



Wetlands Working Group

The Wildlife Society

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While most of us were figuring out how to telework full-time, assist kids with virtual school, help parents and grandparents order groceries on-line, and find safe ways to recreate and stay sane, a revised definition of 'waters of the U.S.' was finalized under The Navigable Waters Protection Rule during 2020. Prior to the final rule, the U.S. Environmental Protection Agency (EPA) and the Department of the Army (Army) received more than 700,000 comments on the first and supplement notices of the proposed rulemaking to repeal the old definition, followed by more than 600,000 comments on the proposed revised definition of 'waters of the U.S.' The Navigable Waters Protection Rule defines 4 categories that are federally regulated and excludes 12 categories. Most notable from an ecological perspective is the exclusion of 'features that flow only in direct response to precipitation, including ephemeral streams, swales, gullies, rills, and pools.' According to the Association of State Wetland Managers, approximately half the remaining wetlands in the U.S. will no longer be covered under federal jurisdiction with the new rule. States and Tribes still have the authority to protect these wetlands not under federal jurisdiction, and several lawsuits have been filed against the EPA and Army. As I was formatting this newsletter in June, the EPA and Army announced they will formally repeal the 2020 Navigable Waters Protection Rule and revise the definition due to "significant environmental degradation." Not surprisingly, the 2020 Final Rule and upcoming revision has continued the sharp political divide on the decades-long battle going back to 1985, 2001, and 2006 Supreme Court decisions. We encourage all WWG members to stay abreast of national, state, and local wetland policy issues and voice support for viable conservation measures for ephemeral wetlands and streams that support many wildlife species and contribute to landscape connectivity. See page 7 for more information on the Navigable Waters Protection Rule and ephemeral wetlands.

*by Adonia Henry, Editor &
Secretary/Treasurer*



Early Successional Wetlands along Alabama's Transmission Line Rights of Way

by Dylan Shaw, Biologist, Alabama Power Company



Introduction— Alabama is colloquially known as “America’s Amazon” for its rich biodiversity and more than 130,000 miles of rivers and streams. According to The Encyclopedia of Alabama (Hairston et al. 2008), “The U.S. Geological Survey estimates that approximately 10% of the freshwater resources in the entire continental United States originate in or flow through Alabama”. In addition, wetlands comprise approximately 10% of the surface area of the state (U.S. Geological Survey 1993). As a result of this, Alabama is home to an incredible amount of terrestrial and aquatic diversity. According to a recent publication (Duncan 2021), Alabama has the highest overall biodiversity of any state east of the Mississippi River, which can be partially attributed, among the things listed above, to the temperate climate and five geological regions that converge in Alabama: the Cumberland Plateau, Highland Rim, Valley and Ridge, Piedmont Upland, and East Gulf Coastal Plain (Figure 1; Tew et al. 2013). This unique combination of climatic and geologic influences allows Alabama to support 64 types of terrestrial ecosystems including 11 types of wetlands (Duncan 2013).

Alabama also has a robust network of power lines and associated rights of way (ROWs) that support its growing economy and consumer needs. There are approximately 15,000 linear miles of transmission lines across Alabama that carry energy to residential and commercial customers. The average width for a single transmission line ROW can range from 75’ to 150’ wide. Sometimes multiple ROWs parallel each other resulting in wider corridors. These corridors are maintained using a variety of techniques to reduce disruptions to power delivery. Most utility providers employ Integrated Vegetation Management, or IVM, to manage their ROWs. According to the U.S. Environmental Protection Agency (2008), “[IVM] is generally defined as the practice of promoting desirable, stable, low-growing plant communities that will resist invasion by tall growing tree species through the use of appropriate, environmentally-sound, and cost-effective control methods. These methods can include a combination of chemical, biological, cultural, mechanical, and/or manual treatments. The IVM approach strives to manage vegetation and

the environment by balancing the benefits of cost, control, environmental quality, public health, and regulatory compliance.” Using the IVM approach allows utility companies to avoid problems such as “danger trees”, uncontrolled forest fires, erosion, and worker endangerment caused by mismanagement of vegetation and overgrowth.

With the number of wetlands and miles of ROW in the state, there is no shortage of interactions between the two. It may seem like the act of clearing a linear path across the landscape should be chalked up to our growing society’s modern needs, but the result is more nuanced than that. In many cases, ROW creation and maintenance provides conditions that allow a variety of native plants and animals to persist in otherwise unsuitable habitat. A well-maintained ROW is reminiscent of the prairie habitat that was once more common in the southeast. In addition, open ROW areas may provide natural plant propagation

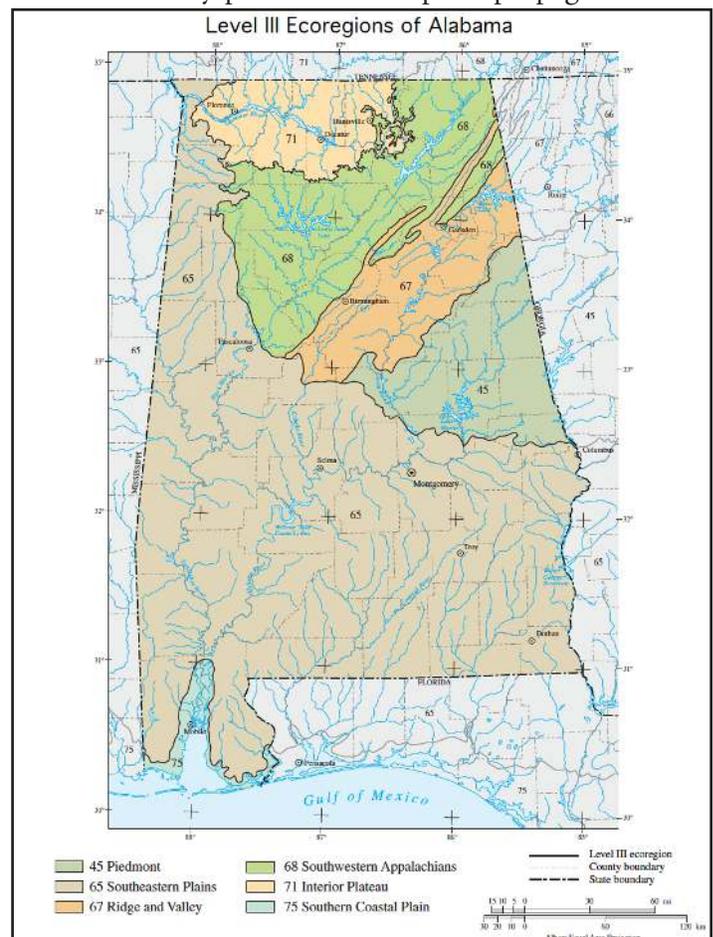


Figure 1. Level III Ecoregions of Alabama. Map from U.S. Environmental Protection Agency.

Continued on page 3

Wetlands and Alabama's ROWs (continued from page 2)

opportunities in otherwise fire suppressed areas. Studies currently being conducted by Alabama Power Company (APC), Southern Company (Alabama Power's parent company), Auburn University, and the Electric Power Research Institute (2020) have shown that grasslands in ROWs are important for pollinators and provides early successional habitat necessary for their life cycle. On the other hand, ROWs have the potential to create problems for native plants and wildlife without proper management. Potential impacts of ROWs on flora and fauna in a general sense are well documented, so for this article the focus will be on potential impacts to wetland species specifically. I will expound upon several pros and cons of ROW/wetland interactions and provide suggestions for mitigating impacts.

Disturbance Regimes and Benefits to Wildlife–

Much of the southeast has adapted to thrive under natural disturbance regimes. One such example is the longleaf pine (*Pinus palustris*) ecosystem (Figure 2). Prior to colonization, as many as 92 million acres of the southeastern United States was dominated by longleaf pine (Frost 1993). This ecosystem was dependent on frequent low-intensity surface fires caused by lightning and other natural phenomena and fueled by the tree's pine needles and the wiregrass (*Aristida stricta*) found covering the forest floor. The longleaf pine ecosystem is known for having a bilayer structure consisting of sparse canopy cover, notable lack of a mid-story, and incredibly diverse ground cover that can hold as many as 40 plant species per square meter (Walker et al. 1984). Fire suppression by humans and habitat fragmentation has caused a disruption in the disturbance regime that once allowed longleaf pine and its rich grassland-like herbaceous layer to flourish. As a result, Frost (1993) estimates that the longleaf pine ecosystem only occupies approximately 3% of its historic range. The niche that longleaf pine once filled has been replaced by stands of hardwoods and



Figure 2. Wiregrass (*Aristida stricta*) in the understory of a longleaf pine (*Pinus palustris*) ecosystem. Photo by Alan Cressler.



Figure 3. Emergent wetland along an Alabama transmission line right of way. Photo by Dylan Shaw.

other pine species that often lack prescribed fire and contain dense canopies with low diversity and sparse ground cover. The longleaf pine is an upland species (facultative-upland in the Atlantic and Gulf Coastal Plain, and facultative in the Eastern Piedmont), but the benefits of its natural fire regime reach far into the wetlands existing within it and on its periphery. Many wetland plant species endemic to the southeast depend on this disturbance and cannot exist where a dense canopy, midstory, or duff layer is present. While ROWs can't provide all the benefits that a longleaf pine forest can, they can mimic a natural disturbance regime and supplement the grassland habitat that once existed beneath these pines and support valuable early successional habitats and emergent wetland vegetation.

According to the U.S. Fish and Wildlife Service, emergent wetlands are characterized by "erect, rooted, herbaceous hydrophytes, excluding mosses and lichens... present for most of the growing season in most years... and usually dominated by perennial plants." ROWs encourage development of emergent wetlands due to IVM practices limiting the growth of woody vegetation (Figure 3). Their lack of woody vegetation and low-lying form make emergent wetlands well adapted to ROWs and compatible with maintenance requirements. In Alabama, seepage bogs, a type of emergent wetland sometimes found in ROWs, support the highest number of pitcher plant species found anywhere in the United States

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Call for WWG Board Nominations

Want to join a fun team to advance the mission
of the Wetlands Working Group?

The Wetlands Working Group of the Wildlife Society is seeking nominations for the open position of Vice-Chair. The Vice Chair would serve as such for the 2021-2022 term, succeed to Chair for 2022-2023, and then become Past Chair for the 2023-2024 term; a total service period of 3 years. Service would begin at the annual membership meeting for the Wetland Working Group, to be held during the virtual TWS Annual Conference 1-5 November 2021.

Officers develop content for the biannual newsletter, assist with organizing symposia, identify social media content applicable to the Group's mission, and participate in other activities as needed to increase communication about wetland and wildlife-related issues among WWG members.

Board Meetings are once a month by conference call (1 hour), so you can participate from anywhere! Including monthly meetings, time commitments average 2-4 hours/month for Vice Chair, Past Chair, and Secretary/Treasurer, and 4-8 hours/month for Chair.

The duties are outlined in the WWG Charter, and are summarized as follows:

VICE CHAIR — The Chair-elect serves as the Vice-Chair and assume the duties of the Chair in the absence of the Chair and performs other duties as needed. Upon completion of a full term as Chair-elect, the Chair-elect succeeds to the position of Chair. The Chair is responsible for running all meetings of the Executive Board and membership. The Chair may represent the Working Group or appoint alternate representatives to other Working Group, Chapter, Section, or Society boards, committees, or meetings, including The Wildlife Society Council. Upon completion of a full term as Chair, the Chair succeeds to the position of immediate Past Chair. In total, this is a 3-year term.

SECRETARY/TREASURER — The Secretary/Treasurer is responsible for maintaining the files, records, and funds of the Working Group. Duties include recording the minutes of all meetings; receiving and dispersing funds; preparing and submitting an annual fiscal-year report and annual budget. This is a 2-year term.

Consider nominating yourself or a colleague who is committed to wetland conservation! New and existing members are welcome!

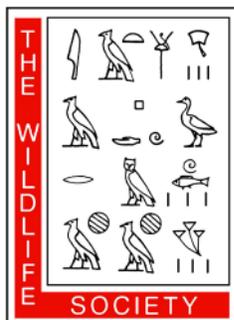
**Please submit all nominations electronically to
Drew Fowler, drew.fowler@wisconsin.gov by 6 August 2021.**

Nominations should include name, contact information, photo of you in the field, and a brief bio.

TWS is accepting applications for Executive Director/CEO

Click [here](#) to view the job description and application process information.

**Applications due by
16 July 2021
(or until filled)**



We're looking for a new Social Media Liaison!

**Thank you Casey Setash
for volunteering in this
position for 3 years! We
wish you the best in your
new endeavors!**

Do you love social media?

If so, help us keep WWG members up to date on wetland related news & activities.

Wetlands in the News

'Ghost Forests'
visible from space.

Restoring boreal peatlands
to keep carbon in the ground.

What's happening
to Long Island's wetlands?

U.S. government sued over
allowing pipelines on wetlands.

\$50 Billion plan
to save Louisiana coast.

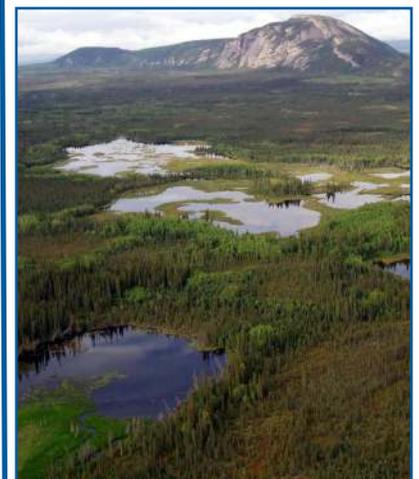
New Zealand has lost thousands
of hectares of wetlands
in recent decades.

Using stories and puppets
to save Indonesia's mangroves.

Can 'Natural Capital' give nature
an economic voice?

Smaller summer dead zone
predicted for Chesapeake Bay
for 2nd year in a row.

Wetlands' oldest stories told by
silt, sediment.



*Boreal peatlands, Northwest Territories.
Photo by Chad Delaney.*

Click on the [light blue](#) hyperlinked text above for links to the original articles.



Figure 4. Wherry's pitcher plant (*Sarracenia alabamensis* ssp. *wherryi*). Photo by Dylan Shaw.



Figure 5. Orange fringed orchid (*Platanthera ciliaris*). Photo by Dylan Shaw.



Figure 6. White fringeless orchid (*Platanthera integrilabia*). Photo by Dylan Shaw.

(Figure 4; Boyd 2015). Rich assemblages of other carnivorous plants such as sundews, bladderworts, and butterworts, as well as several species of native orchid, can also be found here (Figure 5). In 2020, APC biologists found three new occurrences of the federally threatened white fringeless orchid (*Platanthera integrilabia*) while conducting a wetland survey on an existing transmission line ROW (Figure 6). This find increased the total known occurrences in the state from 9 to 12 (Alabama Natural Heritage Program 2015), representing a significant boost to its known localities. Emergent wetlands in ROWs are favored by pollinators, game species, birds, and a variety of reptiles for their abundant forage and edge habitat. Few-flower milkweed (*Asclepias lanceolata*), an obligate wetland plant, serves as an important larval host to the monarch butterfly (*Danaus plexippus*), queen butterfly (*Danaus gilippus*), and soldier butterfly (*Danaus eresimus*) and can also be found in these areas (Figure 7; Florida Native Plants Society n.d.).

Potential for Impacts— There are inherent risks to wetlands that exist during the construction and maintenance of electric utility ROWs. Continuity of power delivery is an essential function of our

society, making these risks necessary, albeit avoidable in most cases. These occasional impacts are met with mitigatory actions to ensure that wetland function is retained, and impacts are temporary. During construction and maintenance of ROWs, wetlands may be impacted by heavy equipment. When possible, crews utilize wetland “mats”, which are wooden platforms that are placed in wet areas to create a temporary



Figure 7. Few-flowered milkweed (*Asclepias lanceolata*). Photo by D. Shaw.

surface for equipment to travel over to prevent hydrological alteration. Vegetation beneath these mats is inevitably impacted, however the surrounding community is left intact and impacted vegetation can recover over time. Mowing near wetlands has the potential for impact but can be minimized through the use of proper buffers. In addition, proper use of best management practices can prevent impacts from run-off and erosion. Utility corridors create opportunities for invasive/opportunistic species like Japanese climbing fern (*Lygodium japonicum*), cogongrass (*Imperata cylindrica*), Chinese tallow (*Triadica sebifera*), and privet hedge (*Ligustrum sinense*) to spread and persist, especially in transition zones between wetland and upland areas.

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Wetlands and Alabama's ROWs (continued from page 5)

While mowing can be very beneficial, it can also create enough disturbance to invite the establishment of these unwanted invasive species. Additionally, there is potential for equipment to transport invasive species from one site to the next. The adherence to herbicide labels when controlling invasive species can help reduce risks associated with their use.

Finally, habitat fragmentation caused by ROWs can be an issue. Transmission line ROWs don't create a physical impediment to animal movements in the way that interstates and highways do, but in some cases, they create a linear path through otherwise uninterrupted forest habitats. This can expose animals to predation and invite in wildlife that wouldn't be present otherwise, potentially displacing local inhabitants. However, ROWs can also provide edge habitat that creates forage for wildlife and mimics natural openings. It's important to note that while many desirable native plant species benefit from natural disturbance, the benefit to wetland species on ROWs lies predominantly in how the surrounding upland vegetation is managed (e.g., keeping surrounding vegetation in an early successional state and preventing overgrowth). Mowing and use of heavy equipment in wetlands can alter wetland hydrology and possibly negate any potential benefit the plants would

receive from mowing. In instances where trimming is necessary, hand clearing would likely cause the least impact and provide a benefit to herbaceous vegetation due to the increased sunlight reaching the ground.

Discussion— From the smallest ephemeral pool to the 260,000 acre Mobile-Tensaw Delta, wetlands are an integral part of Alabama's natural history and harbor some of the nation's most spectacular biodiversity. As Alabama continues to see increased human development, both in industry and population, these sensitive areas will require careful attention and planning to avoid impacting them. Management of electric utility ROWs is no small task, but adaptive management that is site-specific (when possible), can lead to a tailored result that protects our critical infrastructure and the sensitive areas beneath them. Examples include: mowing at correct times of the year (to avoid disrupting insect life cycles), working with surrounding landowners to conduct controlled burns on ROWs to reintroduce natural disturbance, and using backpack sprayers to apply herbicide in a controlled application that limits drift into wetlands and waterways. I consider myself fortunate to be at the intersection of industry and wildlife and look forward to seeing both prosper in the coming years. *See page 8 for literature cited.*

STUDENT GRANTS AVAILABLE

Apply Now!

In order to increase student awareness and participation in the Wetlands Working Group (WWG), we will fund early registration conference fees for up to four student members of the WWG to attend the Annual TWS Conference. New and existing student members are encouraged to apply! Students interested in being considered for this award should email a CV and a brief cover letter discussing their interest in wetland research, management, and conservation to Phillip Stephenson (phillipleestephenon@gmail.com) by 6 August 2021.

Students will be notified if they are selected for this award by 27 August and will be reimbursed early registration costs for the 2021 TWS Virtual Conference. Applicants must be a member of the WWG by the application deadline. Attendance at the virtual WWG annual meeting is recommended so that recognition of award receipt can occur.



*Invertebrates that use wetlands in Alabama's ROWs (left to right): Eastern lubber grasshopper (*Romalea guttata*) and green lynx spider (*Peucetia viridans*), photos by Dylan Shaw; Monarch butterfly (*Danaus plexippus*), photo © fam-esquivel.*

PHOTO CONTEST

Get outside and be creative!

The Wetlands Working Group is hosting a photo contest that will run until October 1st. We are accepting images focusing on (1) wetland related animals and/or (2) landscapes. The winner of each category will receive \$50 and a WWG reusable tote bag. Entries must be photographed by a WWG member, be captured in 2021, and cannot be an image submitted to a previous photo contest.

Only one submission per category, per member is allowed.

Submissions can be sent to Phillip (phillipleestephenson@gmail.com) with the subject: WWG Photo Contest.

Please label the picture file with your last name, category, and content (e.g., species name, location, etc).

Photos must be submitted by 5:00PM Pacific Time on October 1, 2021.

By submitting photos, all entrants agree that the Wetlands Working Group can use the images in newsletters, website, and any other communications.



Photos (left to right) by WWG board members Phillip Stephenson, Jay VonBank, and Adonia Henry.

Resources for More Information on “Waters of the U.S.” and Ephemeral Wetlands

Navigable Waters Protection Rule

Navigable Waters Final Rule in the [Federal Register](#).

EPA and Army announce [intent to revise the definition](#).

[Insights on the Final Rule](#) by the Association of State Wetland Managers.

[Opinion article](#) in the Proceedings of the National Academy of Science of the United States of America.

[Opinion article](#) from the American Farm Bureau Federation.

[Amicus briefs](#) on Navigable Waters Protection Rule.

Ephemeral Wetlands

Ephemeral wetlands and [landscape connectivity](#).

Temporarily flooded wetlands [management leaflet](#) by the Natural Resources Conservation Service.

[Ecological and hydrological significance](#) of ephemeral and intermittent streams in the arid and semi-arid American southwest.

[Ephemeral wetlands and climate change](#): implications for frogs and toads.

Midwestern ephemeral wetlands: [a vanishing habitat](#).

Ephemeral wetlands provide [significant habitat for threatened crayfish](#) in Alabama.

Importance of [Arizona’s ephemeral streams](#).

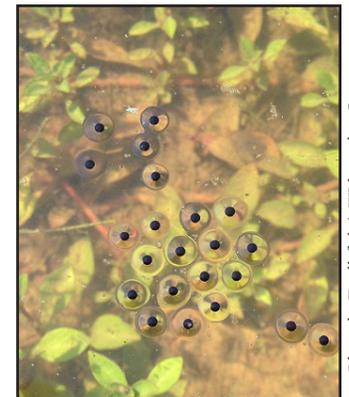
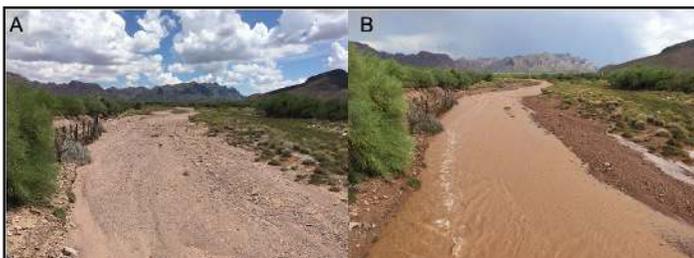


Photo by Fredlyfish4, Wikimedia Commons.

Eastern narrow-mouthed toad (Gastrophryne carolinensis) eggs.



Dry (left) and wet (right) phases of an ephemeral stream in Arizona. Photos from www.pnas.org.

Click on the [light blue](#) hyperlinked text above for links to the original articles.

CALLING ALL YOU-TUBERS!

We are still seeking introduction videos from you all that can be shared with the rest of the membership. Just like a tuber, we want to unbury you from the soil and water you are rooted in and let your value be shared with the other wetland dependent



Yellow-headed blackbird. Photo by Jay VonBank.

species in this group (see what I did there?). Just tell us where you are, what you do, and maybe have a cool wetland in the background. We just want to create an avenue for you all to network in a virtual capacity. We hope you bulrush us all at the same time. Please send your membership introduction to Casey Setash (csetash@rams.colostate.edu).

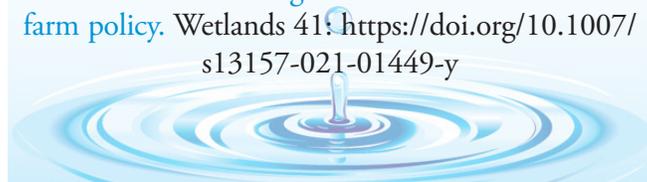


Member Highlights

New Publications

Mota, J.L., D.J. Brown, D.M. Canning, S.M. Crayton, D.N. Lozon, A.L. Gulette, J.T. Anderson, I. Mali, B.E. Dickerson, M.R.J. Forstner, M.B. Watson, and T.K. Pauley. 2021. [Influence of landscape condition on relative abundance and body condition of two generalist freshwater turtle species.](#) *Ecology and Evolution* ece3.7450.

King, S.L., M.K. Laubhan, P. Tashjian, J. Vradenburg, and L.H. Fredrickson. 2021. [Wetland conservation: challenges related to water law and farm policy.](#) *Wetlands* 41: <https://doi.org/10.1007/s13157-021-01449-y>



Literature Cited for Early Successional Wetlands along Alabama's Transmission Line Rights of Way

Alabama Natural Heritage Program. 2015. An update on the status of *Platanthera integrilabia* (Correll) Luer (Orchidaceae), the white fringeless orchid, in Alabama. U.S. Fish and Wildlife Service.

Alabama Power Company, Auburn University, Electric Power Research Institute, Southern Company. 2020. Value of pollinator habitat conservation on rights of way. May 2020.

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U.S. Fish and Wildlife Service. n.d. Classification of wetlands and deepwater habitats of the United States: emergent wetland. <https://www.fws.gov/wetlands/documents/classwet/emergent.htm>.

U.S. Geological Survey. 1993. National water summary: Alabama wetland resources. <https://www.fws.gov/wetlands/data/Water-Summary-Reports/National-Water-Summary-Wetland-Resources-Alabama.pdf>.

Walker, J., Peet, R.K. 1984. Composition and species diversity of pine-wiregrass savannas of the Green Swamp, North Carolina. *Vegetatio* 55:163-179.

Training Opportunities & Upcoming Conferences

Association of State Wetland Managers
Calendar of events for webinars, trainings, & special events

2021

WAFWA Summer Meeting
18-23 July 2021 Santa Fe, NM

National Conference on Ecological Restoration
26-29 July & 2-5 August 2021 Virtual

Ecological Society of America Annual Meeting
1-6 August 2021 Virtual

American Ornithological Society Annual Meeting
9-14 August 2021 Virtual

Canadian Herpetological Society Annual Conference
September 2021, Check website for updates

The Wildlife Society 28th Annual Meeting
1-5 November 2021 Virtual

International Conf. on Water Resources and Wetlands
27-28 September 2021 San Francisco, CA

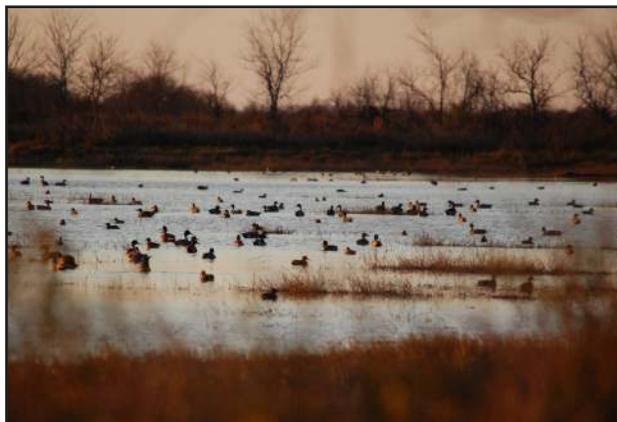
SEAFWA 75th Annual Conference
17-20 October 2021 Roanoke, VA

Entomological Society of America Annual Meeting
31 Oct. - 3 Nov 2021 Denver, CO

Coastal and Estuarine Research Federation
1-4 & 8-11 November 2021 Virtual

The Waterbird Society Annual Meeting
8-12 November 2021 Virtual

Click on the light blue hyperlinked text above for conference information.



Waterfowl at sunset. Photo by Jay VonBank.

Questions?

Interested in sharing
your wetland experiences
and contributing to the
Newsletter?

Contact Us!

wwg.tws@gmail.com

2021 Board Members

Phillip Stephenson, Chair

philliplestephenson@gmail.com

Jay VonBank, Vice-Chair

jayvonbank@gmail.com

Drew Fowler, Past Chair

drew.fowler@wisconsin.gov

Adonia Henry, Treasurer/Secretary

adoniarhenry@gmail.com

**Casey Setash, Student & Social Media
At-Large Representative**

csetash@rams.colostate.edu

How to Join WWG

When you renew your TWS membership,
sign up for the Wetlands Working Group!

If you're already a member of TWS, you can
add membership in the Wetlands Working
Group at any time by logging into your
account at

<http://wildlife.org/>.

Membership dues are only \$5 annually,
which helps support activities at meetings,
student travel awards, and outreach events.

Support the WWG

**Reusable Chico Bags
only \$10 each**

(free shipping)

Contact Adonia at
adoniarhenry@gmail.com
to get yours today!

