



Wetland News Digest

Editor's Note

Dear Wetlanders,

The weather these days feels like the current state of U.S. politics – full of extremes with little resemblance to historical norms. Yesterday it was over 60 degrees in Portland, Maine (where NAWM is headquartered) and today it has plummeted back down to 35 and we have the biggest snowstorm of the season on its way here tomorrow. Just two weeks ago it was -20 degrees without windchill. And just a couple of days before that it was in the 50s. If this is a tell-tail sign of the coming year, then we're in for another record year of extreme weather events and natural disasters.

In the [Editor's Choice](#) section this month, I have included an article about the final [EPA determination under the Clean Water Act](#) regarding the Bristol Bay Pebble Mine permit application. The National Association of Wetland Managers (NAWM) has closely followed this story for years and engaged in opportunities to comment. These [comment letters](#) and other can be found on our website.

Other Clean Water Act activity covered in Editor's Choice includes the recent developments surrounding the final definition of "[waters of the United States](#)" (WOTUS) and the (not surprising) intent of 24 Republican-led states to sue the EPA. And so, we continue to ride the WOTUS roller coaster instead of focusing on implementation and protecting our nation's wetlands.

On a positive note, local communities are taking the lead in protecting and restoring their aquatic resources as can be seen in our third Editor's Choice article by [River Partners](#). These local communities realize that protecting and restoring floodplains is an effective strategy to keep their communities safe and healthy and resilient to the impacts of climate change.

We're in for another interesting year to be sure!

Best regards,

Marla Stelk, Editor, *Wetland News Digest*, NAWM

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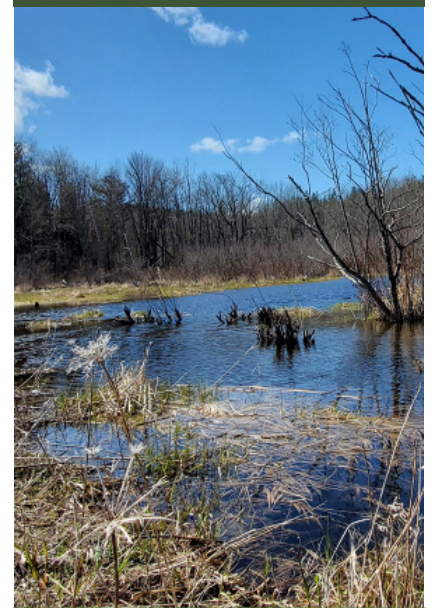
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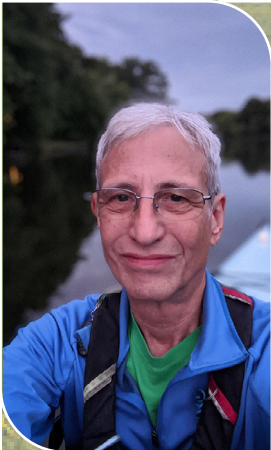
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Editor's Choice

NAWM Members' Only Webinar

Mitigating Environmental Impacts of the Abandoned Interstate I-95 Embankment across Rumney Marsh

Wednesday
March 22, 2023
3:00 pm-4:30 pm ET



Presenter:

Ed Reiner
Senior
Wetland
Scientist
US EPA
New England
Regional
Office

More Information

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Biden-Harris Administration Announces Action to Help Protect Bristol Bay Salmon Fisheries

U.S. Environmental Protection Agency – January 31, 2023
Today, EPA issued a Final Determination under the Clean Water Act to help protect Bristol Bay, the most productive wild salmon ecosystem in the world. With this action, the Biden-Harris Administration is protecting certain waters that are important to sustaining Southwest Alaska's salmon resources from disposal of dredged or fill materials associated with developing the Pebble deposit. Today, EPA issued a Final Determination under the Clean Water Act to help protect Bristol Bay, the most productive wild salmon ecosystem in the world. With this action, the Biden-Harris Administration is protecting certain waters that are important to sustaining Southwest Alaska's salmon resources from disposal of dredged or fill materials associated with developing the Pebble deposit. [Read more.](#)

'It's time to start suing': States tee up next WOTUS war

By Pamela King and Ellie Borst – E&E News – January 18, 2023
Red states are preparing to slug it out in the courts over one of the Biden administration's signature environmental rules. Texas Attorney General Ken Paxton announced Wednesday he filed a challenge against the new EPA and Army Corps of Engineers definition of which waterways and wetlands are subject to federal permitting requirements. [Read more.](#)

Unleashing the Power of Nature to Defend Against Floods: Safeguarding Communities While Reviving Ecosystems with Restored Floodplains

By Lily Rothrock – River Partners – January 12, 2023
As communities statewide faced the immediate challenge of responding to a half-dozen unrelenting atmospheric rivers over a two-week period, it's crucial to remember that these storms are a warning of even bigger and more frequent storm events on the horizon. There's no time to waste in developing a long-term strategy that will keep our communities safe in the face of increasingly variable and severe weather. River Partners is geared up to implement hundreds of shovel-ready river restoration projects across the state over the coming years to grow resilient ecosystems and communities. [Read more.](#)



National Association of Wetland Managers

Annual State/Tribal/Federal Coordination Meeting

Protecting and Restoring Wetlands for People and Wildlife

May 2 - 4, 2023

**Optional field trip on May 5th.*

**Arbor Day Farm's Lied Lodge
Nebraska City, NE**



Image by Mariah Lundgren
Platte Basin Timelapse

www.nawm.org

We invite you to join us for NAWM's Annual State/Tribal/Federal Coordination (STFC) Meeting, to be held at the Arbor Day Farm's Lied Lodge in Nebraska City, NE from Tuesday, May 2nd through Thursday, May 4th, 2023, with an optional field trip available on Friday, May 5th. The purpose of this annual meeting is to support state and tribal wetland program managers, and other wetland professionals as they respond to challenges in the coming year.

Submit an Abstract by Tuesday, February 28th

Do you have a presentation that you would like to share with your national wetland peers? We may have an opportunity for you. [Abstract information](#).

State and Tribal Scholarships due by February 28th

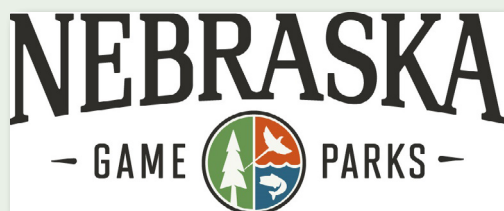
Are you still considering joining your wetland peers at the 2023 Annual State/Tribal/Federal Coordination Meeting in May? We have a limited number of State and Tribal scholarships available to U.S. citizens to assist those in need with travel, lodging and/or registration costs up to \$1,000. [Learn more and apply here](#). You may also call 207-892-3399 for more information.

Jon A. Kusler Student Scholarship Award deadline is Tuesday, February 28th

Are you / do you know a U.S.-based undergraduate or graduate student with a declared major in wetland (or other aquatic resource) science, policy, law, or related fields? We have an opportunity to learn from and network with peers: apply for the [Jon A. Kusler Student Scholarship Award](#).

Visit the meeting website for more information.

Host Sponsor



Kingfisher Sponsor



Calling all Silent Auction and Raffle Enthusiasts!

As part of our fundraising goals for 2023, NAWM is hosting two events during our annual [State/Tribal/Federal Coordination Meeting](#):

- Silent Auction for in-person attendees
- Raffle for both in-person and virtual participants

Support NAWM by donating a silent auction or raffle item. You or your company will be recognized for your generosity! If you are looking for inspiration, we have suggested "Wish List" items below. You are also welcome to make a cash donation and we'll do the shopping for you!

Wish List:

- Gift Cards (nationally / regionally available)
- Membership to your favorite Association
- Art
- Memorabilia
- Learning Experiences
- Lied Lodge items (gift shop, spa, etc.)
- Themed gift basket
- New Electronics
- Hotel Accommodations
- Jewelry
- Specialty Items
- Wetland inspired items

Proceeds support future wetlanders and NAWM's ability to respond to time-sensitive issues as they arise. Thank you for your generosity!

For more information, contact: Dawn Smith at dawn@nawm.org.



National News

States with fracking disclosure rules have higher water quality: study

By Zack Budryk – The Hill – February 13, 2023

Increasing transparency requirements around fracking activity and the specific fluids used in the process are associated with lower pollution levels from that activity, new [research shows](#). A [recent study from the University of Chicago's Energy Policy Institute examined water quality in watersheds where fracking occurred](#). Specifically, researchers analyzed salt concentration, a common indicator for fracking impact due to its associated health and development hazards. [Read more](#).

The U.S. National Ocean Climate Action Plan Must Prioritize Local Stakeholders and Ecosystem Protection

By Sarah Reiter and Caroline Fullam – Just Security – January 27, 2023

Last summer, the United States passed its most [historic climate legislation](#) to date – the [Inflation Reduction Act](#) – which includes both positive and negative trade-offs for the ocean and [justice](#). And while long overdue environmental justice outcomes took center stage at the international climate negotiations conference, COP27, meaningful ocean-based action was limited. [Read more](#).

EPA Endorses New Standard for Phase I Environmental Site Assessments

The National Law Review – January 11, 2023

After unexpected controversy earlier in the year, on December 15, 2022 the U.S. Environmental Protection Agency (EPA) issued a [Final Rule](#) unambiguously recognizing the ASTM International Standard E1527-21 for Phase I Environmental Site Assessments (ESAs), with an effective date of February 13, 2023. EPA's express endorsement of the standard as meeting the requirements of the All Appropriate Inquiry (AAI) Rule is essential to ensuring that the Phase I ESA fulfills its fundamental purpose: protection for prospective purchasers (and lessees) of property from liability for pre-existing contamination by petroleum products or hazardous substances regulated under the Comprehensive Environmental Response and Cleanup Liability Act (CERCLA). [Read more](#).



Photo Credit: Sharon Weaver, NAWM

Upcoming Tribal Wetland Programs Webinars

Monitoring and Assessment Data Collection and Applications for Tribal Wetland Programs

Thursday, April 20, 2023 - 3:00 p.m.-4:30 p.m. EDT

[Register](#)

Geospatial Mapping Tools and Techniques for Tribal Wetland Programs

Thursday, June 15, 2023 - 3:00 p.m.-4:30 p.m. EDT

[Register](#)

Education and Outreach Efforts to Support Tribal Wetland Programs

Thursday, September 21, 2023 - 3:00 p.m.-4:30 p.m. EDT

[Register](#)

Approaches to Sustainable Funding for Tribal Wetland Programs

Thursday, November 2, 2023 - 3:00 p.m.-4:30 p.m. EDT

[Register](#)

More Information

A Certificate of Attendance to be used toward Continuing Education Credits is available when participating in NAWM's live webinars. All NAWM members receive free Certificates of Attendance for webinars. Non-Members who request a certificate will be charged a processing fee of \$25.00. You will have up to 60 days to retrieve your certificate. Certificates are not available for viewing recorded webinars. [More information can be found here](#). Membership information can be [found here](#).

State and Tribal News

AK: Kelp help: Study shows clean-water benefits of kelp

KSTK – February 6, 2023

Kelp grows naturally throughout Alaska’s waterways and is also grown and harvested by an expanding commercial seaweed industry. New research shows kelp has ecological benefits by absorbing pollution in the water. Although slippery strands of kelp aren’t plants – they’re organisms called heterokonts, a kind of algae – they can pull carbon and nitrogen from their surrounding environment just like a forest on land. [New research from the University of Alaska Fairbanks](#) funded by the Department of Energy’s ARPA-E grant shows some species of kelp may be especially effective at taking in nitrogen from the water. In other words, kelp may be able to help clean up polluted waterways. [Read more.](#)

AZ: As climate change and overuse shrink Lake Powell, the emergent landscape is coming back to life – and posing new challenges

By Daniel Craig McCool – The Conservation – February 6, 2023

As Western states haggle over reducing water use because of declining flows in the Colorado River Basin, a more hopeful drama is playing out in Glen Canyon. Lake Powell, the second-largest U.S. reservoir, extends from northern Arizona into southern Utah. A critical water source for seven Colorado River Basin states, it has shrunk dramatically over the past 40 years.

An ongoing 22-year megadrought has lowered the water level to just 22.6% of “full pool,” and that trend is expected to continue. Federal officials assert that there are no plans to drain Lake Powell, but overuse and climate change are draining it anyway. As the water drops, Glen Canyon – one of the most scenic areas in the U.S. West – is reappearing. [Read more.](#)

Gila River Indian Community: How Native Americans Will Shape the Future of Water in the West

By Rachel Monroe – The New Yorker – January 27, 2023

As a child, Stephen Lewis heard stories about a river that, for the most part, no longer flowed. “How I grew up was that it was a theft, that it was stolen from us,” he told me late last year. “There was what we used to call the Mighty Gila River, and now it was just pretty much dry. There was no water.” Lewis is the governor of the Gila River Indian Community (GRIC), a group that has occupied land south of Phoenix for centuries. [Read more.](#)

CA: Navy Plan to Destroy Wetlands Lacks Scientific Backing

By Richard Bangert – Alameda Post – January 18, 2023

Most Alamedans have read about the Navy’s plan for upgrading and expanding wetlands at Alameda Point where a regional park is planned. Unexpectedly, however, and behind closed doors, a single advisory staff member at a state agency [halted the approved wetland expansion plan](#). He did so as work was already underway, and over [7,000 truckloads of soil](#) had been delivered to upgrade the site. The controversy centers on the health risk that radium-226 luminescent paint waste artifacts may or may not pose to park visitors. [Read more.](#)



Photo Credit: © [Sjredwin1] / AdobeStock



Photo Credit: © [Wollwerth Imagery] / AdobeStock

LA: Largest marsh restoration project at Lake Borgne eyes 2025 completion date; see updates

By Kezia Setyawan – WWNO – January 25, 2023

Over the last 50 years, saltwater intrusion and coastal erosion have turned Lake Borgne and its surrounding areas into swaths of unprotected, open water. But an ongoing \$114.6 million Coastal Protection and Restoration Authority project has aimed to recreate that lost land. Once it is complete, more than 2,769 acres of marsh will be built along a four-mile southern shoreline that stretches from Lake Borgne near Shell Beach all the way to Lena Lagoon. [Read more.](#)

LA: Plan Advanced to Save Louisiana Wetlands

By Matt Haines – VOA News – January 11, 2023

The race is on to save the ecologically crucial wetlands surrounding the final 160 kilometers of the Mississippi River, America’s most iconic waterway. “We are losing our communities, our culture, our fisheries, and our first line of defense against the hurricanes that threaten us,” said Kim Reyher, executive director of the Coalition to Restore Coastal Louisiana. [Read more.](#)

MI: Nonprofit protects more than 1,500 acres of woods, wetlands, Lake Huron coastline

By Sheri McWhirter – MLive – January 24, 2023

Two land conservation projects in northeast Lower Michigan make more than 1,500 acres of forever-protected wilderness along Lake Huron when combined with a third tract of recently preserved property. Nonprofit organization Huron Pines in recent weeks locked down sizeable acreage around Lake Huron’s Thunder Bay to protect forever as a series of nature preserves. [Read more.](#)

MS: A new way of partnering with the Corps leads to innovative wetland mitigation solutions and increased flood resilience.

By Natalie Snider – Environmental Defense Fund – January 23, 2023

Today marks the release of the Record of Decision (ROD) from the U.S. Army Corps of Engineers (USACE) on a restoration project known as the River Reintroduction into Maurepas Swamp (or Maurepas Diversion) that will serve as mitigation for the West Shore Lake Pontchartrain hurricane risk reduction levee project (WSLP). [Read more.](#)

NY: Work starts on \$3M Patchogue shoreline project

By David Winzelberg – Long Island Business News – January 25, 2023

Construction has begun on a \$3 million shoreline restoration project at Shorefront Park in the Village of Patchogue. The mostly state-funded project will replace a deteriorating 1,300-foot bulkhead along the Great South Bay with a living shoreline that uses natural features to improve water quality, restore habitats and increase resiliency against flooding and erosion from storms and sea-level rise, according to a statement from the Department of State. [Read more.](#)

NC: Wetland forest with unique plants, wildlife now protected

The Transylvania Times – January 16, 2023

With a mission to the beauty of natural habitats along North Carolina's coast, Janice Allen was thrilled with the efforts to protect what she called a "little wetland gem" by two busy highways in Rocky Point. Allen, director of Land Protection for Coastal Land Trust, is also grateful to landowners and others for working with the organization to conserve it and not losing its unique for timber or something else. "It's kind of quirky because you usually don't get plant species from the Gulf Coast, Coastal Plains, Mountain and Piedmont regions all coming together on a site like this," she said. [Read more.](#)

PA: Villanova Biology Professors Receive \$1 Million National Science Foundation Grant for Wetlands Research

Villanova University – 2023

Villanova University's Samantha Chapman, PhD, and Adam Langley, PhD, professors in the Department of Biology and two of the founding faculty of the Center of Biodiversity and Ecosystem Stewardship in the College of Liberal Arts and Sciences, are principal investigators on a \$1 million grant from the National Science Foundation (NSF) to support their project, "The Interplay of Nitrogen Loading and Ecosystem Sustainability in Threatened Wetlands." [Read more.](#)

TX: Hurricane Harvey more than doubled the acidity of Texas' Galveston Bay, threatening oyster reefs

By Tacey Hicks and Kathryn Shamberger – The Conservation – February 7, 2023

Most people associate hurricanes with high winds, intense rain and rapid flooding on land. But these storms can also change the chemistry of coastal waters. Such shifts are less visible than damage on land, but they can have dire consequences for marine life and coastal ocean ecosystems. [Read more.](#)

WA: Ecology gets six federal grants to protect 855 acres of coastal wetlands

Washington Department of Ecology – February 7, 2023

We are thrilled to announce we've helped secure close to \$6 million out of nearly \$19 million — about 30% — in National Coastal Wetlands Conservation Grants to protect about 855 acres of coastal wetland habitat in Jefferson, Island, Pacific, Skagit, Snohomish, and Thurston counties. [Read more.](#)

WA: The Duwamish River Restoration Efforts Are Really Coming Along

By Matt Baume – The Stranger – January 30, 2023

It's a quiet, snowy day on the Duwamish Waterway, the thin channel that separates West Seattle from Sodo and Georgetown. Along the banks, industrial operations churn away as they have for the last century: On one side of the water, a car-crusher smashes old automobiles; on the other, a conveyor belt feeds a mountainous pile of gypsum particles and ships laden with cargo slip beneath the bridges to West Seattle. [Read more.](#)

Recorded NAWM Members' Webinars

NOAA's New Mitigation Policy for Trust Resources Held Wednesday, January 25, 2023

Presenters:



Susan Marie Stedman
Senior Policy Analyst
National Marine
Fisheries Service



David Hirsh
National Marine
Fisheries Service,
West Coast Region

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Log into your [Members' Portal](#); Go to Past Members' Webinars
Select year; Scroll to view webinars

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Recorded Hot Topics Webinars

Advancing the Integration of Clean Water Act Programs with Natural Hazard Mitigation Planning & Implementation

Held Tuesday, January 17, 2023

Presenters:



Marla Stelk
National Association of
Wetland Managers



Ellie Flaherty
U.S. Environmental
Protection Agency



Jenna Moran
Association of State
Floodplain Managers

[View Recording](#)

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MEMBERSHIP

NAWM has a long history of blazing trails in advocating for sound wetland science and sensible water policy. By joining NAWM, your membership carries many benefits including our Members' Webinar Series, Federal Policy Tracker, opportunities for involvement on committees, and exclusive publications.



DONATIONS

Your private donations directly support NAWM's (501(c)(3) nonprofit) ability to respond to time-sensitive issues as they arise and allow us to provide information, expert analysis, and recommendations regarding the impacts of potential policy and law on wetland protection programs and efforts. You may also opt to support the Jon A. Kusler Student Scholarship.



SPONSORSHIP

Take advantage of one of NAWM's many sponsorship opportunities and reach thousands of engaged webinar audience members, publication readers, and attendees at our Annual State/Tribal/Federal Coordination Meeting.

NAWM Learning Options Available

We have three online training modules readily available to you:



The recordings are free to view, anytime/anywhere. There is an option to take a quiz to test your knowledge and earn a Certificate of Completion. NAWM Members may access this free membership benefit by logging on to your [Membership Portal](#). Non-members may also access the quizzes on a fee basis.

Our fourth training series - [USDA-NRCS Conservation Planners Training Webinar](#) - is available to view and build knowledge. The quiz/certificate options for this series will be added at a later date.



Wetland Science News

Want to jumpstart habitat restoration? Try a soil transplant

By Warren Cornwall – Anthropocene – February 15, 2023

Rebuilding damaged ecosystems is a fraught enterprise. Replanted trees die. Artificial wetlands fail to store as much carbon as their natural counterparts. Species don't always return to repaired habitats. It's a lot easier to break an ecosystem than to put it back together. [Read more.](#)

Algal bloom research effort a community collaboration

By Megan May – Coastal Review – February 7, 2023

At the end of a gravel road, tucked deep into the woods, bald cypress trees dot the shoreline of Bennett's Mill Pond. Great blue herons wade in the shallows, searching for their next meal. It's July in North Carolina, and time on the water would be the perfect way to enjoy some peace and quiet. But not today. Haley Plaas pulls on a pair of rubber gloves. She lays on the dock and gently reaches her hand in. A mucus-like substance clings to her glove as she pulls back, leaving stringy threads on the water's surface. While brilliant in color, the network of blue scum across the pond is dangerous cyanobacteria, a type of harmful algae. [Read more.](#)

Beavers and oysters are helping restore lost ecosystems with their engineering skills – podcast

By Daniel Merino, Nehal El-Hadi – The Conversation – January 26, 2023

Whether you are looking at tropical forests in Brazil, grasslands in California or coral reefs in Australia, it is hard to find places where humanity hasn't left a mark. The scale of the alteration, invasion or destruction of natural ecosystems can be mindbogglingly huge. Whether you are looking at tropical forests in Brazil, grasslands in California or coral reefs in Australia, it is hard to find places where humanity hasn't left a mark. The scale of the alteration, invasion or destruction of natural ecosystems can be mindbogglingly huge. [Read more.](#)



Photo Credit: © [MightyBlue] / Adobe Stock

NAWM Jobs Boards

[Ecological Restoration Program Manager - Cranberry Bogs](#)
MA Department of Fish & Game, Boston MA
Apply by May 12, 2023

[Assistant Professor of Wetland Ecology and Management](#)
Michigan State University, East Lansing, MI
Apply by March 20, 2023

[Senior Research Associate-Invasive Plant Treatment](#)
U.S. Geological Survey, Vicksburg, MS
Apply by March 3, 2023

[Water Resource Specialist](#)
Wisconsin Department of Transportation, Eau Claire, WI
Apply by February 28, 2023



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Wetland Photos

We are always looking for new wetland photos. If you'd like to share your wetland views in our publications and social streams, [submit your photo\(s\) here.](#)

Photo Credit: Portia Osborne, NAWM



Resources and Publications

Mapping Global Non-Floodplain Wetlands

Non-floodplain wetlands – those located outside the floodplains – have emerged as integral components to watershed resilience, contributing hydrologic and biogeochemical functions affecting watershed-scale flooding extent, drought magnitude, and water-quality maintenance. However, the absence of a global dataset of non-floodplain wetlands limits their necessary incorporation into water quality and quantity management decisions and affects wetland-focused wildlife habitat conservation outcomes. We addressed this critical need by developing a publicly available Global NFW (non-floodplain wetland) dataset, comprised of a global river-floodplain map at 90 m resolution coupled with a global ensemble wetland map incorporating multiple wetland-focused data layers. The floodplain, wetland, and non-floodplain wetland spatial data developed here were successfully validated within 21 large and heterogeneous basins across the conterminous United States. [Read more.](#)

EPA Training on Integrating Hazard Mitigation and WQ Management

EPA's Nonpoint Source (NPS) program, alongside EPA's Watershed Academy, is excited to announce the release of a web-based training entitled, "[Creating Co-Benefits Through Hazard Mitigation Planning and Water Resource Management.](#)" This training was developed with review and feedback from partners at the Federal Emergency Management Agency (FEMA) and supports water quality and hazard mitigation professionals in integrating water quality issues, water resource management, and nature-based practices into state or local Hazard Mitigation Plans (HMPs). To access this training and other resources related to NPS management and natural hazard mitigation visit the [EPA website here.](#)

Nebraska Game and Parks Commission New Resources

The Nebraska Game and Parks announced the release of expanded wetlands educational content which includes:

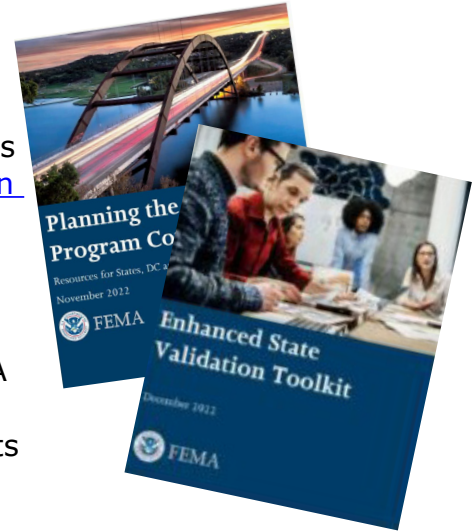
- Five ESRI StoryMaps--- Sandhills, Playas, Saline, Riverine, and Urban.
- An updated *Guide to Nebraska's Wetlands and their Conservation Needs.*
- A new booklet for kids entitled *Wetlandology.*
- A shorter overview film, an educator guide to the products, and two educational videos with paired lesson plans are nearing completion and will be shared soon.

[Visit the Nebraska Game and Parks website.](#)



FEMA Releases New Tools for State Mitigation Planning Programs

Two new resources from FEMA are available to help state mitigation programs work with FEMA regional offices. These can be used to help plan annual mitigation program consultation meetings. They can also help mitigation programs prepare for enhanced state validations. [Planning the Mitigation Consultation: Resources for States, DC and Territories](#) (The Consultation Toolkit) will help state, Washington, D.C. (DC) and territorial hazard mitigation planners work with FEMA to plan the annual mitigation program consultation. The [Enhanced State Validation Toolkit](#) provides resources for FEMA and state mitigation planning partners. They can use these resources to develop performance measures and commitments for the annual validations. [Read more.](#)



Contaminant metal concentrations in three species of aquatic macrophytes from the Coeur d'Alene Lake basin, USA

The Coeur d'Alene Lake basin in Northwestern USA has extensive contamination from legacy mining waste, which overlaps with aquatic macrophyte habitat. We examined concentrations of arsenic (As), cadmium (Cd), copper (Cu), lead (Pb), and zinc (Zn) in three macrophytes: *Elodea canadensis* (submerged), *Myriophyllum spicatum* (submerged), and *Sagittaria latifolia* (emergent). We collected macrophyte tissues from five contaminated sites and one uncontaminated site. Tissue concentrations were compared to sediment quality guidelines to assess potential toxicity from metal(loid)s to macrophyte-associated biota. Our work shows significant amounts of metals are accumulating in some macrophytes of the study area and that biota associated with this vegetation may experience toxicity based upon guideline exceedances. Additionally, managers of invasive plants (e.g., *M. spicatum*) should consider the ramifications of control efforts given the high metal content of some plants (e.g., disposal issue). Full article may be accessed through [Springer online](#) or through an academic institution.

Funding Opportunities

[2024 National Coastal Wetlands Conservation Grant Program](#)

U.S. Fish and Wildlife Service; Apply by June 23, 2023; Search: F24AS00005

[WaterSMART Environmental Water Resources Projects for Fiscal Year \(FY\) 2023](#)

U.S. Bureau of Reclamation; Apply by March 28, 2023; Search: R23AS00089

[Chesapeake Bay Program Office Fiscal Year 2023 Request for Applications for: Multiple Tributary Models for the Assessment of 2035 Climate Change Risk and Other Water Quality Challenges](#)

U.S. Environmental Protection Agency; Apply by April 7, 2023; Search: EPA-I-R3-CBP-23-02

Potpourri

To Best Fight Climate Change, 'Blue Carbon' Habitats Must First Survive It

By Sylvia Troost and Alex Clayton – Pew – January 31, 2023

In what's becoming a distressingly familiar scenario, the scientific evidence that a natural ecosystem can help fight climate change is building just as that same habitat faces increasing threats from a warming planet. In this case, it's "blue carbon" habitats—such as salt marsh and seagrass beds—which can capture and store significant amounts of carbon but are also imperiled by rising sea levels. During a recent webinar hosted by The Pew Charitable Trusts, experts explored emerging research on how climate-induced changes are affecting these and other coastal landscapes, and options on how to best manage and conserve them. [Read more and view webinar.](#)

Sounding the alarm on microplastic pollution

By Robb Frederick – PHYS.org – February 7, 2023

There are four basic ingredients in beer: grain, hops, yeast and water. The water often introduces a fifth, which passes unfiltered into a typical pilsner. In 2017, working with two colleagues, Sherri "Sam" Mason, then a faculty member at the State University of New York at Fredonia, analyzed 12 brands of beer brewed using water drawn from the Great Lakes. Every sample she tested contained small particles of plastic—tiny pieces of synthetic debris. We ingest that plastic when we drink the beer. [Read more.](#)

Podcasts

NEIWPC: [Wetlands Watchers Podcast Series](#)

NOAA Ocean Podcast: [Bringing Wetlands to Market](#)

Come Rain or Shine Podcast: [Managing Cultural Resources in a Changing Climate](#)



Photo Credit: U.S. Fish and Wildlife Service

Calendar of Events

WEBINARS

March

March 8, 2023 4:00 p.m. EDT	Northeast Climate Adaptation Science Center Webinar: Lake Water Level Management Under Climate Change
March 9, 2023 1:00 p.m.-3:00 p.m. EDT	Swamp School Webinar: 2023 Waters of the US
March 10, 2023 3:00 p.m.-5:00 p.m. EDT	HalfMoon Education Inc. Webinar: Beavers, Ecological Restoration, and Climate Resilience: Issues and Solutions
March 21, 2023 2:00 p.m.-3:00 p.m. EDT	Wetland Knowledge Exchange Webinar: How mounds are made matters: implications for seismic line restoration in peatlands
March 22, 2023 3:00 p.m.-4:30 p.m. EDT	National Association of Wetland Managers Members' Webinar: Mitigating Environmental Impacts of the Abandoned Interstate I-95 Embankment across Rumney Marsh
March 29, 2023 4:00 p.m. EDT	Northeast Climate Adaptation Science Center Webinar: Gulf of Main Flood Hazard: From Theoretical to Community-Collaborative Research

April 2023

April 19, 2023 4:00 p.m. EDT	Northeast Climate Adaptation Science Center Webinar: Localizing Forest Adaptation Strategies to Diverse Northeastern Forest Ecosystems and Threats
April 20, 2023 3:00 p.m.-4:30 p.m. EDT	National Association of Wetland Managers: Tribal Wetland Programs Webinar: Monitoring and Assessment Data Collection and Applications for Tribal Wetland Programs
April 21, 2023 11:30 a.m. EDT	Wisconsin Wetlands Association Webinar: Karst hydrogeology & wetlands

May 2023

May 10, 2023 4:00 p.m. EDT	Northeast Climate Adaptation Science Center Webinar: The Status of Tribes and Climate Change Report and the NE CASC Region
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WEBINARS Continued

June 2023

June 15, 2023
3:00 p.m.-4:30 p.m. EDT

National Association of Wetland Managers: Tribal Wetland Programs Webinar: [Geospatial Mapping Tools and Techniques for Tribal Wetland Programs](#)

September 2023

September 21, 2023
3:00 p.m.-4:30 p.m. EDT

National Association of Wetland Managers: Tribal Wetland Programs Webinar: [Education and Outreach Efforts to Support Tribal Wetland Programs](#)

November 2023

November 2, 2023
3:00 p.m.-4:30 p.m. EDT

National Association of Wetland Managers Tribal Wetland Programs Webinar: [Approaches to Sustainable Funding for Tribal Wetland Programs](#)



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CONFERENCES/EVENTS

March 2023

March 1-3, 2023 Midland, MI	Michigan Stormwater-Floodplain Association Conference
March 1-3, 2023 Austin, TX	Texas Land Trust Council Conservation Conference
March 6 and 10, 2023 Online	Gulf of Maine Research Institute: Building Background on Vernal Pools
March 9, 2023 Austin, TX	Connecticut Association of Wetland Scientist Annual Meeting
March 21, 2023 Dodge City, KS	Kansas Alliance for Wetlands & Streams Symposium: Sustaining Water in the Ark River Basin
March 21, 2023 Augusta, ME	Maine Association of Wetland Scientist: 2023 Annual Meeting and Winter Conference
March 24, 2023 Montpelier, VT	Vermont Association for Wetland Science (VAWS) Annual Meeting
March 25, 2023 Middletown, CT	Connecticut Land Conservation Council Conference

April 2023

April 12-13, 2023 Saratoga Springs, NY	NEIWPC Annual Nonpoint Source Conference: Environmental Justice, Equity & Climate Change
April 20-21, 2023 Vancouver, Canada	Fifteenth International Conference on Climate Change: Impacts & Responses
April 21-23, 2023 Burlington, VT	Eagle Hill Institute 2023 Northeast Natural History Conference
April 22, 2023	Earth Day 2023: Invest in Our Planet
April 24-27, 2023 San Diego, CA	Centre for Watershed Protection: 2023 National Watershed and Stormwater Conference
April 24-28, 2023 Virginia Beach, VA	North American Lake Management Society: 13th National Monitoring Conference: Working Together for Clean Water
April 27-28, 2023 Meredosia, IL	Save The Frogs! Day (15th Annual) Wetland Workshop
April 28-29, 2023 Suffolk, VA	Great Dismal Swamp National Wildlife Refuge: Birding Festival

May 2023	
May 2-4, 2023 Field Trip: May 5, 2023 Nebraska City, NE	National Association of Wetland Managers: State/Tribal Federal Coordination Meeting: Protecting and Restoring Wetlands for People and Wildlife
May 5-6, 2023 Thompsonville, MI	Michigan Lakes & Streams Association 62nd Annual Conference: Protecting and Restoring Michigan's Lakes and Stream
May 7-11, 2023 Raleigh, NC	Association of State Floodplain Managers Conference
May 8-11, 2023 Jacksonville, FL/Virtual	National Mitigation & Environmental Markets Conference: Invest in the Environment
May 8-12, 2023 Toronto, Ontario Canada	IAGLR's 66th Annual Conference on Great Lakes Research
May 10-12, 2023 Sandusky, OH	Ohio Stormwater Association 2023 Ohio Stormwater Conference
May 14-19, 2023 Bonita Springs, FL	University of Florida Conference: Species on the Move
May 22-25, 2023 Winter Harbor, ME	Schoodic Institute 2023 Spring Birds of Acadia, with Puffin Cruise
May 31-June 3, 2023 Las Vegas, NV	Ducks Unlimited National Convention
June 2023	
June 3-7, 2023 Brisbane, Australia	Society for Freshwater Sciences Annual Meeting: Freshwater Sciences 2023
June 5-7, 2023 Arizona State University / Virtual	Digital Data 2023: Leveraging Digital Data in Service to Conservation, Ecology, Systematics, Phylogenetics, and Novel Biodiversity Research
June 11-14, 2023 Tahoe City, CA	2023 CUAHSI Biennial Colloquium
June 26-29, 2023 Altoona, Iowa	2023 North American Prairie Conference
June 27-30, 2023 Spokane, WA	Society of Wetland Scientists Annual Meeting: Wetland adaptation from floodplains to ridgelines

July 2023	
July 17-19, 2023 Denver, CO	American Water Resources Association 2023 Summer Conference: Connecting Land & Water for Healthy Communities
July 24-27, 2023 Seattle, WA	National Association of Flood and Stormwater Management Agencies (NAFSMA) 45th Annual Meeting
August 2023	
August 6-11, 2023 Portland, OR	2023 ESA Annual Meeting: For All Ecologist
September 2023	
September 26-30, 2023 Darwin Australia	Society of Ecological Restoration: 2023 10th World Conference on Ecological Restoration
November 2023	
November 6-8, 2023 Cary, NC	American Water Resources Association: 2023 Annual Water Resources Conference



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TRAINING COURSES

March 2023

March 1, 2023 Online	University of Wisconsin La Crosse Course: Critical Methods in Wetland Delineation
March 2-15, 2023 Charleston, SC	Duncan & Duncan West Course: Advance Hydric Soils, Hydrology, and Regional Indicators (Coastal Plain or Piedmont) . Other dates offered. <i>NAWM members receive a 15% Discount.</i>
March 7, 2023 Virtual	University of Washington Botanic Gardens Course: Soaking It All In: Understanding Soil Water
March 15, 22, 29, 2023 Online	Michigan Natural Features Inventory, MSU Extension: Michigan Vernal Pool Patrol Virtual Training Series 2023
March 20-23, 2023 Angier, NC	Swamp School Workshop: Principles of Wetland Design . <i>NAWM members receive a 10% Discount.</i>
March 20-24, 2023 Meredosia, IL	U.S. Fish and Wildlife Service: Illinois Chorus Frog Wetland Workshop
March 27-31, 2023 Atlanta, GA - Piedmont	Duncan & Duncan West Course: Basic Wetland Delineation . <i>Other dates offered.</i> <i>NAWM Members receive a 15% Discount.</i>

April 2023

April 13, 2023 Chelsea, MI	Michigan Wetlands Association Training: Introduction to Wetland Mosses (And a Few Upland Ones Too)
April 18-19, 2023 Virtual	National Park Service Course: Interpreting Climate Change
April 19-21, 2023 Folsom, CA	Wetland Training Institute, Inc. Course: Plant Identification for Central and/or Southern California

May 2023

May 1-4, 2023 Aliquippa, PA	Swamp School: Wetland Delineation Training . <i>Also August 21-24, 2023.</i> <i>NAWM members receive a 10% Discount.</i>
May 8, 2023 San Diego, CA	Wetland Training Institute, Inc. Course: Beginners Plant ID for Wetland Delineation
May 14-20, 2023 Steuben, ME	Eagle Hill Institute Course: Lichen Biology, Ecology, & Identification . <i>NWM Members receive a 20% Discount.</i>

May 15-19, 2023 Lansing/Charlotte, MI	Michigan Wetlands Association Training: Wetland Delineation Training
May 22-23, 2023 Aliquippa, PA	Duncan & Duncan West Course: Hydrophytic Vegetation <i>NAWM members receive a 15% Discount.</i>
June 2023	
June 6, 2023 Charleston, SC	Duncan & Duncan West Course: Endangered Species Identification <i>NAWM members receive a 15% Discount.</i>
June 12-13, 2023 Northern Lower Peninsula, MI	Michigan Wetlands Association Training: Hyrdic Soils Identification
June 19-22, 2023 Raleigh, NC	Swamp School: Wetland Delineation Training Also October 2-5, 2023 <i>NAWM members receive a 10% Discount.</i>
June 26-30, 2023 Shepherdstown, WV	The Conservation Fund Course: Compensatory Mitigation Training Course
July 2023	
July 13, 2023 Various Locations - Marquette County, MI	Michigan Wetlands Association Training: Fern Identification Workshop
July 19-20, 2023 Jackson, MI	Michigan Wetlands Association Training: Wetland Grass Identification
July 27-28, 2023 Atlanta, GA - Piedmont	Duncan & Duncan West Course: Hydrophytic Vegetation <i>NAWM members receive a 15% Discount.</i>
August 2023	
August 2-3, 2023 Oakland County, MI	Michigan Wetlands Association Training: General Wetland Plant Identification
August 8, 2023 Lowell, MI	Michigan Wetlands Association Training: Freshwater Mussel Identification
August 23-24, 2023 Lansing, MI	Michigan Wetlands Association Training: Wetland Shrub Identification
September 2023	
September 21-22, 2023 Charleston, SC	Duncan & Duncan West Course: Identification of Grasses, Sedges, and Rushes <i>NAWM members receive a 15% Discount.</i>

Wetland News Digest

The National Association of Wetland Managers' *Wetland News Digest* (WND) is a monthly compilation of wetland-related stories and announcements submitted by readers and gleaned from listservs, press releases and news sources from throughout the United States. WND chronicles the legislative, national, state and tribal news relevant to wetland



science, policy, practice and law. It also links to new publications, tools and resources available to wetland professionals as well as events and training opportunities for those working in water resources and related fields. *Wetland News Digest* (formerly "*Wetland Breaking News*") has been published for over twenty years and NAWM has been a nationally recognized resource for information on wetland science and policy since 1983.

The items presented in *Wetland News Digest* do not necessarily reflect the views of the editor or of the National Association of Wetland Managers. Send your news items, comments, corrections, or suggestions to news@nawm.org.



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