



Stewardship

news

YOUR Thoughts Volume 2, Issue 2: June 2019

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 have found serving as the acting HQ Business Line Manager for Environmental Stewardship (ENS) to be very fulfilling, and coming in to work each day always seems to put a smile on my face. The most rewarding part of this position is getting to work with so many of you and the Headquarters staff. Many of you began working on the FY21 ENS budget at the project level last January and it is now going through various development processes here at Headquarters. In this position, I have had a unique opportunity to see all the important work being proposed within the ENS Program. I am amazed at all of the challenges you, our ENS personnel, are planning to take on in FY21; from endangered species to boundary maintenance and everything in between. We won't know until Congress passes the USACE budget for FY21 next year what our final budget numbers will be, but I am confident it will not limit the scope of the challenges you rise up to meet.

"My time here has opened my eyes to the important and wide-ranging work you are doing for our Natural Resource Management-ENS mission, for our public resources, and for our Nation! Thank you so much for your support while I am serving in this role, as I have found it very rewarding!"
-Michael Richards, Acting ENS BLM, HQUSACE

Project Spotlight: Breeding Ecology of Common Goldeneyes in Alaska

A Cooperative Project Between the U.S. Army Corps of Engineers Chena River Project and the U.S. Fish and Wildlife Service, Alaska Region

Article provided by: Eric Taylor, U.S. Fish and Wildlife Service, Alaska Region, Migratory Bird Program

From 1993-1996, students from the University of Alaska Fairbanks (UAF) constructed and installed 150 common goldeneye (*Bucephala clangula*) nest boxes along the upper Chena River in the Chena River State Recreation Area east of Fairbanks, Alaska. Ducks Unlimited provided the initial project funding via a grant to the University of Alaska Fairbanks Student Chapter of The Wildlife Society. In 1997, John Schaaake, Project Leader for USACE's Chena River Project, was contacted to determine interest in nest boxes for common goldeneyes. John was not only enthusiastic, he offered to build the boxes and help install them in wetlands that offer great waterfowl habitat and that are accessible to the public! Over the next 20 years, the two agencies fostered and maintained a productive scientific partnership and established three objectives for a study on common goldeneyes:

1. Provide undergraduate training in leadership, waterfowl ecology, and decision-making;
2. Increase public understanding, awareness, and support for waterfowl management and wetland conservation;
3. Assess breeding and nesting ecology of Common Goldeneye in Interior Alaska.

Article continued on Page 2. Photo: Common Goldeneye duckling.



CHENA RIVER PROJECT

Chena River Lakes, North Pole, Alaska, is the northernmost flood risk mitigation project operated by USACE. Authorized by Congress after the devastating 1967 flood, Moose Creek Dam and its associated features reduce flooding to the interior Alaskan city of Fairbanks, as well as provide local residents and visitors a variety of recreational opportunities on nearly 20,000 acres of public land.

Construction of the Project began in 1973 and was completed at a cost of \$256 million in 1979. A popular activity for visitors is the salmon watch. Around the beginning of July chinook (king) and chum (dog) salmon can be seen swimming up the Chena River to spawn. An excellent place to view them is the top of the outlook works!

Photo Top: Chena River outlet works

The design, number and location of nest boxes for common goldeneyes and other cavity nesting birds has varied over this period; however, the project has consistently met the original objectives. Undergraduate students responsible for conducting fieldwork, including data collection, analyses and report writing as well as maintaining nest boxes are now in an array of professional positions. Common Goldeneye "Field Season Graduates" have attained professional positions including U.S. Army Corps of Engineers Central Section Regulations Chief (Alaska); Research Scientist with the National Park Service (Alaska); Supervisory Wildlife Biologist with the U.S. Forest Service (Tennessee); an International Commodities Attorney (Japan); an Environmental Specialist in the Coastal and Ecosystem Management (Florida); a post-doctoral student at Auburn University (Alabama), and a U.S. Fish and Wildlife Service Law Enforcement Officer (Florida).

Personnel at Chena River Project have provided unequivocal support by building and installing nest boxes, storing field equipment, and providing logistic support via boats, snow machines and ATVs. Relative to public outreach and education, the placing of nest boxes along recreational trails and campgrounds has afforded us many opportunities to interact with the public about wetland conservation, waterfowl ecology and management, and respective roles of federal and state agencies in natural resource management. Former Chena River Project Leaders (John Schaake, Tim Feavel) and current Project Leader Levi Llewellyn have provided consistent and enthusiastic leadership for our work. Stewart Gillmore, former Chena River Park Ranger, and Justin Kerwin, current Lead Park Ranger, have always provided outstanding assistance in clearing paths, monitoring boxes, capturing hens and web-tagging ducklings. The partnership and collaboration between USACE and the Service are what make this project so effective and frankly, fun. Together we have endured long days afield outlasting cold winds, driving rain, and an annoying, insane numbers of biting insects.



Photos Left to Right: Park Ranger Justin Kerwin holds a Common Goldeneye. Cooperative nest box construction. Park Ranger Levi Llewellyn holding a duckling. Data collection of a Common Goldeneye chick.

What have we learned? Common goldeneye readily accept nest boxes in lieu of natural tree cavities to nest, lay and incubate eggs, and hatch ducklings. However, two other species of sea ducks including Common Mergansers (*Mergus merganser*) and Bufflehead (*Bucephala albeola*) compete with common goldeneyes. Because both of these species tend to initiate nests later than goldeneyes, the number of available boxes to occupy is less and the locations maybe less preferable. The other regular user of our boxes is not a sea duck but an owl, specifically the Boreal Owl (*Aegolius funereus*).

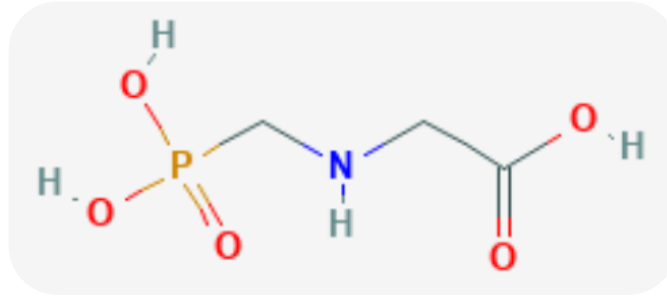
Common goldeneyes occupy more than 50% of our 200 nest boxes; bufflehead and boreal owl each occupy about 5% (10/200) nest boxes year and common merganser about 3% (6/200). In 2018, almost 80% (73/92) of common goldeneye nests were successful, defined as hatching at least one egg. Typical clutch size is around eight eggs and incubation takes 28 days. In total, our field crew web-tagged 551 common goldeneye ducklings last year! Given that ducklings only stay in the nest box about 24 hours, students become experts at candling an egg i.e., determining the stage of incubation to ensure they arrive to tag ducklings after they hatch but before they make the big leap to the wetlands world! The majority of our nesting hens are birds we have captured and monitored before! In 2018, 56 out of the 83 hens we captured already had a U.S. Geological Survey band on its right leg. We have also discovered most hens and their ducklings prefer to return to the same nest box or wetland (slough, oxbow, lake) each year-likely to increase their survival. In fact, we had one common goldeneye hen return to the same box and have a successful hatch for over 10 straight years!

In summary, the success of this 20-year study on common goldeneye breeding ecology in Alaska is due to the unwavering and enthusiastic support of former and current personnel working at the Chena River Project. The partnership between USACE and the FWS continues to provide training opportunities of students and young natural resource professionals; public outreach on waterfowl and wetland ecology; and new scientific insights on the nesting ecology of a unique cavity-nesting sea duck in Alaska!

Is Glyphosate Still A Reasonable Option For Weed Management?

POC: Dr. Jason Ferrell, University of Florida Center for Aquatic and Invasive Plants

There is significant clamor these days about glyphosate and whether it can or should be used as a part of an integrated pest management program. The concerns over this molecule are many and focus on both the science of health risk and public perception. Therefore, let's briefly consider where we are with the science and see if we can find a path forward.



The concerns with glyphosate started in 2015 when the International Agency for Research on Cancer (IARC) reclassified this molecule as "Probably Carcinogenic". This change in classification sent shockwaves across the world since we have been told for decades that glyphosate was essentially benign to humans or the environment. This reclassification was a significant move and has since prompted many countries to re-review the data on glyphosate and determine if additional changes in categorization are required.

The independent re-reviews conducted by the US EPA, the EFSA, Health Canada, Australia, and South Korea (you're probably going to need Google Translate on this one) have all failed to agree with the IARC assessment. In short, none of these other agencies have concluded from the available data that glyphosate poses a significant health risk. So this begs the question, why does everyone seem to disagree with IARC?

This is a complicated and very technical question. If you are interested in diving into this issue, I would highly recommend reading Tarazona et al. 2017 for a full explanation. However, I will attempt to give you a very short and largely insufficient answer on why these agencies disagree with the IARC. 1. The IARC did not make this decision because they are activists that want to penalize pesticides. The IARC is a group of very talented researchers with high ethical standards and a long track record. So, this was not a political move. 2. According to Tarazona et al. (2017), the assessment of all the data show that the IARC and EFSA (European Food Safety Authority) were in very close agreement. However, there were a couple of papers that the IARC included in their analysis that the EFSA didn't feel should be included. These differences, and others, were enough for the IARC to elevate the classification of glyphosate. However, it is important to understand that though these agencies appear to be at odds, they still agree on most points. 3. What does Probably Carcinogenic mean? It means that there is limited evidence that it causes cancer in humans, but sufficient evidence in model species (mice and rats). IF (and it is still an "if") glyphosate is a probable carcinogen, it moves it into a classification that also contains consumption of red meat, consumption of beverages heated to >65C, and workplace exposure to haircare products. Known carcinogens like sunlight and tobacco are in a completely different classification than glyphosate. The IARC is not saying that glyphosate causes cancer, but that it may be possible for glyphosate to cause cancer, just like consuming very hot beverages. But again, it is important to remember that just because IARC has made this designation doesn't make it so. Many other similar agencies currently disagree with this assessment and the IARC continues to stand alone.

So where does this leave us? I would suggest that until additional and more convincing data are developed and published, glyphosate remains an effective member of an integrated pest management plan. However, we must remain willing to change this opinion if the data proves otherwise. I would also suggest that we dedicate ourselves and our staff to education on this issue. Social media and blog posts are not a sufficient venue for unbiased information, so maintaining a connection to the dispassionate facts will help us navigate this important topic.

Did You Know: Glyphosate was first registered for use in the U.S. in 1974. There are over 750 products containing glyphosate for sale in the U.S. (Information obtained from the National Pesticide Information Center.)

FY2019 FRIENDS OF RESERVOIRS GRANT OPPORTUNITIES

The Reservoir Fisheries Habitat Partnership (RFHP) annually provides grants to partially fund small and large scale reservoir fisheries habitat enhancement projects. USACE projects have been very successful in competing for funds either submitted by USACE or a partner organization in locations such as Lake Shelbyville, Foster Joseph Sayers Dam, Smithville Lake and more! The deadline to submit a proposal for FY20 is Aug.15, 2019.

For more information on proposal guidelines and project criteria [CLICK HERE!](#)

Friends of Reservoirs is a tax-deductible non-profit foundation dedicated to protecting and/or restoring fisheries habitat in reservoir systems nationwide.



Photo Bottom Right: F.J. Sayers Large Scale Fish Habitat Management Project

Amphibian Surveys and Monitoring in Oregon's Willamette Valley

POC: Aaron Cencich, Wildlife Technician, Willamette Valley Project, 541-255-5690

Salamanders are found throughout the Pacific Northwest conifer forests and are small, slender and secretive creatures. As apex predators, salamanders play an important role within forests ecosystems by controlling populations of insect species humans consider pests. These include the beetles, ants, and flies that inhabit the moist forest floor. Their appetite for insects benefits our forested lands and our agencies' environmental stewardship mission.

In support of USACE's Environmental Stewardship mission, the Willamette Valley Project (WVP) Fern Ridge Project Office has been successfully monitoring pond breeding amphibians for the past 8 years. In 2016, they began developing their terrestrial amphibian monitoring program. Sadly, amphibian populations are struggling globally and the need for land managers to fill knowledge gaps is of the utmost importance. In the WVP the program focuses on two salamander

species, the Oregon Slender Salamander (*Batrachoseps wrighti*) and the Clouded Salamander (*Aneides ferreus*). Both are Oregon conservation strategy species and carry sensitive status designation in the Willamette Valley by Oregon Department of Fish and Wildlife (ODFW). Aaron Cencich, Wildlife Technician, with the help of seasonal support, are conducting 'presence or absence' surveys by habitat type at Green Peter reservoir. Cencich is also overseeing and implementing a multiyear monitoring program at Fall Creek reservoir.

ENVIRONMENTAL STEWARDSHIP AT FERN RIDGE

The Fern Ridge Project encompasses more than 11,000 acres, ranging from open water to marsh, wet prairie and upland prairie habitats. More than 5,000 acres of the Fern Ridge Wildlife Area is managed cooperatively with the Oregon Department of Fish and Wildlife. In addition, USACE staff works with the Oregon Department of Fish and Wildlife to support resident game and non-game fisheries within the Long Tom River Basin. Oregon's largest breeding colony of purple martins is located at Fern Ridge, as well as significant populations of breeding western pond turtles!



Photos Above: Artificial Cover Object placed at Fall Creek Reservoir, Lane Co, Oregon. Each ACO consists of 3 untreated pine boards, the base measures 12in wide, 6ft long and 2 inches thick. Two top boards are used (6in x 6ft x 1in) with cedar lath strips to create the interstitial spaces favored by woodland/arboreal salamanders. Both bottom and top boards allow for individual salamanders to move freely when foraging and provides two capture locations per ACO.

Area Constrained Surveys (ACS) and Free Roam Hand Collection (FRHC) were executed at several Corps project sites to determine presence or absence of salamanders. ACS constrains the surveyor to a particular polygon or habitat chunk, while FRHC has no restraints and surveyors can search and travel freely to recover species. Each surveyor targets the coarse woody debris and wet habitat features salamanders favor such as logs, bark, stream edges, and rock or talus slopes. The WVP researchers quickly discovered that both survey methodologies were exceptional at recovering presence of salamander species.

Our multiyear monitoring effort commenced by placing 48 Artificial Cover Objects (ACO, Davis 1997) specifically designed for woodland salamanders at six locations around Fall Creek Reservoir (FCR) in Lane Co, Oregon. The Davis design exploits woodland salamanders' desire for tight spaces in woody material and functions as a false log. Each of the six locations at FCR, chosen by habitat type, contains two ACO placed every 35m for a total of eight per location. ACOs were placed in late January 2017 and then checked twice monthly during the spring and fall seasons.

The advantages of ACO is that they are preset survey locations and simple and cost effective construction. ACO are also easy to check, limiting the disruption to habitat that often accompanies other survey techniques. The results to date are better than expected, with recorded capture rates and species diversity steadily increasing with survey effort. In the spring of 2018, we discovered the Clouded Salamander, one of our target species, inhabiting FCR for the first time.

Article continued on Page 5



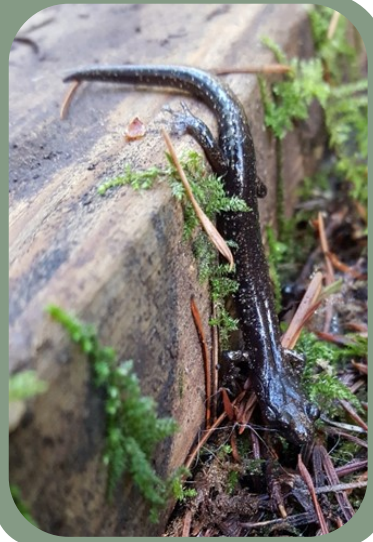


Photo Above: The Oregon Slender Salamander, recovery by Natural Resource Specialist - Ranger Quenton Chocktoot during Area Constrained Surveys at Green Peter.

The information collected during these surveys is useful in many ways, for example confirming the presence of a sensitive species allows for proper environmental clearances and mitigation mandated by law. This also presents opportunities to inform other federal agencies, state and non-profit groups to the benefits of conducting these surveys and using ACOs for monitoring efforts.

Lastly and perhaps most importantly the WVP has used this program to help facilitate cross training of new employees. Most commonly, engineers in

training (EIT) ride along for a day and assists with surveys, which is often a deeply enjoyable experience for many. Sharing information and wildlife experiences is an important aspect of building a strong, well balanced team of knowledgeable professionals.



The Clouded salamander: Captures at Fall Creek Reservoir 2018, each photo represents a separate location and survey, along with different age classes: hatchling (left), juvenile (middle) and adult (right).

Some Interesting Articles:

1 USACE Publishes Hydrilla Risk Assessment for the Great Lakes Basin

The U.S. Army Corps of Engineers, Buffalo District, in cooperation with the Engineer Research and Development Center, has published a risk assessment that summarizes the potential for hydrilla introduction within the Great Lakes. The basin-wide risk assessment was completed under contract by Ecology and Environment, Inc. in partnership with North Carolina State University, Texas Tech University, and University of Toledo, with funding from the Great Lakes Restoration Initiative. It identified five watersheds that could be at a higher risk for introduction of hydrilla.



Click Here To Read the Report

2 Avian Knowledge Network

Have you ever needed data, information, or tools to help with bird research, conservation efforts, or assessing or reducing impacts to birds and didn't know where to find it? Good news! The Avian Knowledge Network (AKN) has just improved! US FWS is officially opening up the Federal Avian Data Center; the FADC was developed to serve as knowledge management tool to support agency projects and decision making related to migratory birds. The AKN is a whole toolkit to allow you to enter and manage your own data, discover and download data, and find and utilize a growing body of avian information and resources such as conservation measures, environmental review guidance, and interactive maps.

Click Here To Access the Avian Knowledge Network

3 Beach Nesting Eagles

The Center for Conservation Biology recently published an article regarding the mapping and inspection of more than 5,000 eagle nests. The results from Cape Charles Christmas Bird Count are fascinating!

Click Here to Read the Article



NATIONAL MILITARY FISH AND WILDLIFE ASSOCIATION

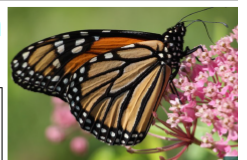
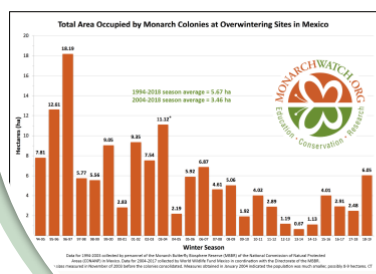
Pollinator Working Group

Are you looking for more information about pollinators and managing pollinator habitat on federal lands? The National Military Fish and Wildlife Association established a working group focused on pollinators. Recently, the group published their first newsletter which is devoted to pollinator management and information dissemination.

CLICK HERE TO ACCESS THE NEWSLETTER!



Good News for Eastern Monarch Butterfly Population



The latest numbers for the eastern monarch butterfly population have just been released and posted by Monarch Watch, and there's some good news to report. The species has experienced a precipitous decline over the last twenty years, but going into 2019 the population is 144 percent larger than last year and higher than it's been in over a decade. While the western monarch population continues to decline, this is an encouraging sign that favorable weather conditions coupled with the work of cities, farmers and individuals in gardeners could be a positive sign for the eastern monarch population. We still have a long way to go, but this is a good start. The species for the Federation involved by habitat gain.

NMFWA Pollinator Working Group
DEVOTED TO POLLINATOR MANAGEMENT AND INFORMATION



SALT CEDAR

Tamarix ramosissima, commonly known as salt cedar, is a deciduous shrub with reddish stems, feathery, pale green foliage, and characteristic small pink flowers. Native to Asia, this species was introduced in the 1800's and was used as an ornamental plant, to establish wind breaks, and to stabilize soil in riparian areas. Salt cedar produces massive quantities of tiny seed that can germinate quickly in a broad range of conditions. As part of its survival strategy, the shrub develops a deep tap root (as deep as 5 meters) to access groundwater. Once developed, the root system will allow the plant to survive extended periods of drought.

Utilizing large volumes of water, salt cedar has replaced large tracts of native cottonwood/willow stands.

As the name implies, the species tolerates high levels of salinity, which accumulates among leaf scales during evapotranspiration. The resulting leaf litter increases salinity of the soil over time, making it unsuitable for native vegetation. Although it is listed as noxious weed in 11 states, it can be purchased for \$35.95 online as an outstanding accent in your landscape under the names "Pink Cascade" and "Summer Glow"!

Cooperative Noxious Weed Management Efforts at Fort Peck

POC: Patricia Gilbert Ball, Omaha District, 406-526-3411

Scenario: Fort Peck Dam was the first dam built in the Upper Missouri River Basin. The area surrounding Fort Peck was first charted by Lewis and Clark in 1804, and the pristine natural condition of the river and surrounding area awed the renowned explorers. Unfortunately, Salt Cedar has become established in several remote locations.

Challenge: Salt cedar was documented in the Seven Blackfoot drainage area up to 18 miles from the high water mark of the reservoir. Ten of those miles were accessible by backpack only due to rugged terrain. A 12 mile boat ride required to the nearest access point. The infestation was spread across lands managed by USACE, Bureau of Land Management, USFWS, and private entities.

Effort: To tackle this invasive plant, Fort Peck staff worked diligently with cooperating organizations to ensure the effort expanded across the landscape rather than stopping at property and political boundaries. This proved to be an excellent example of leveraging resources to accomplish a common goal. Total contributions exceeding \$100,000 and cooperators included:

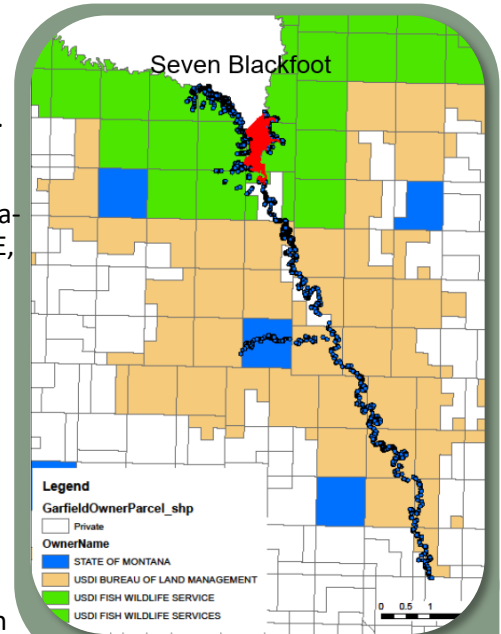
- US Fish and Wildlife Service (\$35,000 through Inter-Agency Agreement)
- USACE (\$77,500)
- Bureau of Land Management (\$50,000)
- Montana Natural Resource Conservation Service
- Missouri River Conservation Districts' Council,
- Garfield County Conservation District
- Montana Department of Natural Resources
- Montana Salt Cedar Management Team,
- Montana State University
- Seven Blackfoot Ranch

To implement this effort, USACE completed an Environmental Assessment, with a signed FONSI (Finding of No Significant Impact), obtained a Pesticide Discharge Permit for the application, and utilized a BPA (Blanket Purchase Agreement) contract for portions of the application. Areas identified for ground application targeted plants established outside of the main infestation. In areas of aerial application, many of the plants were 25 feet tall and extremely dense, where use of helicopter is the only option for control. Treatment of the infestation on USACE lands totaled 389 acres of which:

- 45 acres were treated from the ground in the Seven Blackfoot Drainage
- 219 acres were treated from the air in the Seven Blackfoot Drainage
- 125 acres were treated from the air in the Billy Coulee Drainage.

Benefits of the Project: An effort of this scale has resulted in many benefits to the Project which have included: reducing invasive species re-infestations on and adjacent to Project lands, leverage resources with cooperating partners, and protection of high quality natural areas. Additionally, this project allowed adjacent landowners to support a landscape level approach.

Did You Know: In the United States, Fort Peck is the largest hydraulically filled dam and the 5th largest reservoir!



Map Above: Salt Cedar infestation within the Seven Blackfoot Drainage Area of Fort Peck Dam.

Photo Above: Aerial herbicide application to treat Salt Cedar.

Herbicide Injection on the Spring Creek Arm of Lake Seminole

POC: Brent Mortimer, ACF Rivers Project, 334-232-4543

Hydrilla was discovered growing in the Cypress Pond area of Lake Seminole in 1967. By 1992, hydrilla was the predominate plant covering approximately 23,000 acres (68% of lake surface). In the clear water of Spring Creek, hydrilla can be found growing in 20 feet of water.

In order to get the best herbicide coverage in Spring Creek, an herbicide “drip system” was developed to inject herbicide into the moving current of the creek. Originally, the systemic herbicide fluridone was used at a low dose of 15 ppb and control was achieved on 2400 acres. Over time a majority of the hydrilla in Spring Creek was resistant to low doses of fluridone.

In 2008, the contact herbicide dipotassium endothall (Aquathol K) at 3.0 ppm was substituted for the fluridone in the drip system which required a modification of our delivery method due to the larger volumes of herbicide needed. Endothall has a shorter half-life and shorter contact time than fluridone which required a “bump” treatment downstream to maintain lethal herbicide levels. Using endothall by itself resulted in satisfactory results, but long-term control wasn’t achieved.



Photo Above: The herbicide drip design designed to provide hydrilla treatment on the Spring Creek Arm of Lake Seminole.

In 2010, we were approached by Dr. Michael Netherland, USACE ERDC who helped develop the prior drip systems about using Aquathol K (2.0 ppm) mixed with penoxsulam (Galleon SC) at 20 ppb which allows a reduced concentration of both herbicides through an additive effect and would prevent resistance issues. Ideal flows would be between 300 -500 cfs to allow for long enough contact time and reduced cost. The added benefit of using Galleon SC is that water hyacinth will uptake the herbicide and be controlled in addition to hydrilla.

The Aquathol K appears to weaken the plant allowing for better uptake of the Galleon SC. An area of 77 acres was treated with Aquathol K upstream of the Galleon SC injection site three days prior to starting the Galleon SC injection. The Aquathol K was allowed to drift down past the Galleon SC drip and combine at that point.

Further downstream at the Aquathol K injection site was started 2 days prior to the Galleon SC reaching the injection location. The Aquathol K injection ran for 5 days and the Galleon SC for 10 days. A one-hundred acre bump application was conducted where the herbicide drifted down to keep the Aquathol K concentration at 2.0 ppm. Control was reached on 2500 acres for two and a half years with effects seen on over 3000 acres.

Additional attempts to do the injection system have been hampered by high flow rates on Spring Creek and low inventories of Aquathol K.



LAKE SEMINOLE

Located in the southwest corner of Georgia along the border of Florida, Lake Seminole was authorized by Congress in the Rivers and Harbors Act of 1946, as the Jim Woodruff Lock and Dam Project. The dam is a hydroelectric and navigational dam that creates a 37,500 acre lake with 376 miles of shoreline and is surrounded by more than 22,000 acres of land. Lake Seminole is part of the Mobile District which manages more than 650,000 acres of land and water at 10 projects in Alabama, Georgia, Florida, and Mississippi. Each year, Mobile District projects host an average of 27 million visitors at more than 450 recreation areas that are managed by USACE and partners.

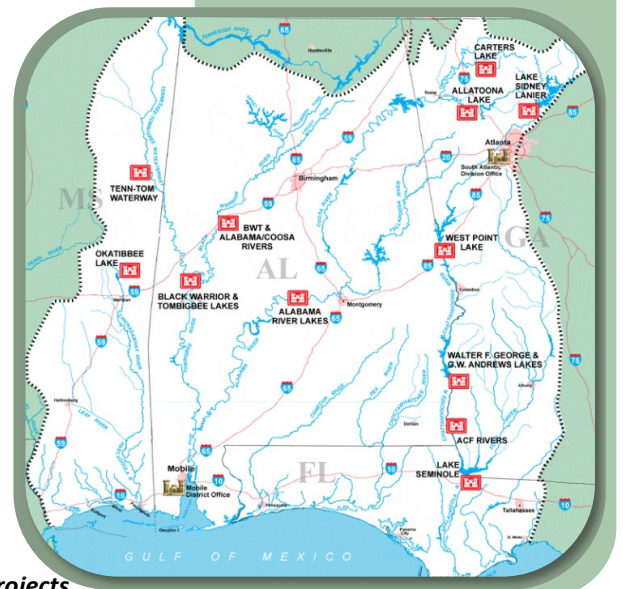


Photo Top Right: Lake Seminole at sunset. Map Bottom Right: Mobile District Projects.