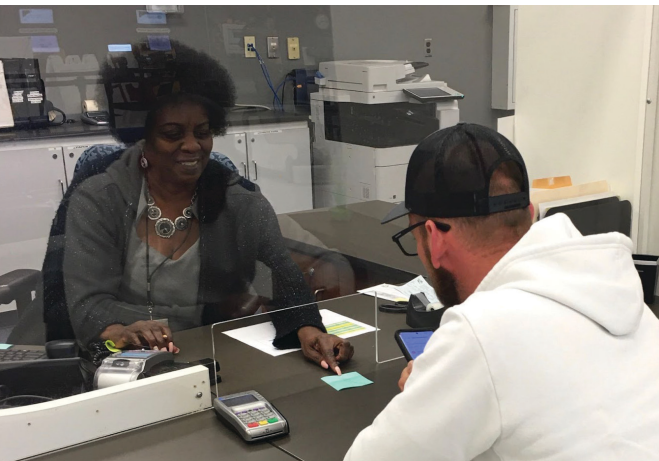




# MARYLAND DEPARTMENT OF NATURAL RESOURCES

## *Annual Report 2021*



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Lt. Governor Rutherford touring Janes Island State Park



Secretary Jeannie Haddaway-Riccio fishing at Morgan Run Natural Environmental Area

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Larry Hogan, Governor | Jeannie Haddaway-Riccio, Secretary

Maryland Department of Natural Resources  
 580 Taylor Ave., Annapolis MD 21401  
[dnr.maryland.gov](http://dnr.maryland.gov) | 410-260-8367

Additional telephone contact information  
 1. Toll free in Maryland: 877-620-8367  
 2. Out of state call: 410-260-8367  
 TTY Users call via the MD Relay

DNR 01-070622-320 9/2022

# Chesapeake and Coastal Service



**130 acres** of riparian buffers planted; **3,824 urban trees** planted; **21,258 linear feet** of stream restoration completed; and **309 acres** of non-tidal and tidal wetlands were created/restored.

**106 marinas** enrolled in the Pumpout Operations and Maintenance Program to assist marinas in keeping pumpouts operational and available to the public.

**60 applications** requesting Waterway Improvement Funding were approved for projects including **12 dredging related projects**, **38 public motorboat facility improvements**, and **10 safety vessels**.

**593.5 crew hours** of work conducted by the Maryland Conservation Corps spanning **nine projects** including wetland and shoreline plantings, stream restoration planting, reforestation and Trust Fund project maintenance of invasive species and the protection of native species.

Through investment in land use and annual best management practices, the Trust Fund prevented **3,158,935 pounds of nitrogen**; **24,298 pounds of phosphorus**; and **7,399 tons of suspended solids** from reaching the mainstem of the Chesapeake Bay and Atlantic Coastal Bays.

**250 site visits** were performed to provide technical and financial assistance and engage in restoration and assessment activities.



# Engineering & Construction



## Fort Frederick State Park Wall Repair & Gate Replacement

This project consisted of a historic restoration of approximately 3,000 square feet of the existing fort stone wall. The existing mortar joints were removed and repointed. Approximately 200 linear feet of masonry wall cap was removed and replaced to insure a watertight seal to the fort wall. The fort's entrance gate was rebuilt to be historically accurate.



## Green Ridge State Forest, rehabilitation of Gordon & Twigg Road, cost \$815,978

This project consisted of regrading and cleaning the existing drainage ditches, reconstruction, patching, and resurfacing of approximately six miles of roadway in Green Ridge State Forest. In addition, the project called for the replacement of nine culvert pipes, imbricated headwalls, and outfall protection.



# Fishing and Boating Services: Boating



**Abandoned Boats and Debris:** Removed **39 vessels** from Maryland's waters that were posing hazards to the environment and navigation. Additionally, hundreds of pieces of debris such as tree and dock sections were removed protecting the boating public.

**Buoys, Markers, and Signs:** Crews placed more than **3,500 aids** to navigation, resource management, and boating regulation markers to protect the boating public and our natural resources.

**New Ice Breaker Vessel:** The M/V Tawes replacement vessel build proceeded on schedule. This vessel replaces the present 80-year-old vessel critical to boating safety, natural resource management, and maintaining ice free waters between Crisfield and Smith Island when needed.

As was the 1941 M/V Tawes' mission, the 2022 M/V Eddie Somers' mission will be a lifeline to Smith Island when the waters surrounding it freeze over, with the boat clearing a path for supply and shuttle boats, in addition to its buoy, sign, and day-marker work.



# Fishing and Boating Services: Fishing

**Striped bass conservation outreach:** Resumed the striped bass fishing advisory forecast during the summer of 2021. Outreach expanded to include a number of state parks with tidal water access. The forecast is one facet of a concerted conservation effort that includes promotion of circle hook use, safe catch and release techniques, and fishing restrictions during a portion of the summer.



**Expansion of FACTS electronic reporting system:** The accountable harvest reporting platform continued to expand to approximately **1,140 licensees**. 17% of crabbers and fin-fish harvesters, 85% of charter captains, and 29 new individual shellfish (oyster and clam) harvesters are currently piloting the new shellfish module.

Finalized the department's **Angler Recruitment, Retention, and Reactivation Plan**. The plan will serve as a guide for the department's activities and efforts to recruit, retain and reactivate anglers over the next three years.

**Diseases & Parasites of the Eastern Oyster, *Crassostrea virginica*, in Chesapeake Bay:** A comprehensive illustrated guide to eastern oyster pathology in Chesapeake Bay was co-authored by Shellfish Health Project staff Christopher Dungan (retired) and Carol McCollough, along with Dr. Ryan Carnegie of Virginia Institute of Marine Science and was published by Maryland Sea Grant.

Staff stocked **690,020 trout** (366,800 juvenile and 323,220 adults) statewide for our delayed harvest and put-and-take trout anglers.



**Purchased and Deployed Concrete Reef Balls:** Staff deployed 150 reef balls to enhance fish habitat in Lake Habeeb, Hunting Creek Lake, and Blairs Valley Lake through the State Lakes Protection and Restoration Fund. 4

# Maryland Forest Service

Achieved continued green forest certification on the State Forest system for the **18th consecutive year** via the two major internationally recognized forest certification systems for sustainable forest management.



Enhanced outdoor recreation through finalizing two new agreements for trail construction projects in Western Maryland totaling **\$615,000**, and over **\$804,000** in ongoing trail maintenance and construction projects across the state.

Conducted **more than 300 site visits** on active forest harvest operations to assure protection of soil and water during harvests through implementation of best management practices. Site visits were conducted through cooperation with local soil conservation districts and the Maryland Department of Environment.

Responded to **102 wildfires on 1,363 acres** during the spring and fall wildfire seasons in 2021. Provided out-of-state wildlife assistance to 11 other states on 69 wildfire interagency assignments, including Ohio, Colorado, Idaho, Minnesota, Montana, California, Washington, Pennsylvania, Utah, Oregon and New Mexico.

Assisted woodland owners in achieving sustainable forest management by preparing **553 comprehensive Forest Stewardship Plans on 31,141 acres**.



Supported Maryland's rural economy by harvesting **3.27 million board feet** of lumber and **88,000 tons** of other sustainable wood products.

# Land Acquisition and Planning

## Program Open Space Stateside

Received approval for **34 acquisition projects** from the Board of Public Works protecting over 1,800 acres.

Program Open Space Stateside preserves natural areas for public recreation and watershed and wildlife protection across Maryland through the purchase of fee-simple and easement acquisitions. Fee simple purchases are managed by the department as state parks, forests, and wildlife and fisheries management areas.



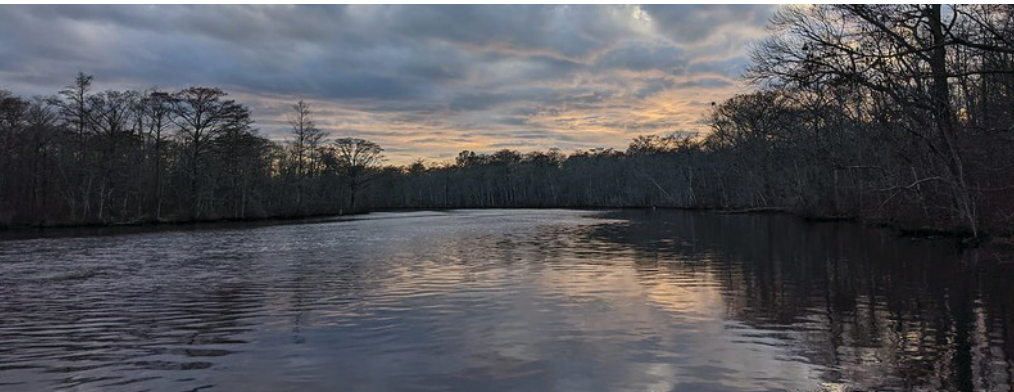
## Program Open Space Local

Provided **\$78.57 million** in grant funding for **215 local park and recreation projects** across Maryland through Program Open Space Local, Local Parks and Playgrounds Infrastructure funds, and the Community Parks and Playgrounds Program including the acquisition of 431.74 acres for public recreation and open space.

## Rural Legacy Program

Provided **\$15.9 million** in Rural Legacy Program grant funds to protect **over 4,000 acres**.

The program also approved the designation of the Nanjemoy-Mattawoman Forest Rural Legacy Area in Charles County. The new area includes more than **64,000 acres** of agricultural and ecologically significant lands that are now eligible for protection through the purchase of conservation easements from willing landowners. There are now 33 Rural Legacy Areas statewide.



## Resident Curatorship Program

Continued management of **46 historic properties** in the curatorship program. To date, curators have invested over \$14 million in the continued preservation of state owned historic resources.



# Maryland Park Service

**Visitation:** The popularity of Maryland's 75 state parks showed no signs of slowing down in 2021 with **20.6 million visitors**. The following parks each exceeded 1 million visitors in 2021: Gunpowder Falls (2,161,318), Assateague (2,145,695), Patapsco Valley (1,930,470), Sandy Point (1,404,720), and Seneca Creek (1,402,122).



**Park Passports And Golden Age Passes:** Nearly **11,500 annual Park Passports** and approximately **3,000 Golden Age Passes** were sold in 2021. The perennially popular Golden Age Pass entitles seniors over the age of 62 free day-use entry to all state parks that charge service fees and is valid for half-price camping for one site Sundays through Thursdays.

Lieutenant Governor's Park Bucket List: Lieutenant Governor Boyd Rutherford continued to check off state parks in his "bucket list" quest to visit every Maryland state park.

*Lt. Governor Rutherford visiting Janes Island State Park in October 2021*



**Food Truck Initiative:** In order to better serve our park visitors and to foster economic opportunities at a local level, the Food Truck Initiative was launched in 2021 to match food truck operators with sites at state parks.



**Extending Trails:** An additional **20 trail miles** were made available to the public, for a total of 1,153 miles.



*Kicking off State Parks Week at Soldiers Delight in April 2021*

# Natural Resources Police

**Natural Resources Police Reserve Officer Program:** Maryland Natural Resources Police Reserve Officers participated in more than **40 events** across the state in 2021, promoting boating and hunter safety. These events were attended by approximately 35,000 people.

Natural Resources Police Reserve Officers completed **11,619 volunteer hours** during 2021, and recorded over 79,000 miles of driving with their personal vehicles in support of the Natural Resources Police mission and commitment to the safety of outdoor activities.



The Reserve Officer Program promoted the National Association for Search and Rescue's Hug A Tree program. The program teaches children ages 5-13 what to do should they find themselves lost in the woods. In 2021 the program reached over **150 children**.

**Boating safety: 26 in-person and virtual boating safety classes** were held; 623 students attended. The Natural Resources Police worked with 31 public and private organizations in providing boating safety classes and certifications.

Issued more than **4,200 Hunter Education Certificates** and more than **13,906 Boating Safety Certificates** to help ensure that hunters and boaters safely enjoy their respective activities.



*Reserve officers at a boating event*

# Resource Assessment Service



*Cleaning out the Daniels Dam fish ladder*

**Two species of river herring** (alewife and blueback herring) were detected for the first time in 50 years above the site of the former Bloede Dam. This provides evidence that migratory fish access has been restored to approximately 60 kilometers of spawning habitat as a result of this dam removal in 2018.

Partnering with Shore Rivers, **500 pounds** of extremely invasive water chestnut were removed from seven locations in the Sassafras River. Partnering with the Baltimore County Department of Environmental Protection, approximately 200 pounds of water chestnut were removed from five locations in the Bird River in Baltimore.

**450 people** attended the virtual 2021 annual Maryland Water Monitoring Council conference held in December.

**3,419 American eels** passed through the eel ladder on Daniels Dam during the spring, summer, and fall of 2021.

Sampling was performed at **224 locations** to help evaluate non-tidal stream habitat and/or biological condition.

Groundwater levels were measured in 477 wells to help assess the status of Maryland's aquifers.

**Over 30 storm events** were sampled during 2021, generating more than 200 samples from certain Maryland rivers. These data help generate estimates of nutrient pollution to Chesapeake Bay and track progress in pollution reduction efforts.



*Invasive water chestnut*

**Over 34,000 acres** of submerged aquatic vegetation (SAV) were mapped in Maryland's portion of the Chesapeake Bay, achieving 44% of the state's 2025 restoration target.

# Wildlife and Heritage Service

**Wildlife Response:** In 2021, specially trained and equipped Wildlife and Heritage Service staff responded to a total of **1,087 distinct wildlife emergencies** that occurred on privately owned land across the state. Of those, 254 took place after normal working hours, including weekends and holidays.

**Maryland Mentored Hunt Program:** More than **350 new or lapsed hunters** participated in the Maryland Mentored Hunt Program in 2021. Some of the events included the stocked pheasant hunt, the First Shot Mentored Hunt, and various workshops and clinics. These events are designed to help hunters of all experience levels better understand the techniques, conservation aspects, and heritage of hunting in Maryland.

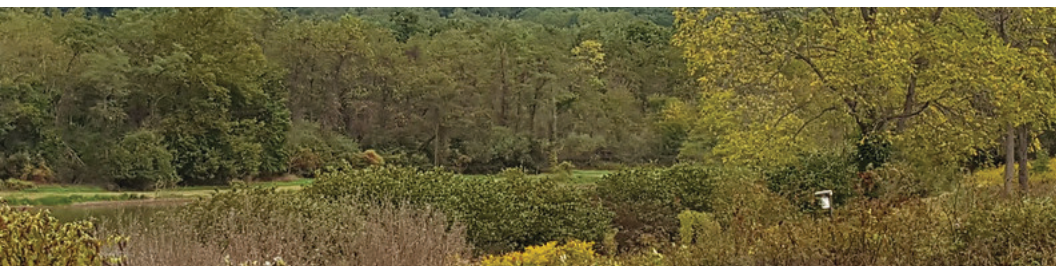
**Wildlife Management Areas:** In 2021, **307 acres** were acquired and added to our statewide system of Wildlife Management Areas. The Wildlife and Heritage Service manages 64 Wildlife Management Areas across the state, bringing the combined land area to 127,105 acres in total.



Mentored hunt photo by Sara Rutledge

**Environmental Review:** The environmental review staff processed **2,102 proposed projects and plans** from across the state. Staff reviewed these proposals for the purpose of identifying and mitigating potential impacts to state and federally listed species, rare species of concern, colonial nesting waterbird breeding sites, forest interior dwelling species, and unique and sensitive natural communities harboring Species of Greatest Conservation Need.

**Habitat Restoration:** Non-game wildlife staff conducted habitat restoration activities on 2,110 acres of DNR and partner lands. Activities included invasive species control, successional vegetation management, and prescribed fire.



# Conservation Education Matrix Team



**535 youth and 372 adults** participated in 107 fishing and boating hands-on experiences and educational programs funded through the George H.W. Bush Vamos A Pescar Education Fund Grant and DNR's Aquatic Resources Education program. This program focused on providing education and environmental inclusion to multi-ethnic and multi-generational participants from Baltimore.

**78 classrooms** across the state participated in the "Sunfish and Students" and "Trout in the Classrooms" program raising fish in the classroom for the 2021-2022 school year.



Monie Bay

**250 fourth grade students** participated in the Somerset County Annual Wetlands and Wildlife Field Day virtual event, which was supplemented with classroom activities including animal track activities, owl pellet dissections, native pollinator plant seed planting, and fish print activities.

Engaged nearly **1,100 students** pre-K through college, over 34,000 walk-in visitors, and reached nearly 3,500 participants through public outreach and community programs at one of Maryland's three Chesapeake Bay National Estuarine Research Reserve Maryland sites.



Second Annual Mid-Atlantic Climate Change Education Conference was held virtually and hosted **250 formal and informal educators** from around the region.

# Licensing and Registration Service



**1,816,247 unique customers** in COMPASS licensing system

**592,125 unique transactions** in COMPASS licensing system

**1,271,014 products sold** via COMPASS licensing system

**186 products available** via licensing system

**\$56,487,899** collected in revenue from DNR's licensing and registration services

**Eight Service Center locations** throughout the state

The Licensing and Registration service manages **more than 400 Licensed Boat Dealers** and **approximately 150 Sport License Agents**

