# The Marsh Wren

SINCE 1976 | THE FRIENDS OF DYKE MARSH | FALL 2022


**Calendar**

**FODM Fall Meeting**
October 26, 7 p.m. See page 1.

**Calendar of Events**

Bird walks every Sunday, 8 a.m.

October 8 and 22,
November 5 and 19 and
December 3 and 17, 10 a.m.,
remove invasive plants

October 24 (rain date, October 25),
2 p.m., fall colors walk

See www.fodm.org and our Facebook page for details.

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# Superheroes of the Night -- Bats

**October 26, 7 p.m.**

A tri-colored bat (*Perimyotis subflavus*)
Photo by Rich Sturges,
Bat Conservation and Rescue of Virginia

Bats are often misunderstood, associated with witchcraft, sorcery or vampires in folklore and legends. On October 26, in an online program, you can learn how bats fly with their hands, find tiny insects in complete darkness, are responsible for humans having many of the foods and drinks we love and much more from a talk by Deborah Hammer, a bat educator and board member of both FODM and Bat Conservation and Rescue of Virginia.

Bats are the only mammal capable of true flight. Bats are valuable members of our ecosystem that provide ecological services, including pollinating many tropical fruits and eating mosquitoes. "One little brown bat has been documented eating upwards of 600 mosquitoes in one hour," reports the Virginia Department of Wildlife Resources.

Observers have documented 17 bat species in Virginia. At least seven bat species have been observed in Dyke Marsh. Most are primarily active at night.

Please register in advance for this Zoom meeting by clicking here or going to www.fodm.org and clicking the Zoom meeting registration link in the left column. After registering, you will receive a confirmation email with more information.

To learn more, visit Bat Conservation and Rescue of Virginia, at https://www.virginiabats.org/. This program is sponsored by FODM, the Friends of Huntley Meadows Park and the Friends of Accotink Creek.

**Bats in Dyke Marsh**

The following bat species have been documented in Dyke Marsh:

- Big brown bat, *Eptesicus fuscus* (very common)
- Silver-haired bat, *Lasionycteris noctivagans* (common during spring and fall)
- Eastern red bat, *Lasiurus borealis* (very common)
- Hoary bat, *Lasiurus cinereus* (common during spring and fall)
- Northern long-eared bat, *Myotis septentrionalis* (occasional; impacted by white-nose syndrome)
- Evening bat, *Nycticeius humeralis* (common)
- Brazilian free-tailed bat *Tadarida brasiliensis* (new migrant to Virginia, common)
- Seminole bat, *Lasiurus seminolus* (new migrant to Northern Virgina, occasional)
- Little brown bat, *Myotis lucifugus* (rare, severely impacted by white-nose syndrome)
- Tri-colored bat, *Perimyotis subflavus* (rare, severely impacted by white-nose syndrome)

# George Washington Memorial Parkway Superintendent's Message

**BY CHARLES CUVELIER**
**NATIONAL PARK SERVICE (NPS)**

A barge places rocks on a new sill.
Photo by Dorothy McManus

As many of you have observed, Phase II of the Dyke Marsh restoration efforts are ongoing and the contractors are building additional sills north of the existing ones. We have experienced some settling in Phase I of the project, the breakwater and sills in the southern marsh. This is not a surprise. We had hoped to modify the existing contract to address this issue; however, that request has not been approved. We will have to explore another contracting path to address the additional stone needed due to settling.

Public Lands Day is every September. Thanks for volunteering in support of your public lands throughout the year and for the September 24 trash cleanup.

The Army Corps of Engineers' Coastal Storm Risk Management Feasibility Study, which includes a proposed floodwall and levee on the west side of the George Washington Memorial Parkway, produced a significant amount of public interest. Thanks to FODM for your letter articulating the concerns that the construction of a floodwall and levee could have on National Park Service (NPS) property and thank you for promoting the protective measures additional marsh restoration could provide. The topic continues to receive considerable interest. The draft feasibility study does not clearly express whether there would be actions on NPS lands and is not sufficient to satisfy some National Environmental Policy Act and National Historic Preservation Act requirements. We will continue to be engaged on the subject as it is of interest to all of us.

At your request, we consulted with the NPS Center for Urban Ecology (CUE) regarding your ongoing treatments of 20 pumpkin ash trees in the marsh. The CUE team recommends continuing treatments to prevent further emerald ash borer (EAB) impacts. The injections clearly show that the treated trees are exhibiting a resistance to this invasive insect, since all other ash trees in the vicinity not receiving the treatment have died. No one knows when EAB will not be a threat and whether the populations of the pest are declining once an area is decimated. Your photo documentation and regular assessments should continue annually. Thank you for your investment in the protection of this small stand of trees.

Barge and new sill in foreground with older sill in the distance
Photo by Bob Veltkamp

**Editor:**
Glenda Booth

**Assistant Editors:**
T. D. Hobart
Bob Veltkamp

Friends of Dyke Marsh
P.O. Box 7183
Alexandria, VA 22307
info@fodm.org

Visit our website at
**www.fodm.org**
or on **Facebook.com**





**Board members can receive emails at info@fodm.org**. *The Marsh Wren* is a publication of the Friends of Dyke Marsh, Inc., a nonprofit 501(c)(3) organization. Letters and submissions to *The Marsh Wren* are welcomed. Send them to the address at left. **A special thank you to Dorothy McManus who served for years and recently stepped down as FODM Secretary and Marsh Wren Editor.**

# President's Message

## Glenda C. Booth, President, Friends of Dyke Marsh

On the night of September 28, as the Marsh Wren went to press, 6,028,100 migratory birds passed through Fairfax County.

This estimate is provided by a fascinating website, https://birdcast.info/, which uses weather surveillance radar to report an estimated number of birds passing through a locality overnight and the expected species. Maps show predicted nocturnal migration three hours after local sunset to early morning and are updated every six hours. Most birds that migrate travel at night.


There are four major North American flyways. Map courtesy USFWS.

Migration in Northern Virginia peaks from mid-September to early November. This fall, several uncommon sightings nearby included an American avocet (*Recurvirostra americana*), an American white pelican (*Pelecanus erythrorhynchos*) and a tri-colored heron (*Egretta tricolor*).

Drivers of bird migration are food absence because of cold weather and seasonably unavailable habitat, like frozen lakes. The duration and length of migratory journeys vary by family, species and population. Some birds migrate over 8,000 miles from the Arctic to South America. The champion migrant in the western hemisphere is likely the Arctic tern (*Sterna paradisaea*), which flies from its Arctic breeding grounds to Antarctica.

Migration is the most dangerous part of a bird's life cycle, says the National Audubon Society's Scott Weidensaul, author of Living on the Wind, with threats like storms, outdoor cats and aerial towers putting migrants at risk. Another hazard is light pollution. Between 365 and 988 million birds die by colliding with buildings annually. In some cities, morning volunteers collect dead birds from sidewalks. We can reduce some deaths by turning off our lights at night. Visit https://birdcast.info/science-to-action/lights-out/.

We also can preserve and restore bird-friendly habitat at our homes (see https://www.audubonva.org/audubon-at-home) and in Dyke Marsh. Commenting on reports of a tri-colored heron, Dan Rauch, D.C.'s wildlife biologist, said, "As more wetland restoration efforts are successfulalong the Anacostia River and the Potomac, we'll see more of those birds stopping here to feed. At least one has been around for a week. That means it's found a very healthy marsh. There's plenty of food there to stop over, to replenish and sustain it until it feels like moving on."

### Troubling Developments

It appears that our Chronolog photography station, DMW-102, on the viewing platform across from Tulane Drive has been vandalized twice. We replaced it once (Thank you, Jim Gearing) and will not replace it again at this site at this time. Neither FODM nor the U. S. Park Police know what happened.

Chronolog stations document and visualize landscape changes over time. At the Haul Road station, we hope you will snap photos and e-mail them to upload@chronolog.io. Neither the Friends of Dyke Marsh nor the National Park Service will collect or ever see your e-mail. Visit at https://www.chronolog.io/.

Sadly, we had to cancel our annual, April Raptor Rapture program because of avian influenza, a disease that could have threatened the birds. See https://www.cdc.gov/flu/avianflu/avian-in-birds.htm to learn more. We hope to hold the event in May 2023.

FODMers saw an Eastern kingbird (*Tyrannus tyrannus*) entangled in fishing line near the Belle Haven Marina on July 24. Fortunately, the marina has a disposal container near the boat ramp. Please encourage anglers to use it.

### Share Your Talents

We know there are many talented FODMers who would like get more involved and help Dyke Marsh survive. At our 2023 annual meeting, we will elect our officers and Board of Directors. If you are interested in serving, email me at info@fodm.org. Also, if you can help with our website or other online tasks let me know. Volunteering for FODM can take as much or as little time as you would like to give.

"I have learned you are never too small to make a difference," said Greta Thunberg, a Swedish conservationist who started climate advocacy at age 15.

**Be sure to vote before or on November 8.**

# The Results of the 2021 Dyke Marsh Wildlife Preserve Breeding Bird Survey

**BY LARRY CARTWRIGHT**
**Breeding Bird Survey Coordinator**

Friends of Dyke Marsh volunteers conducted the 2021 Dyke Marsh Breeding Bird Survey between May 29 and July 4, but any data collected outside of this period that confirmed breeding activity was entered into the database. That allowed us to filter out most migrants that do not breed here. I also included information provided from reliable outside sources to supplement data reported by the survey teams.

The survey tract encompassed the Belle Haven Park picnic area, the Belle Haven Marina, the open marsh, that portion of the Big Gut known as West Dyke Marsh that extends under the George Washington Memorial Parkway west to River Towers, the Potomac River from the Virginia shoreline to the channel and the surrounding woodland from the mouth of Hunting Creek to south of Morningside Lane.

The breeding bird survey methodology uses behavioral criteria to determine the breeding status of all species found in the survey tract. Species are placed into one of four categories: confirmed breeder, probable breeder, possible breeder and present. Our teams found 74 species in Dyke Marsh. There were 49 species confirmed as breeders, 7 as probable breeders and 10 as possible breeders. An additional 10 species were listed as present but were a combination of colonial breeding waterbird species not using a rookery inside the survey tract, species in unsuitable breeding habitat and migrants still headed north.

Surveyors observed a seemingly high rate of nest abandonment and nest predation among tree-nesting songbirds compared to other years. It was particularly noticeable in early blue-gray gnatcatcher (*Polioptila caerulea*) nesting attempts. The first set of nests were often exposed and were destroyed during the incubation period or earlier. Later nests were generally better concealed with apparently more successful results. Blue-gray gnatcatchers did produce fledged young, but with more effort than in previous years.

The culprits behind the predation were fish crows (*Corvus ossifragus*) and common grackles (*Quiscalus quiscula*). Fish crows have become successful breeders in the Belle Haven Park picnic area and common grackles are almost anywhere in the survey tract with fledged young following them. The death of many pumpkin ash trees, primarily in the south marsh, has made it much easier for these birds to discover more nests with less effort. Volunteers have reported nest destruction by fish crows and common grackles.

Besides blue-gray gnatcatchers, likely victims of predation in 2021 were eastern kingbirds (*Tyrannus tyrannus*), warbling vireos (*Vireo gilvus*), red-eyed vireos (*Vireo olivaceus*), American robins (*Turdus migratorius*), cedar waxwings (*Bombycilla cedrorum*) (Many waxwings on the Haul Road abandoned their nests almost as soon as they completed construction.), orchard oriole (*Icterus spurius*), Baltimore oriole (*Icterus galbula*) and yellow warblers (*Setophaga petechia*). Baltimore orioles and yellow warblers have been declining in recent years, so there may be other causes in addition to predation to explain their poorer nesting performance. Orchard orioles did amazingly well despite the pressures placed on them; family groups were reported from at least three locations along the Haul Road and a fourth from Pipeline Bay in the south marsh.

A female orchard oriole with food for nestlings Photo by Beth Riker Howell

A blue-gray gnatcatcher feeding nestlings Photo by Ed Eder

Ground and cavity nesters seem to have done better overall than tree nesters in 2021. Volunteers discovered a brown thrasher (*Toxostoma rufum*) ground nest adjacent to the canal at West Dyke Marsh that fledged two

**SURVEY** *(continued on page 5)*

**SURVEY** *(continued from page 4)*

young. At least two additional brown thrasher family groups were present past the dogleg on Haul Road. A cavity-nesting male prothonotary warbler (*Protonotaria citrea*) was documented feeding fledged young north of the dogleg for the second straight year. All five breeding woodpecker species -- red-bellied (*Melanerpes carolinus*), downy (*Dryobates pubescens*), hairy (*Dryobates villosus*), pileated (*Dryocopus pileatus*) and northern flicker (*Colaptes auratus*) -- had a successful breeding season, with red-bellies being noticeably prolific.

A highlight of the 2021 breeding season was the discovery of at least three yellow-billed cuckoo (*Coccyzus americanus*) breeding pairs. Not usually observed in Dyke Marsh during the breeding season, these birds were probably drawn to the preserve by the outbreak of Brood-X cicadas. These insects were all over the place and the cuckoos were likely there to exploit this food source for their breeding needs. One volunteer saw a bird with

An adult barred owl with one of three fledged youngsters near the entrance to the Haul Road Photo by Ed Eder

nesting material, but we never found a nest or fledglings. We had plenty of observations of another highlight -- a barred owl (*Strix varia*) breeding pair with three fledged young near the Haul Road entrance. They ate cicadas as well as several large birds, including adult mourning doves (*Zenaida macroura*), blue jays (*Cyanocitta cristata*) and gray catbirds (*Dumetella carolinensis*). They also cleaned out an American robin nest with four or five nestlings, so we can safely add barred owls to the list of nest predators.

In recent years, our surveys have shown that least bitterns (*Ixobrychus exilis*) have retracted from the southern portion of the Big Gut and are concentrating their breeding activities to the northern half of the Big Gut and the tributaries of the Little Gut. We are assuming that heavy erosion in the south marsh is the cause of the least bittern retraction. The 2021 breeding bird survey revealed no additional shrinkage in the size of the now smaller area occupied by least bitterns and provided some hope for the species' continued presence in the marsh. A volunteer in his kayak found a least bittern nest in the northern Big Gut and a second probable nest in a tributary of the Big Gut that we call the "Northeast Passage." This is good news and the first confirmation of a least bittern as a Dyke Marsh breeder since 2016.

By contrast, the prospects for a return of the marsh wren (*Cistothorus palustris*) are seemingly hopeless. A few marsh wrens have showed up at Dyke Marsh over the past five years, but they have been assessed either as migrants or birds showing up during post-breeding dispersal. The last reported female occupied nest was in 2017. No one reported marsh wrens during the 2021 survey.

Size matters and even non-birders are aware of the breeding population of bald eagles (*Haliaeetus leucocephalus*) and ospreys (*Pandion haliaetus*) in Dyke Marsh. Bald eagles occupied **all three nests** as spring arrived. The primary "show" was at the Haul Road nest as photographers and birders alike gathered to watch the nest with the breeding pair showing no obvious concerns. The bald eagles produced two healthy nestlings that fledged by the end of May. The Haul Road nest has been active since 2018 and the adults have successfully produced fledged young all four years. I have no information on the success of the Tulane Drive or Morningside Lane nests, except that no young were

A female least bittern in a Dyke Marsh tributary Photo by John Cushing

**SURVEY** *(continued on page 6)*

**SURVEY** *(continued from page 5)*

An osprey bringing a stick to the Belle Haven Marina platform nest
Photo by Jane Gamble

reported from either location.

Ospreys constructed 10 nests during the 2021 breeding season. Of these, two were built on man-made objects not intended for nesting, the crane on a barge and a float used by the marina, and apparently were removed. A tree nest built on the west side of the marina was abandoned by April 15, likely due to the pressures placed on the osprey breeding pair by the neighboring bald eagles from the Haul Road nest and the ospreys nesting near the boat launch. Fish crows soon took over and built a nest under the abandoned osprey nest. A fourth nest on Coconut Island was completed too late in the summer and was never used.

Of the six remaining nests, four produced young, including the much-photographed nest at the marina boat launch that fledged two offspring. Not all endings were equally happy. A resident of Porto Vecchio reported in mid-July that a nestling in one of their platform nests seemed to be under duress. Attending rehabilitators from Maryland's Owl Moon Raptor Center determined that the young bird's wing and leg were so damaged by fishing line that it had to be euthanized.

The 2021 Dyke Marsh Breeding Bird Survey was a great success and it's all because of the volunteers that do the legwork and submit the data. A special note of gratitude goes out to Don Robinson and Elizabeth-Ketz Robinson who were our south marsh canoe team navigators since the 1990s and who have recently retired from the count. What a remarkable contribution they made to this survey!

And now, to thank and acknowledge all the participants of the 2021 survey, in alphabetical order, they are Eldon Boes, Glenda Booth, Juli Cooper, John Cushing, Ed Eder, Carolyn Gamble, Jane Gamble, Jim Gearing, Joel Goldman, Bill Hoover, Chip Johnson, Su Kim, Todd Kiraly, Elizabeth Krone, Joan Mashburn, Dorothy McManus, Nick Nichols, Roger Miller, Laura Sebastianelli, Robert Smith, Sherman Suter and Katherine Wychulis.

**Definition of Categories:**

**Confirmed Breeder:** Any species for which there is at minimum evidence of a nest. A species need not successfully fledge young to be placed in the confirmed category.

**Probable Breeder:** Any species engaged in pre-nesting activity, such as a male on territory, courtship behavior, or even the presence of a pair, but for which there is no evidence of a nest. Since birds can and do sing and display to females during migration, this category cannot be used until the safe dates are reached.

**Possible Breeder:** Any species, male or female, observed in suitable habitat, but giving no hard evidence of breeding. Unless actively breeding, all birds in suitable habitat before the start of the safe date are placed in this category.

**Present:** Any species observed that is not in suitable habitat or out of its breeding range. It also applies to colonial water birds in the survey tract not associated with a rookery in the tract.

**Definition of Safe Dates:**

We use safe dates as a means of deciding if a bird can be considered a breeder or a migrant. Safe dates are simply defined as a period beginning when all members of a given species have ceased to migrate in the spring and ending when they begin to migrate in the fall. Unless a bird is engaged in behavior that confirms breeding, it will be placed no higher than in the possible breeder category if it is observed outside the safe dates assigned to that species.

## The 2021 Breeding Bird Survey Results

**Confirmed - 49 species**: Canada goose, mallard, mourning dove, yellow-billed cuckoo, least bittern, osprey, bald eagle, great horned owl, barred owl, red-bellied woodpecker, downy woodpecker, hairy woodpecker, northern flicker, pileated woodpecker, great crested flycatcher, eastern kingbird, eastern phoebe, warbling vireo, red-eyed vireo, blue jay, fish crow, tree swallow, N. rough-winged swallow, barn swallow, Carolina chickadee, tufted titmouse, white-breasted nuthatch, house wren, Carolina wren, blue-gray gnatcatcher, American robin, gray catbird, brown thrasher, northern mockingbird, European starling, cedar waxwing, house sparrow, house finch, American goldfinch, song sparrow, orchard oriole, red-winged blackbird, brown-headed cowbird, common grackle, prothontary warbler, common yellowthroat, yellow warbler, northern cardinal, indigo bunting.

**Probable - 7 species**: wood duck, red-shouldered hawk, eastern wood-Pewee, willow flycatcher, Acadian flycatcher, Baltimore oriole, scarlet tanager.

**Possible - 10 species**: chimney swift, ruby-throated hummingbird, green heron, red-tailed hawk, belted kingfisher, American crow, purple martin, eastern towhee, yellow-breasted chat, American redstart.

**Present - 8 species**: American wigeon, greater yellowlegs, laughing gull, ring-billed gull, great black-backed gull, double-crested cormorant, great blue heron, black vulture.

# Turkeys Are Making a Comeback

**BY MERRI COLLINS**
**PhD Candidate, George Mason University**

A tom turkey displaying Photo by Randy Streufert

A new neighbor is moving into the Washington area, slowly but surely. The image of the wild turkey (*Meleagris gallopavo*) is familiar to most people. While the turkey is a long-standing icon for Americans' Thanksgiving, wild turkeys are also a popular game bird in many states, including Virginia, with the state and Maryland having official hunting seasons. Most people do not associate this gregarious bird with urban areas, but turkeys are becoming more common in suburbs and cities.

In the early 1900s, wild turkeys were extirpated from Virginia because of deforestation for development and other habitat destruction. To reverse this decline, the state began to rear captive-raised turkeys for release, a project which ultimately failed. In the late 1950s, state wildlife biologists began to trap wild turkeys from more plentiful populations in the U.S. and move these turkeys to appropriate habitat areas in Virginia and surrounding states that had dwindling turkey numbers. This effort proved successful and around 900 turkeys were moved to parts of southwestern Virginia between 1955 and 1993 to establish new populations.

Presently, we continue to see the results of this conservation success, with turkey populations slowly expanding north and eastward into the suburban and urban areas of the region. The Washington, D.C., area is not the only place that "city turkeys" have popped up in. Wild turkeys caught national attention in 2020-2021 with articles published in popular media outlets including The Guardian and The New York Times detailing urban turkeys and subsequent interactions with humans throughout New York, Boston and Oakland, California, among others. Turkeys have made a media splash for interactions with people in the Washington area as well. In recent months, officials monitored a tom (male) after he chased joggers and bikers along a trail near the Anacostia River (it has since left this area). Turkeys have been spotted in Dyke Marsh, other national parks, Huntley Meadows Park, Mason Neck State Park and even in an Alexandria cemetery!

A turkey hen with three juvenile turkeys
Photo by Randy Streufert

Why are turkeys attracted to urban areas? One theory is that turkeys are attracted to successional habitats often found in cities. Successional habitats include a mix of open fields for food foraging and forests for roosting in large trees at night. However, almost all research on turkeys has been conducted on rural populations thus far, but that is changing. Researchers have begun placing emphasis on understanding how turkeys use urban habitats in our area.

Like other wildlife species, turkeys are beneficial. They eat insects like ticks, disperse native plant seeds and provide charismatic bird watching opportunities. Turkeys travel in flocks primarily comprised of hens (females), nest and lay eggs on the ground in late spring and spend the summer raising poults (offspring).

How to avoid negative interactions with turkeys? If you are approached by a turkey, walk away and make loud noises to deter the turkey from continuing its approach. As with any wild animal, if you wish to view or photograph a turkey, do so from a distance.

If you see a turkey, admire the struggle this species has fought to reestablish here and welcome your new neighbor with admiration -- from a distance.

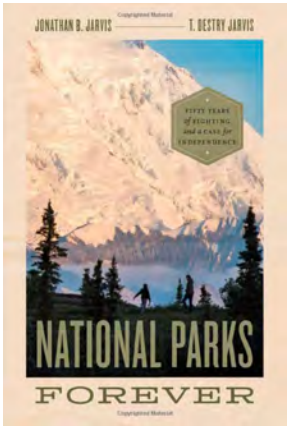
# Should NPS Be an Independent Agency?

**BY RANDY MYERS, FODM Board Member**

National Parks Forever (University of Chicago Press, 2022) by Jonathan and Destry Jarvis offers an insightful look into the inner workings of the National Park Service (NPS) over the past 50 years. It is authored by two brothers with unique backgrounds. Jonathan is a former park ranger, park superintendent, NPS regional director and then the NPS director in the Obama administration. Destry is a conservation advocate, policy analyst and a former NPS assistant director.

The National Park Service, which has been described as "America's best idea," manages over 400 national parks spanning over 85 million acres, ranging from the Statue of Liberty to Yellowstone National Park to our local George Washington Memorial Parkway. By law, NPS is directed to manage federal parklands that will "leave them unimpaired for the enjoyment of future generations." NPS employs over 22,000 permanent, temporary and seasonal employees and relies on 400,000 volunteers.

The Department of the Interior's oversight of the NPS inspired the book's subtitle, "Fifty Years of Fighting and a Case for Independence." Urging that the NPS become an independent agency, they explain that once the NPS director reported directly to the Interior Secretary, but now the director must work through "at least nine layers of politically appointed decision makers between the NPS director and the Secretary." The authors state that NPS managers are "overruled, second-guessed, threatened, and/or ignored by purely partisan political appointees who control its every decision, personnel change and budget request." As an example, one politically appointed decision maker tried to impose fundamental changes to the NPS Management Policies, a key management document.




But only after bureaucratic intrigue was the proposed revision withdrawn, which occurred after another politically appointed official secretly directed Jarvis to share his critical assessment with a Senate staffer.

The authors also detail the negative impacts on the agency caused by an entire administration. During the Trump administratrion's four years, the position of NPS director was left vacant -- for the first time in its history -- even though the president is empowered to nominate the NPS director. Among other questionable actions, officials reassigned every park superintendent and regional director who was in the Senior Executive Service to another part of the country, which prompted many to retire. And while the book acknowledges that some may view this as "just the way it is all supposed to work with a change of administration," the authors argue that these changes "actually impact the overarching mission of the NPS as stated in law 'to preserve the national parks unimpaired for the enjoyment of future generations.'"

The authors conclude, "The American people deserve better management, preservation and interpretation of every one of the places of national significance that have been set aside for their enjoyment, which, based on the past 50 years of observation and analysis, cannot be achieved without a major change -- a change that independence would provide."

# Dyke Marsh, a Look into the Past and Future of a Crucial Wetland

**BY DUNCAN HANNA**
**James Madison University Graduate, 2022**

Dyke Marsh is quite a special place for me because I grew up biking on the Mount Vernon Trail through Dyke Marsh to Old Town, Alexandria, and Washington, D.C. For a geology class that took in 2019, I began looking into previous studies about Dyke Marsh, such as Rates and Probable Causes of Freshwater Tidal Marsh Failure, Potomac River Estuary, Northern Virginia, USA conducted by the U.S. Geological Survey. From there, my interest in Dyke Marsh peaked because of the then-ongoing construction of the breakwater and sill.

Fast forward to 2022 and I took a cartography class, along with a research course with guidance from a professor. The goal of the research was to inform the people of the Mount Vernon area about the importance of Dyke Marsh by reviewing the historic destabilization and the preserve's future prospects. I used orthophotos from Fairfax County and ArcGIS Pro to trace the decadal extent of Dyke Marsh from 1960 to 2021.

The decade between 1960 and 1972 saw the greatest loss of wetland area, approximately 500,000m² (meters squared). Furthermore, I used LiDAR data of Dyke Marsh from the National Oceanic and Atmospheric Administration (NOAA) and the Intergovernmental Panel on Climate Change (IPCC) sea level rise (SLR) scenario SSP2-4.5 to estimate the local SLR at Dyke Marsh for the year 2100. By finding the local SLR by 2100 and creating a model with this data, I could predict the wetland loss at Dyke Marsh by 2100 by using the raster calculator in ArcGIS Pro. Since the IPCC SLR scenario had a best estimate and

**DYKE MARSH PAST** *(continued on page 9)*

# Meet the Plants -- Swamp Rose

**BY ELIZABETH FORTSON WELLS**

*Rosa palustris*, swamp rose, can be found in wet soil and shallow water and is flooded twice a day near high tide in Dyke Marsh. It is visible from the southern and northern ends of the wooden bridge of the Mount Vernon Trail across from Tulane Drive and at the end of the peninsula on the Haul Road trail. Its range is from Nova Scotia to Minnesota and south to Florida.

Swamp rose is a much-branched shrub or woody plant growing to two feet tall, characterized by solitary flowers or flowers in small clusters known as corymbs, which appear between June and August. The flowers are fragrant, flat and regular (radially symmetrical), two inches in diameter, with green sepals below the petals, five pale pink petals about an inch long each, very numerous yellow stamens borne around the rim of a globose or urn-shaped hypanthium or floral cup and numerous ovaries attached to the bottom of the hypanthium, with styles barely visible and separate from each other. The pedicel or flower stalk and the surface of the hypanthium are covered with glandular hairs, each hair bearing a small gland at its tip. The individual fruit, attached to each style, is a small bony structure known as an achene. The hard achenes are grouped into a somewhat fleshy structure known as a rose hip when mature, which becomes red and globose or slightly pear shaped. The fragrant flowers attract pollinators such as bees, butterflies and moths.

Swamp rose (*Rosa palustris*) Photo by Elizabeth Fortson Wells

The leaves are pinnately compound (leaflets arranged along an axis like a feather) with the leaf axis softly pubescent (hairy), leaflets commonly seven, narrowly elliptic to oblanceolate, softly pubescent beneath the midrib, the leaf margin finely serrate and the small teeth wider than long. The stipules (paired appendages at the base of each leaf) are very narrow, bearing cilia, entire (not toothed) and are fused laterally to the petiole or leaf stalk. Prickles (thorns) on the stem at the base of the compound leaf are stout, curved downward and about 0.2 inch long. There are no prickles on the stem between leaves.

In the fall, bright red hips, about one-third inch long, and green, pinnately-compound leaves are the most conspicuous features of this plant. The red hips persist until eaten by birds.

**DYKE MARSH PAST** *(continued from page 8)*

uncertainty for future SLR, I calculated the local SLR at Dyke Marsh to have a best estimate, low estimate and high estimate for potential SLR at Dyke Marsh by 2100.

I found that between 1960 and 2021, approximately 674,000m² of wetland area was lost at Dyke Marsh. Furthermore, I created a model to display the potential wetland loss at Dyke Marsh by 2100. The model predicts that between 73,000m² and 315,000m² of wetland will be lost at Dyke Marsh by 2100 due to SLR, according to the IPCC sea level rise scenario and range of years used.

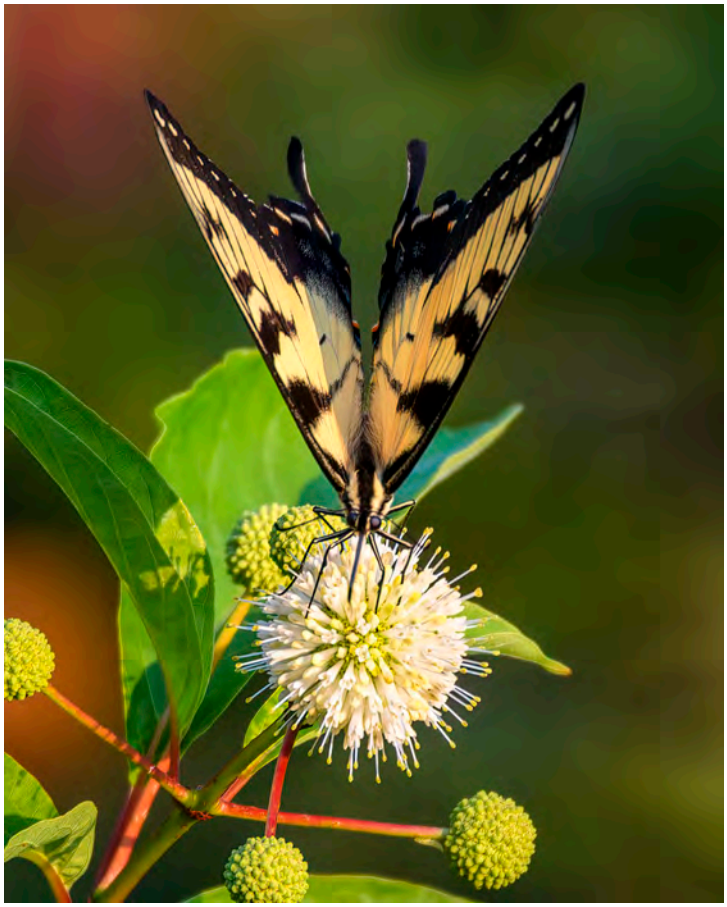
The model does not include potential data for sediment accretion and vegetation growth because the breakwater and sill were constructed too recently (construction was completed in 2020) to find any meaningful data on sediment accretion and vegetation growth. My advisors believe that it can take eight to 12 years for changes to be noticeable.

Editor's note: You can view a comparison of aerial photographs of the marsh from 1937 and 2021 by going to https://fodm.org/news/254-viewing-dyke-marsh-with-the-fairfax-county-historical-imagery-viewer.html

**KUDOS** *(continued from page 12)*

## Two Talented Photographers

Congratulations to two FODMers whose photographs were selected for the 2022 Virginia Wildlife magazine's annual photography showcase. Jane Gamble's photo was a closeup of dew on a feather. James Stone had two winners. One captured bluebells along a path in Bull Run Regional Park (not pictured) and the second a stunning tiger swallowtail butterfly on a buttonbush blossom. For this contest, 262 photographers submitted 1,176 photos. The magazine chose photos by 94 photographers.



# Keeping Pollutants Out of the Potomac

**BY GLENDA BOOTH**

On July 14, 2022, a 380-ton tunnel boring machine named Hazel made a debut at an unveiling by AlexRenew at their Alexandria wastewater facility.

FODM has urged Alexandria to upgrade their combined sewer system, a system dating to the 1890s that during some storms can overflow and send raw, untreated sewage into the Potomac River. The tunnel boring machine is part of the larger River Renew project and will help prevent more than 120 million gallons of combined sewage from polluting area waterways each year. In 2017, the Virginia General Assembly mandated that the project be completed by July 1, 2025.

AlexRenew will build a two-mile long tunnel along the Potomac River from outfall #1, at the end of Pendleton Street, through an outfall at the end of Royal Street where it will continue to the wastewater treatment plant near


Photo by Glenda Booth

**KEEPING POLLUTANTS OUT** *(continued on page 11*

**KEEPING POLLUTANTS OUT** *(continued from page 10)*

US 1 and I-95/495. AlexRenew processes 13 billion gallons of wastewater a year.

Alexandria Mayor Justin Wilson described the project as an "audacious undertaking that "will have impacts for generations to come." Alex Renew head Karen Pallansch explained that the machine, custom built in Germany by Herrenknecht, "moves about as fast as a snail." AlexRenew held a public contest and received 500 recommendations for the machine's name. They chose "Hazel" in honor of Hazel Johnson, a Chicago mother of seven and considered to be the mother of the environmental justice movement. "Today we honor her passion, her caring and her relentless drive to make our environment a better place for all our community and in our nation," Pallansch remarked.


Photo by Glenda Booth

## Welcome New FODM Members

FODM welcomes our **new members:** Vivian Bell, Teresa Casswell, Ann Crane, Jennifer Folsom, David Frantz, Lynn Iler, Karen Keefer, Tishana Trainor, Megan Vaughan and Eric Weiss. We welcome new **life members** Garett Jones, Luke Mann and Julia Martin and conversions to **life membership** Jennifer James and J.E. Sullivan.

U.S. Park Police, Emergency Number: 202-610-7500

### Riverkeepers Sue Alexandria

The Potomac Riverkeeper Network (PRKN) on May 10 filed a lawsuit in federal court against Alexandria for discharges of toxic coal tar waste into the Potomac River.

Potomac Riverkeeper Dean Naujoks documented the pollution coming from an outfall next to Founders Park. He wrote in the June 16 Washington Post, "Since at least 1975, these wastes have migrated from the Alexandria Gas Company site to the [Oronoco Street] outfall storm sewer pipe and have been discharged into the Potomac River, where they are present in the surface water and sediments. Coal tar and creosote wastes have also migrated through the soil and continue to seep up from the sediments near the outfall. These discharges and seeps of coal tar and creosote wastes have resulted in an observable sheen on the water, sediment contamination and a noticeable odor of creosote."

The suit alleges that the discharges violate the Clean Water Act and Resource Conservation and Recovery Act. PRKN is seeking a court order requiring the city to immediately abate the coal tar discharge and creosote wastes and to characterize and remediate the full extent of the contamination it created in the river.

## FODM Membership -- Dues and Contributions

Support the Friends of Dyke Marsh by becoming a member or renewing your membership. Benefits include the Friends' publication, *The Marsh Wren*; membership meetings with knowledgeable speakers; Sunday morning bird walks and notification of activities in and around the marsh. Most importantly, your membership lends your voice in support of the Dyke Marsh Wildlife Preserve and our efforts to advocate for preservation and full restoration of the marsh. Just click on the "Join" or "Donate" button on our home page at www.fodm.org to make your tax-deductible contribution by credit card or from your bank account securely through PayPal (For help, email info@fodm.org.) or you can send a check, payable to FODM, P.O. Box 7183, Alexandria, Virginia 22307. The annual dues are $15.00 per household and $250.00 for life membership for an individual. You will receive a notice by mail or by email when your renewal is due. A financial statement is available upon written request from the Virginia Office of Charitable and Regulatory Programs. Thank you for your support of FODM.

DUES AMOUNT..…..… $ _____
ADDITIONAL CONTRIBUTION..…... $ _____
TOTAL AMOUNT ENCLOSED..……. $ _____

NAME _____
ADDRESS _____
CITY_____ STATE ____ ZIP_____
TELEPHONE NUMBER _____
EMAIL ADDRESS _____

Please address any questions or comments about *The Marsh Wren* to Glenda Booth and about membership to Bob Veltkamp. You may contact them by mail at FODM, P.O. Box 7183, Alexandria, Virginia 22307 -7183, by telephone or by email (see page 2).

The Marsh Wren

The Friends of Dyke Marsh
P.O. Box 7183
Alexandria, VA 22307-7183

# Kudos for FODMers

**BY GLENDA BOOTH**

## Gabriel A. Perez, Eagle Scout

FODMers send congratulations to Gabriel A. Perez on becoming an Eagle Scout on July 16. A member of Troop 1509 based at St. Aidan's Episcopal Church in Mount Vernon, Gabe chose as his conservation project, removing English ivy and porcelain berry vines in Dyke Marsh. He organized the project, trained 30 other Scouts and collected 22 39-gallon bags of invasives. Now age 17, he started as a Cub Scout at age 10 and earned 38 merit badges, 15 beyond the number required. He is a rising senior at West Potomac High School.

Gabriel A. Perez
Photo by Glenda Booth

## State Appointee

Virginia Governor Glenn Youngkin appointed FODMer Scott Cameron to the State Water Control Board in May. Scott formerly worked at the U.S. Department of Interior, in the House of Representatives and U. S. Senate and with several corporate and nonprofit organizations. He is an elected director of the Northern Virginia Soil and Water Conservation District. In 2014, he founded the Reduce Risks from Invasive Species Coalition, a nonprofit focused on invasive species impacts.

**KUDOS** *(continued on page 10)*