



Stewardship

news

YOUR Thoughts

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

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.

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Your Stewardship HQ Update

POC: Michael Richards, Acting ENS Business Line Manager, HQUSACE, 202-761-4704.

I want to thank you for your support during my detail as Acting Environmental Stewardship Business Line Manager. It has been a fantastic experience in seeing the broad expanse of the ENS program and your efforts to manage the natural resources that we are entrusted to sustain for the American public. The articles within this newsletter are indicative of the challenging and diverse work that you perform in meeting the ENS mission and supporting other USACE missions. At the time of the last newsletter, the FY21 budget process had reached the Headquarters level for review; now it has been submitted, as required by the process, and is moving forward. We are now looking towards the FY22 budget build so it's not too early to start planning your FY22 budget requirements. The 2019 NRM Assessment just opened and I encourage all of you to take time to check the accuracy of your data as you go through the assessment. This data is used often to show work that you have accomplished and areas in need of resources. As the FY19 year closes, the ENS program faces many

challenges managing the natural resources entrusted to us moving into FY20. A few of which are maintaining the integrity of the government boundary, control of invasive species, sustaining and improving special status species, and protecting cultural resources. One of the best ways we can over-

"The nation behaves well if it treats the natural resources as assets which it must turn over to the next generation increased; and not impaired in value." -President Theodore Roosevelt

come these challenges is communication and sharing of successes throughout our community of practice and our enterprise. We have several opportunities to do this such as the recent webinar on LAERF (Lewisville Aquatic Ecosystem Research Facility) that Jeff Piscanio and the SAT (Stewardship Advisory Team) hosted, the ENS 101 course, the basic e-mail and this newsletter to name a few. I appreciate all who contributed an article to this edition and encourage you to continue submitting more examples of the work we do each day!

Project Spotlight: Walla Walla District

A Grand Finale to the Lower Snake River Fish & Wildlife Compensation Plan

POC: Brad Trumbo, Wildlife Biologist, Walla Walla District

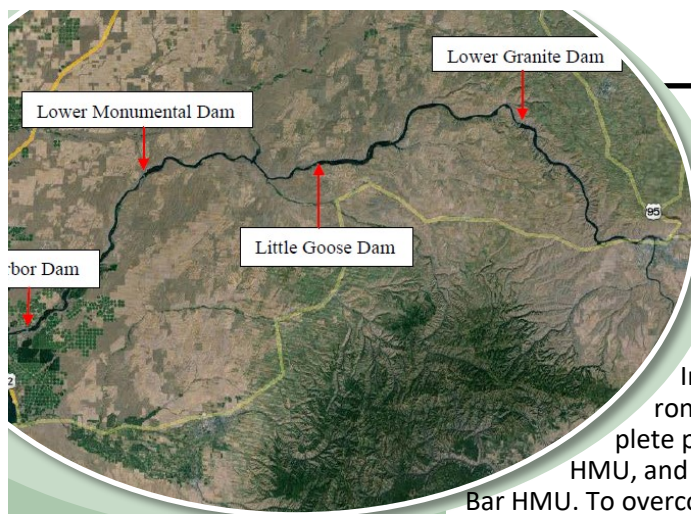
Wildlife habitat enhancements are an ongoing Natural Resources Management (NRM) team activity in the Walla Walla District, authorized initially under the Water Resource Development Act of 1976 with the publishing of the Lower Snake River Fish and Wildlife Compensation Plan (Comp Plan). USACE drafted the Comp Plan to satisfy requirements under the Fish and Wildlife Coordination Act of 1958 to mitigate for lost recreation opportunities subsequent to the construction of the four lower Snake River dams.

Under the Comp Plan, USACE managed lands on the lower Snake River, along with lands purchased and leased in adjacent areas of southeast Washington were to be developed for terrestrial wildlife habitat, creating Habitat Management Units (HMU). Originally, Comp Plan mitigation goals were based on the number of animals present on lower Snake River lands prior to inundation. This approach was later found to be untenable and adjusted to assess measures of habitat suitability in lieu of animal abundance.

Photo Left: Central Ferry rabbitbrush (Fall 2018).

Article continued on page 2.





Lower Snake River Project

The Lower Snake River Project (LSRP) was authorized by Congress under the Rivers and Harbors Act of 1945. The LSRP consists of Ice Harbor, Lower Monumental, Little Goose and Lower Granite Dams. The authorized purposes of the LSRP include navigation, irrigation, and hydroelectric power production. Recreation and fish and wildlife enhancement became authorized project purposes through subsequent legislation. While Congress authorized the LSRP, the legislative language did not address fish and wildlife losses resulting from the LSRP or mitigation for any of the losses. To address requirement of the Fish and Wildlife Coordination Act of 1958, USACE developed the Lower Snake River Fish and Wildlife Compensation Plan, published in June 1975. The Comp Plan was subsequently amended by WRDA 1986 and WRDA 2007.

SPECIAL REPORT

LOWER SNAKE RIVER FISH AND WILDLIFE COMPENSATION PLAN



Providing high quality riparian habitat along the lower Snake River has been challenging. The shallow soil and dry climate in southeast Washington present formidable conditions for riparian plant survival where shrub-steppe habitat would have naturally occurred prior to inundation. The ability to tap plant roots into the water table is important for plant survival, but arduous and tricky among subsurface basalt columns and other varying, site-specific hardpan conditions.

In 2016, USACE awarded the final Comp Plan planting contract to Environmental Assessment Services (EAS) in Richland, Washington, to complete plantings of 40 acres of riparian and upland species at Central Ferry HMU, and 20 acres riparian at Rice Bar HMU. To overcome the complicated environmental obstacles, we cooperated with EAS on a rigorous approach to site preparation and plant establishment involving geophysical surveys, "contouring", and deep root irrigation.

The geophysical survey results identified areas of shallow soil and basalt that were avoided, as well as the approximate water table location. Specific riparian planting acreage at both Central Ferry and Rice Bar HMUs were excavated to a defined elevation (contour) several feet below grade. Bands or ribbons of plantings were created where trees like willow and cottonwood species could be stabbed deep into perennial water.

Weed matting and protective cages were installed to limit deer browse and competition from invasive species and upland plants received deep-root watering. Watering tubes were inserted 14 inches below grade into the roots and watered regularly, encouraging root growth down into moist soil rather than along the dry surface soil which can limit long-term plant survival.

The final planting inspection occurred in June 2019, providing inspiring results. The willow and cottonwood whips that once protruded only a foot from the soil surface, now towered overhead in many areas, creating tunnels of shaded wildlife refuge. The contours transformed a once flat terrain into a maze of mounds and troughs providing wildlife shelter from visibility and elements.

Upland plant growth exploded at Central Ferry as well. Rabbitbrush quadrupled in size, blue elderberry was in full bloom producing large berry clusters. Seafoam-green tendrils of winterfat reached skyward, and the piquant aroma of sage wafted distinctly on the breeze. Despite the challenges of habitat restoration efforts along the lower Snake River, survival estimates far surpassed the 65 percent standard for all plantings; a largely unprecedented result relative to previous efforts.

In September 2019, USACE will regain control of 60 acres of high-quality, functional habitat; a boon to our recreation and environmental stewardship missions. When considered in the grand scheme, these plantings coupled with ongoing NRM programs, bolster the increasingly valuable resource for wildlife and the public that is our USACE managed public lands.



Photo Top: Rice Bar Pre-Planting (2016).

Photo Middle: Rice Bar Initial Planting (2017). Photo Bottom: Rice Bar with Elderberry, Final Inspection.

ERDC—Environmental Lab Provides Assistance in Research and Technical Expertise from Project to National Scale

POC: Nathan Beane and Linda Nelson, Engineer Research and Development Center (ERDC)

USACE natural resource managers are responsible for the stewardship of approximately 12 million acres and more than 500 species of concern. As science and technical expertise evolves to improve management actions and minimize environmental impacts, the assistance to implement those actions is often needed. To help address this need, the Engineer Research and Development Center (ERDC), Environmental Laboratory (EL) manages a variety of research and technical assistance programs that support USACE Civil Works and its stewardship mission to manage, conserve, and protect natural and cultural resources at USACE projects.

The ERDC-EL research programs are charged with advancing the science to provide solutions to environmental problems managers face in the field. Research topics include, but are not limited to, identifying impacts and best management practices for invasive species, determining environmental solutions to dredging operations, and providing forest management and ecosystem restoration guidance. With the wide range of research efforts and technical expertise charged to these programs, we encourage you to go to each of the websites and explore the report libraries, webinar archives, and available engineering tools and models that could assist you with natural resource management at your project.

The second resource available to USACE projects are technical assistance programs. ERDC-EL has three programs that offer on-the-spot assistance and technology transfer to requesting Districts at no cost to the recipient. This typically entails an ERDC researcher visiting a project with district personnel to identify the management challenges. Following the site visit, a summary report will be provided detailing the management issue and considerations to address the concern moving forward.

While the technical assistance programs are directly related to a pressing issue at a specific locality, the research programs accept Statement of Needs (SONs) each year, to address problems at a regional or national scale. Upon submission, all SONs are reviewed and prioritized by Research Area Review Groups (RARGs) that include representatives from USACE Districts and Divisions.

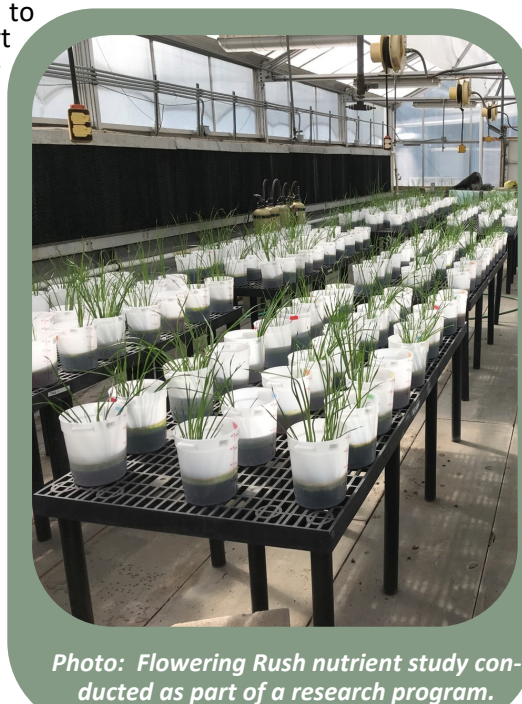


Photo: Flowering Rush nutrient study conducted as part of a research program.

Continued on page 4.

A quick review of the research and technical assistance programs:



The **Aquatic Nuisance Species Research Program (ANSRP)** develops improved strategies for detection, prevention and management of aquatic invasive species that impact USACE projects. The current research priorities include invasive fish (e.g., Asian carp, sea lamprey), mussels (zebra and quagga) and cyanobacteria that cause harmful algal blooms.

Program Manager: Dr. Linda Nelson
Website: <https://ansrp.el.erd.c.dren.mil/>

CLICK HERE!



The **Aquatic Plant Control Research Program (APCRP)** is the nation's only federally-authorized research program that addresses invasive aquatic plants. The APCRP develops effective, economical and environmentally compatible methods for assessing and managing problem aquatic vegetation. Current research focus areas include biological and chemical control, ecological assessment, innovative management strategies and applications, and nuisance algae.

Program Manager: Dr. Linda Nelson
Website: <https://apcrp.el.erd.c.dren.mil/index.htm>

CLICK HERE!



Photo Below: Aquatic plant research in an ERDC growth chamber.

Understanding Statement of Needs

If you have a burning research question that is not currently being addressed by these programs, submit a Statement of Need (SON). SONs provide a mechanism to support research to address a deficit in technical, policy, or procedural guidance or practices relevant to the execution of USACE missions. Effectively addressing these needs can greatly impact and provide solutions to the issues you must manage for at your project. To submit a SON for funding consideration for fiscal year 2021, submit your ideas by December 31, 2019.

An online form is available at: <https://cw-environment.erd.c.dren.mil/needs.cfm?CoP=Env>.

CLICK HERE!

Assistance in Research and Technical Expertise

Continued from page 3.



Learning About ERDC

The U.S. Army Engineer Research and Development Center (ERDC) was established October 1, 1998 as one of the premier engineering and scientific research organizations in the world.

Did you know that ERDC:

- Manages 5 major Department of Defense Supercomputer Resources Centers, with a capability of 3.5 quadrillion calculations per second,
- Has the world's most powerful centrifuge,
- Has an endangered species laboratory,
- And, an 1800 foot coastal research pier!

Photo above: Hyacinth field research conducted by ERDC team members.



The **Dredging Operations and Environmental Research (DOER) Program** provides research to meet the complex economic, engineering, and environmental challenges of dredging and disposal in support of the navigation mission. DOER promotes innovative solutions that expand the practical knowledge of dredging and the management of dredged material.

Program Manager: Dr. Todd Bridges;

Assistant Program Manager: Mr. Daniel Farrar

Website: <https://doer.el.erdc.dren.mil/index.html>

CLICK HERE!



The **Ecosystem Management and Restoration Research Program (EMRRP)** is focused on improving our fundamental understanding of the physical and biological processes and interactions within ecosystems. This entails developing modeling tools to enable rapid assessment of the impacts or benefits associated with different management strategies or restoration efforts, developing tools and

guidelines informing alternatives comparisons and decision-making, and developing training to enable the broad application of the tools developed under the program.

Program Manager: Dr. Trudy Estes

Website: <https://emrrp.el.erdc.dren.mil/index.html>

CLICK HERE!



The **Dredging Operations Technical Support (DOTS)** provides environmental and engineering technical support to USACE Operations and Maintenance navigation and dredging missions. Technology transfer products and activities support diverse field needs that directly benefit navigation and dredging operations throughout the United States. To submit an on-line request for assistance, visit the DOTS website.

Program Manager: Dr. Burton Suedel

Assistant Program Manager: Mr. Justin Wilkens

Website: <https://dots.el.erdc.dren.mil/>

CLICK HERE!



The **Water Operations Technical Support (WOTS)** Program provides effective environmental and water management engineering technology to address a wide range of water resource management problems at Corps of Engineers reservoir and waterway projects, and in the river systems affected by project operations nationwide.

Program Manager: Dr. Pat Deliman

Website: <https://wots.el.erdc.dren.mil/>

CLICK HERE!



The **Wetlands Regulatory Assistance Program (WRAP)** supports the USACE Regulatory Program by providing scientific-based information addressing national and regional level issues related to wetland and stream delineation and science. WRAP ensures current science and technology is incorporated into Regulatory practices to support sound and legally defensible decision-making. To submit a request for assistance, contact the WRAP. Program Manager, Ms. Sally Stroupe

Website: [https://wiki.erdc.dren.mil/Wetlands_Regulatory_Assistance_Program_\(WRAP\)](https://wiki.erdc.dren.mil/Wetlands_Regulatory_Assistance_Program_(WRAP))

CLICK HERE!

Alternative Thinking for Boundary Management

Article provided by: Ashleigh Boss, ORISE Intern, IWR Natural Resources Management Support Program

With over 12 million acres of fee title and flowage easement lands and more than 36,800 miles of boundary under USACE supervision, boundary management is no small task. Suburban and commercial development is on the rise, creating the potential for more frequent encroachments, trespasses, and negative environmental impacts on our projects. This potential could be minimized by utilizing various programs at national, regional, and local scales. Each program is unique, but typically offers financial and/or technical assistance to land owners for managing their land in ways that continue or improve agriculture, improve land for wildlife, and/or benefit conservation goals.

By educating adjacent landowners about available opportunities they may be incentivized to maintain undeveloped lands. This is good for the project because it minimizes the risk of encroachment and has positive environmental impacts. This approach has the potential to create and/or enhance wildlife habitat and potentially support wildlife corridor concepts that are being pushed at interagency levels. Perhaps most importantly, this approach creates good neighbors. Such a strategy is likely not feasible in most urban settings, but could be significant in areas not yet under development pressure.

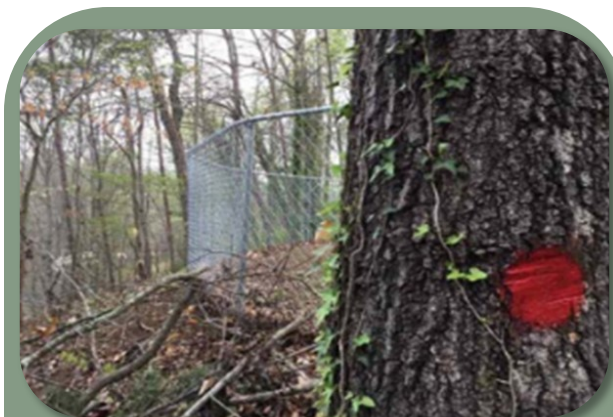
The Natural Resource Conservation Service has seven such programs available nationwide.

- Regional Conservation Partners Program (RCP),
- Environmental Quality Incentives Program (EQIP),
- Healthy Forest Reserve Program (HFRP),
- Agricultural Conservation Easement Program (ACEP),
- Conservation Stewardship Program (CSP),
- Agricultural Management Assistance (AMA),
- Voluntary Public Access and Habitat Incentive Program (VPA-HIP).

The particulars of each program varies, but typically involves a contract of up to 10 years, technical assistance, and financial incentives. Land owners can contact their local office for more information or log on to NRCS Conservation Client Gateway.

Other national agencies also offer similar programs that provide incentives for landowners to leave land undeveloped and/or improve natural resources. The Farm Service Agency offers the Conservation Reserve Program (CRP). The Forest Service offers both the Forest Stewardship Program (FSP) and the Forest Legacy Program (FLP). There are also species specific initiatives that benefit entire ecosystems. These include Endangered Species Grants from the U.S. Fish and Wildlife Service and The USDA's Working Lands for Wildlife program which covers 26 unique species across 48 states.

These are only the tip of the iceberg! More opportunities exist at the regional scale, local scales, and even from private organizations (I.E. Walmart's Acres for America program).



Click Here to Access the NRCS Conservation Client Gateway.

"The Forest Stewardship Program (FSP) of the U.S. Forest Service works in partnership with state forestry agencies, cooperative extension, and conservation districts to connect private landowners with the information and tools they need to manage their forests and woodlands. Actively managed forests provide timber, fuel wood, wildlife habitat, watershed protection, recreational opportunities, and many other benefits. They also benefit adjacent National Forest System lands by creating healthier, more resilient landscapes overall."
- USDA

Policy Guidance:

USACE Boundary Management and Encroachment Resolution

Have YOU Read It?

Issued May 10, 2019, this memorandum provides guidance on the boundary management and encroachment resolution process for improvement of preventing encroachments and increase efficiency of managing boundary assets. In Fiscal Year 2016 the Army Audit Agency (AAA) team conducted an audit of the boundary management program including boundary controls and encroachment resolution. The team identified three areas for improvement : prevention, management, and resolution of encroachments. This memorandum builds on those recommendations along with other internal business practices to improve USACE management of the fee and easement boundaries.

Click Here to access the policy posted on the Gateway!

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W-CO

MAY

MEMORANDUM FOR COMMANDERS, MAJOR SUBORDINATE COMMAND DISTRICT COMMANDS

SUBJECT: Policy Guidance – U.S. Army Corps of Engineers Boundary Management and Encroachment Resolution

1. References.

- a. 2018-0060-IEE Prevention and Resolution of Encroachments.
 - b. ER/EP 1130-2-540, Environmental Stewardship Operations and Maintenance Policies.
 - c. EP 1130-2-550, Recreation Operations and Maintenance Policies, Ch Non-recreation Outgrant Policy.
 - d. ER 405-1-12, The Real Estate Handbook.
 - e. ER 1130-2-406, Shoreline Management at Civil Works Projects.
- Civil Works Land Data Migration Policy, 23 December 2013.

Treating Amur Honeysuckle at Caesar Creek Lake

POC: Matthew Palmer, Clarence J Brown Dam and Reservoir, 513-491-4525

Like many children in rural southern Ohio, I grew up spending my free time outdoors exploring the woods; whether I was building a treehouse in the forest or flipping over rocks in an ephemeral stream. Fortunately for me, this was before Amur honeysuckle (*Lonicera maackii*) invaded the understory and created a monoculture shading out native plants and making it impossible to walk unimpeded through the woods. Without honeysuckle, we were able to walk freely through woodlots, spotting unique flowers, wildlife, and each other playing Seek and Destroy.

Caesar Creek Lake, which is just north of Cincinnati, Ohio, has been fighting honeysuckle since the late 1990s. With limited budget and manpower, site selection is a challenge. The southern portion of the property shares a property line with Ohio Department of Natural Resources (ODNR), Division of Natural Areas and Preserves (DNAP). Fortunately for Caesar Creek, DNAP specializes in protecting natural areas of ecological significance. The Caesar Creek and DNAP staff have partnered for over

Caesar Creek Lake

Caesar Creek Lake, a 2,830 acre lake in the Louisville District, was authorized under the Flood Control Act of 1938. Caesar Creek exists as a cooperative management effort between USACE and the Ohio Department of Natural Resources - Divisions of Parks and Recreation, Wildlife, and Natural Areas and Preserves.



Amur honeysuckle was introduced to southern Ohio and has since become the dominant shrub in many woodlots and brush rows in the region. The invasive bush produces a little red fruit, which is readily dispersed by birds. It outcompetes native plants by leafing out earlier in the spring and retaining its leaves later in the fall. Effects of this growth strategy block out sunlight reducing successful growth of native tree seedlings, grasses, and forbs.

23 years battling honeysuckle in the Caesar Creek Gorge so that it may maintain its ecological significance and natural aesthetic beauty. Almost all the effort of clearing honeysuckle was limited to this small gorge. Neither agency had the manpower or budget to adequately control honeysuckle throughout their property boundaries. The primary method of control was stump treatment. Although effective, the method is slow and time-consuming, which left us wanting a more efficient method of control so that the fight could be expanded beyond the small gorge area.

In 2013, I attended a bird banding meeting in Cincinnati at Sharon Woods of Great Parks of Hamilton County. As part of the meeting, Great Parks of Hamilton County provided presentations of their natural resource management efforts at Winton Woods (West Fork – USACE). The most intriguing presentation was their use of foliar spray for honeysuckle treatment on a large scale. Since honeysuckle kept its leaves late into the fall, it was feasible and cost efficient to spray herbicide onto the leaves of the bush with minimal risk to the dormant native flora. Essentially, they were using one of honeysuckle's advantages against it in order to kill it. The late-fall foliar application method had been noticeably successful at Winton Woods and was cost efficient.

Eager to apply this new found knowledge, a scope of work was quickly written to apply the foliar method at Caesar Creek Lake. The contract was awarded as a negotiated work Indefinite Delivery Indefinite Quantity (IDIQ) contract. The contract provides Caesar Creek with two different methods of killing honeysuckle. Cut stump treatment during the native growing season and large scale foliar treatment post native growing season. The foliar method proved to be cost effective when treating large acreages. Another benefit of the contract is that task orders may be issued against the contract in a relatively short timeframe, which enables efficient obligation of end of year funds. The first task order of the contract resulted in 25 acres being treated in the fall of 2018.

Now that 25 acres will be free of honeysuckle at Caesar Creek, native tree seedlings, shrubs, and plants will be able to grow and regenerate the forest. Soon white trillium, the state wildflower of Ohio, will bloom amongst jack-in-the pulpit and may-apples. Just as importantly, children will be able to see what the southwestern Ohio forest understory once looked like, without the monoculture of invasive honeysuckle.



Photo Top and Bottom: Honeysuckle Before (Top) and After (Bottom) treatment.



Some Interesting Reading & Viewing

1 For your reading pleasure, several new publications are available from the Aquatic Plant Control Research Program (APCRP) and the Aquatic Nuisance Species Research Program (ANSRP). All publications are generated from research funded by these two programs and are archived on the APCRP and the ANSRP websites; the archives are updated quarterly.

[Click Here To Access the APCRP Website!](#)

2 Looking for some good information on Asian Longhorn Beetle? Click this USDA Link.

[Click Here For USDA Link!](#)

3 A Live Aquatic Bait Pathway Analysis was conducted to determine the state of the live bait industry in the Mississippi River Basin and identify the laws, regulations, policies, and procedures that guide it. This report was undertaken to examine the risk of introducing nonindigenous animals, plants and pathogens via live aquatic bait movement. The Live Aquatic Bait Pathway Analysis final report, was a project funded by the Mississippi River Basin Panel of the Aquatic Nuisance Species Task Force.

[Click Here For MRBP Website!](#)

4 Did you know that a USACE wide Aquatic Plant Control Operations Support Center was established to support the Removal of Aquatic Growth Project? It is based in Jacksonville District's Invasive Species Management Branch. Watch this awesome video on their work with flea beetles for alligator weed management!

[Click Here For Video!](#)

ENS 101

The second class of ENS 101 was held from August 19-22 at Saylorville Lake in Iowa. A total of 19 students, from 9 districts, participated in the 3.5 day class. (After the pilot offering an additional 1/2 day of instruction was included).

The objective of this course is to provide an introduction to the guiding principles of the Corps' environmental stewardship program. The course provided employees a foundation in the principles of natural resource management, regulations and laws that guide the program, and awareness of the resources available to support management of an ENS activities at the project level.

While the next offering of ENS 101 has filled to capacity, additional classes are being planned for late 2020 and early 2021. Stay tuned!

Photo Top: Natural Resource Specialist Justin Edwards leads a field session focused on partnership work with the USFWS and the Sustainable Rivers Program. **Photo Middle:** Natural Resource Specialist Coty Thompson leads a field session focused on equipment needs and use for ES work in addition to prairie management strategies. **Photo Bottom:** Class picture in front of the Saylorville Administration Office.



Black Carp Entrainment Documented at Bonnet Carre Spillway

The Environmental Laboratory (EL) Fish Ecology Team caught five Black Carp last week while rescuing federally endangered Pallid Sturgeon entrained through the Bonnet Carre Floodway. Black Carp are one of four invasive Asian carp species in the US; this was the first ever capture of Black Carp documented this far down the Mississippi River. The team is also tagging and releasing Bighead, Silver, and Grass Carp to monitor potential dispersal pathways via Lake Pontchartrain, which is the receiving waterbody from the Bonnet Carre Spillway. Bighead and Silver Carp now occur in the Pearl River, the most likely pathway being inter-basin transfer during floodway operations in 2008 and 2011. Collection of Black Carp at the Bonnet Carre suggest that floodway operations may present a risk of Black Carp introduction into the Pearl River. Black Carp are molluscivores and could possibly threaten populations of endangered mussels occurring in the Pearl River and other drainages. The Fish Ecology Team is also researching salinity tolerances of Asian carp with funding from the Aquatic Nuisance Species Research Program. To date, the data suggest that Bighead Carp can survive salinity levels from 10-12.5 ppt indicating brackish water may not limit Asian carp movement. *Photo Top: Provided by Linda Nelson: Steven George, EL fish biologist, holding a 37-lb Black Carp caught with a net last week at the Bonnet Carre.*

