attached to a native mussel in Clitherall Lake. The DNR found three more adult zebra mussels in the lake, indicating a reproducing population.

**OTHER AIS**

[Kansas]

[Invasive rusty crayfish found in Kansas fishing lake \(7/21/21\)](#)

Kansas wildlife officials say invasive rusty crayfish have been found in McPherson State Fishing Lake. Related: [Wildlife and Parks' Emporia office to serve as collection point for investigation into Rusty Crayfish \(7/25/21\)](#)

[Minnesota]

[Starry stonewort confirmed in Leech Lake \(7/19/21\)](#)

The Minnesota Department of Natural Resources has confirmed the invasive algae starry stonewort in Leech Lake in Cass County. A company removing aquatic plants contacted the DNR when its staff suspected finding starry stonewort near Anderson's Cove Resort in Steamboat Bay. A DNR invasive species specialist confirmed starry stonewort throughout the marina, around and under docks and boats.

[Utah]

[\*Myriophyllum aquaticum\* \(parrot feather\)](#) was found in Mill Creek at Ben Franklin Park, Salt Lake County [[USGS NAS](#)] and in Blue Spring Creek at Tree Spring, Cache County [[USGS NAS](#)]

[Washington] [\*Chelydra serpentina\* \(Snapping Turtle\)](#) was found in a new County, Drainage South end of Lake Whatcom off Lake Whatcom Blvd and South Bay Road in Whatcom County [[USGS NAS](#)]

**WATCH LIST**

[Montana Wants Help From Public In Reporting Snapping Turtle Sightings West Of Divide \(5/20/21\)](#)

DFO wants people to report sightings of European Green Crabs in the Salish Sea. Sightings can be reported to [AISPACIFIC@dfo-mpo.gc.ca](mailto:AISPACIFIC@dfo-mpo.gc.ca)

## DREISSENIID MUSSELS

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### [\[Texas\] ‘They’re Definitely Taking Off’: LBJ Lake Locals Spend Summer Fighting Zebra Mussels \(8/3/21\)](#)

Daniel Linder, who has a waterfront home on Lake LBJ, tells MySA that invasive species clogged the filter on the pump’s intake valve that is about three feet underwater. He removed the valve on July 25, near the Sunrise Beach area in LBJ. “I’ve never seen him like this before,” he says. “We’ve been there a long time and we’ve never seen them before this summer. My neighbors tell the same story.”

### [An estimated 300 trillion invasive mussels blanket Lake Michigan. Eradication may be impossible, but small-scale removal efforts could be the answer. \(8/1/21\)](#)

Experiments are playing out in Lake Michigan with hopes of restoring fish spawning habitat. Manually removing mussels, with another invasive species offering an assist, has kept rocks clear. Other treatments from copper compounds to genetic biocontrol are in the mix as a collaborative dedicated to mussel control plans for the future... But, despite the improbability, if not impossibility, of large-scale mussel removal in Lake Michigan, Bootsma said it’s valid to ask: “Could we do it at scales large enough that there could be some positive impacts?”

### [\[British Columbia\] Volunteers sought to help monitor for invasive mussels. \(7/28/21\)](#)

The Okanagan and Similkameen Invasive Species Society (OASISS) is launching the second year of a citizen-science monitoring that involves community members in protecting Okanagan lakes from invasive zebra and quagga mussels..

### [Wyoming Game and Fish Department focuses on preventing invasive zebra and quagga mussels from reaching state’s waters \(7/25/21\)](#)

Staff at Wyoming’s Game and Fish Department are laser focused on preventing Zebra mussels and quagga mussels, two types of aquatic invasive species (AIS), from reaching Wyoming’s waters, where they are likely to quickly proliferate.

### [\[California\] County’s quagga mussel prevention program working \(7/20/21\)](#)

Without question the quagga mussel prevention program run by the county has been a huge success. Despite hundreds of boats visiting Clear Lake from all over the country the mussels have been kept out of Clear Lake and other lakes in Lake County. The county started its mussel prevention program in 2008 and at that time just about everyone predicted quagga mussels would be in Clear Lake within a few years. The program has been highly successful and there has not been a single quagga mussel found within the county’s lakes and waters to date. The county has several monitor locations around the lake and these locations are checked monthly.

### [\[Nebraska\] Clean, drain and dry to thwart zebra mussels \(7/14/21\)](#)

Boaters and anglers are encouraged to use the clean, drain and dry protocol on all boats before launching in another waterbody to prevent the spread of invasive mussels. These invasive mussels can be transported by life vests, paddles, ropes, minnow buckets or anything that has come in contact with the water. Zebra mussels are a real threat to Nebraska waters — as

responsible recreationalists and anglers, please do your part and help protect our precious Nebraska water systems.

## **BOAT INSPECTION/DECON/TECH NEWS**

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### [Montana grapples with record number of boats carrying invasive mussels \(7/15/21\)](#)

Montana has seen a surge this year in watercraft found carrying aquatic invasive mussels, setting a new record with nearly half of the main boating season to go.

Watercraft inspectors intercepted two infested boats last week, bringing the total for 2021 to 41. That already tops the previous record of 35 boats detected last year with inspection stations scheduled to remain open well into the fall.

### [\[California\] Shellfish-sniffing dogs to protect Lake Nacimiento from invasive species \(7/15/21\)](#)

Mussel-sniffing dogs will greet boaters at Lake Nacimiento on select weekends this month.

The canines will use their noses to inspect watercraft for invasive zebra and quagga mussels, which are small and difficult to see...

## **BALLAST WATER/BIOFOULING**

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### [Amid massive Florida fish kills, Texas monitors for red tide \(8/1/21\)](#)

...“If it were to happen, the likely mechanisms include the accidental release of ship ballast waters containing the red-tide organism and counter-currents moving in a westward direction,” Roelke said.

### [Coming soon – ballast efficacy tests \(7/27/21\)](#)

New ballast water management systems will need to be subjected to “biological efficacy tests” – basically, checking that they actually work – in addition to using type approved systems, under legislation coming into force over coming years.

### [ABS – advice on operating ballast water systems \(7/27/21\)](#)

William Burroughs, Senior Principal Engineer, ABS, gives some new advice on operating ballast water systems, including regulatory extensions, challenges with shipyards, where vessel operators have most problems, training recommendations, and preparation for equipment failures.

### [Deadly coral disease sweeping Caribbean linked to water from ships \(7/22/21\)](#)

A virulent and fast-moving coral disease that has swept through the Caribbean could be linked to waste or ballast water from ships, according to research.

The deadly infection, known as stony coral tissue loss disease (SCTLD), was first identified in Florida in 2014, and has since moved through the region, causing great concern among scientists.

## MARINE

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### [Most Invasive Marine Species Swim Under the Radar \(7/26/21\)](#)

Half of all invasive species in the ocean have only been studied once, and we only know about the potential impacts of one out of every 10.

Related: Watkins, HV, Yan, HF, Dunic, JC, Côté, IM. Research biases create overrepresented “poster children” of marine invasion ecology. Conservation Letters. 2021; 14:e12802.

<https://doi.org/10.1111/conl.12802>

### [Why the search for invasive crab species ‘matters to all of us’ \(7/18/21\)](#)

One small crustacean is costing New England shellfisheries millions of dollars. The European green crab might be small, but it can destroy vital habitats for animals all along the food chain. In July 2020, green crab were found in Haida Gwaii, the closest they’ve ever been to Alaska. With the help of volunteers, the Alaska Department of Fish and Game hopes to stay one step ahead of this invasive species... To check whether the crabs have made it this far north, the Alaska Department of Fish and Game has asked volunteer groups to set up traps all over Southeast. Rice is with the Alaska Sea Grant Marine Advisory Program and wanted to get involved. She and a group of high school students with the Petersburg Indian Association’s natural resource management program have set six traps at Sandy Beach and two at Hammer Slough.

## AQUACULTURE

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### [Anti-salmon farm activists reap fruit from falsehoods \(7/28/21\)](#)

A new poll reveals that the falsehoods about salmon farming, precipitated by well-funded campaigns to destroy BC’s most valuable seafood export, has taken hold in the province.

### [Nordic Aquafarms expects California RAS site preparation will cost USD 100 million \(7/27/21\)](#)

Nordic Aquafarms executives said they plan to spend an estimated USD 100 million (EUR 84.4 million) on site preparation at the planned location of a recirculating aquaculture system in Humboldt County, California, Lost Coast Outpost reported.

### [USC’s Sustainable Seaweed Aquaculture Lab Lands at AltaSea \(7/19/21\)](#)

AltaSea at the Port of Los Angeles has announced a new partnership with University of Southern California (USC) professor Dr. Sergey Nuzhdin of the Dornsife College, Biological Sciences Department, to establish an expansive seaweed lab – the Nuzhdin Research Laboratory – on the AltaSea campus. The 6,000 square foot lab will be the home to groundbreaking research on regenerative aquaculture as well as commercial application of new technologies in aquafarming.

### [Experts laud climate benefits of proposed US expansion offshore fish farming \(7/19/21\)](#)

Earlier this month, the American Fisheries Society and National Oceanic and Atmospheric Administration (NOAA) presented a congressional briefing on developing marine aquaculture to build climate resistance and climate-friendly food production. According to panelists, the world will need about 60 percent more food by the year 2050 in order to keep feeding a growing population, including 60 percent more animal protein by 2030.

Expansion of the aquaculture industry – and especially the offshore aquaculture sector – could be a significant step forward in addressing that global need, according to Jesse Trushenski, the chief science officer and vice president of animal welfare for Filer, Idaho, U.S.A., Riverence, the largest trout- farming company in the country.

### [\[Alaska\] CRRC assesses Prince William Sound for kelp farm potential \(7/16/21\)](#)

A tribal nonprofit with a mandate to protect the subsistence lifestyle through implementation of natural resource management is assessing Prince William Sound’s potential for kelp farming.

“We have seven test farm sites permitted and will be permitting two more soon,” said Willow Hetrick, executive director of the Chugach Regional Resources Commission. The sites are located near Cordova, Chenega and Tatitlek.

“The goal of the test farm sites is to understand the ecosystem, so we can have a good location for the Alaska Native community to enter into the kelp market,” she said. “The kelp nexus was natural to us as a food source for direct consumption and to provide economic opportunity for our communities. The Native Conservancy in Cordova is a partner in this grant, she said.

## FISH

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### [Traveler Special Report: The Unknown Cost Of Invasive Species In The National Park System \(7/21\)](#)

It probably seemed like a good thing at the time, introducing lake trout into Lewis and Shoshone lakes in Yellowstone National Park in 1890 to give anglers a bigger catch. But when the big lunkers were illegally deposited into nearby Yellowstone Lake sometime in the 1980s, the predator nearly devoured the native population of Yellowstone cutthroat trout, an iconic species in its own right as well as a key food source for grizzly bears, otters, and osprey, before its discovery in 1994.

“We thought we were doing a good job. But the reality is, we didn’t act aggressively or quickly enough. We almost lost a keystone species,” said Cam Sholly, Yellowstone's superintendent.

### [By any name, carp have taken a costly toll on U.S. waterways \(7/25/21\)](#)

Discussions surfaced this week about U.S. government agencies pushing to change the name of Asian carp to prevent the stigmatization of people from that continent. Regardless of what these invasive fish are called, the fact remains that the native range of all carp is indeed Asia, and they have taken a heavy toll on our waterways.

[Invasive Silver Carp Found in Texas Waters; Anglers Urged to Prevent Bait Bucket Transfers \(7/15/21\)](#)

The Texas Parks and Wildlife Department (TPWD) received a report in late June that an invasive silver carp had been spotted in Choctaw Creek, a Texas tributary of the Red River approximately 15 miles downstream from Lake Texoma. A bow angler, Stephen Banaszak, first reported the finding and two specimens were provided to TPWD and the U.S. Fish and Wildlife Service (USFWS) who confirmed they were silver carp. “These are the first reports of silver carp from Texas waters, although they have previously been found in other areas of the Red River including just downstream from Lake Texoma in Oklahoma waters in 2019,” said Dan Bennett, TPWD fisheries management biologist. “Invasive carp pose a significant risk to Lake Texoma’s ecosystem and boaters and there is adequate flow and upstream river area for them to become established and reproduce in the lake if introduced.”

## AQUATIC PLANTS

[\[Alabama\] Access to Big Creek Lake closed due to spread of invasive plant species \(7/26/21\)](#)

The Mobile Area Water and Sewer System closed recreation access to Big Creek Lake due to the spread of an invasive plant species. The lake is the main source of drinking water for Mobile and other surrounding areas. MAWSS said the plant found in the lake is Giant Salvinia. It is spread by wind and by boats moving from one body of water to the next.

The plant clusters near banks and shores and doubles in size every five to seven days. The mats of Giant Salvinia can kill aquatic life and native plants by cutting the lake's oxygen levels. The water company said it needs to close public access to the lake while it fights the invasive species.

[New Weapon In Fight Against Invasive Aquatic Weeds \(7/19/21\)](#)

A combination of artificial intelligence and scientific ingenuity looks set to be the next step forward in protecting Aotearoa New Zealand’s lakes and rivers from invasive aquatic weeds. Management and detection of invasive submerged weeds costs millions of dollars annually, but NIWA researchers have developed a way to detect and identify submerged weeds. This technology will enable agencies to survey far larger areas more efficiently than is currently possible, and potentially lead much faster responses to new incursions.

[Vegetation control set for invasive species located at Fort Peck Reservoir, Montana \(7/19/21\)](#)

The U.S. Army Corps of Engineers, Omaha District will conduct vegetation management activities beginning the week of August 8, 2021, on the Seven Blackfoot, Billy, Wilson, McCarty, Sheep, Short, Cart Trail, Armstrong and Doney drainages, as well as the shoreline between Seven Blackfoot and Billy drainage located at the Fort Peck Reservoir in Garfield and Phillips Counties, Montana.

## FRESHWATER

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### [2 aquatic invasive species found in Flaming Gorge Reservoir \(8/3/21\)](#)

The Wyoming Game and Fish Department has verified the presence of two aquatic invasive species in Flaming Gorge Reservoir — curly pondweed and New Zealand mudsnails. Both species of AIS have been found in Wyoming before, however this is the first time New Zealand mudsnails have been documented above the Flaming Gorge dam. Game and Fish AIS personnel were able to confirm the presence following tips from the public.

### [Anglers, boaters asked to protect Alaska waters from invasive species \(7/30/21\)](#)

As people get out on the water this season, the Alaska Department of Fish and Game (ADF&G) is asking boaters and anglers to combat the introduction and spread of invasive species.

### [New Zealand mudsnails discovered in southern Wisconsin streams; DNR urges people to prevent spread \(7/29/21\)](#)

The Wisconsin Department of Natural Resources (DNR) announced Thursday, July 29, recent monitoring of southern Wisconsin streams has uncovered two new populations of New Zealand mudsnails in Token and Elvers Creeks in Dane County.

According to a news release from the DNR, Water Action Volunteers from the Rock River Coalition discovered the mudsnails in Token Creek, a trout stream, headwater tributary to Lake Mendota and part of the Yahara Chain of Lakes. This is the first finding of New Zealand mudsnails in the Yahara River and Lake Mendota watershed.

Pukk, L., Kanefsky, J., Heathman, A. L., Weise, E. M., Nathan, L. R., Herbst, S. J., Sard, N. M., Scribner, K. T., & Robinson, J. D. (2021). eDNA metabarcoding in lakes to quantify influences of landscape features and human activity on aquatic invasive species prevalence and fish community diversity. *Diversity and Distributions*, 00, 1– 16. <https://doi.org/10.1111/ddi.13370>

## CLIMATE CHANGE

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### [Delta blues: why estuaries are the canaries in the climate crisis coalmine \(8/2/21\)](#)

...Estuaries are also especially prone to what Elliott calls a “triple whammy” of increased urbanisation and industrialisation, increased use of resources (space, fish, water etc), and decreased resistance and resilience to climate change.) ... Climate change and international shipping has also brought unwelcome visitors to the delta in the form of several invasive species. Among these are the voracious blue crab (*Callinectes sapidus*), a species native to the eastern US that has almost wiped-out native crabs.

[\[Minnesota\] Hot temperatures accelerating the spread of invasive species \(7/19/21\)](#)

The increase in warmth is accelerating the introduction and spread of invasive species. Laura Van Ripert is the Invasive Species coordinator with the Minnesota Department of Natural Resources. Van Ripert says as of 2019, they have evaluated 604 species, of which 333 have been found in Minnesota.

[\[Lake Tahoe\] Aquatic invasive species threats are on the rise \(7/15/21\)](#)

As scorching heat waves bombard the Western U.S. and Lake Tahoe breaks records of its own, climate change impacts are being felt throughout the watershed.

The Tahoe Regional Planning Agency and UC Davis Tahoe Environmental Research Center last week released a report of Tahoe's annual clarity measurements in which the effects of escalating temperatures were front and center. Lake clarity, a key indicator of the health of the watershed, averaged 62.9 feet in 2020, and while that is within the range of the last 10 years, the pattern of clarity readings show a troubling divergence in seasonal trends. Clarity is holding steady in colder months, but summer results are worsening... Tahoe's warming is also tightening the grip that aquatic invasive weeds have on some of Tahoe's shallow areas.

Suldovsky, B., Taylor-Rodríguez, D. Epistemic engagement: examining personal epistemology and engagement preferences with climate change in Oregon. *Climatic Change* 166, 48 (2021).  
<https://doi.org/10.1007/s10584-021-03138-5>

## OTHER

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[\[Washington\] In Our View: Invasive species imperil environment, economy \(8/4/21\)](#)

The discovery July 22 of eight pythons in Lacamas Park in Camas was what we in the news business call a “talker,” that is, a story that’s not necessarily important in the big scheme of things, but captures the public’s attention. Police suspect the reptiles — some of which were 6 feet long — were dumped by their owner. While it’s highly unlikely the snakes could have survived and thrived in Lacamas Park had they gone undetected, the incident does illustrate how easily such simple irresponsibility can introduce potentially devastating invasive species.

[Invasive Species Cost UK Economy Over £5 Billion Over Past 40-50 Years \(7/29/21\)](#)

Research led by Queen’s University Belfast has shown that invasive species, such as the grey squirrel, European rabbit and Japanese knotweed, have cost the UK economy over £5 billion over the past 40-50 years. This is one of the highest totals in Europe. Invasive species, those introduced and spreading outside of their native range as a result of human activities, are a growing threat to environments worldwide. Environmental impacts of invasive species, one of the main causes of biodiversity loss, are well-studied. However, few studies have summarised their economic impacts. This study is the largest and most up-to-date combination of economic costs of biological invasions in the UK. The results have been published in the journal [NeoBiota](#).

[Maui Invasive Species Committee continues to battle little fire ants in Waihee \(7/26/21\)](#)

The battle against little fire ants continues on Maui after more of the biting pests were believed to be found in Waihee, a remote area on the island’s northwest side, on Monday. “A week or two

weeks ago, we found a new hot spot. So, we're just trying to figure out if it's connected, or if some ants got swept downstream," said Mikiala Puaa-Freitas, a Waihee resident and member of Maui Invasive Species Committee. Little fire ants were first discovered in Maui in Waihee in 2009. Freitas found a separate location in Waihee in 2019 and called the Maui Invasive Species Committee. "They did a mass survey, and they were like, 'Oh, it's a lot bigger than we thought,'" Freitas said. "Boom, they had all hands on deck."

#### [Feral Hogs Pollute the Climate as Much as 1 Million Cars Each Year \(7/19/21\)](#)

Nearly two years ago, we all had a hearty laugh about 30 to 50 feral hogs. Turns out that all those pigs aren't just a horribly invasive species, but they could be wreaking real havoc when it comes to climate change. According to a [new study published Monday in Global Change Biology](#), wild pigs around the world are releasing the equivalent of 1.1 million cars' worth of carbon dioxide each year—just from digging around in the dirt.

#### [Large, Invasive Toxic Cane Toads Enjoy Summer Nights In South Florida & Threaten Your Pets \(7/16/21\)](#)

South Florida's recent heavy rain sets the perfect mood for giant toxic toads to breed. They're called Cane toads, or Bufo toads, and the invasive species can be deadly for cats and dogs. Cane toads are the largest toad breed in Florida. They come out at night during the summer and eat insects, other toads and frogs, protected bird species and even small native animals, according to experts.

And they can kill your beloved pets so don't let your dogs or cats near them.

#### [When resistance is futile, new paper advises "resisting, accepting or directing" \(RAD\) range of conservation options \(7/8/21\)](#)

Major ecosystem changes like sea-level rise, desertification and lake warming are fueling uncertainty about the future. Many initiatives - such as those fighting to fully eradicate non-native species, or to combat wildfires - focus on actively resisting change to preserve a slice of the past.

However, resisting ecosystem transformation is not always a feasible approach. According to a [new paper published today in the Ecological Society of America's journal Frontiers in Ecology and the Environment](#), accepting and directing ecosystem change are also viable responses, and should not necessarily be viewed as fallback options or as last resorts. The paper presents a set of guiding principles for applying a "RAD" strategy - a framework that involves either resisting, accepting or directing ecosystem changes.

Steele, Z.T., Pienaar, E.F. Knowledge, reason and emotion: using behavioral theories to understand people's support for invasive animal management. *Biol Invasions* (2021).  
<https://doi.org/10.1007/s10530-021-02594-5>

## OUTREACH AND EDUCATION

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### [Minnesota Aquatic Invasive Species Research Center launches spiny water flea campaign \(8/2/21\)](#)

This invasive species disrupts the natural food chain by devouring the micronutrients that sustain and grow native fish species, yet offer no nutritional value themselves. Once established in a lake there is no treatment, chemical or otherwise, that will eradicate them, a release said. As a result, the MAISRC has launched a campaign called Stop Spiny, which is aimed at educating Minnesotans about spiny water fleas, their spread and how to stop them.

Bruce Anspach, a Beltrami County aquatic invasive species lakes technician, is supporting the campaign and looking to educate those in Beltrami County about it.

"We're definitely behind the campaign and are trying to raise awareness among anglers and boaters," Anspach said in the release. "All our boat inspectors have handouts and other materials to distribute to people using public access ramps -- plus, we're running a short, informative video from MAISRC as a commercial on local cable channels to try and reach even more people."

## JOBS/GRANTS

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### [Montana State University](#)

A postdoctoral research opportunity is available at Montana State University to develop a scientifically rigorous monitoring program for Asian carp detection in Region 6 (Mountain-Prairie Region) of the US Fish and Wildlife Service using eDNA sampling. The program will be based at the USFWS Bozeman Fish Technology Center (BFTC). The successful candidate will work in close cooperation with Jeff Powell, Director of the Bozeman Fish Technology Center, and will be advised by Alexander Zale, Leader of the Montana Cooperative Fishery Research Unit at MSU.

**Deadline to apply – August 15, 2021.**

Full announcement: <https://wfscjobs.tamu.edu/jobs/postdoctoral-researcher-asian-carp-edna-detection-montana/>

### [University of Idaho Research Faculty -Extension Specialist in Aquaculture](#)

The University of Idaho seeks an exceptional candidate to fill a tenure track, fiscal year (12-month), research (45%) and extension (50%) program emphasizing freshwater aquaculture with a focus on water quality and other impacts on fish health and production in commercial aquaculture.

A scientist in this position has full access to the University of Idaho's Aquaculture Research Institute (ARI) with facilities in Hagerman, Idaho and on the campus of the University of Idaho. These outstanding facilities create unique opportunities to participate in regional, national, and international research in topics related to freshwater aquaculture. This position will serve the aquaculture industry of Idaho.

**Open Until Filled**

U.S. Fish and Wildlife Service - The USFWS Midwest Region 3 Green Bay WI, Carterville IL Fish & Wildlife Conservation Offices (FWCOs), and the Wilmington IL Sub-station are seeking

to fill three permanent Fish Biologist positions: GS-0482-09/11 (full performance level of GS-11). The positions may be filled at either the GS-09 or GS-11 grades. One position is located in each of the following: Carbondale IL, New Franken, WI, and Wilmington, IL. The duties at each location will provide support to one or more of the following program areas: Native Species Restoration, Aquatic Invasive Species Early Detection and Monitoring, or Partnerships and Aquatic Habitat Restoration. In addition each position will include some supervisory responsibilities.

The announcement numbers for these positions are R3-21-11189589-CU-DE (delegated examining unit) and R3-21-11189590-CU- (Merit Promotion). The links for the postings are below. **The vacancy announcements are open from August 2 - 16, 2021.**

R3-21-11189589-CU-DE - <https://www.usajobs.gov/GetJob/ViewDetails/609381200>

R3-21-11189590-CU-MP - <https://www.usajobs.gov/GetJob/ViewDetails/609381100>

[State Director, Department of the Interior, Bureau of Land Management](#)

**Closes 08/26/2021**

3 vacancies in the following locations: Boise, ID; Santa Fe, NM; Cheyenne, WY  
Department of the Interior structures its SES positions into categories to determine the minimum pay for each position. This is a Category 2 position. The minimum pay for this position is \$157,963. Pay is set based on consideration of the selectee's current salary and other factors. The State Directors will administer a broad and complex program of balanced land protection, utilization and development, both surface and subsurface. Additionally, the State Directors have the mineral leasing responsibility for those lands where the surface is managed by other Federal agencies, and the responsibility for all cadastral survey work in the state(s) administered.

## GRANTS

[NOAA Fisheries Announces the 2022 Saltonstall-Kennedy Grant Competition](#)

The goal of the Saltonstall-Kennedy Grant Program is to fund projects that address the needs of fishing communities, optimize economic benefits by building and maintaining sustainable fisheries, and increase other opportunities to keep working waterfronts viable. Aquaculture-focused projects are encouraged to apply. The FY22 solicitation seeks applications that fall into one of two priorities:

- Promotion, Development, and Marketing.
- Science or Technology that Promotes Sustainable U.S. Seafood Production and Harvesting.

This year's solicitation consists of two separate submission processes. All interested applicants must submit a 2 page pre-proposal through the Notice of Funding Opportunity (NOFO) posted at Grants.gov. Pre-proposals must be received at Grants.gov, postmarked, or provided to a delivery service by 11:59 pm, Eastern Time, **August 16, 2021**. Use of Grants.gov is preferred.

[AIS Inspection and Decontamination Services IDIQ](#) - Department of the Interior:

Bureau of Reclamation - Upper Colorado Regional Office **Closes August 23, 2021**

The objective of this Indefinite Delivery Indefinite Quantity (IDIQ) contract is to protect Bureau of Reclamation (Reclamation) reservoirs and water infrastructure in the Upper Colorado Basin

Region (UCB) from the introduction of Aquatic Invasive/Nuisance Species (AIS/ANS) through: (1) entry inspections of watercraft entering all boat ramps; (2) inspections of watercraft exiting boat ramps with AIS positive waters; (3) decontamination of watercraft defined as “high risk” (watercraft that have been exposed to AIS but may have not been adequately cleaned, drained, and dried); (4) public outreach about AIS to the boating public; and (5) coordination with local law enforcement entities, which have authorities for enforcing the State’s aquatic invasive or nuisance species laws and regulations for issuance and removal of red warning tags.

### [Scientists in Parks Internship Program - Natural Resource Stewardship](#)

Department of the Interior: National Park Service

The Scientists in Parks (SIP) Internship Program provides opportunities for college students, recent graduates, and early career professionals to complete paid internship projects designed to apply the best available science, resource management principles, and interpretation techniques to natural resource stewardship needs in national parks.

Posted Date: Jul 20, 2021

**Closing Date for Applications: Oct 01, 2021**

[Montana] [AIS Grant Cycle Open: DNRC and MISC will be accepting grant applications beginning August 1 to fund aquatic invasive species projects.](#)

NEW this cycle:

DNRC is transitioning from WebGrants to Submittables and this change will make it easier to complete and manage your application online. Grantees will be able to complete reports, send notifications, and track and edit submissions. Click here to create an account and here to watch a video on how to get started with Submittables.

MISC has established permanent dates for the annual AIS grant cycle.

Application cycle opens: August 1

**Application cycle closes: 1st Wednesday in November by 5 p.m. (11/3/21)**

AIS Grant Hearings: 2nd Wednesday in January (1/12/21)

Up to \$50,000 is available per project to Montana communities or local, state, tribal, or other entities within the state and to Montana-based non-governmental entities.

AIS grants are intended to increase local capacity and involvement to address AIS issues.

Projects that address the following AIS management components are eligible and include:

- Prevention
- Early detection
- Education and outreach
- Research
- Treatment

Current state-wide priorities that have been identified and vetted with former grantees and stakeholders for the upcoming AIS grant cycle include grants related to:

Monitoring / early detection projects to expand local capacity and involvement in multi-AIS taxa early detection efforts.

AIS outreach projects that expand AIS awareness at the local level.

AIS research projects including eDNA research related to dreissenid mussel early detection addressing eDNA Science Advisory Panel recommendations.

Locally-led proposals that address the state-wide priorities will receive ranking preference, however all eligible grant requests will be evaluated and considered.

**Applications are due Wednesday, November 5, 2021, by 5 pm.**

AIS Grant Program Guidelines and application instructions can be found [here](#).

Please contact Stephanie Criswell with any questions about the program, the grant and application, or for technical support.

[NOAA-NOS-NCCOS-2022-2006972](#)

[Understanding multi-stressor impacts on marine ecosystems under climate change](#)

Department of Commerce

**Closing Date for Applications: Jan 18, 2022**

The purpose of this document is to advise the public that NOAA/NOS/National Centers for Coastal Ocean Science (NCCOS)/Competitive Research Program (CRP) [formerly Center for Sponsored Coastal Ocean Research (CSCOR)/Coastal Ocean Program (COP)], the NOAA Climate Program Office (CPO), and the NOAA Ocean Acidification Program (OAP), in partnership with the NOAA Office of National Marine Sanctuaries (ONMS) and the NOAA Integrated Ocean Observing System (IOOS), are soliciting proposals to understand the combined impacts of multiple stressors on the function and health of marine ecosystems within the context of climate change. This information will be used to improve place-based management of marine protected areas and enable the proactive protection of these critical ecosystems under future climate scenarios. Climate change is exacerbating existing environmental stressors (e.g., hypoxia, harmful algal blooms, and ocean acidification) through changes to the fundamental drivers of ecosystems (e.g., temperature, precipitation, seasonal cycles, and biogeochemistry).

## FEDERAL/STATE/PROVINCIAL LEGISLATION, RULES, ACTIONS

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[State/Province](#)

[Judicial](#)

[Executive](#)

[Congressional](#)

['We want our fish to be wild': Alaska congressman floats new bill to block offshore aquaculture \(7/29/21\)](#)

Alaska's longtime Republican Congressman Don Young has yet again introduced the Keep Fin Fish Free Act, legislation prohibiting the Secretary of Interior and the Secretary of Commerce from authorizing commercial finfish aquaculture operations in the Federal Exclusive Economic Zone (EEZ) unless specifically authorized by Congress. Young said the state's residents are opposed to what he described as "hatchery fisheries" in the state. "We don't want that. We want

our fish to be wild," he said Thursday during a hearing held by the US House Subcommittee on Water, Oceans, and Wildlife.

[RAWA bill introduced in the U.S. Senate \(7/27/21\)](#)

Last week, Senators Martin Heinrich (D-NM) and Roy Blunt (R-MO) introduced the [Recovering America's Wildlife Act](#) [S. 2372] in the U.S. Senate. The landmark legislation would provide about \$1.4 billion annually to state, territorial and tribal wildlife agencies for the conservation of thousands of fish and wildlife species.

AIS Related language in the bill ([S. 2372](#)):

Title I—Wildlife Conservation And Restoration

Sec. 101. Wildlife Conservation And Restoration

(4) Use Of Funds.—Funds apportioned from the Subaccount—

(F) may be used to manage, control, and prevent invasive species, disease, and other risks to species of greatest conservation need; and

Title II—Tribal Wildlife Conservation And Restoration

(e) Use of Funds.—

(E) To manage, control, and prevent invasive species as well as diseases and other risks to wildlife.

**Note:** The House companion bill [H.R.2773](#), introduced 4/22/21, has 101 co-sponsors.

**Related:** [Fish and Wildlife Scientists Commend Introduction of Recovering America's Wildlife Act \(7/20/21\)](#) and [AFS: Recovering America's Wildlife Act - A significant, proactive conservation effort for imperiled species \(7/30/21\)](#)

[TWS renews position statements on energy and invasives \(7/22/21\)](#)

The Wildlife Society [Council](#) recently renewed and updated two position statements that were due to expire later this year. Revised position statements on [Energy Development and Wildlife](#) and [Invasive Species](#) were recently posted on The Wildlife Society's website.

[Archived Hearing: House Natural Resources Committee is tentatively scheduled to markup "Ocean-Based Climate Solutions Act of 2021", H.R. 3764 \(7/14/21\)](#)

On Wednesday, July 14, 2021, the House Natural Resources Committee is tentatively scheduled to mark up [H.R. 3764](#), the "Ocean-Based Climate Solutions Act of 2021", (Rep. Grijalva, D-Arizona), a bill to direct the Administrator of the National Oceanic and Atmospheric Administration to provide for ocean-based climate solutions to reduce carbon emissions and global warming; to make coastal communities more resilient; and to provide for the conservation and restoration of the ocean and coastal habitats, biodiversity, and marine mammal and fish populations; and for other purposes. It is unclear at this point whether other legislation will be considered at this markup.

**Note:** Invasive Species in [H.R. 3764](#), is as follows:

**Page 51: SEC. 302. CAUGHT IN THE USA.**

Section 2(c)(1) of the Act of August 11, 1939 (15 20 U.S.C. 713c-3(c)(1)) is amended to read as follows:

(1) The Secretary shall make grants from the fund established under subsection (b) to —

(A) assist persons in carrying out research and development projects addressed to any aspect of United States marine fisheries, including harvesting, processing, packaging, marketing, and associated infrastructures; or

(B) assist persons to market and promote the consumption of —

(i) local or domestic marine fishery products;

(ii) environmentally and climate-friendly marine fishery products that minimize and employ efforts to avoid bycatch and impacts on marine mammals;

(iii) invasive species;

(iv) well-managed but less known species; or

(v) plant-based feed for aquaculture operations.

**Page 200: SEC. 902. National Oceanic And Atmospheric Administration Research Programs.**

(K) evaluating potential outcomes associated with developing new commercial and recreational fishery resources, including aquaculture and targeting Invasive and Range-Expanding Species;

**Now What:** On 7/14/21, on a strictly partisan vote of 23 to 19, the panel advanced H.R. 3764.

[\\$1.2 trillion Infrastructure Investment and Jobs Act \(08/01/21\)](#)

A bipartisan group of senators on Sunday unveiled the finalized legislative text of a \$1.2 trillion, eight-year infrastructure [[H.R. 3684](#)]. The 2,702-page measure is substantially narrower than the multitrillion-dollar plan envisioned by President Biden earlier this year but includes a wide range of funding for roads, bridges, transit, broadband and water

Invasive species related sections are as follows:

**SEC. 11522. Invasive Plant Elimination Program.** (Federal Aid- Highways). \$50M per year for 5 years.

**SEC. 40804. Ecosystem restoration.-** Through the US Forest Service. \$200M (split between Interior & USDA) shall be made available for invasive species detection, prevention, and eradication, including conducting research and providing resources to facilitate detection of invasive species at points of entry and awarding grants for eradication of invasive species on non-Federal land and on Federal land.

**SEC. 40907. Multi-Benefit Projects To Improve Watershed Health.** BOR competitive grant program for accomplishing 1 or more of the following:

(1) Ecosystem benefits.

- (2) Restoration of native species.
- (3) Mitigation against the impacts of climate change to fish and wildlife habitats.
- (4) Protection against invasive species.
- (5) Restoration of aspects of the natural ecosystem.
- (6) Enhancement of commercial, recreational, subsistence, or Tribal ceremonial fishing.
- (7) Enhancement of river-based recreation.

## APPROPRIATIONS

### [House Passes Seven-Bill Appropriations Package \(7/29/21\)](#)

The House today passed, on a 219 to 208 vote, a package of seven 2022 appropriations bills. The legislation funds the Departments of Agriculture, Education, Energy, Health and Human Services, Housing and Urban Development, Interior, Labor, Transportation, Treasury, and Veterans Affairs, as well as The Judiciary, Army Corps of Engineers, Environmental Protection Agency, Food and Drug Administration, Small Business Administration, Social Security Administration, the Executive Office of the President and general government functions of the Executive Branch, military construction activities at the Department of Defense, and other independent agencies.

**Now What:** Despite House Democrats passing at least nine of the 12 annual appropriations bills before departing for the August recess, it appears likely we'll see a continuing resolution, which continues government funding at its current level, to avoid a government shutdown on Oct. 1.

**Related:** [McConnell lays out GOP demands for government-funding deal \(8/4/21\)](#)

### [FY22 Energy & Water Development Funding Bill Advanced by Full Committee \(8/4/21\)](#)

WASHINGTON, D.C. – The Senate Committee on Appropriations Committee today [approved](#) the Fiscal Year (FY) 2022 Energy and Water Development appropriations bill by a vote of 25-5. The legislation funds U.S. Department of Energy (DOE) programs, including national nuclear security and energy research and development, as well as important infrastructure projects administered by the Army Corps of Engineers and Bureau of Reclamation. The \$53.625 billion measure includes \$28.447 billion in defense spending, \$25.178 billion in non-defense spending, and \$450 million in emergency supplemental appropriations, and supports programs to advance American energy security and economic competitiveness.

[BILL HERE](#)

[REPORT HERE](#)

AIS Report language as follows:

**Page 9: Invasive Carp:** The Corps is undertaking multiple efforts to stop invasive carp from reaching the Great Lakes. These actions are critical to protecting the Great Lakes ecosystem and the \$7,000,000,000 recreational fishing and \$16,000,000,000 boating industries. Last year, the Corps sent Congress an approved Chief’s Report for a plan to build a comprehensive suite of measures to counter invasive carp at the Brandon Road Lock and Dam, a critical choke point to halt the spread of invasive species in the Illinois River. The Committee is encouraged to see funding is included in the fiscal year 2022 budget request to continue work on PED.

As the Corps prioritizes projects, it shall consider critical projects to prevent the spread of invasive species. The Corps is directed to provide quarterly updates to the Committee on the progress and status of efforts to prevent the further spread of invasive carp including the Brandon Road Recommended Plan and the second array at the Chicago Sanitary and Ship Canal; the location and density of carp populations; the use of emergency procedures previously authorized by the Congress; and the development, consideration, and implementation of new technological and structural countermeasures; and the progress on PED work.

The Corps shall continue to collaborate at levels commensurate with previous years with the U.S. Coast Guard, the U.S. Fish and Wildlife Service, the State of Illinois, and members of the Invasive Carp Regional Coordinating Committee, including identifying navigation protocols that would be beneficial or effective in reducing the risk of vessels inadvertently carrying aquatic invasive species, including invasive carp, through the Brandon Road Lock and Dam in Joliet, Illinois. Any findings of such an evaluation shall be included in the quarterly briefings to the Committees. The Corps is further directed to implement navigation protocols shown to be effective at reducing the risk of entrainment without jeopardizing the safety of vessels and crews. The Corps shall brief the Committee on such navigation protocols and potential solutions within 30 days of enactment of this act.

**Page 23: Aquatic Plant Control Program.** —Of the funding recommended for the Aquatic Plant Control Program, \$1,000,000 shall be for activities for monitoring, surveys, and control of flowering rush and hydrilla. Additionally, \$7,000,000 shall be for nationwide research and development to address invasive aquatic plants, within which the Corps is encouraged to support cost-shared aquatic plant management programs. Particularly, the Corps is encouraged to evaluate and address prevention, of new infestations of hydrilla in the Connecticut River Basin. Finally, \$15,000,000 shall be for watercraft inspection stations and rapid response as authorized in section 104 of the River and Harbor Act of 1958, equally distributed to carry out subsections (d)(1)(A)(i), (d)(1)(A)(ii), and (d)(1)(A)(iii), and \$3,000,000 shall be for related monitoring.

**Page 48: Aquatic Nuisance Control Research.** —Harmful Algal Blooms [HABs] continue to threaten local communities, ecosystems, human health, drinking water sources, and local outdoor economies across the Nation. These algae overgrowths produce dangerous toxins in fresh and marine waters that can sicken or kill people and animals, create dead zones, and raise treatment costs for drinking water. The devastating effects of HABs occur across multiple ecoregions from large freshwater lakes like the

Finger Lakes in New York and Lake Okeechobee in Florida to large inland water-ways like the Ohio River where a 2015 HAB event persisted for over a month involving over 700 miles of waterway. The Committee continues to support the Corps' efforts to address gaps in critical HAB research to avoid, detect, and address HAB occurrences. The additional funding recommended in the Aquatic Nuisance Control Research remaining item is to supplement and advance Corps activities to address HABs including: early detection, prevention, and management techniques and procedures to reduce the occurrence and impacts of harmful algal blooms in our nation's water resources; work with university partners to develop prediction, avoidance and remediation measures focused on environmental triggers in riverine ecosystems; and to advance state-of-the-art UAS based detection, monitoring, and mapping of invasive aquatic plant species in conjunction with University partners.

**Page 53: Additional Funding for Ongoing Work.** —The Committee cannot support a level of funding that does not fund operation and maintenance of our Nation's aging infrastructure sufficiently to ensure continued competitiveness in a global marketplace. Federal navigation channels maintained at only a fraction of authorized dimensions and navigation locks and hydropower facilities being used well beyond their design life results in economic inefficiencies and risks infrastructure failure, which can cause substantial economic losses. The Committee recommendation includes additional funds for projects and activities to enhance the Nation's economic growth and international competitiveness. Of the additional funds recommended in this account for other authorized project purposes, not less than \$2,000,000 shall be for efforts to combat invasive mussels at Corps-owned reservoirs.

An AIS federal legislative table is posted on the web on the [www.westernais.org](http://www.westernais.org) website. Go to <https://www.westernais.org/regulations> and scroll all the way to the bottom

## TRAININGS, WEBINARS, CONFERENCES AND MEETINGS

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### [Archived Materials](#)

The proceedings from the 2021 UERC symposium are now freely available to all via their website <https://www.uereportland.org/symposia>

### [Events: Webinars, Trainings, Conferences and Meetings](#)

## **Watercraft Inspection Training**

For more information go to <https://www.westernais.org/> (under the “Training” tab) or contact Quagga D @ (702)236-3814 or [quaggadee@cox.net](mailto:quaggadee@cox.net)

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*Because of continued concerns due to COVID-19 upcoming meetings and events listed below may be postponed, cancelled or converted to teleconferencing events. Please check directly with the organizers of these events for the most up-to-date information.*

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## 2021

### August

#### 2021 Summer Student Seminar Series

The U.S. Geological Survey's Nonindigenous Aquatic Species Database presents a seminar series focused on providing undergraduate students and early career scientists insight into federal career options as well as how various federal agencies work on invasive species issues nationwide. All seminars start at 3pm (Eastern)

- August 11 - Dr. Craig Martin (U.S. Fish and Wildlife Service)
- August 13 - Katie O'Donnell (U.S. Geological Survey)
- August 20 - Dr. Jacoby Carter (U.S. Geological Survey)

#### 2021 Pacific NorthWest Economic Region 30th Annual Summit

Date: Aug 15, 2021 to Aug 19, 2021

Venue: Big Sky Resort

Location: Big Sky, Montana

Notes: Rescheduled from 2020 to 2021

NAISMA Monthly Webinar:

#### August 18, 1 p.m. CT - Racial Equity & Environmentalism

Description: This presentation will provide the history of the construction of race, (a key component in driving these inequities), while also examining environmental policies that have had a layered impact on the environmental movement and contributed to the racial homogeneity we see today. The goal of this presentation is to help participants understand why these inequities exist and develop shared language for how to discuss these issues and interrogate the intricate relationship between race and institutional outcomes.

### September

#### Western Regional Panel on ANS

Update: Following the results of the attendance survey, the Executive Committee of the Western Regional Panel on ANS has voted to call off the in-person Salt Lake City WRP Annual Meeting and transition to an all-virtual annual meeting this fall. The WRP will continue to provide top-

notch virtual presentations that bring the latest in AIS information and research across the West. On top of this, there will be supplementary virtual social spaces to ensure that we are still making those important connections and fortifying a network of AIS professionals! September 14-18

NAISMA Monthly Webinars: September 15, 1 p.m. CT - [Flowering Rush Biology, Management, and Control](#)

[Northwest Regional Invasive Species and Climate Change \(NW RISCC\) Network Virtual Symposium Registration](#)

Join us for a convening of managers, scientists, and other practitioners to discuss the nexus of climate change, extreme events, and invasive species management in the Northwest region (e.g., Washington, Oregon, Idaho, British Columbia, and neighboring states and provinces).

The objectives of the symposium are to:

- (1) Build regional awareness of the Northwest Regional Invasive Species and Climate Change (NW RISCC) Network and its relationship and role to other invasive- and climate-related regional initiatives;
- (2) Facilitate dialogue between those working at the nexus of climate change, extreme events, and invasive species; and
- (3) Identify knowledge gaps and develop priorities for funding on-the-ground projects.

The symposium will take place from 9:00am-12:00pm PT on both September 15th & 16th.

[Minnesota Aquatic Invasive Species Research Center Showcase](#) September 22, 2021; St. Paul, Minnesota

[North American Invasive Species Management Association Annual Conference](#) September 27-30, 2021; Missoula, Montana (with online options) The only invasive species management conference to... Bridge geographic divides between West and East, North and South, land and water, Connect science to action through research, policy, and outreach initiatives and opportunities across North America. cohosted by Montana Invasive Species Council

## October

[Mississippi River Basin Panel Meeting](#) October 5-7, 2021; This year's coordination meeting will be held at Reelfoot Lake State Park near Tiptonville in northwest Tennessee. Location: Ellington Hall Auditorium, Reelfoot Lake State Park, 2595 Hwy 21 E Tiptonville, TN 38079

The Invasive Species Council of BC is pleased to host the [2021 Invasive Species Research Conference: Turning Science into Action](#) October 6-7, 2021

[World Fisheries Congress](#) 11-15 October, 2021 Adelaide, Australia

[Save the date: WALPA is heading to the Tri-Cities this fall!](#) WALPA is returning to the east side in 2021 to host its 34th annual conference in Richland from October 20-22. Please join us at the newly remodeled Holiday Inn Richland on the Columbia River. This year's theme, "It Takes a Village," was chosen to highlight collaborative efforts to understand, protect, and restore our

lakes. Stay tuned for the call for abstracts, registration, and hotel reservation information. We are looking forward to seeing you in Richland!

### November

[Alaska Invasive Species Workshop](#) November 3-4, 2021; Anchorage, Alaska and virtual

AFS has changed the dates for the 151st [AFS Annual Meeting](#) in Baltimore to November 6-10, 2021, from the original date of August 8-12. Please note that this is a Saturday to Wednesday meeting schedule rather than the traditional Sunday to Thursday. This change is being made with the desire to safely host an in-person meeting and to celebrate our 150th anniversary, albeit one year late. The meeting will also include remote participation options and AFS will transition to a full virtual option should the COVID-19 situation make that the appropriate and safe choice. New deadlines will be provided soon for symposium and abstract submissions. Please check the meeting website for updates.

Valuing Water: Economics, Ecology, & Culture 41st International Symposium of the [North American Lake Management Society](#) November 15–18, 2021 • Oklahoma City, Oklahoma

### [Innovations in Invasive Species Management Conference and Training](#)

We welcome everyone back to the Gaylord Opryland Resort and Convention Center in Nashville, TN for the 4th annual 2021 Innovations in Invasive Species Conference.  
When: November 29th through December 2nd, 2021

### December

[Northeast ANS Regional Panel Fall Meeting](#) December 3, 2021 and December 8, 2021;  
Virtual Meeting

2022

### February

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[2022 Midwest Fish and Wildlife Conference](#), February 13-16, Des Moines IA

### [National Invasive Species Awareness Week](#)

February 28, 2022 – March 4, 2022

### April

April 18-22 ICAIS Oostende Belgium: The [International Conference on Aquatic Invasive Species \(ICAIS\)](#) is the most comprehensive international forum to address new and emerging issues related to aquatic invasive species in freshwater, marine and estuarine environments. ICAIS provides an international platform for the presentation of aquatic invasive species research that pertains to species biology, risk assessment, prevention, management and control methods, ecological and ecosystem impacts and restoration, outreach and policy.

## May

Mark your calendars for the [Joint Aquatic Sciences Meeting](#) in Grand Rapids, Michigan, May 14-20, 2022. The meeting will be held at the DeVos Place convention center and it is organized by the Consortium of Aquatic Science Societies (CASS).

[11th International Conference on Marine Bioinvasions](#) May 15-19, 2022; Annapolis, Maryland

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