



# 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.

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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.

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## Your Stewardship HQ Update

**POC: Roseana Burick, Environmental Stewardship Program and Business Line Manager, HQ USACE**

May 15-22, we celebrated National Invasive Species Awareness Week (NISAW) Part 2, which focused on outreach and education related to the presence and spread of invasive species. Throughout USACE, over 170 invasive species impact our public lands and waters (*FY20 NRM Assessment Data*). During this week, we recognized just a handful of the efforts occurring across USACE to minimize the impacts of invasive species such as amur honeysuckle at Caesar Creek Lake (OH), water hyacinth in the Gulf Intracoastal Waterway, and spotted lanternfly at Blue Marsh Lake (PA). All posts are available at <https://corpslakes.erdc.dren.mil/employees/gets.cfm?Id=isl> in case you missed them!

Additionally, during this week a series of best management practices developed through the Aquatic Plant Control Research Program (APCRP) were unveiled. A series of best management practices for 31 terrestrial and aquatic plants have been compiled to share information and aid in effective control measures. These BMPs are available on the NRM Gateway, <https://corpslakes.erdc.dren.mil/employees/invasive/bmp.cfm>.

As noted in the daily posts, your tireless work to ensure the sustainability of our environment through the management of invasive species does not go unnoticed! **THANK YOU for all that you do!**

## Tulsa District Conducts Prescribed Fire Training

**Article provided by Stacy Dunkin and Preston Chasteen**

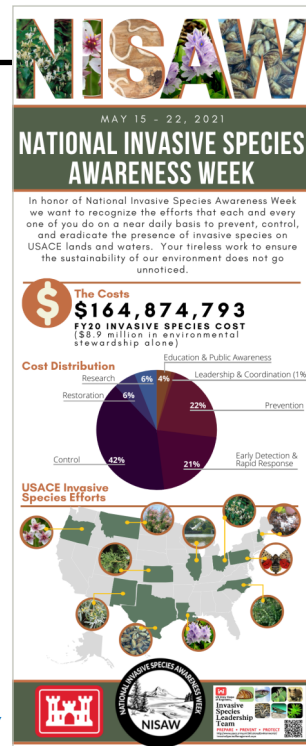
The Fort Gibson Project office hosted a training class March 1-5, in partial fulfillment of the requirements for conducting prescribed fire on government lands.

The class was taught by fire ecologist Mr. John Weir of the Department of Natural Resource Ecology and Management at Oklahoma State University with assistance from U.S. Army Corps of Engineers Biologists Stacy Dunkin and Jason Person.

The five-day training session included instruction in safety, fire, laws, smoke management, field preparation, planning, fire effects, fire behavior, ignition devices, ignition techniques, execution of fire plans, fire weather, fire and wildland/interface, fire ecology and effects on wildlife, as well as a final written test.

*Article continued on page 2.*

**Photo Left: Natural Resource Specialist Ashley Novar from the Keystone Lake Office operates a drip torch during prescribed burn training. Photo by Preston Chasteen**







## News from the National PARC Network

The national PARC Network is in the process of developing **Priority Amphibian and Reptile Conservation Areas (PARCAs)** for the US.

These areas are similar to Important Bird Areas (IBAs) developed for birds.

The following link (<https://www.denix.osd.mil/dodparc/parc-resources/dod-parc-reports/summary-identified-parcas/>

[DoD PARCA Final Report March%202021\\_508C.pdf](https://www.denix.osd.mil/dodparc/parc-resources/dod-parc-reports/summary-identified-parcas/)) is

to a report on Denix that summaries PARCAs that overlap military sites. In total, 317 PARCAs have been identified in 26 US states. Of these PARCAs, 68, or 21%, partially or fully overlap with 103 DoD properties, indicating the importance of DoD installations to herpetofaunal conservation and the PARCA effort.



*Photo Above: Portion of the photo cover from the PARCA's Report.*

In addition to classroom instruction the class received field training on the proper use of fire equipment including hand tools and sprayer pumps.

"The most beneficial aspect of the training was the hands-on application of techniques and training," stated Dunkin. "Allowing participants to conduct prescribed fire in conjunction with classroom instruction reinforced the ideas and techniques to improve the learning experience."

As part of the training the class conducted eight prescribed burns over three days, burning a total of 1,485 acres of USACE and Oklahoma Department of Wildlife Conservation managed lands.

"This training was effective in teaching participants in the safe and proper application of prescribed fire to meet land management goals," stated Dunkin. "I will definitely recommend that this class be repeated annually district wide and future classes could serve as a refresher for previous attendees and initial training for newly hired employees."

In addition to fulfilling regulation requirements participants were exposed the ecological benefits of land management using prescribed fire. Fifteen USACE park rangers and maintenance staff from seven USACE Civil works Projects attended the training.



*Photo Left: Natural Resource Specialist Randi Clifton from the Oologah Lake Office looks over a burn area while participating in prescribed burn training. Photo by Preston Chasteen.*

*Photo Middle: U.S. Army Corps of Engineers Biologists Stacy Dunkin (left) and Jason Person evaluate weather conditions prior to beginning a prescribed burn. Photo by Preston Chasteen.*

*Photo Right: Tulsa District Biologist Jason Person uses a drip torch to set fire during a prescribed burn course. Photo by Preston Chasteen*





# Carrying the Torch Through COVID-19: Prescribed Fire at John H. Kerr Reservoir

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**POC:** Joshua Deal, Chief, Natural Resources, John H. Kerr Dam & Reservoir

Natural resources managers at John H. Kerr Reservoir have been successful with prescribed burning of forestland and grasslands while following agency and CDC guidelines to reduce the spread of COVID-19. While all prescribed burns require extensive planning and specific safety parameters to minimize risks of fire damage and smoke impacts, this year's increased potential for disease spread has added a layer of complication to fire operations. Additional safety precautions necessary because of COVID-19 included maintaining social distance during operations and wearing masks when distancing is not possible. The team has also utilized smaller crews and minimized common touch points. Using these safety measures, the team succeeded in safely treating 2,500 acres with fire this fall, winter, and spring on John H. Kerr Reservoir lands.

Burns have been conducted in parks, wildlife management areas, and other natural areas at John H. Kerr with various goals, including the following:

- **Nutrient recycling** – Prescribed fires mostly consume dead vegetation that would otherwise slowly decompose and return nutrients into the soil over the course of years or even decades. Under the conditions that prescribed fire occurs at John H. Kerr Reservoir, larger woody debris contains enough moisture that it does not burn and continues this slow release of nutrients. Burning typically only consumes leaves and small sticks, diversifying the rates at which forest debris releases nutrients back into the soil to become available for living plants to use.



*Photo Right: Masks worn when social distancing is not possible. Photo Bottom: Common touchpoints are minimized when each team member has a different role.*

- **Maintenance of upland forest ecosystems** - Thousands of acres of the forestland surrounding John H. Kerr Reservoir are upland forests, which require periodic fire to maintain ecological balance. In these forests, a century of fire suppression has disrupted the balance, allowing tree species to colonize these upland areas and become dominant in areas where they formerly played only a minor role. This shift in species threatens a gradual but significant decrease in food available to many common species of wildlife. For example, American holly, sweetgum, and red maple have become common in the understory and midstory of upland hardwood forests, greatly increasing shade on the forest floor which drastically reduces the ability of oak seedlings to survive.
- **Wildland fuel reduction** – Many of John H. Kerr's forested areas lie adjacent to private land containing homes, businesses, and communities. Prescribed burning provides protection to neighboring communities by reducing the unnatural buildup of vegetation, which if left unchecked could fuel devastating wildfires.





POC: Tia Mercer, Franklin Falls Dam

Red pine scale was most likely introduced to the U.S. during the 1937 New York Trade Fair and was first identified in Connecticut in the 1940s. It spread throughout Connecticut, New York and New Jersey in the 1970s. By the 1990s it had spread into Rhode Island, Massachusetts and Eastern Pennsylvania. Red Pine scale reached New Hampshire in 2012.

At Franklin Falls Dam, the State of NH holds a license to manage lands outside of the administration area. A State of NH biologist who happened to be recreating in the area first identified the presence of red pine scale at the project. The red pine scale insect will most commonly cause entire stand mortality within five to six years, however, most infestations are not detected until the insect has been on the tree for two to three years. Typically once a tree begins to show symptoms the only way to effectively treat the tree is to harvest it.

Therefore, in order to address the red pine scale at Franklin Falls Dam, a timber harvest was planned and administered by a NH Division of Forest and Land Forester working cooperatively with USACE staff. Typically once red pine scale is discovered, the timber is only commercially viable for one to two years. After that, the stand is typically dead and the trees become hazardous if the area is used for recreation. At Franklin Falls, a disc golf course happens to run through this site.

The timber harvest took place over eight days. Post harvest, site rehabilitation work is planned which includes stump removal in select locations, grading and reforestation to grow a diverse, healthy forest for future generations to enjoy.



Map Above: Spread of red pine scale. Photo above: The white woolly substance covering the red pine scale insect.

## What is Red Pine Scale?

Red Pine scale is an invasive insect originating from Asia. In North America it attacks only red pine (*Pinus resinosa*). Red pine scale is a piercing and sucking insect that attaches itself to the thin inner bark on the smaller diameter branches of live red pine crown to feed. About the size of a pin head, this scale insect covers itself in a white woolly substance that is visible on branches. Red pine trees quickly succumb to the desiccating effects of this insect. On one red pine crown, there can be up to tens of thousands feeding insects.

Several species of native predators attach red pine scale but are not abundant enough for effective control. There are also no effective chemical control methods. The only effective means of control is to remove the scale's food source by completely harvesting the infested stand.

Photo above: Red pine scale induced tree mortality.



Map Above: The area planned for a timber harvest was approximately 10 acres of red pine (with very few white pines mixed in (~2%)). The trees were planted approximately 75 years ago upon completion of the dam. It was overplanted and therefore much of the stand was much smaller in size.



# Managing for Biodiversity: Turtle Nesting Mounds at Raystown Lake

POC: Alicia Palmer, Raystown Lake Project, 814-658-6812

As environmental stewardship managers we often think of, and readily implement, conservation efforts for mammal and bird species. We may inadvertently overlook microhabitats within the project's ecosystem that have seasonable variability, such as vernal pools, and the species that inhabit these areas. Turtles, who typically occupy microhabitats, often serve as indicators for quality habitat. Both amphibian and reptile species are facing declines primarily due to habitat loss, introduced diseases, road mortalities, and illegal pet trade.

Long-lived turtle species such as wood, eastern box, and map turtles are found at the Raystown Lake Project. Turtles often must cross a road in spring/early summer looking for critical nesting habitats of loose shale/soil that are out of the floodplain and receive adequate sunlight. Since nesting turtles are all adult females, road mortality can cause detrimental effects on localized turtle populations by losing reproductive females. Terrestrial and semi-aquatic turtle species will also cross a road to find a mate and search for food.

Specifically, the Raystown Lake Project saw a drastic increase in visitation in 2020 during the COVID-19 pandemic. The increase in traffic also brought an increase in turtle road mortalities. Raystown Lake ES staff consulted with Roy Nagle, a Juniata College Professor of Environmental Science, about ways to protect northern map turtles at Riverside Nature Trail and prevent road mortality of

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## Northern Map Turtle

Preferring large bodies of water such as lakes and rivers that have an abundance of fallen trees for basking sites, the Northern map turtle is considered a medium-sized aquatic species. The species is often referred to as the common map turtle and occupies a large geographical range in the U.S. and portions of southern Canada. The upper shell is olive to brown and heavily marked with a pattern of light colored, typically yellow, lines.



Photo Left: The Riverside Nature Trail enhancement project to protect road-crossing northern map turtles. Photo Right: Natural Resource Specialist, Alicia Palmer holding Box Turtle Hatchlings. Photo: Travis Russell

adult females from crossing the road to nest. The road and parking area were appealing to map turtles because of the open canopy and access to gravel/shale that is out of the floodplain of the Juniata River. Roy Nagle was successful in creating a mitigation fence and turtle nesting mounds at a nearby site in Mount Union, PA and suggested the same at Riverside. US Silica donated sand to the project and Raystown Lake maintenance staff cleared trees and constructed the mounds that were comprised of a sand base and topped with shale. A mitigation fence and wayside exhibit will also be installed. A student conservation association intern and seasonal park ranger throughout the breeding season will monitor the nesting mounds and place cages around the nests to protect from predators. These nesting mounds may also serve as additional nesting habitat for wood turtles and box turtles, which are both listed as special concern in Pennsylvania.

Raystown Lake Project ES staff also looked for ways to diversify their wildlife enhancement yearly contract by creating wildlife management demonstration areas. These demonstration areas were first forest mowed in the winter and then treated with herbicide to suppress invasive plant species. Next, staff will be adding artificial nesting structures such as bat boxes and owl boxes, planting fruit bearing trees and shrubs, and creating vernal pools.

Northern Map Turtle hatchling from turtle nesting mounds at Mount Union. Photo: Travis Russell.



## Some Interesting INVASIVE Reading in the News <sup>6</sup>

**1** **Hydrilla and AVM.** This article discussed the connection between hydrilla and the toxin responsible for AVM. <https://www.wired.com/story/scientists-finally-identify-a-deadly-toxin-thats-been-killing-birds/>

 **Click here to access the article!**

**2** **How much are invasive species costing us?** After five years of study, the international research team directed by scientists from the Ecologie, Systématique et Évolution (CNRS / Paris-Saclay University / AgroParisTech) research unit have reached an estimate of the cost to human society of invasive species: at least \$1.288 trillion in the period from 1970 to 2017. While this yields an annual average of \$26.8 billion, the yearly bill actually tripled each decade.

 **Click here to access the article!**

**3** **These are the 5 costliest invasive species, causing billions in damages.** Some invasive species cause more economic damage than others. Researchers analyzed published data from the past few decades to rank the 10 costliest species or species groups from 1970 to 2017.

 **Click here to access the article!**

**4** **Are the “100 of the world’s worst” invasive species also the costliest?** Cuthbert, R., Diagne, C., Haubrock, P. J., Turbelin, A. J., & Courchamp, F. (2021).

**Abstract:** Biological invasions are increasing worldwide, damaging ecosystems and socioeconomic sectors. Two decades ago, the “100 of the world’s worst” invasive alien species list was established by the IUCN to improve communications, identifying particularly damaging ‘flagship’ invaders globally (hereafter, worst ). Whilst this list has bolstered invader awareness, whether worst species are especially economically damaging and how they compare to other invaders (hereafter, other ) remain unknown. Here, we quantify invasion costs using the most comprehensive global database compiling them (InvaCost). We compare these costs between worst and other species against sectorial, taxonomic and regional descriptors, and examine temporal cost trends. Only 60 of the 100 worst species had invasion costs considered as highly reliable and actually observed estimates (median: US\$ 43 million). On average, these costs were significantly higher than the 463 other invasive species recorded in InvaCost (median: US\$ 0.53 million), although some other species had higher costs than most worst species. Damages to the environment from the worst species dominated, whereas other species largely impacted agriculture. Disproportionately highest worst species costs were incurred in North America, whilst costs were more evenly distributed for other species; animal invasions were always costliest. Proportional management expenditures were low for the other species, and surprisingly, over twice as low for the worst species. Temporally, costs increased more for the worst than other taxa; however, management spending has remained very low for both groups. Nonetheless, since 40 species had no robust and/or reported costs, the “true” cost of “some of the world’s worst ” 100 invasive species still

 **Click here to access the article!**



### Tulsa District Surveys Endangered Species

USACE Tulsa District is responsible for monitoring the Interior Least Tern populations on the Arkansas, Canadian and Red Rivers within the District’s boundaries.

Video: <https://www.dvidshub.net/video/774443/tulsa-district-surveys-endangered-species>

 **Click here for the video link!**

Story & Photos: <https://www.dvidshub.net/news/383930/tulsa-district-surveys-endangered-species>

Delisting of the tern! According to the U.S. Fish and Wildlife Service, there are now more than 18,000 interior least terns at more than 480 nesting sites in 18 states (including Louisiana). To help ensure the species’ continued success, USACE which has jurisdictional authority over much of the interior least tern’s range, has made formal post-delisting monitoring and conservation commitments that encompass about 80% of the breeding population. The tern will continue to be protected under the Migratory Bird Treaty Act.

*Photo Above: An adult Interior Least Tern prepares to land near its nest on a bar in the Arkansas River.*



# Stewardship Advisory Team—Meeting Update

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**POC: Ryan Williams, Natural Resource Manager, Kanopolis Reservoir**

Hello Stewardship Community! My name is Ryan Williams and I am the NWD representative on the Stewardship Advisory Team (SAT). As of December 2020, I am serving as the Chair of the SAT. This team provides oversight and serves as an ad hoc committee to the Chief of the Natural Resources Management Branch in HQUSACE. The team provides input to the strategic planning vision and makes recommendations on national priorities for the USACE environmental stewardship program. Each spring and fall the SAT meets along with the Recreation Leadership Advisory Team (RLAT). The spring meeting, held during the week of April 14th, was conducted virtually like most meetings during the COVID pandemic. Some of the highlights of that meeting were:

- Boundary OCA Framework and the ENS National Initiatives Tool: Ben Silvernail (IWR) provided updates and sought feedback for field application. The ENS national initiatives tool can be found at <https://corpslakes.erd.c.dren.mil/employees/envsteward/tools.cfm>
- Cultural Resource Program: Nancy Brighton (HQUSACE) and Jen Riordan (MCX, CMAC) briefed the team on the cultural resource program and MCX.
- Fire Management: Jeremy Crossland (HQUSACE) led a discussion on use and training.
- ENS 101: Tara Whitsel (IWR) briefed the team on the first ENS 101 virtual course and lead a discussion on the establishment of ENS 102 training course.
- NRM Strategic Plan Goal Implementation: Heather Burke (HQUSACE) and Brian Mangrum (LRN) set up teams to implement the goals identified in the NRM Strategic Plan.

The SAT will meet again in the fall. If you have questions for the SAT, please feel free to reach out to me or to your division representative!

SAD—Joshua Deal (MSC) is Ryan Hartwig  
POD—Justin Kerwin (MSC is Gayle Rich)  
MVD—Jake Huey (MSC is Lynn Neher)  
SPD—Andrew Wastell (MSC is Phil Smith)  
LRD—John Chopp (MSC is Jeff Defosse)  
NAD—Tia Mercer (MSC is Mike Vissichelli)  
SWD—Stacy Dunkin (MSC is David White)  
NWD—Ryan Williams (MSC is Mike Langesley)

## Partnering to Stop the Spread of Invasive Species

Conchas Lake in eastern NM may be one of Albuquerque District's (SPA's) most at-risk waterbodies for aquatic invasive species (AIS) due to interstate traffic and ease of access from I-40. USACE has been partnering with New Mexico Game and Fish to put up seasonal billboards on I-40 with the clean-drain-dry message.





U.S. Fish & Wildlife Service

# National Conservation Training Center

## Training Announcement

### Forests for the Birds: Conserving America's Forest Birds

Webinar Series



**Dates:** Monthly - every 3rd Tuesday  
March 16, 2021 - February 15, 2022

**Time:** 1-2 PM EDT

**Who Should Attend:**

U.S. Fish and Wildlife Service Biologists, their partners and other land managers interested in forest management and bird conservation.

The U.S. Fish and Wildlife Service Forest Ecology Working Group (FEWG) and NCTC, working in collaboration with many FWS programs and partners, have developed a 12-part monthly lecture series to address the 50-year decline of 3 billion birds through partnerships, conservation science and forest management. The series tells a compelling story about forest bird population declines, partnership opportunities, and forest management actions that can support bird population recovery and sustainability.

**Objectives:** After engaging with the entire series, participants will be able to:

- Describe the decline of forest-dwelling birds in the U.S., identifying causes and risk factors
- Apply species vulnerability assessment tools to identify priority bird species
- Describe the importance of forest management planning from landscape to local scales, recognizing essential forest community composition and structure for bird conservation
- Identify forest conservation and habitat management alternatives, and potential partnerships to address bird population recovery and sustainability

**Webinar Schedule:**

- 3/16/21 – Loss and Recovery of Forest Birds – Introduction by Jerome Ford, Migratory Bird Program, U.S. Fish & Wildlife Service and Ken Rosenberg, Cornell Laboratory of Ornithology and American Bird Conservancy
- 4/20/21 – Forest Birds and Disturbance Ecology – Matthew Betts, Oregon State University
- 5/18/21 – Climate Change, Adaptation and Impacts on Forest Bird Recovery - Maria Janowiak, U.S. Forest Service and Steve Matthews, Ohio State University
- 6/22/21 – Blueprint for Success – How and Where to Focus Bird Conservation – Bob Ford, U.S. Fish & Wildlife Service
- 7/20/21 – The Habitat Matrix - Stepping Down Bird Management from Landscape to Stand – Jeffery L. Larkin, Indiana University of Pennsylvania and American Bird Conservancy
- 8/17/21 – Stand Level Management: Desired Forest Conditions, Structure and Composition – Randy Wilson, U.S. Fish & Wildlife Service
- 9/21/21 – Forestry for the Birds – Amanda Mahaffey, Forest Stewards Guild
- 10/19/21 – Bird-Friendly Forestry on Corporate Lands: Forest Certification Programs – Darren Sleep, Sustainable Forestry Initiative and Darren Miller, National Council for Air and Stream Improvement
- 11/16/21 – Integrating Indigenous and Traditional Practices into Bird-Friendly Forest Management - Frank Lake, U.S. Forest Service
- 12/14/21 – Using Ecological Forestry to Support Bird Management Objectives - Anthony D'Amato, University of Vermont
- 1/18/22 – Effectiveness Monitoring – Evaluating the Effects of Forest Management on Bird Populations – John Alexander, Klamath Bird Observatory
- 2/15/22 – The Road to Recovery – Bill Uihlein, U.S. Fish & Wildlife Service

**To Join the Webinar:**

Attendance at all presentations is recommended as each month's topic builds upon the previous presentation.

To Register for each monthly webinar click here: [Register](#). You must register in advance for each webinar

**Webinars will be Recorded:** All webinars recordings will be housed in the [NCTC Webinar Archives](#).

**NCTC Contact - For Closed Captioning & Technical Assistance contact -** [jim\\_siegel@fws.gov](mailto:jim_siegel@fws.gov)

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