



## *AQUATIC INVASIVE SPECIES NEWS*

12/21/21

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### **SPOTLIGHT:**

#### [These Texas State students repurpose invasive plants from the San Marcos River \(12/10/21\)](#)

Texas State University student Jamie Hand leans over the edge of her canoe and yanks out a thick, shiny-green plant from the bank of the San Marcos River.

From springtime to early fall, vast swaths of the river are chock-full of this multifaceted and trouble-making plant: the water hyacinth.

Here, it's an invasive species, crowding out native plants and disturbing the balance of the ecosystem. It multiplies quickly, creating a messy thicket of leaves that blocks sunlight — and ultimately oxygen — from getting into the cool water below.

"It's just like wine. One glass of wine is good, but two boxes of wine ain't going to make anything good," says Sanchul Hwang, an assistant professor of civil engineering at the Ingram School of Engineering.

In some places, the aquatic plant has a different reputation. When it's not busy overcrowding waterways, the plant can act as a natural water purifier, absorbing heavy metals and other pollutants through its roots. Some Asian countries are even cultivating it for this purpose, Hwang says.

"So that's the thing. Water hyacinth [are] actually good and beautiful," he says. "But when they grow a lot, that is [the] environmental disaster."

Hwang and his students have spent the last few months extracting and harvesting the water hyacinth as part of their work with HEDGE, a research team Hwang started that upcycles invasive species into sustainable and functional materials.

[\[Continue reading\]](#)

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## PUBLIC COMMENT

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### [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.****

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## 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](#)

### [OTHER AIS](#)

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[\[Michigan\] Dreaded didymo - or 'rock snot' - found in Upper Manistee River \(12/6/21\)](#)

The Michigan departments of Environment, Great Lakes, and Energy and Natural Resources confirmed a report of didymo, a nuisance freshwater alga, in a stretch of the Upper Manistee River in Kalkaska County. Also known as rock snot despite its coarse, woolly texture, didymo can grow into thick mats that cover the river bottom. [Related: [Editorial: Go overboard to prevent rock snot spread](#)]

### **WATCH LIST**

[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](mailto: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.](#)

## **DREISSENIID MUSSELS**

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LISTEN: [New 'Out West' episode analyzes the emergency response to moss balls and the spread of invasive zebra mussels in the West](#) The new episode of WGA's Out West podcast, Moss Balls and Emergency Invasive Species Responses, explores the collaborative efforts of western states and the U.S. Fish and Wildlife Service to address the recent discovery that Marimo moss balls, which are often used in aquariums and sold in pet stores nationwide, harbored invasive zebra mussels. Listen in as WGA policy advisor Laura Cutlip speaks with Brian Nesvik, the Director of Wyoming Game and Fish, Joshua Leonard, the Statewide Aquatic Invasive Species Coordinator for Wyoming Game and Fish, Justin Bush, the Executive Coordinator of the Washington Invasive Species Council, and Eric Anderson, the Captain of the Washington State Department of Fish and Wildlife, about the strategies they developed to meet this surprising threat and the importance of effective state-federal partnerships in the rapid response to invasive species management.

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

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[Canadian Science Advisory Secretariat National Capital Region Science Advisory Report: Science Advice On "Clean, Drain, Dry And Decontaminate" Treatments And Protocols To Prevent The Introduction And Spread Of Aquatic Invasive Species](#)

[Okanagan water briefs: B.C. invasive mussel protection efforts find traction \(12/4/21\)](#)

The public awareness messaging about defending against aquatic invasive mussel species entering B.C. lakes is making headway, says a ministry of environment official. Dave Webster, in charge of the mussel defence program for the B.C. Conservation Officer Service, says safety compliance appears to be increasing as public awareness continues to grow.

## BALLAST WATER/BIOFOULING

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### [Marine Safety Center issues Ballast Water Management System Type Approval Certificate to RWO GmbH \(12/16/21\)](#)

The Coast Guard Marine Safety Center issued the 46th U.S. Coast Guard Ballast Water Management System Type Approval Certificate to RWO GmbH after a detailed review of the manufacturer's type approval application determined the system met the requirements of 46 CFR 162.060. The treatment principle of the CleanBallast-Ocean Barrier System (CB-OBS) BWMS consists of filtration and electrochemical disinfection during ballasting and neutralization of residual active substances during deballasting. This approval covers 7 models with maximum treatment rated capacities between 500 m<sup>3</sup>/h and 3,000 m<sup>3</sup>/h.

### [Optimarin sees 'commercial rationale' to bring forward BWT retrofits \(12/14/21\)](#)

Many shipowners are making hay while the sun shines as high charter rates in some market segments have fuelled revenue – but they could reap trouble by delaying yard stays for ballast water treatment (BWT) system retrofits as the clock ticks on installation time, according to leading supplier Optimarin.

## MARINE

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### [Scientists see positive results from European green crab trapping in Drayton Harbor \(12/8/21\)](#)

Scientists are hailing this year a success for European green crab removal in Drayton Harbor, but say they need to keep up the work to manage the invasive species' numbers... This year, scientists added a trapping site at the mouth of Dakota Creek after catching an inordinate number of crabs there near the end of 2020. The scientists caught 43 crabs there this year, the most of any other trapping site, said Allie Simpson, ecosystem project coordinator at Northwest Straits Commission. The other traps monitored daily were at the old Cherry Street pier, where 21 crabs were found, and the mouth of California Creek, where five were found, she said.

## AQUACULTURE

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### [Ottawa to phase out fish farms in B.C.'s Discovery Islands by July 2022 \(12/17/21\)](#)

19 fish farms are being issued licences that expire in 2022 and the federal fisheries minister says they won't be renewed.

### [Study finds aquaculture production vulnerable to climate change \(12/16/21\)](#)

Unchecked global warming could reduce global aquaculture production by as much as 16 percent by 2090, a new [study](#) from the University of British Columbia Institute for the Oceans and Fisheries shows.

#### [Cooke Aquaculture gets improved sustainability rating, but groups dispute findings \(12/11/21\)](#)

Cooke Aquaculture salmon farms in Nova Scotia received an upgraded sustainability rating in an international assessment, but three environmental groups are wary of the findings. California-based Seafood Watch said it's recognizing reduced use of pesticides, low levels of sea lice and few escapes in Nova Scotia over the past five years, especially when compared to other provinces. The assessment was part of a Seafood Watch report released this week evaluating salmon farming production areas around the world.

#### [A Second Court Rejects Cooke Aquaculture's Challenge Over Termination Of Port Angeles Net Pen Lease \(12/8/21\)](#)

In another legal defeat for Cooke Aquaculture, a second Washington state court has rejected efforts by the seafood giant to sue Washington state over the termination of the company's lease for their Port Angeles net pen operation. On Tuesday, the Court of Appeals issued an opinion affirming a lower court ruling upholding the Department of Natural Resources' (DNR) decision to terminate the lease.

#### [Can algal engineering help to tackle sea lice? \(12/7/21\)](#)

A Scottish startup has received £125,000 from the Seafood Innovation Fund (SIF) to explore the benefits of using natural kelp structures as hides for cleaner fish on salmon farms... A previous feasibility study with Scottish Sea Farms, combined with international research, showed that the introduction of natural kelp on salmon farms can have medicinal properties and a calming effect on cleaner fish, boosting their ability to eat sea lice off the salmon.

#### [Kelp farming could become an aquaculture mainstay for Alaska \(12/6/21\)](#)

"The knowledge of working in the ocean is already there, so it's a matter of transferring the skills to seaweed farming," said Schery Umanzor, a Juneau-based assistant professor at the University of Alaska Fairbanks College of Fisheries and Ocean Sciences. Because some kelp species grow mostly during the winter months, Alaska's coastal residents have started to supplement their income by farming them. The markets for seaweeds such as kelp are still developing, but sales of this fast-growing renewable resource have burgeoned.

#### [Major land-based aquaculture projects near beginning of construction in Maine \(12/3/21\)](#)

Fredrikstad, Norway-based Nordic Aquafarms won a key legal victory in November 2021 and, in August 2021, it obtained the last permit it needed to begin construction on its land-based salmon farm in Belfast, Maine, U.S.A., where it hopes to grow up to 33,000 metric tons (MT) of salmon annually.

#### [Fish farm firm Cermaq Canada fined \\$500,000 for B.C. diesel spill \(12/3/21\)](#)

A fish farming company has been fined \$500,000 for a spill that sent more than 500 litres of diesel pouring into the waters near Campbell River, B.C. A provincial court judge handed down the sentence to Cermaq Canada on Tuesday, following the company's guilty plea to a charge under the Fisheries Act of unlawfully depositing a deleterious substance into Raleigh Passage.

### [Anti-salmon farm activists trample on First Nations' rights \(12/1/21\)](#)

Anti-aquaculture activists in British Columbia are calling on the federal and provincial governments to ignore the indigenous rights of First Nations who want new and continued salmon farming operations in their traditional territories. Some 20 BC First Nations have partnership agreements for farming salmon in their territories resulting in 80% of all salmon farmed in BC falling under a beneficial partnership with a First Nation. But the activists want these agreements torn up and all pending and future salmon farm tenure applications, made in tandem with the BC First Nations, ignored.

## FISH

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### [Robotic fish scares invasive species so badly that it cannot breed \(12/16/21\)](#)

... The researchers say that after these robot attacks, the eastern mosquitofish exhibited weight loss, changes in body shape and a reduction in fertility, which they believe would lead to reduced numbers. Male fish began to develop thinner and more streamlined bodies with stronger tail muscles to escape predators, while females produced lighter eggs. These effects lasted several weeks even without subsequent attacks...

### [Shockingly Large Goldfish Pulled From Lake Ontario \(12/7/21\)](#)

Canadian wildlife officials reported a haul of absolutely massive goldfish last week from Hamilton Harbour, a bay on the western tip of Lake Ontario. The jumbo-sized catches came as part of a research project that uses acoustic transmitter tags to track the movements of goldfish, which are a relative of the common carp. Water managers hope the research project will provide them with information that could help them control the remarkably invasive species.

### [Fish 'fences' could slow Asian Carp invasion \(12/17/21\)](#)

The Tennessee Valley Authority is joining in the battle to halt the invasion of Asian Carp into Kentucky waters, as they issued a report on Friday recommending barriers be installed at seven locks and dams along the Tennessee River.

### [The shad hoard: Is the proliferation of a nonnative fish in the Columbia River harming native salmon? \(12/16/21\)](#)

On any given day at Bonneville Dam on the Columbia River, the most common fish fighting its way up the dam's fish ladders is a silvery member of the herring family. In fact, during some years nonnative shad, which were first introduced to the West Coast in the 1880s, make up more than 90% of recorded upstream migrants, [according to an Independent Scientific Advisory Board report to the Northwest Power and Conservation Council published in November.](#)

## AQUATIC PLANTS

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### [UWO ecologist studying invasive 'rock snot' algae near Lake Superior shore \(12/2/21\)](#)

A biology professor at the University of Wisconsin Oshkosh is part of a team of researchers studying the aquatic phenomenon sometimes referred to as “rock snot.”

Robert Pillsbury, an aquatic ecologist, has spent several years monitoring algae in and around Minnesota’s north shore of Lake Superior. More specifically, he’s been keeping an eye on an invasive type of algae called *Didymosphenia geminata*. Also known as Didymo or rock snot, *Didymosphenia geminata* has been labeled a “well-behaved” alga in Lake Superior for decades, but in 2018 the Minnesota Department of Natural Resources found it for the first time in a north shore stream in Lutsen, Minnesota.

## FRESHWATER

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### [Invasive crabs in Connecticut damaging property, native species \(12/19/21\)](#)

The state of Connecticut is sounding an alarm about invasive crabs that have the potential to ravage native habitat. An Asian delicacy that can fetch up to \$50 each in the U.S., the omnivorous and aggressive mitten crab can wreak havoc on trout and other native fish that the state is striving to restore, the Department of Energy and Environmental Protection warned. So far, evidence shows the crabs likely are not numerous in Connecticut. David Molnar, a marine fisheries biologist with DEEP, said 31 have been captured in an area stretching from the Mianus River in Greenwich to New Haven, but most have been caught at the mouth of the Housatonic River. When abundant, as they are in areas of Europe, the crabs undermine dykes and riverbanks with their burrows, ravage native fish eggs, clog pumps and intake pipes, damage fishing equipment and out-compete native species for food and habitat.

Barely related mitten crab humor: [Family finds unusual use for a mitten crab](#)

### [\\$14.7 million in funding announced to fight invasive species in Alberta mountain parks \(12/4/21\)](#)

Steven Guilbeault, federal minister of environment and climate change, announced \$14.7 million in funding to fight invasive aquatic species in Alberta and B.C.'s national parks Saturday.

The money will be spent over five years on conservation projects in Banff, Jasper, Kootenay, Waterton Lakes and Yoho national parks.

"Aquatic invasive species are a very concerning issue, certainly here in the region as they are in many parts of Canada," said Guilbeault during a visit to Cascade Ponds in Banff National Park.

"This money will help increase surveillance and monitoring and try to ensure that we limit, if not stop entirely, the spread of these invasive species."

## CLIMATE CHANGE

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[\[Listen\] Climate change is forcing species from their habitats. Does that make them invasive? \(12/19/21\)](#)

[Unprecedented die-offs, melting ice: Climate change is wreaking havoc in the Arctic and beyond \(12/17/21\)](#)

KODIAK ISLAND, Alaska — Forces profound and alarming are reshaping the upper reaches of the North Pacific and Arctic oceans, breaking the food chain that supports billions of creatures and one of the world's most important fisheries.

[Will Shad Become the Northwest's Premier Fish? \(11/28/21\)](#)

A warming climate favors the non-native species in the Columbia River system. Could American shad, a large member of the herring family, worsen the decline of salmon and eventually displace salmon as the region's iconic fish? That's the startling possibility posed in a [recent report](#) from the Council's independent scientists presented at the Council's November meeting.

[Retreating glaciers could create new salmon habitat, B.C. study shows \(12/7/21\)](#)

The retreat of glaciers in the Pacific mountains of British Columbia and Alaska could produce thousands of kilometres of potential new salmon habitat, a study led by researchers at Simon Fraser University shows.

[The study](#), published Tuesday in Nature Communications, projects that more than 6,000 kilometres of new streams could be accessible to salmon by 2100, and just under one-third of that could be suitable for spawning.

[Beetles have more sex when it's hot — and it's killing pine trees in California, study finds \(12/2/21\)](#)

... The deadly domino effect led to a nearly 30% increase in pine tree death during the state's five-year drought, thanks to the high temperatures that sped the beetles' life cycle by about a half generation, according to a [study](#) published Oct. 28 in the journal Global Change Biology involving several research institutions in North Carolina, California, New Mexico, Utah and elsewhere.

## OTHER

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[Pacific Islands Marine Bioinvasions Alert Network \(PacMAN\) Project Officially Launches](#)

The Pacific Islands Marine Bioinvasions Alert Network (PacMAN) Project, which aims to monitor and identify marine biological invasive alien species, was officially inaugurated on November 24 in collaboration with the Institute of Applied Sciences at The University of the South Pacific (USP-IAS).

USP-IAS Acting Director, Dr Isoa Korovulavula stated it was a significant occasion as they moved collaboratively to a new "frontier" of protecting the local marine environment from invasive species. "The PacMAN Project is expected to boost local capability for early identification and warning of maritime invasive alien species. We are using revolutionary



technology, such as DNA metabarcoding, to identify and deal with marine invasive alien species in our local marine environment," he explained.

#### [Highly invasive bird spotted on Maui \(12/9/21\)](#)

Public's help sought in stopping red-vented bulbuls from spreading across island

#### [\[Canada\] Wild Pigs on the Prairies: Researchers Document Exponential Increase \(12/8/21\)](#)

"What we have seen on the Prairies in the last 10 years is this absolutely exponential increase in the number of wild pigs," said Brook, who joined the University of Saskatchewan (USask) in 2010, and is one of the few researchers in the country actively tracking the unchecked growth of this destructive and elusive invasive species. "Let's be clear, wild pigs on the Canadian Prairies are expanding completely out of control, and you can quote me on that."

#### [Tourists are bringing invasive species to the world's largest remaining wilderness \(12/11/21\)](#)

With the closest continent more than 700 miles away, it's easy to think of Antarctica as an isolated, virtually untouched region. But it's busier than most would imagine, and increased visitation there is also bringing new species, threatening the native ecosystem.

The southernmost continent on the globe, Antarctica is a frozen landmass encircled by the strongest ocean current on the planet. It's virtually uninhabited, save for a few unique lifeforms that have evolved to cope with its harsh climate. But global warming is changing that climate rapidly.

#### [Taiwan is racing to contain a cane toad invasion \(12/6/21\)](#)

The infamous cane toad — feared for its toxicity and rapid proliferation — is rattling Taiwanese environmentalists and officials rushing to contain a sudden surge of the invasive amphibian. The rotund toads are indigenous to South and Central America. But they've become a scourge of countries including Australia and the Philippines, as well as U.S. states such as Florida and Hawaii, where for decades they have encroached on local ecosystems.

#### [Invasive grasses are taking over the American West's sea of sagebrush \(12/6/21\)](#)

Unfortunately for those animals and the crowded-out native plants, cheatgrass and several other invasive annual grasses now dominate one-fifth of the Great Basin, a wide swath of land that includes portions of Oregon, Nevada, Idaho, Utah and California. In 2020, these invasive grasses covered more than 77,000 square kilometers of Great Basin ecosystems, including higher elevation habitats that are now accessible to nonnative plants due to climate change, researchers report November 17 in *Diversity and Distributions*.

## OUTREACH AND EDUCATION

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Robertson, P. A., Mill, A. C., Adriaens, T., Moore, N., Vanderhoeven, S., Essl, F., & Booy, O. (2021). [Risk Management Assessment Improves the Cost-Effectiveness of Invasive Species Prioritisation](#). *Biology*, 10(12), 1320.

Jubase, N., Shackleton, R. T., & Measey, J. (2021). [Public Awareness and Perceptions of Invasive Alien Species in Small Towns](#). *Biology*, 10(12), 1322.

## JOBS/GRANTS

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### **Washington: Natural Resource Worker 2 - Aquatic Invasive Species Inspector - 3 Openings - Non-Perm - \*14183-21**

[Three \(3\) Openings: Non-Permanent. Natural Resource Worker 2 - Aquatic Invasive Species \(Ais\) Inspector](#)

Enforcement Program; Pasco, Washington – Franklin County - **Closes 12/30/2021 11:59 PM Pacific**; Anticipated Appointment Length: 11.5 Months. January 3, 2022 – December 15, 2022. In this role, you will inspect boats and educate boaters as they enter the State of Washington.

**[British Columbia]** [EKISC is hiring a Field Operations Manager](#)

The Field Operations Manager will play a key role in overseeing EKISC's Field Operations program, with a focus on work plan development, contract management, treatment monitoring, data management, and delegation of duties to EKISC staff and sub-contractors.

The ideal candidate will have strong administration and communication skills; experience coordinating field programs and managing sub-contractors; proficiency with GIS and database management; ability to work independently at a home office and in the field; and general knowledge of the East Kootenay Region and invasive species management in British Columbia. Location: Home office based anywhere within Regional District of East Kootenay. Hours: Full time (35 hours/week); Term: Permanent position; Closing Date: 3:00 pm MST, January 17th, 2022. See full job posting and application requirements here: [ekisc.com/employment](http://ekisc.com/employment)

**Oregon Metro:** [Native Plant Materials Scientist position](#). **Applications are due by January 5, 2022 at 5:00 pm.**

[The Coastal Oregon Marine Experiment Station \(COMES\) at Oregon State University invites applications for a tenure-track Assistant Professor in Marine Fisheries.](#) The successful candidate will develop and maintain an externally funded program conducting original and independent research and training in marine fisheries science, especially as related to the commercially exploited fish resources of Oregon and the Pacific Northwest. This person will be an Oregon State University professor who devotes 50% of their time to Oregon Department of Fish and Wildlife-related work and direct assistance to the agency. This position is also expected to contribute to the teaching mission of the Department of Fisheries, Wildlife, and Conservation Sciences. As a member of COMES, the successful candidate will be expected to work closely with coastal communities and with federal, state, and private organizations in support of the

COMES mission to “understand, utilize, and sustain marine resources and coastal ecosystems in order to benefit the citizens of Oregon, the Pacific Northwest, the Nation, and the World.” The candidate will be expected to demonstrate a commitment to diversity, equity, and inclusion through annually reviewed activities and trainings. Please direct questions to Dr. Will White at [will.white@oregonstate.edu](mailto:will.white@oregonstate.edu) Full information and application details at <https://jobs.oregonstate.edu/postings/110683>  
**Apply by 1/15/2022 for full consideration.**

### [Vertebrate Pest Management Advisor Applied Research and Extension](#)

Location Headquarters: Napa County

Serving Napa, Lake, and Solano Counties, California

**PURPOSE:** The Vertebrate Pest Management Advisor will implement an innovative extension education and applied research program to address high priority needs and problems related to vertebrate pest impacts in annual and perennial crops.

The advisor will be anticipated to work as a generalist with the ability to bring solutions for the broad variety of vertebrate pests impacting crops and production systems.

The Advisor will complement the existing Pest Vertebrate CE Specialist and Wildlife and Human Conflicts Advisor in the ANR network. Accordingly, the advisor will work closely with UC ANR Wildlife and Pest Program Team, UC ANR IPM program, and specific annual and perennial crop work groups and program teams.

This is an exciting opportunity to develop and deliver relevant program content to have meaningful impacts in local communities and throughout California.

Opportunities abound for extension and research partnerships that link growers and their associations, Pest Control Advisers, and ANR horticulture, pomology, specialty crops, and viticulture academics to help overcome the lack of expertise in vertebrate pest management in agricultural production systems. The advisor will also join a team of highly motivated UCCE colleagues who are passionate about their work, and are dedicated to making a difference within the communities and throughout California. The potential for collaborative projects within the UC ANR system is nearly limitless.

**HOW TO APPLY:** If interested in this position, please review further details regarding major duties/responsibilities and qualifications at <https://ucanr.edu/about/jobs/>. To apply for this position, please visit: <https://recruit.ucanr.edu/> and choose “applicants” (refer to position #21-41). To assure full consideration, **application packets must be received by January 21, 2022; open until filled.**

### [Wildlife Technicians. UW-Madison Sierra Nevada, California, United States](#)

Up to ten field technicians are needed to undertake field work for bioacoustics research projects throughout National Forests in the Sierra Nevada region in California. This monitoring program uses autonomous recording units (ARUs) to survey for avifauna and provide information for several research and management programs studying forest owls and songbirds.

This multi-year research project focuses largely on the distribution of California spotted owls and the invasive barred owl, in order to provide information vital to the successful management of both species at broad spatial scales in the Sierra Nevada. Additional research is being conducted on the distributions of forest owls and songbirds across the range.

Start and end dates for this position are dependent on snowpack, but the season will likely run mid-April to late-July. Target start date of April 18, with the end date in mid-late July. Pay is

\$16-\$18/hour depending on experience, plus per diem (up to \$200/week) when fieldwork requires overnight camping.

[Now accepting applications: 2023 John A. Knauss Marine Policy Fellowship Program](#)

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

## GRANTS

[Request for Proposals: Priority Invasive Weed and Vegetation Management](#)

The [Oregon] Clackamas Soil and Water Conservation District (CSWCD) is looking for qualified contractors to perform invasive weed control and restoration planting on multiple project sites within Clackamas County. Categories of work may include: Manual Site Preparation and Maintenance; Mechanical Site Preparation and Maintenance; Planting; Survey and Monitoring; Aquatic Site Preparation, Maintenance, and Survey and Monitoring; Project Management.

All documents that support this announcement are posted on the Clackamas Soil and Water Conservation District website (<https://conservationdistrict.org/2021/request-for-proposals-priority-invasive-weed-and-vegetation-management-2021.html>) These documents include:

Request for Proposals

Appendix 1: Sample Contract (including insurance requirements)

o Exhibit 1: Scope of Work

- Attachment A: Proposal Forms
- Attachment B: Indemnity Agreement for Third Party Contractors

Proposals must be submitted to the Clackamas Soil and Water Conservation District by email to the following address and with the provided subject line.

To: [procurement@conservationdistrict.org](mailto:procurement@conservationdistrict.org)

Subject: RFP #2021-WW-01

Questions or comments should be submitted during business hours Monday through Friday 8:00am-4:30pm to:

Samuel Leininger, WeedWise Program Manager

Clackamas Soil & Water Conservation District

ATTN: RFP #2021-WW-01

22055 S Beaver Creek Rd. Suite 1

Beaver Creek, OR 97004

Email: [sleininger@conservationdistrict.org](mailto:sleininger@conservationdistrict.org) Phone: 503-210-6006

PROPOSALS ARE DUE NO LATER THAN 12:00 NOON, **MONDAY JANUARY 3, 2022.**

[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).

### [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**

#### [National Fish and Wildlife Foundation Emergency Coastal Resilience Fund 2021 Request for Proposals \(RFP\) Released](#)

NFWF's funding comes directly from the Extending Government Funding and Delivering Emergency Assistance Act, (PL 117-43) to support projects that increase the resilience of wildlife habitat and coastal communities impacted by hurricanes and wildfires in 2020 and 2021. Under the same authorities as NFWF's National Coastal Resilience Fund, NFWF will award approximately \$24 million in grants through this RFP for practices that help restore wetlands, build living shorelines, improve hydrologic flow, reduce hazardous fuels, and generally enhance natural systems. The Request for Proposals is officially launched November 17, 2021 and **will close on February 3, 2022**, when the Full Proposals are due. Due to the emergency nature of these funds, a non-federal match is not required. The RFP can be found here:

<https://www.nfwf.org/coastalresilience/emergency/Pages/home.aspx>

You can find additional application instructions on the webpage in the "Tip Sheet."

#### SAVE-THE-DATE GRANT ANNOUNCEMENT

California State Parks Division of Boating and Waterways (DBW) expects to open the application window for the 2022 [Quagga and Zebra Mussel Infestation Prevention Program Grant Cycle in March 2022](#), subject to available funds.

Minimum Eligibility Requirements:

1. Grant applicant must own/manage any aspect of the water in a reservoir;
2. The reservoir must be open to the public for recreation; and

3. Grant applicant must demonstrate that the reservoir is uninfested with dreissenid mussels. To demonstrate that the reservoir is uninfested, applicants must provide mussel monitoring data collected since March 2021. Monitoring data can be from surface surveys, artificial substrates, and plankton tows.

### [Partners for Fish and Wildlife FY22](#)

Department of the Interior

Fish and Wildlife Service

The Partners for Fish and Wildlife (PFW) Program is a voluntary, incentive-based program that provides direct technical assistance and financial assistance in the form of cooperative and grant agreements to private landowners to restore and conserve fish and wildlife habitat for the benefit of federal trust resources. The PFW Program is delivered through more than 250 full-time staff, active in all 50 States and territories. Partners for Fish and Wildlife Program staff coordinate with project partners, stakeholders and other Service programs to identify geographic focus areas and develop habitat conservation priorities within these focus areas. Geographic focus areas define where the program directs resources to conserve habitat for federal trust species. Project work plans are developed strategically, in coordination with partners, and with substantial involvement from Service field staff. The program has been in existence since 1987 and has over 30 years of successful delivery. Project selection will seek to align or support the Secretary's priorities. It also advance the Department of the Interior's mission, U.S. Fish and Wildlife Service's mission, and PFW's mission, promote biological diversity, and based upon sound scientific biological principles. Program strategic plans inform the types of projects funded under this opportunity.

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

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### [Advocacy:](#)

#### [State/Province](#)

#### [\[Washington\] Commission votes on leadership positions, approves land transactions and hydraulic code rules, adopts non-native game fish policy \(12/6/21\)](#)

WDFW staff then presented the final draft of a new Commission policy to guide management of non-native game fish and fisheries in the state, following public input and creation of an ad-hoc advisory group to aid policy development. The Commission voted to adopt that policy. More information is available at <https://wdfw.wa.gov/about/commission/non-native-game-fish>

#### [\[Wyoming\] When passions collide \(12/19/21\)](#)

I mostly cover politics, but I also went out on a boat in Alcova Reservoir this summer with Game and Fish Department workers to watch them test for aquatic invasive species such as zebra and

quagga mussels. Now, the moment I've been waiting for: The day that zebra mussels officially collide with politics. As you may (or may not, that's totally fair too, I guess) have noticed, I did extensive reporting this summer on the threat of zebra mussels to Wyoming's water infrastructure. Now, there is officially a bill on the table for the upcoming budget session that further addresses the threat that aquatic invasive species (AIS) pose to Wyoming. People in Wyoming traveling with watercraft are currently required to get them checked at designated stations, because the pesky little critters may be attached to their boats. The threat the invasive species pose is astronomical.

#### [Great Lakes Governors to Request Asian Carp Defense Funding \(12/7/21\)](#)

Governor Gretchen Whitmer is expected to send a letter, signed by the other Great Lakes governors, to the federal government requesting more funding to help stop the spread of asian carp. Over the past forty years the invasive fish has made its way up the Mississippi River. Now one of the last lines of defense is the Brandon Road Dam and Lock in Joliet, Illinois.

### **Judicial**

#### **Executive**

#### [Land management bureau to move senior leadership back to Washington \(12/14/21\)](#)

The Bureau of Land Management (BLM) will move several of its leadership positions back to Washington, D.C., after a controversial Trump-era move to send leadership to Grand Junction, Colo. An email sent out by BLM Director Tracy Stone-Manning that was obtained by The Hill states that the agency will "consolidate" most of its directors in Washington. Specifically, it states that the director and deputy director of operations have already returned to the district, joining the deputy director for policy and programs. It said that 8 additional leaders including "most assistant directors and deputy assistant directors" will also return to D.C.

#### [Charles F. Sams III Sworn In as National Park Service Director \(12/16/21\)](#)

Chuck has worked in state and Tribal governments and the non-profit natural resource and conservation management fields for more than 25 years. He most recently served as a Council Member to the Northwest Power and Conservation Council, appointed by Oregon Governor Kate Brown.

### **Congressional**

#### [Political rivals come together to boost American aquaculture \(12/15/21\)](#)

Rarely seen bipartisan initiative in US politics aims to strengthen food security with aquaculture. In Canada it's a different story. There are very few things in Washington DC, that bring Republican and Democrat politicians together. Boosting aquaculture production is one of them. This week, Congressmen Stephen Palazzo (R-MS) and Edward Case (D-HI) introduced legislation in the U.S. House of Representatives to support the development of an offshore aquaculture industry in the U.S. The companion legislation supports the bipartisan bill,



[Advancing the Quality and Understanding of American Aquaculture \(AQUAA\) Act](#), which was introduced in the U.S. Senate last October by Senators Roger Wicker (R-MS), Brian Schatz (D-HI) and Marco Rubio (R-FL). The Bill aims to increase production of sustainable seafood through the raising of fish in federal waters, creating a robust industry in America including new jobs.

#### [Senate hearing examines Recovering America's Wildlife Act \(12/9/21\)](#)

The U.S. Senate Committee on Environment and Public Works discussed the Recovering America's Wildlife Act ([S. 2372](#); [H.R. 2773](#)) during a [hearing](#) yesterday.

The Wildlife Society, alongside the American Fisheries Society, submitted testimony encouraging the committee to favorably consider the bill. This landmark legislation would dedicate \$1.3 billion annually to state fish and wildlife agencies for the implementation of science-based wildlife action plans, and \$97.5 million to tribal fish and wildlife agencies for conservation of species on tribal lands.

**Now What:** According to [E&E Daily \(12/09/21\)](#)

*Unlike the House version, the Senate bill would fund the program through penalties paid by polluters and those convicted of environmental crimes. "As drafted, the legislation identifies a funding source that may not be reliable or fully pay for the bill's spending," Carper cautioned. Collin O'Mara, president and CEO of the National Wildlife Federation, said "we have been searching for an elusive pay-for that both sides of the aisle can agree on for four years, and it has been incredibly difficult." The bill would supplement, but not replace, the existing Pittman-Robertson Act program, which collects about \$1 billion a year from excise taxes on sporting goods and related products and distributes it to states.*

#### **Lionfish Bill Introduced (12/8/21)**

On December 12, 2021 Rep. Matt Gaetz (R-FL) introduced [H.R.6180](#) that would amend the Magnuson-Stevens Fishery Conservation and Management Act *to encourage elimination of lionfish from United States waters by allowing individuals to exchange lionfish for tags authorizing fishing for certain species in addition to the number of such species otherwise authorized to be taken by such individuals, and for other purposes.*

#### [WRDA Reauthorization 2022: Great Lakes governors, lawmakers push for invasive carp project funds \(12/13/21\)](#)

LANSING, MI — Midwest governors and Congressional delegates are advocating for funding to speed along the fortification of a chokepoint lock and dam near Chicago that would become the last line of defense against **invasive carp** reaching the Great Lakes when completed. On Dec. 10, the governors of Michigan, Wisconsin, Ohio, New York, Indiana, Illinois, Minnesota and Pennsylvania sent a [letter](#) asking Congress to put roughly \$10 million toward the Brandon Road Lock & Dam reconstruction in the 2022 Water Resources Reform and Development Act.

## APPROPRIATIONS

[Manchin says he will not vote for Build Back Better: 'This is a no' \(12/19/21\)](#)

Sen. [Joe Manchin](#) (D-W.Va.) announced on "Fox News Sunday" that he will not vote for [President Biden](#)'s "mammoth" climate and social spending bill, essentially killing the White House's top legislative priority.

Related: [Democrats set to play hardball with Manchin \(12/21/21\)](#)

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/federal-provincial-regulations> and see *AIS Legislative Tracker*

## TRAININGS, WEBINARS, CONFERENCES AND MEETINGS

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### [Archived Materials](#)

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

#### **Watercraft Inspection Training**

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](#)]

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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](#)]

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Level 3 Virtual Training - February 8-10, 2022 (3 days) 8 am to 4 pm PST;

[[Almost Full, Register Here](#)]

Level 3 Virtual Training - March 8-10, 2022 (3 days) 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](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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## [DOI Invasive Species Training Opportunities Spreadsheet](#)

### 2022

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#### 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](mailto: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

Canadian Council on Invasive species presents: [National Phragmites Conference](#) January 20th, 2022; Virtual Event 11am – 4 pm EST

Michigan Invasive Species Program’s NotMISpecies Webinar Series:  
January 25, 2022, 9:00 a.m. to 10:00 a.m. ET - [Dive into the gene pool: Using environmental DNA to detect invasive species](#)

Minnesota Aquatic Invasive Species Research Center **January 27, 2022, 2- 3 pm EST - [Can small-scale removal of hybrid cattail improve fish habitat?](#)** Join University of Minnesota Sea Grant Fisheries and Aquaculture Extension Educator Amy Schrank for a webinar about cattail-dominated shorelines. Learn about why cattails are so abundant on Minnesota shorelines and how they impact Minnesota lakes. Through research, the goal is to determine whether small-scale removal of hybrid cattail can increase water quality and plant diversity and benefit lake fish communities. Visit the Minnesota Sea Grant [Cattail-Dominated Shorelines](#) project page for information.

#### February

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[Invasive Species Centre: Annual Invasive Species Forum](#). The virtual 2022 Invasive Species Forum is taking place on February 1-3, 2022. The theme is Action, Innovation, and Outreach. The Invasive Species Forum is an annual event that brings attention to invasive species issues, research, and advances in prevention and management occurring across Canada, and in neighbouring U.S. States. The Invasive Species Forum will showcase speakers from around the world, on a diverse array of topics

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

### [INVASIVES 2022 Virtual Forum & AGM](#)

February 15, 2022 - February 17, 2022

The INVASIVES Annual Forum & AGM is an exciting opportunity for non-profit organizations, government staff, Indigenous leaders, industry, stewardship groups, academics and more from across the Pacific Northwest region and beyond, to network and share their knowledge and expertise about invasive species. Everyone is welcome.

The INVASIVES 2022 Forum will incorporate a variety of workshops, keynote presentations, plenary and speedy sessions along with plenty of opportunities for networking throughout the event. See what was posted during last year's forum, INVASIVES 2021, on social media by searching the event hashtag #INVASIVES2021

Michigan Invasive Species Program's NotMISpecies Webinar Series:

February 16, 2022, 9:00 a.m. to 10:00 a.m ET. - [The AIS-Team: Conservation officers on a mission to prevent invasive species](#)

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

February 28, 2022 – March 4, 2022

## March

### [11<sup>th</sup> Annual Columbia Gorge Invasive Species & Exotic Pest Workshop](#)

We are excited to announce that our annual invasive species symposium is scheduled for March 3rd, 2022! It will be co-hosted by the Columbia Gorge Cooperative Weed Management Area (CWMA), USDA Animal and Plant Health Inspection Service, the Washington Invasive Species Council, and Washington State University Extension. The event will be held as a webinar, so you will be able to attend from the comfort of your own home or workspace. We will continue to offer thoughtful content and dynamic speakers that you have come to expect from our annual event. So please join us on this special day to learn about pathways of ornamental weeds, spotted lanternfly, riparian restoration techniques, and more. You won't want to miss it! 2022 Invasive Species & Exotic Pest Workshop Thursday, March 3rd, 2022; 10am-3pm PST

### [2022 Missouri River Natural Resource Conference](#)

Theme – Missouri River: Ebbs & Flows

Conference Dates: March 21-23, 2022

Conference Location: Lied Lodge Conference Center in Nebraska City, Nebraska

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### 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. Online Registration is available now! Early Registration ends 14-Jan-2022

### 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

### October

[Upper Midwest Invasive Species Conference 2022](#)

October 25-27, 2022; Green Bay, Wisconsin.

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