



US Army Corps  
of Engineers®

# Stewardship

## news

**YOUR Thoughts** Volume 1, Issue 3: September 2018

We are looking for contributors and ideas .

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

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*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. Managing Editor: Tara Whitsel.*

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## Your Stewardship HQ Update

**POC: Roseana Burick, Acting Business Line Manager for Env. Stewardship, 202-761-4704.**

I would like to take this opportunity to thank everyone for the warm welcome as I've taken on the acting role of the Environmental Stewardship Program Manager. Having started the assignment in July, I jumped right into the FY20 budget build and FY19 Work Plan here at HQ. This has been an enlightening experience, and I now know more about the Remaining Items budget than I ever thought I would.

***"Stay the course and focus on our work".***

***-Chief of Engineers,  
Lt. Gen Todd Semonite***

As I move forward in this detail, some goals are to move the updated ER/EP 1130-2-540 into publication, complete the FY19 Work Plan, and update the FY21 ENS Budget Program Development Manual. In addition, there is an ENS 101 course, developed for new rangers, coming along and expected to be hosted at the end of January 2019 at J. Percy Priest outside of Nashville, TN. Keep an eye out for more details on the course and registration. The Environmental Stewardship section of the NRM Gateway is currently being revamped and is expected to be fully operational the beginning of 2019. See the end of this Newsletter for additional information.

As we move forward many of us are wondering about the impact of the recommendation to moving the Corps Civil Works program to DOT and DOI. I wanted to pass along this message from HQ.

"Stay the course and focus on our work. Regarding the Civil Works Reorganization and planning effort, further discussions between USACE, Army, and potentially Congress are needed before beginning planning efforts and there is no timetable for this discussion. For now, the Chief's guidance remains the best guidance -- focus on our work."

***I look forward to continue working with everyone and focusing on stewardship!***

## Project Spotlight: Repatriation at Lake Kaweah

**POC: Timothy Warner, Sacramento District, 916-557-5279.**

In late September of 2016, human remains were observed eroding out of the shore at Lake Kaweah. In compliance with the Native American Graves Protection and Repatriation Act (NAGPRA, 25 U.S.C. § 3001 et seq.), the US Army Corps of Engineers (USACE) prepared a Plan of Action (POA) prior to the intentional excavation of the human remains and/or cultural items. The POA was developed (2017) and is intended to remain in effect for ten years after its execution and will provide for quick implementation when more remains are exposed in the future. The POA includes sections discussing (1) the kinds of objects considered as cultural items, (2) the information used to determine custody, (3) the treatment of the human remains and cultural items, (4) the archaeological documentation of the human remains and cultural items, (5) an inventory, (6) consultation, (7) proposed traditional treatment, (8) reports, and (9) the disposition of human remains.

In December 2017, human remains were removed from Site CA-TUL-008 at Lake Kaweah in Tulare, CA. The remains were exposed by erosion from changing water levels within the Lake Kaweah reservoir pool.





### Lake Kaweah

Located just a few miles outside of Sequoia National Park, Lake Kaweah was formed by the construction of Terminus Dam on the Kaweah River in 1962 to provide flood damage reduction and water conservation. In addition to providing various activities for visitors, the water retained in the reservoir is 100 percent agricultural water for California's South central valley.

Terminus Dam was originally constructed as an earthen dam and was later expanded on utilizing 21-foot-tall fusegates, the largest in the country. Energy production was added in 1990 with the construction of the Terminus Power Plant. The hydroelectric plant produces an average of 40 million kilowatt-hours of electricity annually, which is equivalent to 67,000 barrels of oil.

The site was professionally excavated and inventoried by archeologists from Sacramento and St. Louis Districts to prevent further scattering. The removal was a 10 day race against rising water levels as the lake filled for the flood season. Associated funerary objects were also recovered including pottery shards, stone tools, and beads. A detailed assessment of the human remains was made by USACE's professional staff in consultation with representatives of both Santa Rosa Rancheria Tachi Yokuts, and the Tule River Indian Reservation.

On 17 May 2018, Sacramento District staff hosted a repatriation event for the Tule and Santa Rosa Rancheria Tachi-Yokuts tribes at Lake Kaweah. There were over two dozen participants at the ceremony to include Tribal and Spiritual Leaders, Tribal singers, Tribal cultural resource team members, and USACE employees. The collaborative effort between USACE and the local tribes resulted in powerful and moving moments as the remains of 13 individual were laid to rest.

The recurring discovery of remains eroding from the lake suggests that the problem will continue in future years. Having a dedicated and secure area to respectfully place discovered remains at Lake Kaweah for the life of the Project will endure for generations to come.



**Photo Left:** Sacramento District staff and local tribes were able to excavate human remains at an eroding site on Lake Kaweah's shoreline. After an inventory was completed, the staff was invited to the reburial ceremony.

## Handshake Partnership Program:

### A Friendly Reminder

This is just a friendly reminder to all on the great opportunities that exist within the Handshake Partnership program. Overall, the handshake program is in its sixteenth year and offers an additional funding source (i.e., seed money up to \$20,000 per project) for worthwhile partnership projects. The program provides an excellent avenue to leverage your local partnerships with Corps dollars outside of your usual O&M budget to help complete recreation and environmental stewardship projects that benefit both your lands, waters, and visitors.

Please note that electronic applications with district and MSC coordination must be sent from the MSCs to Mr. Heath Kruger at [heath.r.kruger@usace.army.mil](mailto:heath.r.kruger@usace.army.mil), representative on the Partnership Advisory Committee, **NLT 30 September 2018**.

The memo, application instructions, and a copy of the application are posted on the NRM Gateway Handshake Program page at <https://corpslakes.erdc.dren.mil/employees/handshake/handshake.cfm>.

**Good Luck and PARTNER ON!**





## Least Tern Artificial Nesting Project

**POC: Charlie Deutsch, Rivers Project Office, 636-899-0082**

Historically the interior population of least terns (*Sterna antillarum*) nested on the Mississippi River all the way up into the state of Iowa. Populations declined in the river due to loss of natural processes that create alluvial sandbar islands, their preferred habitat. This and other factors led to their listing as an endangered species in 1985.

In an effort to identify possible sandbar restoration sites that would be suitable for least tern nesting above the Missouri River, the Rivers Project began an experimental effort to see if least terns would nest on an artificial structure.

In 2009 the Rivers Project, along with partners from the Illinois Dept. of Natural Resources and the Illinois Natural History Survey, obtained two surplus dredge pontoon barges to use as floating artificial islands. Sand was placed on the barges and they were anchored in a backwater of the Mississippi River about 7 miles upstream of the confluence with the Missouri River in the Riverlands Migratory Bird Sanctuary. Conspecific attraction devices (tern decoys and a tern call box) were placed on the barge to attract these colony nesters to the structure. During that first experimental year 19 hatchlings were recorded.

### Interior Least Terns

The least tern is the smallest tern found in North America. These 8 to 9 inch birds have a black “crown” on their head, a snowy white underside and forehead and grayish back and wings. Least terns nest on barren to sparsely vegetated sand bars along rivers, sand and gravel pits, lakes and reservoir shorelines. They are listed as endangered due to habitat loss and degradation along with nest disturbance.



**Photo Left:** Partners from the World Bird Sanctuary and the Audubon Center at Riverlands prepare for a morning of banding on June 20, 2018.



**Photo Middle:** Least tern artificial nesting barges are prepped and ready for anchoring in backwater area of the Mississippi River.



**Photo Right:** Lane Richter, Wildlife Biologist and least tern project coordinator from the Rivers Project Office, holds a banded least tern chick on the floating barge habitat.

Since 2009 the team of partners and volunteers have expanded, as has our knowledge base of how to manage the islands for least terns. The biggest gain has been the reduction of predator damage through the placement of electric fencing. Last year in 2017, fifty six hatchlings were recorded and banded with US Geological Survey bands.

The Audubon Center at Riverlands and the World Bird Sanctuary, Eureka, MO, have been critical partners in this effort, assisting with maintenance of the barges, monitoring, banding and outreach. In June of 2018, the partnership has observed 29 nests, 52 eggs and 23 hatchlings, of which 13 were old enough to be banded.

This partnership demonstrates a low cost alternative with industry, non-governmental partners and local volunteers that have pulled together with the Corps to provide successful outcomes for an endangered species. The next step is exporting the knowledge gained in this project to other locations utilizing engineering and restoration solutions to establish natural islands for nesting in the rivers.

**Photo Top Left:** Newly hatched least tern chick and egg on the artificial nesting barge.

**Photo Bottom Right:** Banded least tern chick. Silver USGS band on the right leg.



# Management Changes Aim to Improve Ecological Health of Red Rock Lake

**POC: Hugh Howe, Lake Red Rock, 641-828-7522.**

For the past several years, significant research and work has been conducted on the Des Moines Rivers to promote the Sustainable Rivers Program. The Sustainable Rivers Program (SRP) is a partnership between the Corps and the Nature Conservancy to evaluate existing USACE dams and reservoirs for opportunities to adjust operational flows that benefit aquatic systems while maintaining original project purposes.

The Des Moines River SRP sought stakeholder input, performed a comprehensive literature review, completed a historical flow analysis, and conducted a professional workshop to determine ecological flow needs in the Des Moines River.

The SRP process has identified several recommendations that seek to improve dam/reservoir operations that benefit the environment while enhancing the primary purpose of flood risk management along the Des Moines River. Another approach looks to manage reservoir levels in small increments to attract migrating shorebirds and waterfowl. For example, adjusting the normal pool level of Lake Red Rock by three inches (in part due to prolonged drought conditions) in the summer of 2017 exposed mudflats in the backwater areas of the lake. The lower water levels during the summer allowed for increased vegetative growth; subsequent return of normal pool levels followed by a rise in pool resulted in an abundant accessible food source for migrating waterfowl. Waterfowl numbers had peaked at an estimated 45,000, which is the highest number of waterfowl observed on Red Rock since 2012 (which was another drought year).

Recommendations as a result of the Sustainable Rivers Program are now being formalized into the project's water control manual.

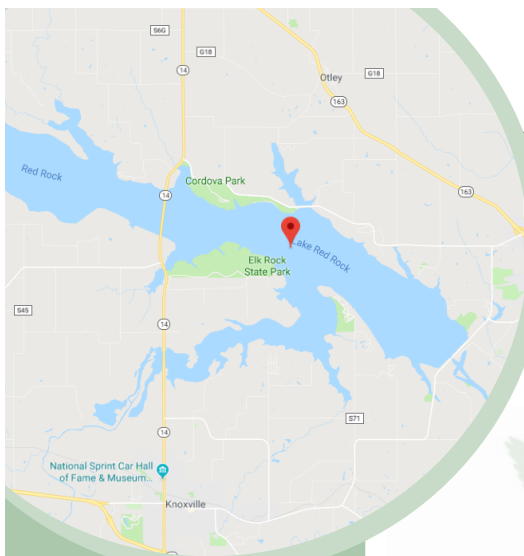
In the SRP process, eight primary stakeholder issues/concerns were identified:

- Reduce Nitrate Levels
- Reduce Mussel Mortality
- Reduce Sturgeon Mortality
- Reduce Gas Bubble Trauma in Fish
- Improve Conditions for Migrating Waterfowl and Shorebirds
- Improve Conditions for Herps
- Reduce Streambank Erosion
- Improve Conditions for River Recreation

## Lake Red Rock

A series of floods took place on the Des Moines River in 1851, 1859, 1903, 1944, 1947, and 1954. In 1938 and 1944, Flood Control Acts were passed which led to a lengthy study of nine sites on the Des Moines River. Two of the sites studied were chosen for the construction of dams: Red Rock and Saylorville. Construction of the Red Rock Dam began in 1960, and the dam was finished in 1969.

Lake Red Rock is Iowa's Largest Lake with over 15,000 acres of water and 35,000 acres of land. Located on the Des Moines River just 45 miles southeast and downriver from Des Moines, the reservoir collects runoff and drainage from over 12,320 square miles of Iowa and southern Minnesota land.



**Photo Above:** Exposed mudflats in late summer after lake draw down.  
Photo submitted to: Iowa Wildlife Society by Todd Gosselink

## Water Control Plan Update



Click on the Photo Above to Learn More about the Public Open House Events for the Des Moines River Basin Master Reservoir Regulation Manual Update

**Photo Above:** A clip from Lake Red Rock's website highlighting the process on the Water Control Plan Update



# Managing for Monarchs

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The Xerces Society has released a new guide to managing habitat for monarchs in the western states. The situation facing monarchs in the western states is as drastic as that east of the Rockies.

**Managing for Monarchs in the West: Best Management Practices for Conserving the Monarch Butterfly and its Habitat** provides a detailed look at the conservation and habitat needs for monarchs in the western United States, including breeding, migrating, and overwintering areas. The guidelines review the known effects of frequently used land management practices—grazing, mowing, prescribed fire, and pesticides—on monarchs and lay out best management practices for how to integrate monarch conservation in management decisions. Invasive non-native and noxious plant management, recreation, and climate change impacts are also addressed. The guide can be downloaded for free at: <https://xerces.org/managing-monarchs-in-the-west/>

## Managing for Monarchs in the West

Best Management Practices for Conserving the Monarch Butterfly and its Habitat



## McAlpine Locks and Dam Prescribed Burn: Successfully Completed

**POC: Keith Chasteen, Louisville District Office, 502-315-6724.**

On April 5, 2018, conditions finally came together to conduct a prescribed burn at McAlpine Locks and Dam in Louisville, Kentucky. The significance of this burn is that it was the first “official” prescribed burn to ever occur at one of the District’s navigation projects.

Historically, pile burning has occurred at the Locks and Dams on the Ohio and Green Rivers, but no burning had been conducted across the landscape on existing vegetation. Pile burning was stopped ten or so years ago due to lack of appropriate training, missing Wildland Fire Plans and prescribed burn plans not being developed. Since that time, woody debris has been either treated as solid waste and hauled off project lands for disposal or has been scattered about for natural decomposition. With plans either in place or being developed and with Locks and Dam personnel being trained, disposal costs can be reduced through use of prescribed burning of piles in the future.

The McAlpine burn was conducted within a native meadow pollinator area that was established several years prior. Staff had hoped to conduct the burn in 2017, but conditions never went into prescription to execute at that time. A new burn plan was developed for 2018. The objective of the spring-time burn was to reduce competition from cool season grasses with the warm season plant species, kill back encroaching woody stems (trees and shrubs) and to remove built up thatch to encourage sprouting of native seeds.

McAlpine Locks are basically in downtown Louisville on the Ohio River. Being within the city limits, the facility had to obtain an open burning permit from the Air Pollution Control Board. This involved several visits by officials to discuss the burn objectives, look at the site and answer questions that came up. Included in the visits were representatives from Jefferson County Soil & Water District, Louisville Metro Air Pollution Control Board and the Louisville Fire Department. With the quality burn plan developed, all approvals were quickly obtained.

The small 1.5 acre burn provided an “on-the-job-training” opportunity for personnel who are new to wildland fire use. Personnel were provided the opportunity to participate in hand ignitions with drip torches, holding along edges and mop-up after ignitions were completed. Additionally, actively participating in a burn provided opportunities to observe and discuss fire behavior, smoke management and prescribed burning safety.

If you would like information on developing a prescribed burning program within your District or at your project, feel free to contact Keith Chasteen at 502-315-6724 or via email.

**Photo Right:** Prescribed fire ignition at McAlpine Locks and Dam.

## Friends of the Wild Whoopers MOU

On the 28th of March James Dalton, Director of Civil Works, signed a Corps wide Memorandum of Understanding (MOU) with the Friends of the Wild Whoopers (FOTWW) to help creatively and sustainably protect, restore, and enhance whooping crane habitat. Whooping cranes are now one of the most endangered species in North America due to historical habitat loss and unregulated hunting. This national MOU will facilitate the FOTWW assessment of whooping crane habitat at Corps projects. To learn more, visit the Gateway at <https://corpslakes.erdc.dren.mil/partners/list.cfm>

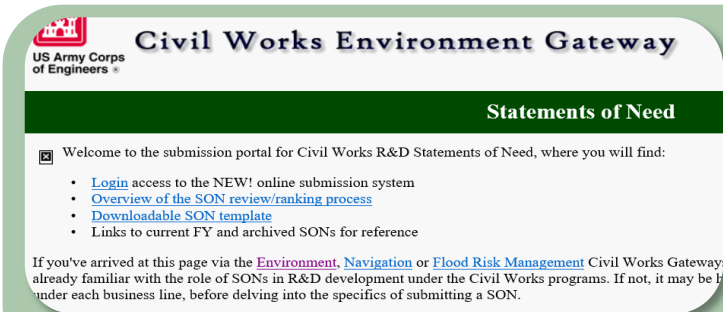


# Natural Resources Management Gateway: Environmental Stewardship

Knowledge management, information sharing, and communication forum are just a few words to describe the NRM Gateway. Established in 2004, the Environmental Stewardship (ES) pages of the Gateway have been a vital resource in both collecting and disseminating information and resources to a growing program. Recently, an initiative of the Stewardship Advisory Team (SAT) was to begin implementing updates to the ES pages of the Gateway through a small group of subject matter experts. If you are a frequent user, you may have already noticed some subtle changes and revisions as work begins.



Overall, the Environmental Stewardship pages will be restructured to align with Engineer Regulation (ER 1130-2-540) and budget work category codes relevant to Environmental Stewardship to ensure a logical flow that captures all aspects of the ES program. The goal of the group is to provide a more robust user friendly resource to internal and external Gateway users. Content managers have been identified for each program subject matter to support development and aid in maintaining accurate, relevant, and timely content.



To learn more about the SON process, visit <https://cw-environment.ercd.dren.mil/>

## Mobile Applications

If you are a government issued smart phone user, you may have experienced some challenges in downloading and using mobile applications such as EddMapS or Arc apps. A change in policy, DoD CIO Mobile Applications Security Requirements, allows interested staff to download applications to the unmanaged side of their phones. Any apps that may have a cost associated with them still need to be approved by appropriate personnel; but this change opens the capability to download free apps. Make sure to check out EddMapS!



## Aquatic Nuisance Species Research Program (ANSRP)

The ANSRP provides Corps of Engineers managers and operational personnel up-to-date information on aquatic nuisance species including:

- Basic life history & ecological information
- Risk assessment tools
- Preventative strategies
- Cost-effective & environmentally sound management options

This primary R&D (Research and Development) program addresses aquatic invasive species that impact navigable waters, infrastructure and associated water resource projects.

Research requirements are generated by USACE-HQ, the Corps' Invasive Species Leadership Team, & through the Statement of Need Process.

In 2018 ANSRP Funded Projects included:

1. Submersed Metals as Management Tools for Sea Lamprey
2. Extreme Biology of Asian Carp and Optimization of Population Management Practices
3. Non-Toxic Anti Macro -Fouling Technologies to Protect Critical Infrastructure

Statement of Need's (SON) are submitted by District and MSC personnel having first-hand knowledge of the specific problem.

Photo Above: ANSRP mussel research.