



US Army Corps of Engineers®

# Stewardship news

## YOUR Thoughts

Volume 6, Issue 4: December 2023

We are looking for contributors and ideas.

✳ If you have a topic, success story, lesson learned, or helpful suggestion, let us know.

Send to: [Tara.J.Whitsel@usace.army.mil](mailto:Tara.J.Whitsel@usace.army.mil)

*Stewardship News is an unofficial publication of the U.S. Army Corps of Engineers (USACE). This online publication is produced quarterly with the purpose of providing its readers information about the USACE Stewardship Program.*

*Editorial views and opinions expressed are not necessarily those of the Department of the Army.*

*Mention of specific vendors does not constitute endorsement by the Department of the Army or any element thereof.*

## Your Stewardship HQ Update

### Environmental Stewardship Training Opportunities

#### (1) ENS 101 (February 2024)

In FY24, ENS 101 will be offered through the USACE Learning Center as a PROSPECT course. The course will be held Feb. 5 - Feb. 8, 2024 Arkabutla Lake (MS). Cost is \$2407. Please visit <https://ulc.usace.army.mil/CrsScheduleNewFY.aspx> to enroll.

#### (2) Aquatic Invasive Management Workshop (February 2024)

In partnership with the University of Florida, the workshop will be held Feb. 27-29, 2024 in Kissimmee, FL. The workshop provides current and historic USACE involvement in invasive aquatic plant management, best management practices for APM, herbicide physiology, contract management, and outreach related to aquatic plant management. An additional workshop is being planned for the Fall of 2024 located in NAD—specific details and locations to be provided. Please email Tara Whitsel at [Tara.J.Whitsel@usace.army.mil](mailto:Tara.J.Whitsel@usace.army.mil) for additional details and to register.

#### (3) ENS 102 (April 2024)

In FY24, the 3rd pilot course of ENS 102 will be offered. The class will be held at Caesar Creek Lake (OH) Apr. 15 - Apr. 18, 2024. Cost is \$0. Please email Tara Whitsel at [Tara.J.Whitsel@usace.army.mil](mailto:Tara.J.Whitsel@usace.army.mil) for additional details and to register. This course is scheduled to be available through PROSPECT in FY25.

#### (4) Aquatic Invasive Management (September 2024)

The course will be held Sep. 10-12, 2024 in Windsor, CT. Please email Tara Whitsel at [Tara.J.Whitsel@usace.army.mil](mailto:Tara.J.Whitsel@usace.army.mil) for additional details and to register.

#### (5) ENS 101 (November 2024)

In FY25, ENS 101 will be offered through the USACE Learning Center as a PROSPECT course. The course will be held Nov. 4 - Nov. 7, 2024 at Lake Sonoma (CA). Cost will be determined in FY25 PROSPECT schedule.

## Loon Conservation at Howard A Hanson Dam

Article provided by George Harchack, Seattle District

Authorized by the Flood Control Act of 1950, Howard A. Hanson Dam and Eagle Gorge Reservoir were completed in 1962. This structure manages flows along the Green River in King County, Washington and functions as a water supply for the city of Tacoma. Additionally, Howard A. Hanson Dam is a breeding place for a certain waterfowl with a haunting, yet well-known call, the common loon (*Gavia immer*). Prior to 1991, common loons had not been recorded in King County, WA since pre-World War II. Due to human factors affecting their historic breeding ranges, the common loon has been listed as a *Species of Greatest Conservation Need* by the state of Washington. In 2006, an interagency group consisting of Federal, State and Tribal biologists and researchers was formed to continue to improve their habitat and monitor nesting annually.

In April, USACE staff worked together to ensure the continued success of the nesting loons by building and

Photo: Park Ranger George Harchack and Dam Equipment Mechanic Joe Jarvis constructing the artificial nesting structure



## Loon Conservation Continued

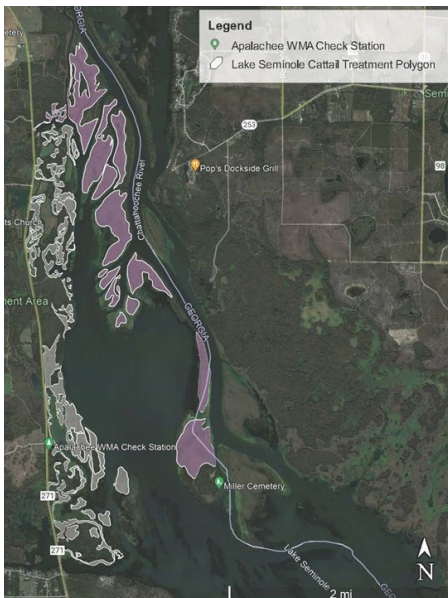
improving the artificial nesting platforms (loon logs). These artificial platforms mimic naturally attractive structures and are designed to prevent mammalian predation. Nesting activity is recorded using remote cameras and analyzed to provide reports for involved partners. Fortunately, 2023 was another successful year for the nesting pair of common loons. Two eggs were documented – one of which was confirmed to have hatched via remote camera footage. The distant wail of the common loon is one that may cause a chill down one's spine, yet at Howard A. Hanson Dam, it provides relief knowing that the conservation efforts continue to pay off.



Photo top circle: Female loon monitoring her eggs prior to hatching in early June. Photo left: Loon log structure at the mouth of the North Fork of the Green River. Photo Right: Loons approaching the loon log in the early stages of nesting.

## USACE Lake Seminole and FWC Partner to Manage Invasive Plants, Restore Habitat and Increase Recreational Access

POC: Brent Mortimer, [brent.e.mortimer@usace.army.mil](mailto:brent.e.mortimer@usace.army.mil), 334-430-9290



USACE and the Florida Fish and Wildlife Conservation Commission (FWC) partnered to treat invasive cattail, phragmites, giant cutgrass, and Cuban bulrush on 715 acres of the Apalachee WMA and adjacent USACE-managed Florida waters. This is the first time that USACE and FWC have partnered on Lake Seminole to combat the growing invasive weed problem.

In early October 2022, USACE personnel were contacted by FWC Biologist Dan Roberts to gauge interest in the project. The FWC had competitive funding available through the Aquatic Habitat Restoration/Enhancement Section (AHRE). USACE Aquatic Plant Manager Brent Mortimer and Mr. Roberts worked closely to complete the funding application and hammer out the details of the project. USACE agreed to provide the herbicide (Imazapyr) and FWC agreed to contract for the aerial application and conduct the prescribed burn.

The project goals are to reduce the amount of acreage impacted by invasive plants, restore habitat that was lost, and increase recreational access for anglers, hunters, and kayakers. Invasive plants were treated initially

## Lake Seminole Continued

with an herbicide treatment of Imazapyr. Approximately six weeks after the herbicide application, a prescribed burn is planned. Timing of the application is critical to maximize the effectiveness of the Imazapyr and to complete the project prior to the opening of duck hunting on the Apalachee WMA and surrounding waters.

The herbicide treatment was conducted aurally using a specially equipped helicopter. Due to the size of the treatment area the treatment began at first light and lasted most of the day finishing up at sunset.

Notification was given through the FWC herbicide application website, Lake Seminole social media page and flyers distributed to local gas stations, bait shops and boat launching sites. In addition to the notifications USACE and FWC personnel were on the water the day of the treatment to keep vessels outside of the treatment area.



### Smartbook—It is Time!

***Have you updated your SmartBook information on the NRM Gateway lately? If not, please let this serve as a reminder to go in and ensure your information is accurate.***

**<https://gateway.erd.c.dren.mil/nrm/smartbook/index.cfm>**

#### **New to the term and don't know what it is?**

The SmartBook provides an electronic directory making it easy to connect with others in your respective CoPs. Revamped in April 2021, the SmartBook includes members of the NRM, Park Ranger, and OPM CoPs. The SmartBook enhances communication with program points of contacts, subject matter experts, and other individuals. The SmartBook offers connections and workforce context information far beyond what a DLL mailing list or an Outlook search can produce. The SmartBook works best when everyone periodically reviews and updates their personal (and their teams') information regarding areas of expertise, PDT membership, location, and other organizational information. The SmartBook is only accessible from the army.mil network and requires CAC card for access.

### Merrimack River Basin Partnership

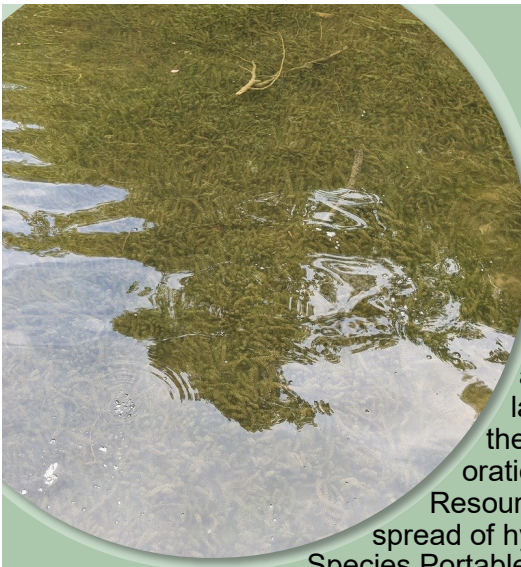
Franklin Falls Dam, Blackwater Dam, and Hopkinton Lakes projects recently held the first annual meeting with the local chapter of the Ruffed Grouse Society/American Woodcock Society. Utilizing the national MOU and the local contributions plan these projects are working with the local chapter to conduct habitat restoration and maintenance on project lands with both volunteers and contract work.

**RGS**  **AWS**  
RUFFED GROUSE SOCIETY | AMERICAN WOODCOCK SOCIETY



## USACE Partners with Pennsylvania to Reduce Spread of Invasive Species at Beltzville Lake

Article by Katherine Tracey, Philadelphia District



Constructed by USACE and open to the public since 1972, Beltzville Lake has become a popular recreational spot for swimmers, boaters, and picnickers throughout Carbon County and surrounding areas. One of USACE's priorities at this project is safeguarding water quality, and recent samples have shown the presence of hydrilla throughout the lake. Not native to this region, hydrilla is an aquatic invasive species in the form of a plant mass that often attaches to boaters' anchors. In collaboration with the Pennsylvania Department of Conservation and Natural Resources and other agencies, USACE has been focused on containing the spread of hydrilla. As a part of this mission, the project has utilized the Invasive Species Portable Washing Station.

The washing station contains a heating element along with a pressure washer that can be used by boaters at two public access points within Beltzville State Park, Pine Run Boat Launch and Preachers Camp Boat Launch. The heating element kills the hydrilla, which can then be disposed of in specific collection boxes located throughout the park. Another benefit of this unit is easy upkeep, as DCNR park maintenance staff refills the portable tank each night so that it's ready for the next day. The station attaches to the back of a pickup truck, allowing for convenient transport between the two boat launches.

This undertaking was made possible through the USACE Handshake Partnership Program, which since 2004 has provided "seed money" to USACE facilities for partnership projects on federal lands. These projects are aimed at enhancing recreational opportunities or environmental stewardship while carrying out USACE missions. The Invasive Species Portable Washing Station represents a major step toward a sustainable, long-term solution as Corps staff seek to stop these aquatic hitchhikers while raising public awareness on the topic.

Joshua Dinko, Facility Operations Specialist at the Northern Area Office at Beltzville, said that one of his favorite parts of his job is protecting project resources while educating the public. "The educational aspect is the biggest draw of the product," stated Dinko. "The natural benefit is providing the next generation of recreational users with information on invasive species and how user practices can help preserve the water resource. Right now our immediate concern is ensuring Beltzville does not become a vehicle to spread hydrilla to other bodies of water within the region, including other USACE Philadelphia and Baltimore District dams in Pennsylvania."

This project would not be possible without DCNR staff deploying the wash station on weekends and assigning an interpretive ranger to provide assistance to users on operating the wash station. In addition, DCNR provides reference materials on invasive species and other clean water initiatives. According to Ben Monk, Beltzville PADCNR Park Manager, "The wash station has seen an overall positive reception from the public, especially throughout the busy summer months." Monk added, "Our staff loves to operate the washing station" – as they are able to educate visitors on the importance of safety and environmental stewardship. The washing station is gaining increased appreciation from boaters who understand the benefits of protecting the ecosystem while creating as safe a recreational experience as possible.



Photo by Josh Dinko. In collaboration with the Pennsylvania Department of Conservation and Natural Resources and other agencies, USACE has implemented a portable washing station to reduce the spread of the invasive hydrilla, an aquatic invasive species in the form of a plant mass that often attaches to boaters' anchor. The station was made possible through the USACE Handshake Partnership Program.

**NRM Knowledge Management Portal**



**Click here for portal link!**

The NRM Program has a series of pages on the Civil Work Knowledge Management Portal. Please be sure to visit: <https://usace.dps.mil/sites/KMP-CW/SitePages/Natural-Resource-Management.aspx> for program reports, newsletters, statistics, and links to various dashboards.

# Wetland Restoration and Creation at Raystown Lake

POC: Glenn Werner, [Glenn.E.Werner@usace.army.mil](mailto:Glenn.E.Werner@usace.army.mil)

USACE staff and multiple partners are near completion of an exciting project to restore and create new wetlands at Raystown Lake. This two-part project focused on:

1. Restoration of a failing 7.4 acre wetland complex in an area of the Raystown Lake Project known as the Corbin's Island Wetland.
2. Create a new 23.5 acre wetland complex along the Raystown Branch of the Juniata River.

The project included the creation of vernal pools, full pools, turtle nesting mounds, native wildflower meadows, planting of native trees/shrubs, and invasive species treatments.

Funding for this project was provided by Raystown's timber sales program. Raystown staff capitalized on strong timber markets during the pandemic all while meeting early successional land management goals. Revenues from the timber sale was utilized to fund 100% of this \$260K wetland project. Under the Fish and Wildlife Coordination Act, Raystown funds were sent to the USFWS for execution.

In addition to this wetland project, Raystown has begun creating small vernal pools under their Wildlife Enhancement Contract. To date, seven vernal pools have been created. Within one year these wetlands have been inundated with reptile and amphibian species.





## Engineering with Nature: W.P. Franklin South Recreation Area

---

*POC: Megan Parsons, Natural Resources Specialist*

W.P. Franklin South Recreation Area lies along the Caloosahatchee River in southwest Florida in an area that is rapidly losing natural habitat due to development and a massive influx of residents and tourists. Throughout the past year and a half, ideas and designs inspired by Engineering with Nature were implemented. This project entailed the transformation of a once grassy, unutilized 8.5-acre field back into a Florida native ecosystem in addition to the construction of an ephemeral wetland. Rangers and USACE volunteers worked endlessly to plant and maintain this newly reforested area and just recently hosted the final two, large-scale planting days with community volunteers. For National Pollinator Week and National Public Lands Day, a total of approximately 48,000 native wildflowers and grasses were planted. There has already been a noticeable increase in bees, native bird species, and butterflies, including the monarch!

---

**Benefits:** This reforestation aimed not only to provide habitat restoration and educational opportunities for the local community, but to help reduce operation and maintenance costs while implementing sustainable and energy efficient measures. Once mowing ceased, natural regrowth was promoted, encouraging a more diverse habitat which allowed for the return of native birds and various pollinator species. This site offers an interpretive trail and educational opportunities for the public and schools to learn about native species and habitat, as well as the benefits of ecosystem restoration. We hope that providing a green space for the public to enjoy will also increase visitation to our parks and allow trail access to the local community!



# Stewardship in SWD

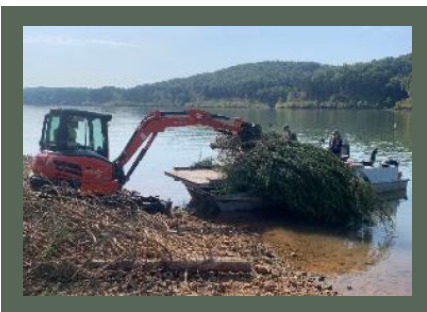
**1 Little Rock District (SWL).** Unfortunately, public lands in Arkansas and Missouri have a history of being looted and exploited of their cultural resources. To combat this on public lands, USACE SWL District Archaeologist, Allen Wilson, has partnered with Captain Brandon Bland of the USFWS to conduct training on cultural resources looting sites and cases of state game wardens in Arkansas. This program has occurred for a few years now and has resulted in additional investigations and interest from law enforcement officers at both a state and a federal level. Captain Bland's program has been so successful that Chief Vic Coffman, Regional Chief of Law Enforcement, USFWS, Division of Refuge Law Enforcement, Southeast U.S. attended and plans to use this as a model for future trainings.



**2 Bardwell Lake (SWF).** The Bardwell Lake team recently completed an archeological site repair in Waxahachie Creek Park. This project took several months of planning and coordinating with the necessary parties to ensure the site will be further protected and preserved. This project included the removal of a restroom, multiple campsites, picnic tables, and other improvements. Then 3,000 cubic yards of select fill was placed, leveled, seeded with native species, and covered with erosion control matting. The work was completed by MVK, the contractors, Trinity Regional Staff, and lake staff.



**3 Clearwater Lake (SWL).** The Clearwater Lake Project partnered with the Missouri Department of Conservation (MDC) to harvest and install over 100 cedar trees in the lake for fish habitat. The project office provided the trees and the equipment and operators to move the trees. MDC provided boats and labor to place the trees in the lake. Removal of the trees improved terrestrial habitat, and in turn, improved the aquatic habitat. This partnership aims to improve fishing opportunities for project visitors.



## In Case You Missed It...

### State of the World's Amphibians Report

Derived from the data of the second Global Amphibian Assessment, more than a decade of research on amphibians by over 1,000 experts has been compiled to assess the extinction risk of 8,011 species worldwide. The data delivers an incredibly alarming message – 2 in every 5 amphibian species are threatened with extinction. The amphibian crisis continues to worsen as pressures—largely driven by human activities - take hold. While habitat loss and degradation remain the most common threat to amphibians, an increasing number of species are being pushed to the brink of extinction by disease and climate change effects.

[https://nc.iucnredlist.org/redlist/resources/files/1696400756-SOTWA\\_GAA2\\_04Oct2023.pdf](https://nc.iucnredlist.org/redlist/resources/files/1696400756-SOTWA_GAA2_04Oct2023.pdf)

**State of the World's Amphibians:**

*The Second Global Amphibian Assessment*

 [Click here !](#)





### Some Interesting Reading & Viewing

- **Title:** Field Demonstration of a Peroxide-Based Algaecide for Harmful Algal Bloom Control in Lake Okeechobee
- **Report Number:** ERDC/EL TR-23-7
- **Link:** <http://dx.doi.org/10.21079/11681/47624>
- **Authors:** Benjamin P. Sperry, Bradley T. Sartain, Kurt D. Getsinger, Brianna Fernando, Kaytee L. Pokrzywinski, West M. Bishop, and Mark Heilman
- **Abstract:** Large-scale cyanobacterial harmful algal blooms (cHABs) in Lake Okeechobee, Florida, and connected waterways routinely impair water resources. This study conducted a field demonstration of a peroxide-based algaecide in 2020 in the Pahokee Marina on Lake Okeechobee to evaluate the algaecide's suitability for near-future operational implementation. Within minutes of treatment, rapid oxidation of cHAB cells occurred in the form of bleaching and cell lysis. However, inflows of cHAB-infested lake water in some portions of the treatment area resulted in lack of control at these sites. Because of their vulnerability to influxes of cHABs from surrounding nontreated waters via water-exchange processes driven by wind-induced surface currents, future applications must therefore consider treatment area size.

## Perry Lake Osprey Nest Project— First Recorded in Kansas

The osprey saga at Perry Lake started in 2019 during the record pool flood. Osprey were observed nesting in the Slough Creek arm of the lake. Due to rapidly rising pool levels, project personnel made the decision to relocate the nest. The relocation was attempted twice that year, but both attempts were unsuccessful due to continually rising lake levels. In 2020 and 2021 osprey were again observed but no nesting behavior. Spring of 2022, they returned, built a nest, and were observed sitting on eggs. Quickly rising lake levels again forced project personnel to relocate the nest. Again, the relocation was unsuccessful, this time due to a powerful thunderstorm knocking the nest over just a couple of weeks later.

This spring, the scenario was playing out the same. The osprey were back, they had begun nesting, and the lake was again rising rapidly. Once again, rangers and KDWP Game Wardens, and a Privates Lands biologist built a platform in a dead tree on the shoreline and relocated the nest. Within minutes the parents returned to the relocated nest. Two of the three eggs successfully hatched and both chicks fledged.

This was the first documented successful osprey nest in the state of Kansas and has gotten a lot of attention. Perry Lake hosted a media day with the District Commander in October to recognize the efforts of everyone involved. In addition, as part of the event, the Every Green Team installed a powerline-pole and new nest platform as a permanent, flood-proof nesting location for the osprey in the future.



### In Case You Missed It

Longleaf Partnership Council announced the release of the Range-wide Conservation Plan for Longleaf Pine (2025-2040)! This second iteration of the Conservation Plan guides the continued efforts to reach the goal of eight million acres of longleaf pine forest in the Southeast. While the strategies and objectives are updated for the next 15 years, the vision of America's Longleaf remains unchanged – to have functional, viable longleaf pine ecosystems with the full spectrum of ecological, economic, and social values inspired through a voluntary partnership of concerned, motivated organizations and individuals.

<https://americaslongleaf.org/media/a3zbnmzr/conservation-plan-2025-2040.pdf>





# Stewardship in MVD

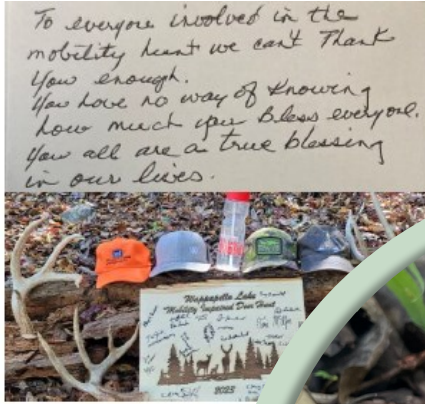
**1 Coralville Lake (MVR).** Several businesses near the Coralville Lake area now require their employees to obtain volunteer hours. In September, 10 employees from Mid-American Electric Company volunteered to assist with the difficult task or removing oriental bittersweet. Oriental bittersweet is an aggressive vine native to Japan and China that shades out and girdles native trees and shrubs. Park Rangers worked alongside the volunteers to physically cut the vine. While this effort will likely go unnoticed by many trail users, it is critical to the survival of native vegetation in the area. Several hundred plants were cut and removed to prevent them from spreading to desirable plants.



**3 St. Paul District (MVP).** The La Crescent environmental section collected acorns this fall at sites along the Mississippi River. Most of the acorns collected were swamp white oak and northern pin oak. These seeds will be grown into tree seedlings that will be planted back out onto the Mississippi River on project lands managed by the environmental section as well as on restoration projects through the Upper Mississippi River Restoration Program.



**2 Wappapello Lake (MVS).** The Wappapello Lake team hosted its annual two-day deer hunt for mobility impaired individuals. In all, 25 hunters harvested 13 deer and enjoyed the deer camp atmosphere. The event was conducted in partnership with the Missouri Department of Conservation (MDC), the National Wild Turkey Federation (NWF), The Wake Foundation, and the Missouri National Guard. During the event, hunters were accompanied by volunteers and partner representatives who provided assistance with safety efforts and harvested deer.





## Reservoir Fisheries Habitat Partnership FY 2025 Large Grant Applications

The Reservoir Fisheries Habitat Partnership (RFHP) is proud to announce their Request for Proposals for federal FY 2025 funding of fish habitat enhancement projects in reservoirs.

- The RFHP is a nationwide partnership established to promote and facilitate the conservation of habitat for fish and other aquatic species in reservoirs.
- RFHP anticipates approximately \$250,000 in funding for “on-the-ground” projects in FY2025. Grants will be capped at \$75,000, but grants for lesser amounts will be considered. Bear in mind that the grant request must be matched by a minimum of 1:1 nonfederal funds.
- Eligible applicants include state and federal governmental agencies; non-governmental organizations (e.g., sportsman’s groups, community associations, watershed user groups, cooperatives, civic groups), municipalities, universities, schools, state and tribal governments.
- **Projects must be on public reservoirs. Applications are due by 11:59pm central time on February 10, 2024.**
- All applications for the RFHP are submitted through RFHP’s online application portal at <https://www.friendsofreservoirs.com/grants/submit-a-project/large-grant/>
- For questions relative to project development and submission contact: Doug Nygren, Coordinator, Reservoir Fisheries Habitat Partnership; 316-213-1975; [doug.nygren@gmail.com](mailto:doug.nygren@gmail.com)

## In Case You Missed It: USACE Joins Stop Aquatic Hitchhikers Campaign

HQ USACE has signed up to be a national partner with the Stop Aquatic Hitchhikers campaign. The “Stop Aquatic Hitchhikers Campaign” is a national partnership campaign created by the U.S. Fish and Wildlife Service. Partners are committed to achieving meaningful and successful fish and wildlife conservation through preventing the introduction and spread of aquatic invasive species. The brand focuses on preventing the spread of aquatic invasive species by empowering individuals with new cleaning behaviors associated with recreational pathways. The campaign promotes awareness, understanding and stewardship behaviors by providing a clear call to action to be informed, vigilant and responsible for preventing the spread of aquatic invasive species.

To learn more about the program, visit: <https://stopaquatichitchhikers.org/>.

Brand standards for use of the campaign logos and materials along with detailed graphics can be downloaded from here:

<https://stopaquatichitchhikers.org/campaign-resources/graphics-library/>

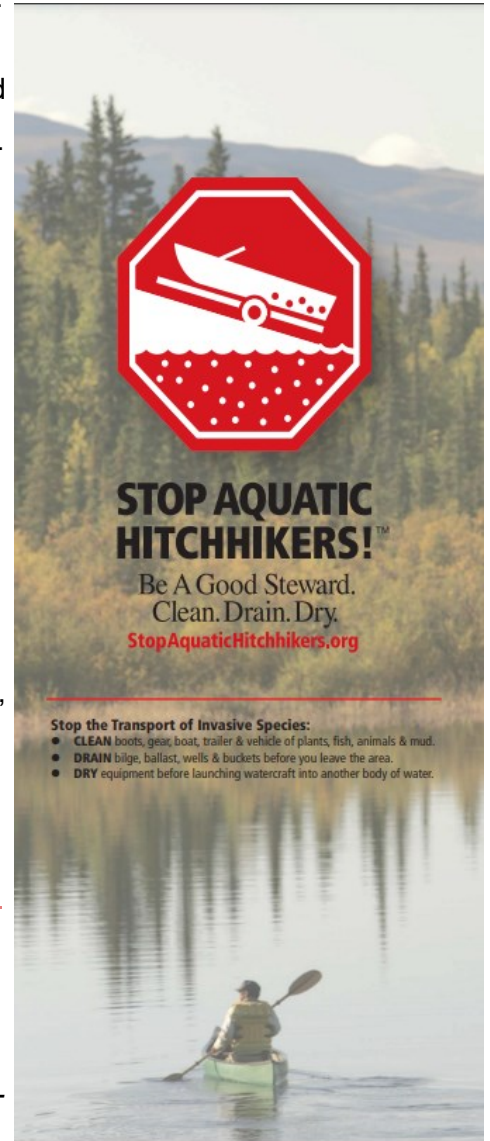
 **Click here !**

USACE POC is Heather Burke, National Partnership and Volunteer Program Coordinator.

Specific questions about the campaign, logos, and brand standards can be sent to [info@stopaquatichitchhikers.org](mailto:info@stopaquatichitchhikers.org).

 **Click here !**

*Photo Top Circle: Lake Red Rock artificial fish habitat structure construction.*



# STOP AQUATIC HITCHHIKERS!™

Be A Good Steward. Clean. Drain. Dry.  
[StopAquaticHitchhikers.org](http://StopAquaticHitchhikers.org)

# Midwinter Bald Eagle Survey—The time is almost here!

**POC: Mike Vissichelli, Operations Program Manager, NAD, [Michael.G.Vissichelli@usace.army.mil](mailto:Michael.G.Vissichelli@usace.army.mil)**

The purpose of the Midwinter Bald Eagle survey is to monitor the status of Bald Eagle wintering populations in the contiguous United States by estimating national and regional count trends, overall and by age class. Each January, several hundred individuals count eagles along standard, non-overlapping survey routes.

**The 2024 Midwinter Bald Eagle Survey will be held from Wednesday, 3 January 2024 to Wednesday, 17 January 2024 with target dates 5-6 January 2024.**

Prior to the start of the 2024 Midwinter Bald Eagle Survey further details will be provided to assist with field data collection for 2024 and entry of past data. We will continue to use the same Survey 1-2-3 tool as in 2023; however, with a much easier permission process. The tool will allow surveyors to enter data into an online application and directly upload into the Avian Knowledge Network (AKN). The AKN will store the data and make it available for access by others for use in future analysis. **A webinar as well as a short tutorial video will be provided to ensure all surveyors are familiar and comfortable with use of the app.**

**i** More info and webinars will be posted to the NRM Gateway! Click Here!

## Background

Nationwide counts of eagles were coordinated by the National Wildlife Federation from 1979 until 1992, when the Raptor Research and Technical Assistance Center (now U.S. Geological Survey (USGS), Snake River Field Station) assumed responsibility for overseeing the count. Initial objectives of the survey were to establish an index to the total wintering Bald Eagle population in the lower 48 states, to determine eagle distribution during a standardized survey period, and to identify previously unrecognized areas of important winter habitat. In 1986, Millsap (Wildl. Soc. Bull. 14:433-440) reported results of the midwinter survey from 1979 through 1986.

Beginning in 1984, National Wildlife Federation officials asked participants in each state to count eagles along standard routes to provide data on count trends. Standard survey routes were defined as clearly described areas where eagles had been observed in the past. Federation guidelines stipulated that standard surveys be conducted by the same number of experienced observers using the same method (e.g., fixed-wing, helicopter, boat, vehicle) at approximately the same time of day each year.

## Methods/Results

Observers now conduct surveys on standard routes during the first 2 weeks of January each year, usually on 1 or 2 target days. Most survey participants are employees of state or federal conservation agencies, but private volunteers also participate in the survey. Coordinators from each state are responsible for organizing local counts, enlisting survey participants, and compiling data to eliminate duplicate sightings and overlapping routes. Sizes of survey routes vary from single fixed points to 150 miles. Approximately 44% of the surveys are conducted from vehicles. 18% are conducted from fixed wing aircraft; 8% are collected from boats; and 7% are conducted by helicopter. Due to weather and staffing limitations, not all standard routes are surveyed every year. Twenty-seven states identified and began surveying standard routes in 1986; other states did not begin standard surveys until the mid-1990s. Some states stopped participating in the count in the 1990s. The number of states participating each year has ranged from 38 to 49, and the number of standard survey routes per state ranges from 1 to 80.

**To view or download raw data or summary information from the 1986-2005 trend analysis, go to:**

**<https://gis.nacse.org/eagles/sumtrend-simple.php>**

The annual midwinter survey represents a unique source of long-term, baseline data. Unlike nesting surveys, it provides information on both breeding and nonbreeding segments of the population at a potentially limiting time of year. It also provides an opportunity to monitor modifications or threats to habitat at important wintering areas. The count has become a tradition that will likely continue in many states. In addition to providing information on eagle trends, distribution, and habitat, the count has helped to create public interest in Bald Eagles and their conservation.

*Photo by Ann Marie DiLorenzo*

