



# Hoffer Creek Wildlife Preserve Has Created a Landscape for Learning

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Decades after a Portsmouth community banded together to save one of their city's last wild spaces, the Hoffer Creek Wildlife Preserve has become a platform for year-round conservation, research, education, recreation, and stewardship initiatives.



Story and photos by Beth Hester

**Y**ou might be surprised to find 142 acres of peaceful, environmentally valuable wilderness situated within the densely developed, independent city of Portsmouth and in close proximity to the Monitor-Merimac Bridge Tunnel, a U.S. Coast Guard Base, the Craney Island Naval Supply Center, and suburban neighborhoods. A remarkable safe haven for wildlife and a precious public resource, the Hoffer Creek Wildlife Preserve (HCWP) owes its existence to a committed band of accidental activists who worked to form the nonprofit Hoffer Creek Wildlife Foundation and battled to shield the last bit of urban green space

in the watershed of Hoffer Creek, a 2.1-mile tidal inlet on the southern end of the James River, from real estate developers.

In 1998, after an intense three-year negotiation process with stakeholder groups, the Foundation received permission to initiate plans for the Preserve's development and ongoing maintenance. The Preserve's very existence is a testament to the power of effective coalition building, relentless optimism, and a disinclination to take no for an answer.

In 2022, HCWP founders, members, staff, devoted volunteers, and Portsmouth's Mayor, Shannon Glover, celebrated its 25th anniversary. "Thanks to the efforts of forward-thinking

community leaders many years ago, the land that ultimately became the Hoffler Creek Wildlife Preserve was transformed,” said Glover in a recent interview. “Each year, thousands of visitors come to the Preserve to see one of the finest examples of revitalized waterfront green space that the region has to offer.”

## So Much to Learn

The Preserve hosts six distinct ecosystems: northern woodlands, southern woodlands, tidal creek, salt marsh, riparian, and a formerly brackish 39-acre lake. At Lake Ballard, formerly a Virginia Department of Transportation (VDOT) borrow pit, or site from which dirt is removed for other projects, salinity has decreased dramatically over time to the point where Lake Ballard is now considered a primarily freshwater body. Three miles of trails vary in terrain and meander through wildflower meadows, stands of native grass, pine, native shrubs, and hardwoods. More than 200 bird species have been identified within the Preserve, sharing the sanctuary with deer, foxes, otters, various reptiles and raptors, heron, mud crabs, waterfowl, shrimp, periwinkle snails, and turtles—all of the creatures you’d expect to find along the mid-Atlantic coastal plain.

But there have been some surprises. In late 2021, an extraordinary event occurred on Lake Ballard when hundreds of raucous seagulls descended upon the lake to gorge themselves on juvenile gizzard shad. Shad are shimmering, anadromous members of the herring family native to the Chesapeake Bay, and they’re among the preferred snacks of gulls, cormorants, heron, bald eagles, osprey, and other fish-eating bird species. Startled staff and visitors to the Preserve watched in awe. HCWP Director Ashley Morgan said that prior to the 2021 seagull feeding frenzy, no one had been aware of any fish living in the lake.

DWR Fisheries Biologist Chad Boyce noted that the shad could have entered Lake Ballard during an overflow from Hoffler Creek due to high rainfall at some point. Gizzard shad are common in the area’s waters, and can be found in local ponds. The phenomenon did not occur in 2022, but the lake’s composition became part of a study undertaken by students during a summer internship program.

The Preserve’s thoughtful design and expansive grounds make it a perfect venue for four-season exploration, recreation, and research. Visitors can take yoga and meditation classes, hike the trails, attend birding and photography rambles, learn how local flora winters via cold weather walks, enjoy moonlight kayak tours, or picnic in the spacious pavilion. In the main visitors’ center, Mike Reiss, a DWR-certified Boating Safety Education instructor, teaches boating safety classes and conducts outreach events for Scout troops and other organizations. Near the kayak launch

on Hoffler Creek, a solar-powered lab stores kayaking equipment and is home base for water quality testing programs, oyster monitoring, and other science-based projects.

HCWP draws scientists, students, and academics from around the region who’ve discovered that the Preserve’s diverse ecosystems in close proximity to one another create an exceptional environment for research. Tick surveillance researchers from Old Dominion University’s Department of Biological Studies, led by Professor Holly Gaff, chose HCWP as “ideal for our research” because the Preserve has both deciduous and non-deciduous trees and a thick understory adjacent to a lake—a perfect representation of southeastern Virginia’s ecosystem.

Cultivating ecosystems of talent and maintaining partnerships with scientists, researchers, educators, volunteers, and local non-profits enables the Preserve to host and support numerous community science outreach programs and recreational initiatives throughout the year, from oyster gardening events and citizen scientist water monitoring projects to youth kayaking experiences and STEM-related internship programs.

To illustrate the Preserve’s wide-ranging impact on surrounding communities, let’s look at four ongoing programs that educate, inspire, and foster environmental stewardship:

## Caterpillars in the Classroom

It’s a warm June morning at Churchland Academy Elementary School, and Jasmyn Sobiech’s second-grade students work to contain their excitement as they jockey for the best position from which to view three black swallowtail butterflies who are expectantly wing-flexing inside a specialized enclosure. Before releasing the butterflies near some flowering shrubs, Sobiech leads her class through a review of the insect’s lifecycle and celebrates the student’s participation in the successful STEM



Second-grade students celebrating the release of swallowtail butterflies.

project, part of Virginia's Standards of Learning (SOL) Living Systems unit.

When the time comes to free the butterflies, the kids shout words of encouragement to the creature they've watched metamorphose: larva to caterpillar, caterpillar to pupa, pupa to butterfly. The second-graders wave goodbye to the swallowtails until they're just out of sight.

Churchland Academy Elementary is one of 59 Portsmouth Public Schools classrooms where HCWP, in partnership with Old Dominion University's (ODU) horticultural center, provides enclosures, larva, fennel and parsley plants, educational literature, and other resources to make the Caterpillars in the Classroom program accessible to as many students as possible.

"Our partners at the Preserve and at ODU have been phenomenal, ensuring that our students and teachers have the best experience possible," said Tiffany Nichols, science teacher and STEM specialist with Portsmouth Public Schools. "Many students have never seen a caterpillar; the opportunity for them to be up close and personal with it gives them a sense of responsibility for the creature's wellbeing and an appreciation for the cycle of nature. The experience is priceless—during the project segment's three- to four-week span, the students didn't want to miss a day of school for fear of missing out on the butterflies' emergence."



Environmental Quality (DEQ), the volunteers, many of whom have science and technology backgrounds, collect important data for state agencies. Program participants gravitate to the program as a concrete, hands-on way of giving back to the Preserve and to the surrounding waterways.

"Through education and testing, we can implement programs to help citizens realize the importance of the way their behaviors impact the quality of our waterways," said Mary Dewing, a retired educator and

HCWP volunteer. "By taking monthly monitoring data, we can see what activities are impacting the water and figure out ways to help ensure that harmful events don't happen again. When oil spills or other contaminants are introduced into area waters, we can gauge how far they might travel up the creek. It's a way of protecting the land, water, and wildlife in the area. I grew up in a family that loved the water and they taught me to appreciate and care for its future. It's been an important part of my life, conserving it for future generations."

Bob Tuleya also volunteers on the water monitoring program. "I'm a retired scientist who worked with computer models, theory, and math and physics equations. I thought I'd benefit from a more hands-on experience, taking measurements and learning about basic water quality," he said. "HCWP is a special place. During the testing process, we're surrounded by individuals and families enjoying a unique outdoor experience. Some student testers have even used the program as a way to advance their careers and augment their studies in the field. During our first year of testing, the measurements showed some interesting variations, and we look forward to discussing the results with the experts."

Testing results and measurements from the program are distributed to state agencies, where the bulk of the analysis is integrated into their data.

### Teen Kayaking Classes

Down at the kayak launch in the spring and summer, groups of teens representing two local youth groups, The Up Center and Teens With a Purpose, gather around kayaking instructor Reiss. Kitted out with life jackets, safety whistles, and paddles, they listen intently while Reiss covers kayaking safety, equipment use, basic stroke variations, signaling, launching, and docking the small craft and on-shore kayak transport. This is the first opportunity most of the teens have had to explore nature from on the water or to pilot any kind of watercraft. In 2022, Reiss, along with other HCWP volunteers, introduced approximately 60 teens to the sport of kayaking and to environmental stewardship.



Volunteers test water quality at HCWP's lab on Hoffer Creek.

### Citizen Scientist Water Monitoring Program

On the first Saturday of every month local, citizen scientists assemble at HCWP's Creekside Lab to take water samples and conduct a series of water-quality monitoring tests. Supported in part by a grant from the Virginia Department of



Learning to paddle at HCWP is frequently the first time teenagers have had the chance to explore from on the water.

Youth group directors and counselors partner with the Preserve to offer at-risk teens in under-resourced communities empowering outdoor activities that promote equitable access, teach leadership skills, encourage physical well-being, and advance social and emotional development. As the teens navigate the creek with growing confidence, Reiss takes the opportunity to discuss conservation issues relating to the tidal wetlands environment.

### Student Internship Program

In 2020, HCWP, Communities in Schools of Hampton Roads (CiS), IncuHub Coworking, and the Virginia Modeling, Analysis, and Simulation Center (VMASC) came together to create an innovative STEM-based, paid internship program for area high school students. The program introduces students to STEM career opportunities, exposes them to new, and often challenging, environments, encourages them to become involved in their communities, and creates program deliverables that are interesting, creative, and make a difference. Through a combination of field work at the Preserve and classroom



HCWP's internship program exposes students to STEM career opportunities and more.

instruction at VMASC, the interns spend four weeks investigating issues in technology and environmental science.

“Students often imagine that career paths are strict and linear. That mindset can feel confining,” explained Patrick Ball, VMASC senior scientist and on-site internship supervisor. “We want to expose them to career options that combine STEM and ecology with creativity and community service, to show them that it’s possible to build a satisfying career by combining their passions and to feel empowered by doing something for the greater good. We show them that they can change their lives—but first they have to envision possibility.”

Theus Dixon, CiS Lead Site Coordinator for the 2022 internship, weighed in: “Especially in underserved communities, we see students who can’t see beyond their own neighborhoods, and often aren’t even aware of the types of wild spaces that exist just a few miles from their homes. The Preserve is a magical environment, and the response from the students about their experiences there has been overwhelming.”

For the 2022 program, the internship curriculum included:

- Understanding invasive plant species mitigation and experiencing the efficacy of environmentally friendly “goatscaping” to curb problematic wisteria.
- Boating safety
- Basic wildlife identification
- Community service
- The use of drones, hydrones, and other sophisticated testing equipment to survey the area, measure Lake Ballard’s salinity and depth, study groundwater and soil, and to discover as much as they could about the lake through their investigations and sampling
- Studying the microbiology of the lake, analyzing the water for nitrogen, dissolved oxygen, and other bio-indicators

The interns created a multi-episode podcast documenting their study at the Preserve and the research that led them to discover the measurable salinity drop at Lake Ballard, which made local and regional news.

The students shared that some of the most meaningful moments of their internship came from the camaraderie they experienced as together they conducted research while navigating a physically challenging mid-summer environment. The students also expressed the excitement they felt by making an important scientific discovery in their own backyard, and that the entire experience opened up for them a world of career possibilities in STEM and environmental science. 🌿

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