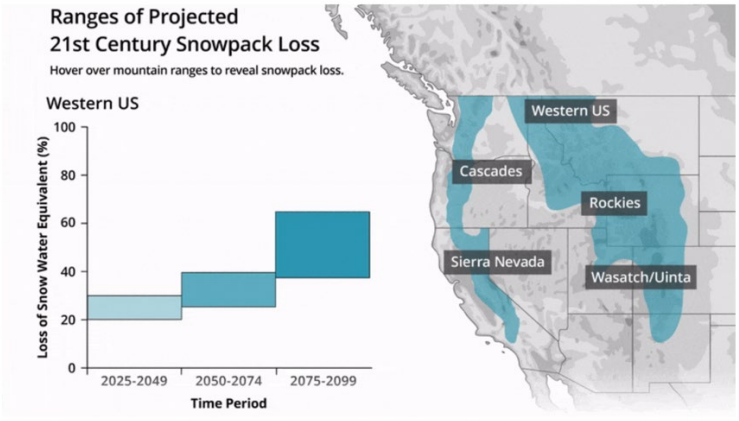
AQUATIC INVASIVE SPECIES NEWS

11/15/21

SPOTLIGHT:

Managing Western US Water Resources in a Low-to-No-Snow Future

With mountain snowpacks shrinking in the western US, new Berkeley Lab study analyzes when a low-to-no-snow future might arrive and implications for water management.



Mountain snowpacks around the world are on the decline, and if the planet continues to warm, climate models forecast that snowpacks could shrink dramatically and possibly even disappear altogether on certain mountains, including in the western United States, at some point in the next century. A new study led by researchers at Lawrence Berkeley National Laboratory (Berkeley Lab) analyzes the likely timing of a low-to-no-snow future, what it will mean for water management, and opportunities for investments now that could stave off catastrophic consequences.

Return to top

Their review paper, "A low-to-no-snow future and its impacts on water resources in the western United States," published in the journal Nature Reviews Earth and Environment, analyzes previous climate projections and finds that if greenhouse gas emissions continue along the high-emissions scenario, low-to-no-snow winters will become a regular occurrence in the western U.S. in 35 to 60 years. Further, the study re-evaluates longstanding assumptions in water management in the U.S. and stresses that scientists and water managers need to work together more closely to develop and implement climate adaptation strategies.

[cont.]

PUBLIC COMMENT

Request for Information on NOAA Actions To Advance the Goals and Recommendations in the Report on Conserving and Restoring America The Beautiful, Including Conserving At Least 30 Percent of U.S. Lands and Waters By 2030

On May 6, 2021, the U.S. Departments of the Interior, Agriculture, Commerce, and the White House Council on Environmental Quality released a preliminary report on Conserving and Restoring America the Beautiful (Report). The Report recommends a decade-long national initiative to advance locally led conservation and restoration in public, private, and tribal lands and waters toward addressing three threats: Disappearance of nature, climate change, and inequitable access to the outdoors. Guided by eight core principles and six focus areas for early action and progress in the Report, NOAA is seeking public input on how NOAA should, using its existing authorities and associated measures, conserve and restore America's ocean, coasts, and Great Lakes.

Interested persons are invited to submit comments on or before December 28, 2021.

NEW SPECIES SIGHTINGS

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 Lake Leven in Pope County (11/15/21)
The Minnesota Department of Natural Resources has confirmed a report of zebra mussels in Lake Leven, near the city of Villard in Pope County. A lake property owner contacted the DNR after their grandson found suspected zebra mussels on equipment being removed from the lake for the season. A DNR invasive species specialist found zebra mussels on the dock at the Lake Levin public water access, about 600 yards from the initial report location.
Zebra mussels confirmed in Henderson Lake in Kandiyohi County (11/15/21)

Return to top

The Minnesota Department of Natural Resources has confirmed a report of zebra mussels in Henderson Lake, near Spicer, in Kandiyohi County.
Lake property owners contacted the DNR after finding suspected zebra mussels on a sunken dock being removed from Henderson Lake. A DNR invasive species specialist confirmed the mussels were relatively large adult zebra mussels.
Zebra mussel confirmed in Waverly Lake in Wright County (11/15/21)
Connected Little Waverly Lake will also be listed
The Minnesota Department of Natural Resources has confirmed a report of a zebra mussel in Waverly Lake, in the city of Waverly, in Wright County. Little Waverly Lake, connected to Waverly Lake, will also be listed for zebra mussels.
The Waverly Lake Association contacted the DNR after a property owner found a suspected zebra mussel on a dock being removed from the water for the season. The DNR confirmed a one-half inch, juvenile zebra mussel.
Zebra mussels confirmed in Leek Lake and Trowbridge Lake in Otter Tail County (11/4/21)
The Minnesota Department of Natural Resources has confirmed the presence of zebra mussels in Leek Lake and Trowbridge Lake in Otter Tail County. Leek and Trowbridge are directly connected lakes. A lake property owner contacted the DNR after finding two suspected zebra mussels on irrigation equipment being removed for the season. A DNR invasive species specialist found adult zebra mussels attached to equipment in both lakes.

OTHER AIS

WATCH LIST

Washington State entomologists call for public help after possible spotted lanternfly detection (10/27/21)

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

[Washington] Authorities find Asian giant hornet in another invasive species trap near Blaine (11/2/21)
YouTube

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

[Canada] What the shell is out there? Columbia Shuswap Invasive Species Society wants help documenting what kinds of shells are out there.

Return to top

DREISSENID MUSSELS

[Ontario] Invasive species, climate change behind bird and fish die-offs: ecologist (11/9/21)
Experts have confirmed the recent bird and fish die-off that brought hundreds of carcasses to the shores of Wasaga Beach and area is likely botulism, and it likely has a lot to do with invasive species … The conditions of the die-offs over the last 10 years share commonalities: warm waters, filamentous algae growing and dying off on the rocks, and two invasive mussels. "There's a really interesting food chain connection to these bird die-offs," said Featherstone. "Botulinum and bacteria develop in the rotting algae, it's picked up in the food chain by filter feeders like the invasive Zebra and Quagga mussels and some native invertebrates."

Waller DL, Bartsch L, Bartsch MR, Meulemans M, Severson T, Zolper TJ (2021) Use of carbon dioxide to prevent zebra mussel (Dreissena polymorpha) settlement and effects on native mussels (Order Unionoida) and benthic communities. Management of Biological Invasions 12(4): 927–951, https://www.reabic.net/journals/mbi/2021/4/MBI_2021_Waller_etal.pdf

BOAT INSPECTION/DECON/TECH NEWS

The Uniform Minimum Protocols and Standards for Watercraft Inspection and Decontamination, 4th edition has just been released. This document can be easily found at www.westernais.org website (under Training -- Trainer Resources) for downloading. Click here to go directly to the document. If you have any questions about the document, please reach out to Leah Elwell (leah@stopais.org).

[Utah] More than 315K boats inspected for quagga mussels during 2021 boating season (11/10/21)
Officials with the Utah Division of Wildlife Resources inspected more than 315,000 boats for quagga mussels during the 2021 boating season. "Statewide, Aquatic Invasive Species technicians with the DWR, Utah State Parks, Arizona Game and Fish Department and the National Park Service have inspected 315,539 boats and performed 7,340 decontaminations since Jan. 1," said a news release from the DWR. "Of those total numbers, 85,113 of the boat inspections and 2,321 of the decontaminations took place at stations in the Lake Powell area. Lake Powell is currently the only Utah waterbody infested with invasive quagga mussels."

America Strong: Puddles the mussel-sniffing dog flags 35th boat in Washington contaminated by invasive species (11/2/21)
Puddles the invasive mussel-sniffing dog does it again! Puddles is the state's first-ever mussel detection dog. It's her job to sniff out invasive species, such as zebra and quagga mussels, before they enter Washington waters on incoming boats.
The Washington Department of Fish and Wildlife said Puddles successfully completed her mission last week when a yacht from Lake Huron stopped at the Spokane Aquatic Invasive Species Inspection station. Puddles alerted staff that she smelled something near the stern. That's where inspectors found invasive zebra mussels. At the same time, check station workers received

an alert that mussels were detected on the same boat when it was inspected at an Idaho check station.

Less watercraft, more zebra or quagga mussel fouled watercraft intercepted in 2021 (11/1/21)
Now that all Montana Department of Fish, Wildlife and Parks aquatic invasive species (AIS) inspection stations have closed, the FWP AIS Bureau will be able to get a final tally of inspection numbers for its annual report. The AIS Bureau and inspection partners, that includes the Flathead Nation, will meet in Helena Nov. 9 and 10 for its annual winter meeting to review the 2021 season and to lay plans for the 2022 season. The Ravalli AIS inspection station was the last one in the state to close on Oct. 16. This year the station intercepted a record number of five zebra and/or quagga mussel fouled watercraft. Also, this year a record number of AIS fouled watercraft were intercepted at the state inspection stations.

Haight, R.G., Kinsley, A.C., Kao, SY. et al. Optimizing the location of watercraft inspection stations to slow the spread of aquatic invasive species. Biol Invasions 23, 3907–3919 (2021). https://doi.org/10.1007/s10530-021-02620-6

BALLAST WATER/BIOFOULING

California adopts federal ballast water discharge standards (11/12/21)
Until technological advances enable compliance with California's stringent ballast water discharge performance standards, vessels discharging ballast water into Californian waters must use a ballast water treatment system that has been approved by the US Coast Guard.

Fernandes, L., Moura, L., de Castro, M.C.T. et al. Temporal trends of the bioinvasion risk through ballast water: a case study in the Maranhão harbor (Brazil). Biol Invasions 23, 3457–3469 (2021). https://doi.org/10.1007/s10530-021-02590-9 [$]

Kacimi A, Bouda A, Sievers M, Bensari B, Houma F, Nacef L, Bachari NEI (2021) Modeling the risk of introducing non-indigenous species through ship hull biofouling: case study of Arzew port (Algeria). Management of Biological Invasions 12(4): 1012–1036, https://doi.org/10.3391/mbi.2021.12.4.14

MARINE

Invasive lionfish detected in estuaries in the northern Gulf of Mexico using environmental DNA
Whitaker, J. M., Brower, A. L., & Janosik, A. M. (2021). Invasive lionfish detected in estuaries in the northern Gulf of Mexico using environmental DNA. Environmental Biology of Fishes, 1-11.

Huebner, T.S., Boyle, T.M. & Pfau, R.S. Population genetics of estuary and reservoir populations of Harris mud crabs, Rhithropanopeus harrisii, in Texas and Oklahoma. Biol Invasions 23, 3369–3382 (2021). https://doi.org/10.1007/s10530-021-02580-x [$]

Return to top

Prentice, M.B., Vye, S.R., Jenkins, S.R. et al. Genetic diversity and relatedness in aquaculture and marina populations of the invasive tunicate Didemnum vexillum in the British Isles. Biol Invasions 23, 3613–3624 (2021). https://doi.org/10.1007/s10530-021-02615-3

Chapman JW, Li J, McGowan MF, Breitenstein RA, Appy R, Hieb KA, Piotrowski CN, Elder LE (2021) A doubled down invasion of the northeast Pacific by the Asian mud shrimp, Upogebia major and its coevolved bopyrid isopod parasite, Orthione griffenis. Aquatic Invasions 16(4): 721–749, https://doi.org/10.3391/ai.2021.16.4.09

Costello MJ, Dekeyzer D, Galil BS, Hutchings P, Katsanevakis S, Pagad S, Robinson TB, Turon X, Vandepitte L, Vanhoorne B, Verfaille K, Willan RC, Rius M (2021) Introducing the World Register of Introduced Marine Species (WRiMS). Management of Biological Invasions 12(4): 792–811, https://www.reabic.net/journals/mbi/2021/4/MBI_2021_Costello_etal.pdf

AQUACULTURE

US Aquaculture Production to Grow 18% in 2021 as Consumers Return to Restaurants (11/12/21)

US aquaculture production is forecast to expand 5.7% annually in nominal terms through 2025, according to Aquaculture: United States, a report recently released by Freedonia Focus Reports. The largest driver of growth will be a rebound in seafood demand from restaurants after the COVID-19 pandemic suppressed eating away from home activity. Other trends supporting growth include continued expansion in the US population, rising disposable personal incomes, and continued consumer interest in seafood as a healthy alternate protein to red meat. Consumers will also continue turning to farmed seafood in response to concerns about overfishing of wild stocks. Ongoing adoption of recirculating aquaculture systems (RAS) and continued experimentation with aquaculture of different species will also help grow the industry.

America forges ahead with aquaculture while Canada dithers (11/2/21)

America is ramping up offshore aquaculture production with new legislation to increase the growth of sustainable seafood in its federal waters. A bipartisan bill – Advancing the Quality and Understanding of American Aquaculture (AQUAA) Act, – was recently introduced in the US Senate to create opportunities for new American jobs in a sector described as 'the most environmentally friendly means of protein production.'

> Related: NWAA Issues Statement on the AQUAA Act (11/9/21): Industry needs the right to farm, a guarantee of dedicated space in which to farm, and the authorization to do so.

Nordic Aquafarms to release draft EIR for onshore fish farm (11/12/21)

Nordic Aquafarms' draft environmental impact report (EIR) for its proposed onshore fish farm on the Samoa Peninsula will be released for a 60-day public comment period in December. During a virtual town hall discussion Wednesday evening, Marianne Naess, commercial director of the Norway-based seafood company, said Nordic Aquafarms agreed to pursue an EIR for the proposed project in May in response to calls for further environmental analysis.

Female aquapreneurs join unique innovation studio (11/10/21)
Ten female entrepreneurs have joined Hatch's inaugural Women in Aquaculture Innovation Studio, which was launched in partnership with Conservation International this month… Challenges associated with the increasing global population have made it more critical than ever for the aquaculture industry to be able to perform at its full potential. An increase in founder diversity is essential for shaping a sustainable future for the aquaculture industry. However, on the investment side, women-led businesses across all sectors in the US only received 2.3 percent of the country's VC funding in 2020 with similar trends have been observed in the UK. This lack of startup funding further affects gender equality in employment, as female founders hire more women on average.

Alaska Aquaculture Permitting Portal and Guidance Document Now Available (11/8/21)
Navigating the aquaculture leasing and permitting process in Alaska is a barrier to development. To reduce this barrier to sustainable aquaculture growth, we have produced a new permitting portal and guidance document to aid prospective and established farmers.
These processing barriers were identified by both the Alaska Mariculture Task Force and the NOAA Fisheries Alaska Mariculture Workshop Summary Report.

Blue Star Foods announces location of land-based RAS farm expansion (11/8/21)
Miami, Florida, U.S.A.-based Blue Star Foods announced on 8 November its subsidiary Taste of BC Aquafarms has chosen Deep Bay, British Columbia, Canada as the location for its new recirculating aquaculture system (RAS).
The announcement comes on the heels of the company closing a USD 4 million (EUR 3.4 million) public offering. The net proceeds of the offering, according to a Securities and Exchange Commission filing by Blue Star, were approximately USD 3.6 million (EUR 3.1 million) after deducting the underwriting discount, underwriters' fees and expenses, and the company's estimated offering expenses

Job losses mount over BC salmon farm closures (10/29/21)
Workers at Vancouver Island salmon hatchery among the first casualties of the Discovery Islands' decision, which is expected to kill 1,535 aquaculture-related jobs, mainly in BC's coastal and indigenous communities.

FISH

---

12 to 15 Million Invasive Carp Removed From Barkley and Kentucky Lakes
A whopping number of Asian carp have been removed from Lake Barkley and Kentucky Lake, both of which straddle the state line between Kentucky and Tennessee. Commercial fishermen in the state of Kentucky have caught approximately 12 to 15 million carp since 2018, Lyon County Judge-Executive Wade White told The News-Enterprise. White says the statistic was provided to him by the Kentucky Fish and Wildlife. The massive removal effort highlights both the scope of the invasive species problem—and the success of commercial eradication efforts to address it.

“The commercial fishermen have done a tremendous job,” said White, who’s pushing for more resources to be allocated towards commercial removal efforts. He’s also advocating for more commercial fish processors to use Asian carp to make products such as fish oil and fish meal. Related: Kentucky Official Seeks To End Experimental Carp Program (11/5/21)

Montana Lake study reveals how invasive species affect native food webs (11/4/21)
Now, thanks to a new collaborative study, there is greater insight into how invasive species progressively affect native food webs. The research was conducted by the University of Montana's Flathead Lake Biological Station, the U.S. Geological Survey and Montana Fish, Wildlife & Parks. " This study provides new details about how invasive lake trout affect entire lake food webs," said U.S. Fish and Wildlife fish biologist Charles Wainright, who recently completed his graduate student work at UM's biological station. "The findings will be important for conserving native species and ecosystems in Montana and elsewhere."

> Publication: Charles A. Wainright, Clint C. Muhlfeld, James J. Elser, Samuel L. Bourret, Shawn P. Devlin. Species invasion progressively disrupts the trophic structure of native food webs. Proceedings of the National Academy of Sciences, 2021; 118 (45): e2102179118 DOI: 10.1073/pnas.2102179118

DNR and partner agencies to continue innovative search for invasive carp (10/22/21)
Beginning Monday, Oct. 25, the Minnesota Department of Natural Resources will lead a second intensive invasive carp removal effort in Pool 8 of the Mississippi River near La Crosse, Wis. Thirty-four silver carp were captured in Pool 8 during the first interagency carp removal operation in April. The innovative Modified Unified Method (MUM) combines netting and herding techniques to drive and concentrate invasive carp from a large area of water into a small zone for removal. The DNR is conducting this work in partnership with the Wisconsin Department of Natural Resources, the U.S. Geological Survey (USGS) and the U.S. Fish and Wildlife Service.

Matthew L. Nobriga, Cyril J. Michel, Rachel C. Johnson, John D. Wikert. 2021. Coldwater fish in a warm water world: Implications for predation of salmon smolts during estuary transit. Ecology and Evolution. https://doi.org/10.1002/ece3.7840

Vallazza, J.M., Mosel, K.J., Reineke, D.M. et al. Timing and hydrological conditions associated with bigheaded carp movement past navigation dams on the upper Mississippi river. Biol Invasions 23, 3409–3425 (2021). https://doi.org/10.1007/s10530-021-02583-8 [$]

AQUATIC PLANTS

FWP to begin herbicide treatment project on Nilan Reservoir
Montana Fish, Wildlife & Parks will begin an herbicide treatment project on Nilan Reservoir on Nov. 10. FWP staff, in cooperation with the Department of Natural Resources and the Nilan Water Users Association, will treat a 1.15-acre area within a small bay of Nilan Reservoir with the aquatic herbicide fluoridone to eradicate Eurasian watermilfoil (EWM).

EWM is a highly invasive aquatic plant; this is the first detection of EWM in this basin. Montana has limited populations of EWM so management of it is important to prevent further spread into other nearby waters. The one-time treatment will not cause any major impacts to the physical environment or human environment. The reservoir is at historic low levels so the amount of water that will need to be treated is very limited.
A decision notice to proceed with the project was issued after a seven-day comment period during which eight comments were submitted. All respondents supported the project.

Disappearing Act: Biologists hopeful that research study will explain the absence of hydrilla on T-Bend, other Texas lakes (11/8/21)
Texas Parks and Wildlife Department fisheries scientists recently launched a pilot study at Toledo Bend Reservoir aimed at finding an explanation as to why hydrilla and other types of aquatic vegetation have not rebounded after vanishing from the Texas/Louisiana border lake roughly six years ago.

Critical juncture reached in fight with aquatic invasive weeds (Opinion) (10/29/21)
We are at a critical juncture in the ongoing fight against the aquatic invasive species that are threatening Lake Tahoe's shorelines.
The Tahoe Keys Property Owners Association has been fighting invasive weeds for four decades, and despite our efforts, the invasive weeds now cover over 85% of the lagoons. Complicating matters, a new species, curly leaf pondweed that was found in 2003, is establishing a foothold. This is significant, as curly leaf represents a greater threat to the lake, growing in colder, deeper water and reproducing aggressively. Now is the time to arrest the spread, and we must use all effective methods available.

Sleith, R.S., Karol, K.G. Global high-throughput genotyping of organellar genomes reveals insights into the origin and spread of invasive starry stonewort (Nitellopsis obtusa). Biol Invasions 23, 3471–3482 (2021). https://doi.org/10.1007/s10530-021-02591-8

FRESHWATER

Abdelrahman HA, Gibson RL, Fogelman KJ, Cupp AR, Allert AL, Stoeckel JA (2021) Evaluation of dissolved carbon dioxide to stimulate emergence of red swamp crayfish Procambarus clarkii (Decapoda: Cambaridae) from infested ponds. Management of Biological Invasions 12(4): 952–974, https://www.reabic.net/journals/mbi/2021/4/MBI_2021_Abdelrahman_etal.pdf

Kvistad JT, Galarowicz TL, Clapp DF, Chadderton WL, Tucker AJ, Herbert ME (2021) An evaluation of three trap designs for invasive rusty crayfish (Faxonius rusticus) suppression on critical fish spawning habitat in northern Lake Michigan. Management of Biological Invasions 12(4): 975–996, https://www.reabic.net/journals/mbi/2021/4/MBI_2021_Kvistad_etal.pdf

CLIMATE CHANGE

A southern Maine group hopes to get 10 million kids involved in climate change action (11/9/21)
Here in Maine, some students in York County aren't waiting for world leaders to act. Their own coastal field work has led to the creation of a national nonprofit. Its goal is to get 10 million youth involved on climate in the next four years… "The invasive species, green crab and shore crab, are a big danger to our ecosystem and our economy," says Connor Keefe, one of Melissa Luetje's students from the Gulf of Maine Field Studies class at Kennebunk High School.

The students are measuring the effect of the warming Gulf of Maine on populations of native species as well as invasive European green crabs and Asian shore crabs. The students carefully identify each crab, measure them, determine if they are soft- or hard-shell, and whether they have eggs. The students learn that European green crabs readily adapt to the warming Gulf waters, reproduce more often than native crabs and have no predators, so their populations have exploded.

COP26: climate change and its impact on invasive species (11/2/21)
Climate change reduces the resilience of natural habitats to these biological invasions. While, at the same time, making natural habitats, agricultural and urban areas less resilient to climate change. Invasive species already cause over US$1.4 trillion in damage each year – approximately 5% of the global economy – a figure that is likely to increase as the consequences of climate change become increasingly frequent and severe.
As such, invasive plants and pests are a major threat to food security, particularly for low to middle-income countries that lack the capacity to prevent or manage these invasions.
Water hyacinth and brown marmorated stink bug provide examples of how damaging invasive plants and insects can be to the environment and agriculture.

Puget Sound Report Shows Few Recovery Indicators Meeting Targets; Salmon, Orca Abundance Least Progress (11/4.21)
Puget Sound is not doing well, says the 2021 State of the Sound Report issued by the Puget Sound Partnership. After more than 10 years of reporting indicators and comparing them to ecosystem recovery targets for 2020, the PSP says patterns emerge:
— Few indicators reached their 2020 ecosystem recovery targets, signaling that ecosystem conditions are not good enough to say the system is resilient or recovered.
— We see the most progress for the habitat goal. Success arises in areas where decision-makers and land managers have direct influence on habitat outcomes, for example, restoring estuaries and floodplains or preventing conversion of ecologically sensitive lands. Many indicators in the habitat goal measure restoration and land conversion. Where our recovery community is involved, we see progress.
— We see the least progress in indicators affected by multiple factors (such as salmon and orca population abundance) and large-scale forces, such as climate change (which affects marine water quality), and where we rely on decisions made nationally or even globally to create positive change.

Tree-Killing Pests Across the United States Are Increasing the Threats of Climate Change (10/29/21)
Insects and diseases that are damaging and killing trees across the contiguous United States are reducing the ability of the nation's forests to capture and store climate-changing carbon dioxide, according to a new study.
The study – published in the journal Frontiers in Forests and Global Change – found that forests damaged by insects sequestered 69% less carbon than undamaged forests. Those affected by disease sequestered 28% less carbon. In total, the study found that the damage currently being caused by insects and diseases across the contiguous US is reducing the sequestration potential of America's forests by roughly 50 million tons of carbon dioxide each year – the equivalent of emissions from more than 10 million cars.

OTHER

Millions of huge invasive spiders from Asia take hold in Georgia: "Like a scene out of 'Arachnophobia'" (11/1/21)
A large spider native to East Asia has spun its thick, golden web on power lines, porches and vegetable patches all over north Georgia this year — a proliferation that has driven some unnerved homeowners indoors and prompted a flood of anxious social media posts.

Big, feral wild boars making a mess across B.C. (10/31/21)
Small populations of feral pigs are scattered across the province, including in the Thompson-Okanagan region, but the pigs themselves are not small and they are causing significant damage. These big pigs each weigh hundreds of pounds and can destroy the environment, wreck properties and transmit diseases, according to the Invasive Species Council of B.C. and that's why they're asking for help spotting them. "We do not want to be like Saskatchewan which has the highest densities of feral pigs in the country," Gail Wallin of the Invasive Species Council of B.C. said. "We need the public to be aware the pigs are out there and report sightings as early as possible so we can take action and take care of it before populations grow." The pigs cause habitat damage by foraging, rooting and trampling native flora and impacting water quality. They forage for invertebrates which also depletes the local ecosystem of vital decomposer populations. Feral pigs also compete with native wildlife for food.
Wallin said public education and awareness will help get new or previously unknown wild boar populations identified.

Spotted lanternfly suspected in Washington; 'could be one of most harmful pests in our generation (10/28/21)
An unconfirmed report of a spotted lanternfly in north-central Washington is solid enough for the state Department of Agriculture to ask the public to watch for the invasive pest. The lanternfly was reportedly photographed Oct. 20 near Omak in Okanogan County. The photo was initially submitted to the Washington Invasive Species Council. The agriculture department hesitates to declare the photo proof of the first-ever lanternfly detection in Washington. "If someone was able to collect a specimen it would be immensely helpful, but all we have now is an unconfirmed report," department spokeswoman Karla Salp said Thursday.

Maui crews are successfully eradicating invasive little fire ants — with aerial support (10/28/21)
The Maui Invasive Species Committee began a pilot project two years ago using helicopters to spray bait aimed at sterilizing ant queens and curbing the stinging pests. The spray combines food-grade ingredients and a growth regulator that acts like birth control for the queens. Fire ant coordinator Brooke Mahnken and education specialist Serena Fukushima said they were happy to share some good news — the project was able to continue throughout the pandemic. "We were able to continue pretty much uninterrupted. We did 13 treatments, roughly six weeks apart starting in October of 2019 all the way up to May of 2021," Mahnken said. "We needed to go out and conduct a survey to be able to assess how the treatments have been working — and that is no small feat."

OUTREACH AND EDUCATION

Canadian Council on Invasive Species / Invasive Species Council of British Columbia
The Canadian Council on Invasive Species (CCIS) and their partner and Chapter Network member, the Invasive Species Council of British Columbia (ISCBC), are pleased to announce the digital release of two new educational resources for youth. The resources, “Invasive Species on our Landscapes” and “Invasive Species in our Waters”, designed for children aged 6 to 12, feature engaging coloring activities and learning activities. “Invasive Species on our Landscapes” teaches children about PlayCleanGo, an initiative to stop the spread of invasive species by recreation enthusiasts in parks and natural areas. The second book, “Invasive Species in our Waters”, teaches about Clean Drain Dry and the simple actions everyone can take to prevent the spread of invasive aquatic species in waterways. These resources include information on what makes a species invasive, how to identify invasive species and what actions children can take to help build healthy habitats across Canada. Both books are available for free download on the CCIS and ISCBC websites.

Tam, C.K., Daniel, W.M., Campbell, E., English, J.J., and Soileau, S.C., 2021, U.S. Geological Survey invasive species research—Improving detection, awareness, decision support, and control: U.S. Geological Survey Circular 1485, 28 p., https://doi.org/10.3133/cir1485

Using Citizen Science Observations to Develop Managed Area Watch Lists
Young, B. E., Lee, M. T., Frey, M., Barnes, K., & Hopkins, P. (2021). Using Citizen Science Observations to Develop Managed Area Watch Lists. Natural Areas Journal, 41(4), 307-314.

Elizabeth Golebie, North Joffe-Nelson, Alison Siever, Greg Hitzroth, Amanda Huegelmann, & Carena J. van Riper. Addressing barriers to aquatic invasive species prevention behaviors among Illinois recreational water users. Research Report October 2021. Department of Natural Resources and Environmental Sciences University of Illinois at Urbana-Champaign and Illinois-Indiana Sea Grant

Schwoerer, T., Spellman, K. V., Davis, T. J., Lee, O., Martin, A., Mulder, C. P., ... & Winter, G. (2021). Harnessing the Power of Community Science to Address Data Gaps in Arctic Observing:

Invasive Species in Alaska as Case Examples. ARCTIC, 74(5). DOI: https://doi.org/10.14430/arctic73773

Morelli, T.L., Brown-Lima, C.J., Allen, J.M. et al. Translational invasion ecology: bridging research and practice to address one of the greatest threats to biodiversity. Biol Invasions 23, 3323–3335 (2021). https://doi.org/10.1007/s10530-021-02584-7

Steele, Z.T., Pienaar, E.F. Knowledge, reason and emotion: using behavioral theories to understand people's support for invasive animal management. Biol Invasions 23, 3513–3527 (2021). https://doi.org/10.1007/s10530-021-02594-5 [$]

Heckwolf, M.J., Morim, T., Riccioli, F. et al. Fresh start after rough rides: understanding patterns of genetic differentiation upon human-mediated translocations. Biol Invasions 23, 3625–3639 (2021). https://doi.org/10.1007/s10530-021-02605-5 [$]

JOBS/GRANTS

Aquatic Invasive Species (AIS) Specialist-Laramie, WY (ATAW99-2021-01998)
The Wyoming Game and Fish Department is seeking an AIS (Aquatic Invasive Species) Specialist based out of Laramie, WY. This 9-month position is responsible for implementing the state's aquatic invasive species program. The successful applicant will take primary responsibility for outreach, watercraft inspection, and monitoring in the Laramie region.
Closes: 11/29/2021 11:59 PM Mountain
ESSENTIAL FUNCTIONS: The listed functions are illustrative only and are not intended to describe every function which may be performed at the job level.

- Provide technical support and supervision to aquatic invasive species watercraft inspectors, including hiring, training, and scheduling.
- Provide outreach and education to the public on the Department's aquatic invasive species program.
- Oversee aquatic invasive species data entry and lead data analysis and report writing.
- Oversee the organization and maintenance of equipment, including decontamination units, vehicles, sampling gear, and tablets.
- Implement existing monitoring plans for the early detection of aquatic invasive species.
- Design and implement field studies to document the distribution and relative abundance of established populations of aquatic invasive species.
- Develop and implement plans to contain, control, or eliminate existing populations of aquatic invasive species.
- Sample regional waters for AIS using Department motorized watercraft.
- Assist with regional fish and wildlife education events.
- Assist with other fish and wildlife surveys.

The Delta Independent Science Board (Delta ISB) and California Sea Grant (CASG) are seeking two postdoctoral scholars to support the Delta ISB with its legislative mandate to provide oversight of the scientific research, monitoring, and assessment programs that support adaptive

management of Sacramento-San Joaquin Delta, which is part of the largest estuarine ecosystem on the west coast of North America and is the hub of California's extensive water supply system. The Delta ISB reviews "science programs" by topical or thematic areas. Reviews normally assess the state of the science topic in general and across the Delta and make recommendations to improve the science, fill gaps, integrate or explore new ideas. A fundamental responsibility of the postdoctoral scholars will be to work with the Delta ISB on these major reviews once potential topics are identified.
Potential topics include:

- Harmful algal blooms
- Rood webs
- Restoration
- Climate
- Subsidence reversal
- Ecosystem forecasting

The postdoctoral researchers will explore what science and syntheses have been done on the topic in the Delta and other regions, and the latest scientific approaches.
Application Deadline: **Applications will be reviewed starting on November 29, 2021, and will remain open until filled.**

EMPSi has **immediate openings for experienced project managers and resource specialists (e.g., hydrologists, geologists, biologists, cultural resource specialists)** with a proven track record for successfully completing EISs and EAs under NEPA. These positions are in awesome locations, including:

- Boise, Idaho
- Portland, Oregon
- Salt Lake City, Utah

We are also always looking for other talented, motivated individuals who would like to contribute and be part of an exceptional team. Please email us at jobs@empsi.com if you are interested in working at EMPSi.

NOAA-NOS-ONMS-2022-2007101 FY22 Dr. Nancy Foster Scholarship Program
Department of Commerce: **Closing Date for Applications: Dec 14, 2021**
The Dr. Nancy Foster Scholarship Program provides support for master's and doctoral degrees in oceanography, marine biology, maritime archaeology—these may include but are not limited to ocean and/or coastal: engineering, social science, marine education, marine stewardship, cultural anthropology, and resource management disciplines—and particularly encourages women and members of minority groups to apply.
General science priorities for the NOAA Office of National Marine Sanctuaries are stated below:
4) Studies focused on evaluating the condition of and impacts to living resources and ecosystems from local and regional pressures (e.g., extraction, sanctuary soundscapes and effects of ocean noise, invasive species, water quality and contamination, restoration technology and effectiveness, deep-sea habitat characterization and monitoring, connectivity);

New York State Department of Environmental Conservation
NYS DEC seeks to hire Aquatic Invasive Species Coordinators for Region 7 (Finger Lakes) and Region 9 (Buffalo) to collaborate with regional Partnerships for Invasive Species Management

- Extension Support Specialist II- Aquatic Invasive Species Coordinator Biological-Environmental Eng./NYS Water Resources Institute

GRANTS

Montana: Noxious Weed Trust Fund Grant Program is Now Accepting Applications –
Grant Applications Due January 6, 2022
The Montana Department of Agriculture (MDA) announces noxious weed grant funding is now available through the 2022 Noxious Trust Fund (NWTF) Grant Program.
Established by the 1985 Montana Legislature, the NWTF grants provide funding for noxious weed research projects, development projects, state and community education, and local cooperative - landowner cost share. Funding assistance is provided to counties, local communities, researchers, and educators to assist with their efforts to solve a variety of weed problems in Montana.
In 2021, over $2 million was awarded to organizations in 54 counties and seven tribal nations across Montana.
Applicants may apply for funding up to $75,000 per project through WebGrants - Montana Grants and Loans.

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).

Return to top

NMFS-Sea Grant Fellowship Call for Applications

The National Sea Grant College Program and the National Marine Fisheries Service (NMFS) support a Ph.D. graduate fellowship in two specific areas:

- Population and ecosystem dynamics
- Marine resource economics

The fellowships offered within this program are aimed at training the next generation of specialized experts in fisheries management.

Important Information:

Deadline: **Applications are due to California Sea Grant by January 27, 2022, 5 p.m. PST**

Funding Availability: $54,166 per year for up to three years

Anticipated start date: August 1, 2022, with projects to be completed by July 31, 2025

NOAA-NOS-NCCOS-2022-2007023

Harmful Algal Bloom Control Technologies Incubator

Department of Commerce

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)] is soliciting proposals from the Cooperative Ecosystems Studies Units (CESU) to implement a 5-year Harmful Algal Bloom (HAB) Control Technologies Incubator (HCTI) under the auspices of the NCCOS/CRP Prevention, Control and Mitigation of HAB Program (PCMHAB). This funding opportunity will provide support for one award to develop and administer a national program that accelerates the development and application of HAB control approaches. To accomplish this, the main objective of the HCTI will be to fund extramural proof of concept, innovative HAB control technology projects to assess their feasibility. Promising technologies will then be encouraged to apply to relevant future PCMHAB competitive funding announcements independent from the HCTI. In addition, the other objective of the HCTI will be to provide guidance to end users and stakeholders on navigating the relevant licensing and permitting processes (e.g., National Environmental Protection Act and Federal Insecticide, Fungicide, and Rodenticide Act requirements) relevant to the applicability of proven control methods during responses to ongoing HAB events. The proposals must address how the HCTI will accomplish these two objectives. This funding opportunity is intended to support the administration of the HCTI and is not intended to directly support individual research projects or short term activities on specific local coastal HAB issues. Funding is contingent upon the availability of Fiscal Year 2022 Federal appropriations. If funds become available for this program, one project for a HCTI will be funded for approximately $1.5M/year for 5 years, not to exceed $7.5M over that period. If successful, the selected project may receive an additional $7.5M for a second and final 5 year period of performance. It is anticipated that projects funded under this announcement will have a September 1, 2022 start date. **Current Closing Date for Applications: Jan 27, 2022**

FEDERAL/STATE/PROVINCIAL LEGISLATION, RULES, ACTIONS

Advocacy:

State/Province

Judicial

Executive

Congressional

The Association [of Fish and Wildlife Agencies] Applauds Passage of Bipartisan Infrastructure Package and Additional Conservation Funding (11/8/21)
The Association of Fish & Wildlife Agencies enthusiastically commends Congress for passing the bipartisan Infrastructure Investment and Jobs Act (HR 3684), which will support fish and wildlife resources and ecosystem resiliency while driving economic recovery and creating high quality jobs through new and reauthorized conservation programs. Last week Friday, November 5, 2021, the House passed the bill, sending this historic legislation to the President's desk for enactment.

Note: Abbreviated invasive species related bill language is 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.

[Note: Funded at $100,000,000]

Related: Biden signs $1 trillion infrastructure bill into law (11/15/21)

Bipartisan bill to stop spread of aquatic invasive species introduced in House (11/1/21)
Representatives John Garamendi (D-CA-03) and Mark Amodei (R-NV-03) introduced the "Stop Invasive Mussels Act" (H.R.5692), bipartisan legislation which would authorize federal land management agencies to take proven, commonsense measures to prevent the proliferation of invasive species in our nation's waterways, lakes, reservoirs, and aqueducts – a major priority for the recreational boating industry.

APPROPRIATIONS

Congress barrels toward end-of-year pileup (11/14/21)

The House and Senate return Monday and are scheduled to be in session for roughly two weeks before the end of 2021, setting up a legislative squeeze that is threatening to drive lawmaking deeper into the holiday season.

Social spending bill: House Democrats had hoped to pass the bill before the Veterans Day recess. Instead, helped by 13 Republicans, they passed the Senate's bipartisan infrastructure bill and punted the social spending bill to try to assuage moderates who want to see a Congressional Budget Office (CBO) analysis of the bill.

Government funding: Lawmakers have a matter of days to come up with an agreement to fund the government and avoid an early-December shutdown.

Debt ceiling: Congress passed a short-term debt hike earlier this year that congressional aides, citing Treasury estimates, predicted would keep the government solvent through roughly Dec. 3. But senators in both parties believe they have more time to pass another increase in the debt ceiling, with Senate Majority Whip Dick Durbin (D-Ill.) describing it as a "December problem."

Related: Biden spending bill to likely slip in Senate after House delay (11/14/21)

An AIS federal legislative table is posted on the web on the www.westernais.org website. Go to https://www.westernais.org/federal-provincial-regulations and see *AIS Legislative Tracker*

TRAININGS, WEBINARS, CONFERENCES AND MEETINGS

Archived Materials

Events: Webinars, Trainings, Conferences and Meetings

Watercraft Inspection Training

Level 1 Virtual Training - January 25–26, 2022 (2 days) 8am-noon PST; [Register Here]
Level 1 Virtual Training - February 22-23, 2022 (2 days) 8am-noon PST; [Register Here]
Level 1 Virtual Training - March 22-23, 2022 (2 days) 8am-noon PST; [Register Here]

Level 2 Virtual Training - January 25–27, 2022 (3 days) 8am-noon PST; [Register Here]
Level 2 Virtual Training - February 22-24, 2022 (3 days) 8am-noon PST; [Register Here]
Level 2 Virtual Training - March 22-24, 2022 (3 days) 8am-noon PST; [Register Here]
-
Level 3 Virtual Training - January 11-13, 2022 (3 days) 9am - 5pm PST; [Register Here]
Level 3 Virtual Training - February 8-10, 2022 8 am to 4 pm PST; [Register Here]
Level 3 Virtual Training - March 8-10, 2022 8 am to 4 pm PST; [Register Here]

For more information go to https://www.westernais.org/ (under the "Training" tab)
or contact
Quagga D @ (702)236-3814 or quaggadee@cox.net

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.

Return to top

DOI Invasive Species Training Opportunities Spreadsheet

2021

November

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

Aquatic Nuisance Species Task Force Meeting
November 16-18, 2021; Virtual Meeting

NAISMA Webinar: USGS and USFWS collaborative project to conduct a national horizon scan for organisms in trade - November 17, 2021 - 1 p.m. CT
The focus of this project is to conduct a global horizon scan to help identify alien vertebrate species within the Organisms in Trade Pathway at greatest risk of entering the country, establishing populations, and becoming invasive in the U.S. Our work will address arrival, establishment, and impact via consideration of propagule pressure, climatic similarity to occupied range, and prior invasion history of the focal species and its relatives, respectively.

You're Uninvited: Stopping the Spread of Invasive Species
November 18th 7pm EST Panel Discussion and Screening.
What would happen if wine, maple syrup, and apples disappeared from our tables? This is what's at stake with invasive species. Join us for a screening and panel discussion on 'Uninvited: The Spread of Invasive Species' released by the NYS Department of Environmental Conservation.
Register here

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

The next meeting of the Washington Invasive Species Council will be held on Thursday, December 9. The meeting will start at 9AM and run until 3PM.
The agenda for this meeting is now available online.

Return to top

Please note that this is an online meeting and you are encouraged to register in advance. Registration is available on Zoom.

Delta Invasive Species Symposium December 15, 2021
The bi-annual Symposium is a forum for Delta managers, researchers, and decision-makers to meet, share and synthesize information, and communicate best practices and lessons learned. This year's Symposium will focus on early detection and rapid response (EDRR) to invasive species. The virtual event will take place on December 15, 2021, from 9:00 a.m. thru 2:30 p.m. The Symposium will highlight EDRR lessons learned, current EDRR efforts across the Delta and beyond, and future challenges and solutions for EDRR work. The Symposium will consist of invited talks, a panel discussion, and an opportunity for participants to provide feedback on the draft Delta EDRR Framework being developed by the Delta Interagency Invasive Species Coordination (DIISC) Team. The Delta Interagency Invasive Species Coordination (DIISC) Team plans and facilitates the biannual Symposium.
Dec 15, 2021 09:00 AM in Pacific Time (US and Canada)

NAISMA Webinar December 15, 1 p.m. CT - Classical Biological Control of Weeds – About Misconceptions and Untapped Opportunities Presented by: Urs Schaffner, PhD Head Ecosystems Management, CABI

2022

January

The next meeting of the 100th Meridian Initiative Columbia River Basin AIS Team will be Tuesday, January 11 and Wednesday, January 12, 2022. Contact Paula Hotaling for further information @ PHotaling@psmfc.org. See https://www.westernais.org/coordination for past meeting minutes and presentations.

January 19, 1 p.m. CT - History and Effectiveness of Injurious Wildlife Listing under the "Lacey Act" Presented by: Susan Jewell Injurious Wildlife Listing Coordinator, U.S. Fish and Wildlife Service

February

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

---

TO UNSUBSCRIBE/SUBSCRIBE to the AIS NEWS email sphillips@psmfc.org . AIS NEWS was compiled by Robyn Draheim and Stephen Phillips. Past issues of AIS NEWS can be found @ https://www.westernais.org/outreach