**October 31, 2023**

# Virginia Coastal Zone Management Program
# Semiannual Section B.2-4 Report
# For the Period from April 1, 2023 – September 30, 2023

## SECTION B.2 PERMIT ADMINISTRATION, MONITORING AND ENFORCEMENT

# 1) DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ)

### a) DEQ – Virginia Coastal Zone Management Program

Virginia CZM Program staff continued to work with our partner agencies to implement the Program over the last 6 months. For a full description of staff activities, please refer to the Section A report for Task 1.01.

### b) DEQ – Water Permitting Programs

*DEQ- Virginia Water Protection Permit (VWPP) Program*

The Virginia Water Protection (VWP) Permit Program authorizes surface water withdrawal activities[1] and activities in wetlands and surface waters that may or may not require a Clean Water Act Section 401 Water Quality certification. The data presented herein is for the *Tidewater region* of the Commonwealth.

During the reporting period of April 1 to September 30, 2023, the VWP Permit Program issued 11 individual permits and 79 general permit coverages; processed 33 Notices of Planned Change on general permit coverages; and processed nine individual permit modifications in Virginia's coastal counties.

The average time to process a general permit coverage was 17 days, and the average time to process an individual permit was 106 days.

Approximately 71 acres of non-tidal wetland impacts and zero acres of tidal impacts occurred during the reporting period. During this reporting period, approximately 95 wetland credits were purchased at compensatory mitigation banks or through in-lieu fee programs, and approximately 25 acres of wetlands were created as compensatory mitigation.

During the reporting period, five compliance actions[2] on individual permits and 23 compliance actions on general permit coverages were taken. Compliance actions for three of the individual permits are still active, and compliance actions for six of the general permit coverages are still active, at the time of this report. Additionally, six compliance actions were taken on activities not associated with a VWP individual permit or general permit coverage, and zero of these are still active at the time of this report. During this period, 187 compliance inspections took place.

The VWP Permit Program did not receive comments or concerns about expediting decision-making for the management of coastal resources. Federal rules continue to be amended regarding how wetlands and streams are regulated at the federal level. DEQ has expanded the Permit Enhancement and Evaluation Platform (PEEP) to include more permit programs – a public tool that tracks various steps in permitting processes. PEEP has identified potential improvements in permitting efficiency on the part of applicants and relevant agencies, including DEQ.

[1] While VWP permits may authorize surface water withdrawal activities, data specific to streams, stream flow, or water quantity are not included in this program summary. See DEQ Office of Water Withdrawal Permitting.
[2] Warning Letter (WL), Notice of Violation (NOV), or Request for Corrective Action (RCA).

*DEQ – Virginia Pollution Abatement (VPA) Water Permitting Program*
The Virginia Pollution Abatement permit (VPA) is required for facilities that manage wastewater, animal waste, biosolids or industrial residuals in such a manner that they do not have a discharge from the site. For example, an agricultural facility that temporarily stores wastewater to be land applied as part of an irrigation/fertilization program.

During the period between April 1, 2023 – September 30, 2023, one permit application was received for a VPA – Individual Permit (IP). The application was for the minor modification of the permit for a facility that covers the storage of biosolids; the permit action was completed during this period.

One application for reissuance was received during a previous period for the land application of biosolids, this permit action was completed during this period. One application for issuance was received during a previous period for the land application of industrial residuals, this permit action was completed during this period.

During the period between April 1, 2023 – September 30, 2023, a total of three applications were received for a VPA – General Permit (GP). All permit actions during this period were for coverages under the VPA General Permit for Poultry Waste Management (PWM) and completed during this period. One application was for an issuance, the other two applications were seeking a change of ownership.

Four additional permit actions were completed during this period for applications that were received during a previous period. Two of the applications were for issuances of coverage and the other two application were seeking a change of ownership.

*DEQ – Virginia Pollution Discharge Elimination System (VPDES) Water Permitting Program*
There is a total of 268 individual municipal and industrial CZM area VPDES individual permits. This includes 12 Municipal Separate Storm Sewer (MS4) individual permits. This number and the numbers in the table represent typical activity in the program.

There are also numerous facilities registered under general permits in CZM areas including 51 vehicle wash, 108 concrete products, 8 cooling water, 332 domestic sewage ≤ 1,000 GPD, 56 nonmetallic mineral mining, 28 petroleum, 16 potable water treatment, 44 seafood processors, and 517 industrial stormwater. These represent typical numbers for permit registrants in CZM areas in Virginia. There are also 63 registrants under the MS4 general permit. There are a number of general permit coverages that are automatically covered under a permit (e.g., pesticide applications and hydrostatic testing) and are not entered into the CEDS database. There are also 61 registrants under the nutrient trading general permit, but these facilities are included in the individual permit count.

| **VPDES/VPA - October 1, 2021 – March 31, 2022*** | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Permits Issued / Avg Proc. Days (1) | | Permits Reissued / Avg Proc. Days | | Permits Modified** / Avg Proc. Days | | Denied / Avg Proc. Days | | Permits Reissue Pending / Avg Proc. Days | |
| VPDES | 0 | NA | 21 | 451 | 0 | NA | 0 | NA | 56*** | NA |
| VPA | 1 | 51 | 1 | 72 | 1 | 4 | 0 | NA | 1 | 190 |
| VPA GP | 3 | 116 | 0 | NA | 4 | 13 | 0 | NA | 0 | NA |

**Processing day is the amount of time between receiving a complete application and making the final case decision (issuance, reissuance, modification, etc.).**

* Information from CEDS (Comprehensive Environmental Data System) database

** Major modifications

*** This represents existing VPDES individual permits expired but pending through September 30, 2023.

## c) DEQ – Water Program Enforcement and Compliance

DEQ continues to apply both informal and formal enforcement measures in the enforcement program. Reference Table 1, below.

Informal measures, such as Warning Letters and Letters of Agreement, are used in those cases where non-compliance is not significant in nature and where compliance can be achieved in a short period of time. For the period April 1, 2023 through September 30, 2023, DEQ issued 184 Warning Letters and 2 Letters of Agreement for violations of VPDES, VPA, VWPP, and Ground Water program requirements.

Formal enforcement actions are used in those cases where non-compliance is more serious or may take a significant amount of time to correct. Formal measures generally involve the issuance of a Notice of Violation followed by a Consent Order, or an Executive Compliance Agreement in the case of a state agency. In some cases, Unilateral Administrative Orders or court orders may be sought. Between April 1, 2023 and September 30, 2023, DEQ issued 21 Notices of Violation for violations of VPDES, VPA, VWPP, and Ground Water program requirements. During the same period, the agency concluded enforcement cases with the issuance of 44 Consent Orders that assessed a total of $768,370.91 in civil charges.

**Table 1**

| Measure | Action Type | Count | Total Civil Charges Assessed |
|---|---|---|---|
| Informal | Warning Letters | 184 | N/A |
| Informal | Letters of Agreement | 2 | N/A |
| Formal | Notices of Violation | 21 | N/A |
| Formal | Consent Order | 44 | **$768,370.91** |
| **Total** | | **213** | **$768,370.91** |

## d) DEQ – Air Permitting Program

**OFFICE OF AIR PERMIT PROGRAMS**
**PERMITS ISSUED REPORT FOR**
**VIRGINIA'S COASTAL RESOURCES MANAGEMENT PROGRAM**

Period: April 1, 2023 – September 30, 2023

| PERMIT TYPE | NUMBER OF PERMITS ISSUED | AVERAGE PROCESSING TIME (Days) |
|---|---|---|
| PSD & NA | 0 | NA |
| Major | 0 | NA |
| **Minor | 69 | 33 |
| Administrative Amendment | 4 | 21 |
| Exemptions | 5 | 14 |
| State Operating | 3 | 128 |
| Federal Operating (Title V) Initial Issuance | 0 | NA |
| Federal Operating (Title V) Renewal | 13 | 772 |
| Acid Rain (Title IV) | 0 | NA |
| Total Number Permits Issued | **94** | |

* The average processing time is determined by computing the difference between when the application was deemed administratively complete and when the permit was issued.

Note: The information provided for this report includes data from the Northern Virginia Regional Office, Piedmont Regional Office, and the Tidewater Regional Office only.

Definitions:
Prevention of Significant Deterioration (PSD) = A source which emits **250 tons or more** per year of any regulated pollutant or is one of 28 specific industries listed in the state regulations and will emit 100 tons per year of a regulated pollutant.
Major = A source which emits, or has the potential to emit, **100 tons or more** per year of any air pollutant.
Minor = A source which emits, or has the potential to emit, **less than 100 tons** per year of any air pollutant.
State Operating= Permit written pursuant to 9 VAC 5-80-800 et al.
Administrative Consent Agreement = An agreement that the owner or any other person will perform specific actions to diminish or abate the causes of air pollution for the purpose of coming into compliance with regulations, by mutual agreement of the owner or any other person and the Board.
Administrative Amendment = Administrative changes made to the permit to clarify or correct an issued permit. For example, typographical errors, name changes, etc.
Exemption = Facilities are exempted from permitting requirements by exemption levels defined in 9 VAC 5-80-1105.
Federal Operating (Title V) = a source that emits **10 tons or more** per year of any hazardous air pollutant, **or 25 tons** per year of any combination of hazardous air pollutants or emits any criteria pollutant above 100 tons per year.
Acid Rain (Title IV) = Permits issued specifically to address $SO_2$ and $NO_x$ from electric generating units covered under the Acid Rain regulations.

**OFFICE OF AIR PERMIT PROGRAMS**
**PERMITS PENDING REPORT FOR**
**VIRGINIA'S COASTAL RESOURCES MANAGEMENT PROGRAM**

Permits pending as of September 30, 2023

| PERMIT TYPE | NUMBER OF PERMITS PENDING |
|---|---|
| PSD & NA | 1 |
| Major | 1 |
| Minor | 62 |
| Administrative Amendment | 0 |
| Exemptions | 2 |
| State Operating | 7 |
| Federal Operating (Title V) Initial Issuance | 12 |
| Federal Operating (Title V) Renewal | 66 |
| Acid Rain (Title IV) | 0 |
| Total Permits Pending | **151** |

Note: The information provided for this report includes data from the Northern Virginia Regional Office, Piedmont Regional Office, and Tidewater Regional Office only.

**OFFICE OF AIR PERMIT PROGRAMS**
**PERMITS WITHDRAWN AND APPLICATIONS DENIED REPORT FOR**
**VIRGINIA'S COASTAL RESOURCES MANAGEMENT PROGRAM**

Period: October 1, 2022 – March 31, 2023

| PERMIT TYPE | NUMBER OF PERMITS WITHDRAWN | NUMBER OF APPLICATIONS DENIED |
|---|---|---|
| PSD | 0 | 0 |
| Major | 0 | 0 |
| Minor | 0 | 0 |
| Administrative Amendment | 0 | 0 |
| Exemptions | 0 | 0 |
| State Operating | 0 | 0 |
| Federal Operating (Title V) | 0 | 0 |
| Acid Rain (Title IV) | 0 | 0 |
| Total Permits Rescinded | **0** | **0** |

Note: The information provided for this report includes data from the Northern Virginia Regional Office, Piedmont Regional Office, and Tidewater Regional Office only.

### e) DEQ – Air Program Enforcement and Compliance

DEQ continues to apply both informal and formal enforcement measures in its air enforcement program. Reference Table 1, on the following page.

Informal measures include Requests for Corrective Action, Informal Correction Letters, Warning Letters, and Letters of Agreement. These actions are used in those cases where non-compliance is not significant in nature and where compliance can be achieved in a short period of time. During the six-month period beginning April 1, 2023 through September 30, 2023, DEQ issued 40 Requests for Corrective Action, and 30 Warning Letters.

Formal enforcement actions are used in those cases where non-compliance is more serious or may take a significant amount of time to correct. Formal measures generally involve the issuance of a Notice of Violation and negotiation of a Consent Order, or an Executive Compliance Agreement in the case of a state agency. In some cases, Unilateral Orders or court orders may be pursued. Between April 1, 2023 and September 30, 2023, DEQ initiated 21 new formal enforcement actions via issuance of Notices of Violation. Additionally, the Agency issued 15 Consent Orders; assessing $147,933.71 in civil charges.

**Table 1**

| Measure | Action Type | Count | Total Civil Charges Assessed |
|---|---|---|---|
| Informal | Requests for Corrective Action | 40 | N/A |
| Informal | Warning Letters | 30 | N/A |
| Formal | Notices of Violation | 21 | N/A |
| Formal | Consent Orders | 15 | $147,933.71 |
| **Total** | | **106** | **$147,933.71** |

## f) DEQ – Erosion and Sediment Control

**Summary of Specific Outputs:**

| Specific Outputs | Progress / Status |
|---|---|
| 8 CZM Chesapeake Bay Land Disturbing Activities Permitted - Projects less than 1 acre found within Chesapeake Bay Designated Areas. | Permit coverage has been issued and projects are under construction. Compliance is achieved through ongoing permit review, technical assistance, and project inspection. |
| 206 CZM Small Construction Activities Permitted- Land Disturbing Activities greater than or equal to 1 acre and less than 5 acres. | Permit coverage has been issued and projects are under construction. Compliance is achieved through ongoing permit review, technical assistance, and project inspection. |
| 89 CZM Large Construction Activities Permitted- Land Disturbing Activities greater than or equal to 5 acres and less than 10 acres. | Permit coverage has been issued and projects are under construction. Compliance is achieved through ongoing permit review, technical assistance, and project inspection. |
| 103 CZM Large Construction Activities Permitted- Land Disturbing Activities greater than or equal to 10 acres and less than 50 acres. | Permit coverage has been issued and projects are under construction. Compliance is achieved thru ongoing permit review, technical assistance, and project inspection. |
| 28 CZM Large Construction Activities Permitted- Land Disturbing Activities greater than or equal to 50 acres and less than 100 acres. | Permit coverage has been issued and projects are under construction. Compliance is achieved thru ongoing permit review, technical assistance, and project inspection. |
| 14 CZM Large Construction Activities Permitted- Land Disturbing Activities greater than or equal to 100 acres. | Permit coverage has been issued and projects are under construction. Compliance is achieved thru ongoing permit review, technical assistance, and project inspection. |
| 448 Total CZM Land Disturbing Activities Permitted thru coverage under the Construction General Permit. | Coastal Zone Management resources are conserved and restored through permit compliance. |

**Supplemental Narrative:**

Considerable erosion and sediment control and stormwater management progress occurred during the performance period. New and improved requirements for project stabilization during construction and recently enhanced post construction requirements will result in further improvements to coastal zone resources. The new post construction requirements have been developed to more closely mimic predevelopment hydrology found in a naturally wooded site condition. The implementation of these new requirements will result in less downstream sediment export and fewer nutrient export impacts from land development.

## g) DEQ- Office of Stormwater Management – Local Government Assistance Programs- Chesapeake Bay Preservation Act

Summary

Program Description

The Chesapeake Bay Preservation Act program is designed to improve water quality in the Chesapeake Bay and other waters of the State by requiring the use of effective land management and land use planning. Specifically, these requirements fall into three implementation phases. Phase I consists of local governments designating and mapping Chesapeake Bay Preservation Areas (CBPAs) and adopting land use and development performance criteria to protect those features. CBPAs include Resource Protections Areas (RPAs) and Resource Management Areas (RMAs). RPAs are made up of tidal wetlands, tidal shores, nontidal wetlands connected and contiguous to tidal wetlands or perennial streams and a 100-foot fully vegetated buffer. RMAs include lands adjacent to RPAs that are made up of land features such as highly erodible soils, steep slopes, and floodplains. Sixty of the 84 Tidewater localities have identified their entire jurisdiction as RMA. Phase II consists of the incorporation of water quality protection measures into local comprehensive plans. Phase III involves the review and revision of local land use codes to include specific standards that implement water quality performance criteria.

Technical Assistance & Training

During the reporting period April 1, 2023– September 30, 2023 staff continued to provide technical assistance and training to Bay Act localities. For this period, three outreach events were conducted, and 82 instances of technical assistance, including site plan review, were documented.

Environmental Impact Reviews

Through the Environmental Impact Review process, staff continued to review plans for State and Federal projects to ensure those projects were consistent with the Chesapeake Bay Preservation Act. During the reporting period, 75 environmental impact reviews were conducted.

Compliance Reviews

During the reporting period, six Condition Reviews are ongoing. Since the Compliance Review process was reinitiated in 2015 (after having been suspended for a period of three years to allow LGAP staff to work on local stormwater program development, and then again for one year for LGAP staff to work on the Phase III WIP), 84 reviews have been initiated or completed and 78 localities have been found compliant. During these reviews, staff assess how well local governments are ensuring that impervious cover and land disturbance are minimized, and indigenous vegetation is preserved on approved development projects and if other Chesapeake Bay Preservation Act general performance criteria are being applied to the use and development of land.

## 2) Virginia Marine Resources Commission (VMRC)

### a) VMRC – Habitat Management Division

During the period April 1, 2023, through September 30, 2023 the Habitat Management Division received 1,412 applications for projects involving State-owned submerged lands, wetlands or dunes. These applications were for projects such as piers, boathouses, boat ramps, marinas, dredging and shoreline stabilization. As the clearinghouse for the Joint Permit Application all applications were assigned a processing number by the Division and forwarded to the appropriate agencies, including, local wetlands boards, the Norfolk District of the U.S. Army Corps of Engineers, the Department of Environmental Quality, VIMS and others as necessary.

A public interest review was initiated and site inspections were conducted for those projects requiring a permit from the Marine Resources Commission. Likewise, Habitat Management staff also conducted site inspections for all projects requiring a local wetlands board permit and evaluated each local board decision for Commissioner review. Habitat Management staff also conducted compliance inspections on permits issued by VMRC and local wetlands boards.

The Habitat Management Staff completed actions on 1,401 applications received during the period. Action on most applications was completed within 90 days after they were received. As such, a number of the actions taken during the period were for applications received prior to April 2023. Similarly, those applications received near the end of the current reporting period are still under review. Habitat Management Staff also participated in the inter-agency review process involving general permits for Virginia Department of Transportation projects.

In addition to staff actions, the full Commission considered 33 projects. During the reporting period the Commission considered 13 protested projects or projects requiring a staff briefing, The Commission also approved 20 projects over $500,000.00 in value.

During the reporting period local wetland boards throughout Tidewater Virginia acted on 157 projects involving tidal wetlands. Of this total, 118 were approved as proposed, 30 were approved as modified, 3 were denied, 1 no permit was necessary, 5 are pending, and 35 required compensation either on or off site (11), or through payment of an in lieu fee (24) accounting for 10,358 square feet of tidal wetland impacts.

### b) VMRC – Fisheries Management Division

At the April 2023 meeting, the agency established season dates for the 2023 recreational black sea bass fishery as May 15 through June 29 and July 27 through December 31.

No other meeting updates were provided.

### c) VMRC – Law Enforcement Division

Enforcement under "Other Agency" refers to summons issued for other agencies' laws, code or regulation sections. The majority of the summons in this category are for DWR regulations on boating safety laws, expired boat registration, no life jackets, flares, etc.

Summons under "Police Powers" are all criminal vs fisheries. These are the reckless driving, drunk driving, driving without a license/suspended license, shoplifting, possession of controlled substances.

**VIRGINIA MARINE POLICE**
**ARRESTS/CONVICTIONS SUMMARY BY CATEGORY**

REPORT FORMAT: FEDERAL FISCAL YEAR AREA: ALL AREAS
START PERIOD: 10/01/2018
END PERIOD: 09/30/2023

| Category | 2018/2019 | | 2019/2020 | | 2020/2021 | | 2021/2022 | | 2022/2023 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Convictions | Arrests | Convictions | Arrests | Convictions | Arrests | Convictions | Arrests | Convictions | Arrests |
| Buyers | 0 | 3 | 0 | 0 | 5 | 5 | 5 | 6 | 0 | 0 |
| Casting Garbage/Trash | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 |
| Clams | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 5 | 0 | 0 |
| Commercial Fishing License | 8 | 68 | 15 | 52 | 11 | 17 | 13 | 28 | 4 | 6 |
| Conchs | 3 | 6 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| Crabs | 64 | 75 | 39 | 54 | 38 | 54 | 40 | 56 | 12 | 14 |
| Federal Violation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FIP Violations | 32 | 34 | 2 | 3 | 14 | 19 | 1 | 2 | 0 | 0 |
| Fish | 322 | 357 | 250 | 275 | 194 | 206 | 122 | 141 | 41 | 50 |
| Freshwater Fishing without a license | 23 | 25 | 1 | 2 | 6 | 6 | 1 | 1 | 0 | 1 |
| Gill Nets | 3 | 5 | 16 | 16 | 4 | 8 | 10 | 11 | 1 | 1 |
| Habitat/Wetlands | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| License Tags | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 2 | 0 | 0 |
| Mandatory Reporting | 22 | 65 | 8 | 38 | 0 | 4 | 1 | 7 | 2 | 2 |
| Misc | 0 | 27 | 3 | 18 | 5 | 5 | 2 | 5 | 1 | 1 |
| Non-residents | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NSSP | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Agencies | 506 | 651 | 261 | 337 | 166 | 189 | 180 | 251 | 63 | 71 |
| Oysters | 82 | 193 | 49 | 127 | 32 | 50 | 38 | 50 | 22 | 27 |
| Piers | 0 | 1 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| Police Powers | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Removal of Obstructions | 2 | 2 | 1 | 1 | 3 | 3 | 5 | 5 | 1 | 3 |
| Resisting officer | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Shellfish | 2 | 7 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| SW Recreational Licenses | 151 | 171 | 68 | 81 | 42 | 48 | 71 | 81 | 21 | 22 |
| **TOTALS:** | **1220** | **1690** | **719** | **1012** | **522** | **618** | **494** | **651** | **168** | **198** |
| **PERCENT OF CONVICTIONS:** | **72.19%** | | **71.05%** | | **84.47%** | | **75.88%** | | **84.85%** | |

## 3) VIRGINIA DEPARTMENT OF HEALTH (VDH) – DIVISION OF SHORELINE SANITATION

From April 1, 2023 through September 30, 2023, the VDH Division of Shellfish Safety and Waterborne Hazards had…
71 acres of shellfish grounds formerly open year-round now closed to harvesting year-round,
1271 acres of shellfish grounds formerly closed year-round now open to harvesting year-round,
80 acres of shellfish grounds formerly open year-round now seasonally closed,
231 acres of shellfish grounds formerly closed year-round now seasonally opened,
262 acres of shellfish grounds formerly seasonally closed now closed year-round, and
580 acres of shellfish grounds formerly seasonally opened now opened year-round.

Activities of the Virginia Department of Health for the Virginia Coastal Resources Management Report are summarized below. This includes statics on applications for sanitary facilities at marinas and other places where boats are moored.

The Department received and reviewed a total of Nineteen (13) VMRC Permit Applications, and processed as follows:

Zero (0) Permit Applications needed action in the Marina Program.

Thirteen (13) applications were approved based on meeting the requirements of providing adequate facilities of the Marina Regulations if applicable.

One (1) application was denied because of inadequate facilities.

## 4) Department of Conservation and Recreation (DCR)

### a) DCR - Division of Soil and Water Conservation

**Nutrient Management**

DCR Nutrient Management Staff have been active in developing and reviewing nutrient management plans as well as other nutrient reduction activities to achieve the Commonwealth's nutrient reduction commitments of the Chesapeake Bay TMDLs. In the coastal zones of Virginia, DCR staff have overseen the development of nutrient management plans covering 9,153.33 acres during the reporting period (4/1/2023 – 9/30/2023). Many plans are active for up to three years, all new or revised acreage developed by DCR planners in the coastal zones during the reporting period are summarized in the following table:

Table 1: Planned nutrient management acreage by land use and costal management zones. Plans started between 4/1/2023 – 9/30/2023.

| CZM Basin | Number Of Plans | CZM Crop Acres | CZM Hay Acres | CZM Pasture Acres | CZM Specialty Acres | Total |
|---|---|---|---|---|---|---|
| Albemarle Sound | 5 | 374.37 | 189.14 | 13.20 | - | **576.71** |
| Atlantic Ocean | 0 | 0.00 | - | - | - | **0.00** |
| Chesapeake Bay Coastal | 12 | 2037.08 | 29.76 | 76.63 | - | **2143.47** |
| Chowan | 7 | 1380.93 | - | 2.78 | - | **1383.71** |
| James | 9 | 742.81 | 206.58 | 1.86 | - | **951.25** |
| Potomac | 0 | 0.0 | - | - | - | **0.00** |
| Rappahannock | 8 | 1903.96 | 31.85 | 70.97 | - | **2006.78** |
| York | 11 | 1936.72 | 77.79 | 76.91 | - | **2091.42** |
| **Total:** | **52** | **8375.87** | **535.12** | **242.35** | **0.00** | **9153.33** |

**Shoreline Erosion Advisory Service**

DCR's Shoreline Erosion Advisory Service (SEAS) was established in 1980 by the Virginia General Assembly as a resource for shoreline landowners and communities. The program provides unbiased, science-based technical assistance on environmentally sound shoreline management alternatives to private property owners and public land management agencies that are experiencing erosion on tidal shorelines or non-tidal streambanks and impoundments. Services provided by SEAS include on-site field investigation and analysis of erosion concerns, written advisory reports with recommended solutions, review of engineering designs and construction plans, on-site construction inspections, and guidance on available financial incentive programs. Since its inception, SEAS has evaluated hundreds of miles of shoreline and provided invaluable technical assistance to thousands of Virginia property owners experiencing shoreline erosion.

For this reporting period, SEAS staff conducted 99 site visits, wrote 75 advisory reports, evaluated 60,428 feet of shoreline, and reviewed and provided comments to VMRC on 22 joint permit applications (JPAs). During a site visit, staff walks the shoreline with the owner and assesses the cause(s) of the erosion problem. Staff then review with the owner, what they believe are the most appropriate shoreline erosion control and protection strategies for that site. The suite of solutions to shoreline erosion varies along a continuum of green-to-grey infrastructure (e.g., marsh toe revetments of oyster shell bags, stone sills with sand nourishment and marsh vegetation plantings, offshore gapped breakwater systems, riprap revetments, wood or vinyl bulkheads). Living shorelines are the Commonwealth's preferred alternative – and *de facto* permitting option – for stabilizing eroding tidal shorelines.

SEAS is working with VIMS, VMRC, DEQ, and others to 1) identify shoreline management practices (e.g., living shorelines) across tidal Virginia that qualify for Chesapeake Bay TMDL WIP pollutant reduction credits, 2) verify that installation of these practices meets the specifications set out by USEPA's Chesapeake Bay Program, and 3) quantify and report the earned pollutant reduction credits as part of the Commonwealth's efforts to meet goals established in the WIP. The first round of these pollutant reduction credits was reported to DEQ in October 2017; subsequent rounds were reported annually thereafter (see table below). During this reporting period, SEAS continued to analyze data and verify practices. The next round of pollutant reduction credits will be reported to DEQ in October 2023.

SEAS continues implementation of a $1M, three-year grant from the National Fish and Wildlife Foundation (NFWF) to accelerate the scale and the rate of living shoreline implementation in Rural Coastal Virginia; the grant is scheduled to end in June 2024. During this reporting period, work focused on three of the project's four objectives: 1) grow and enhance the existing partnership of entities engaged in living shoreline implementation; 2) develop a cache of shovel-ready living shoreline projects with completed designs on socially vulnerable sites, agricultural sites, and other priority sites; and, 3) document the installation of recently implemented shoreline management projects for crediting towards WIP pollutant reduction goals. During this reporting period, SEAS worked to reduce barriers to wide-scale utilization of living shorelines by 1) assisting in the development and piloting of a coordinated training program for living shoreline designers and contractors (CBLP Shorelines certificate course); 2) working with local SWCDs to expand the availability of a living shoreline financial incentive program for residential property owners in a previously ineligible geography; and 3) collaborating with CZMP to initiate development of a coordinated community-based social marketing (CBSM) campaign focused on living shorelines. Further, during this reporting period, SEAS posted, interviewed, and filled the vacant part-time program assistant position which provides GIS and mapping support services.

| | Total Submitted 2017-2021 |
|---|---|
| **Protected Shoreline (ft)** | 356,687 |
| **Number of Sites** | 1,726 |
| **Pollutant – TN [Total Reduction (lbs./yr.)]** | 37,261.1 |
| **Pollutant – TP [Total Reduction (lbs./yr.)]** | 25,311.2 |
| **Pollutant – TSS [Total Reduction (tons/yr.)]** | 20,863.6 |

### b) DCR - Division of Natural Heritage

This report lists projects and activities conducted by the Department of Conservation and Recreation, Division of Natural Heritage (DCR-NH) during this period that were not funded by or otherwise reported to the VCZMP.

**Inventory**
On April 13, 2023, Joey Thompson (Vegetation Ecologist) and Zach Bradford (Chesapeake Region Steward) of DCR-Natural Heritage, explored a Boy Scouts of America property in Surry County, a known location of several rare plant communities. A Coastal Plain Calcareous Seepage Swamp (G2/S2), a community endemic to a narrow geographic range in Virginia, was explored in detail and found to be one of the largest and finest quality examples known. Among many interesting plants in the swamp were Yellow Lady Slipper Orchids (*Cypripedium parviflorum* var. *pubescens*) numbering in the tens of thousands. A new extension of Coastal Plain River-Bluff Xeric Oak Hickory Forest (G3/S1) was found. This community is an open woodland river bluff dominated by Oaks, Hickories, and a species which is disjunct from its main range in the mountains: Wavy Hairgrass (*Avenella flexuosa*). Additionally, a large population of Yadkin Hedgenettle (*Stachys matthewsii*, G1G2/S1), a species recently described by Senior Botanist Johnny Townsend and former Ecologist Gary Fleming, was found growing on eroded sediments and levees along the James River.

Coastal Plain Calcareous Seepage Swamp

Coastal Plain River-Bluff Xeric Oak Hickory Forest

In late April and early May of 2023, DCR-Natural Heritage Vegetation Ecologists, along with the help of the Chesapeake Region Steward, explored an approximately 1000-acre private property in Surry County in search of natural communities associated with shell-rich calcareous soil and groundwater. A large system of Coastal Plain Calcareous Seepage Swamps (G2/S2) was found, mostly surrounded by mature basic mesic and mesic mixed hardwood forests. Coastal Plain Dry Calcareous Forest community (G1/S1) was found in several patches. This community is endemic to Virginia and few examples remain that have not been degraded by wind-throws

and invasive species. Coastal Plain Dry Calcareous Forests generally occur in small patches on knobs or steep, south-facing ravine slopes that cut into fossiliferous marine geologic layers. The soil is rich in calcium and very quickly draining due to the topographic position. The well-drained calcareous soil provides habitat for many calcium-loving plant species, including plants disjunct from areas of carbonate geology in the Virginia mountains. Additionally, several exemplary stands of Tidal Bald Cypress Woodland community (G2?/S1) were found occurring at the mouths of the swamps and creeks.

Coastal Plain Dry Calcareous Forest (G1/S1)

On June 20, 2023, DCR-Natural Heritage Botanists joined Dominion Energy biology staff to survey for rare plants in transmission line rights-of-way (ROW) in northern Virginia. The surveys occurred in areas with diabase geology and mafic soils, which are known to support unique examples of grassland and woodland communities, often including rare plant species. Dominion manages an open vegetation structure along transmission lines to enable necessary transmission line maintenance. This results in the persistence of remnants of natural communities that were likely more widespread in this region. DCR works to maintain a partnership with Dominion, including data sharing and strong communication, to ensure that vegetation management in ROW is compatible with natural heritage resources.

Botanical Survey within a Powerline right-of-way in Northern Virginia

On July 5, 2023, DCR staff from Natural Heritage and State Parks Tidewater Region Resource Management teamed up with staff from the *VA Department of Forestry's Forest Health* (DOF) section to treat ash trees at Machicomico State Park (formerly Middle Peninsula State Park) that are infected with the lethal forest pathogen, *Emerald Ash Borer* (EAB). In 2022, Natural Heritage Ecologists reported EAB infecting green ash trees that dominate the globally rare natural community *Coastal Plain Calcareous Seepage Swamp (G2S2)* at the Gloucester County State Park. Ash trees in this natural community that is found only in the tidewater region of VA, are some of the last remaining healthy populations of ash in the Commonwealth. The insecticide Mectinite [emamectin benzoate] was administered by pressurized injection into the trees' vascular systems, where it kills the immature (larval) stage of the EAB. The team treated a total of 30 ash trees in the 5-acre stand. This season chemical treatment has been done in conjunction with biocontrol (release of parasitoid wasps) in cooperation with DOF with funding from the USDA Parasitoid Program (APHIS).

Lori Chamberlin (DOF) administers Mectinite into root flares of a Green Ash

On September 12, 2023, DCR-Natural Heritage biologists and biologists from Dominion Energy surveyed for *Ludwigia ravenii* (Raven's Seedbox; G1/S1, State Endangered) within a transmission ROW in Suffolk. A new population with over 270 plants was found growing in wet swales under tall grasses within the ROW. This species has been petitioned for federal listing under the Endangered Species Act, and for the past three years, the US Fish & Wildlife Service has funded DCR botanists to survey for *Ludwigia ravenii*. During this time, 11 new populations have been discovered, which represents over a five-fold increase within the span of three years. Several more surveys will be conducted over the next month and the results of these efforts will ultimately help inform the decision of whether or not the species is sufficiently rare to warrant federal listing.

Left and center (yellow circle): Ludwigia ravenii. Right: Habitat in the transmission ROW.

On September 19-21, 2023, DCR's Division of Natural Heritage (DNH) Inventory staff recently made a 3-day fieldtrip to the Eastern Shore to assess the status of some of the rarest and most imperiled habitats in the Commonwealth. Botanists and ecologists worked with staff at the Chincoteague National Wildlife Refuge to survey known locations of rare plants and globally rare natural communities, many of which had not been observed by DCR-Natural Heritage since 1996. After nearly three decades, many areas have changed significantly, and some habitats are showing the effects of sea level rise and subsidence. Non-tidal Maritime Wetlands such as Interdunal Swales and Ponds were of particular interest and several rare plant species were found in these habitats. The south hook of Assateague Island seems to be accreting, and supports excellent examples of the Salt Flat community. Excellent examples of Maritime Dune Grasslands and Maritime Dune Woodlands were also documented. The information collected will be used to map the current distributions of rare plants and natural communities on the refuge.

Large Cranberry (Vaccinium macrocarpon G5S2), in an interdunal swale.

Johnny Townsend, Joey Thompson and Kristin Taverna survey a Glasswort Salt Flat on the south hook of Assateague Island.

On September 28, 2023, DCR-Natural Heritage botanists and Dominion Energy biology staff rediscovered a species not seen in Virginia since 1966. Redroot (*Lachnanthes caroliniana*, SH/G4) is an unusual-looking plant that grows in open, wet habitats of the southeastern and mid-Atlantic coastal plain. While the species was historically found in the Great Dismal Swamp and in a disjunct mountain sinkhole pond, this new population is located in a new County and is estimated to have 10,000 plants!

Left: Lachnanthes caroliniana fruits (top) and red roots (bottom). Right: A portion of the population.

**Prescribed Burning**

Between January and September 2023, DCR's Natural Heritage Program implemented prescribed fire on 13 burn days and 2,143 acres across 8 Natural Area Preserves (NAPs) ranging from far southwest Virginia to the Coastal Plain: The Cedars, Grassy Hill, Cowbane Prairie, Deep Run Ponds, Cherry Orchard Bog, Chub

Sandhill, Antioch Pines, and South Quay. This is the largest annual acreage burned on NAPs in Virginia Natural Heritage history to date! These critical management actions to restore and maintain fire-adapted and fire-dependent natural heritage resources were supported by strong partnerships with fellow fire management programs at the U.S. Forest Service, the U.S. Fish and Wildlife Service, the Virginia Department of Forestry, the Virginia Department of Wildlife Resources, The Nature Conservancy, and DCR State Parks. *In addition*, DCR Natural Heritage assisted these same partners with 41 prescribed burns across the Commonwealth, totaling 7,357 acres on partner lands. Between DCR Natural Area Preserves and partner lands, that totals nearly 10,000 acres burned! (9,500 acres, to be exact). Every year, interagency partnerships are invaluable to Natural Heritage - and to our partners as well - by sharing crews, expertise, equipment, and providing operational flexibility, we get far more accomplished than we could otherwise.

2023 DCR-DNH prescribed fire images from South Quay NAP to The Cedars NAP.

On August 30, 2023, Natural Heritage Stewardship staff coordinated an interagency meeting to review lessons learned during this year's prescribed burns in the Southeast Region. Thirty-five fire crew members from five different agencies were on-hand including staff from DCR-Natural Heritage and State Parks, Dept. of Wildlife Resources (DWR), The Nature Conservancy (TNC), Dept. of Forestry (DOF) and the Fish & Wildlife Service (USFWS). The meeting kicked off with presentations at the TNC's Piney Grove Preserve Work Center. Presentation topics included a discussion of how seasonality affects fire behavior and the long-term health and structure of the burn unit, and a power point presentation of drone ignition patterns and fire behavior effects. After the inside meeting, participants visited Big Woods State Forest (DOF) and Big Woods Wildlife Management Area (DWR); specifically, burn units that were discussed in the morning session. This was an opportunity for fire-qualified staff from all of the regional partner agencies to get on the ground and observe the results of the hard work they put in on burn days. Many fire crew members only see the fire the day of the burn, and there is much to learn from what happens post-burn. It was also a great way to stay informed and engaged with colleagues that comprise the Virginia Prescribed Fire Partnership and meet new staff.

Participants of the Interagency After Action Review meeting discuss ignition patterns at the Piney Grove Work Center and fire effects at Big Woods Wildlife Management Area.

**Natural Area Preserve Stewardship**

On April 19, 2023, DCR's Chesapeake Bay Region Steward, Zach Bradford, installed fencing and signs to restrict visitor access to a portion of the sand spit at Bethel Beach Natural Area Preserve in Mathews County. This area is often used by rare Least Tern (a state and federally listed shorebird) for nesting. Humans and unleashed dogs cause Least Tern to leave their nests for extended periods of time, leaving their eggs and chicks exposed in the hot summer sun. The tip of the sand spit at Bethel Beach Natural Area Preserve is closed to visitors until September 15 to allow any Least Tern chicks ample time to fledge.

Temporary Bird Nesting Area beach closure sign at Bethel Beach Natural Area Preserve in Matthews County erected from April 19th through September 15, 2023, to allow rare Least Tern to nest and fledge their chicks.

On April 21, 2023, DCR Northern Region staff opened the recently completed re-route of a section of the Boykin's Landing Trail to the public at Crow's Nest Natural Area Preserve. The new section of trail extends approximately 0.25 miles through mesic mixed hardwood forest to a bluff overlooking Potomac Creek and the Potomac River. The new trail was constructed to mitigate erosion issues along a section of the existing Boykin's Landing Trail that crosses an old levee. Erosion rates have increased in recent years, especially in this section of trail, and it is expected to fail in the future. The new section of trail will eliminate the need to construct a boardwalk across the failing levee and will connect to a future extension of the trail. Staff spent approximately three weeks designing and constructing the trail with the assistance of several State Parks AmeriCorps team members. In the near term, both the new and existing sections of the Boykin's Landing Trail will remain open to the public allowing DCR staff to educate visitors about the need to close the existing section of trail in the future.



Recently completed re-route of a section of the Boykin's Landing Trail at Crow's Nest Natural Area Preserve.

On June 13, 2023, DCR staff and a dozen members of the Magothy Bay Natural Area Preserve (NAP) Stewardship Committee, a group from the Eastern Shore Chapter of the Virginia Master Naturalists (ESVMN) Program, worked on the NAP trail, to ensure it is maintained as safe and passable for public use. As the volunteers focused on trimming branches intruding into the trail and flagging the locations of invasive species, DCR staff completed sawyer work, treated invasive species (*Pyrus calleryana, Lespedeza cuniata*, etc.), and

chipped small trimmed branches. The majority of the work focused on the restored area of the preserve, where planted Wax Myrtle (*Myrica cerifa)*, Groundseltree (*Baccharis halimifolia)*, and Eastern Red Cedar (*Juniperus virginiana)*, are thriving. These volunteer events save DCR staff significant time and effort; teach local volunteers stewardship techniques and grow our citizen support for Virginia's state natural area preserves.

On June 15, 2023, National Fish and Wildlife Foundation (NFWF) announced $18 million in funding to support the restoration and stewardship of longleaf pine ecosystems range-wide. This funding was distributed across 28 total awards from Virginia to Texas. Old Dominion University received one of these awards ($350,000) on the behalf of several partners in the Commonwealth, including the DCR-Division of Natural Heritage. This grant will increase longleaf pine habitat in southeast Virginia through plantings, prescribed burning, and silvicultural management, as well as landowner outreach and education. DNH will receive $130,000 in direct support for these activities on Natural Area Preserves.

DCR staff and ESVMN Volunteers at Magothy Bay NAP Annual Spring Maintenance Day.

On June 28th and 29th, Natural Heritage Stewardship Staff installed improved signage at Wreck Island Natural Area Preserve (NAP) to better communicate rules with the public for the protection of natural heritage resources. Wreck Island NAP is located on a barrier island offshore from the Eastern Shore and serves as critical breeding habitat for a variety of coastal birds, including American oystercatchers, Brown pelicans, Black skimmers and multiple species of gulls and terns. For years, seasonal signage has consisted of small triangular signs, which were only legible when a visitor has already set foot on the island. A recommendation from the Public Access Coordinator, Wes Paulos, to develop signage visible to people approaching by boat led to collaborative efforts with the Coastal Region Steward, Shannon Alexander, and staff from the PCMO and the DCR sign shop. Signs were installed at the northern and southern points of the islands, the sandiest and most easily approached areas and the areas most used by the nesting birds. Additionally, larger triangular signs were developed and installed, which align with other barrier island conservation land managers. The birds nesting on these islands are extremely sensitive to disruption during breeding season, which is why the Preserve is closed April 15th through August 30th. The new signs will help to educate the public and protect these sensitive species.

DCR-Natural Heritage staff, Wes Paulos and Shannon Alexander, alongside the new sign at Wreck Island NAP.

On July 7, 2023, DCR Natural Heritage staff and volunteers completed the 2023 breeding bird monitoring program at Crow's Nest Natural Area Preserve. In total, 162-point counts were completed at 81 randomly placed locations within the preserve. An additional five locations were surveyed twice during the season by a volunteer at the adjacent Crow's Nest Research Center, a non-profit organization dedicated to conservation, wetlands research, and environmental education for public benefit. Four Watch List Species identified by Partners in Flight were detected this year: red-headed woodpecker, wood thrush, Kentucky warbler and prothonotary warbler. In addition, the least bittern (S3B/S3N), included on DCRs Natural Heritage Animal Watch List, was detected again this season in the freshwater tidal marshes along Accokeek Creek and appear to be increasing in number. Participants in the survey this year included Michael Lott, Dan Hannon, and A.G. Sweany with DCR; Rentz Hilyer and Alyssa Hemler with the Northern Virginia Conservation Trust; David Steinberger with Fredericksburg Academy; and Jacob Saucier with the Smithsonian Institution.



An Eastern Wood-pewee (left) and Ovenbird (right), two of the more common species know to breed at Crow's Nest. Photos by Brian Smith.

On August 3rd, 2023, DCR-Natural Heritage Chesapeake Bay Region Law Enforcement and Operations Steward Hali Haskins attended a workshop at Virginia Institute of Marine Science (VIMS) hosted by The National Oceanic and Atmospheric Administration (NOAA) to discuss a pilot program using anonymous cell phone data to map visitor use in the Middle Peninsula. Read more about the study here. The workshop's purpose was to present stakeholders, namely public land managers, with the findings of the study and to collaborate on the goals of an upcoming mail-in survey. NOAA presented visitation maps of the Middle Peninsula as well as maps on focused areas such as York River State Park. The anonymous cell phone data

showed where visitors spent the most time in the park, such as the visitor's center and boat ramp for example. The follow-up study aims to uncover what barriers people face when seeking outdoor recreation, what motivates people to visit public lands, and gain an understanding of how many people are unaware of public land access available to them.

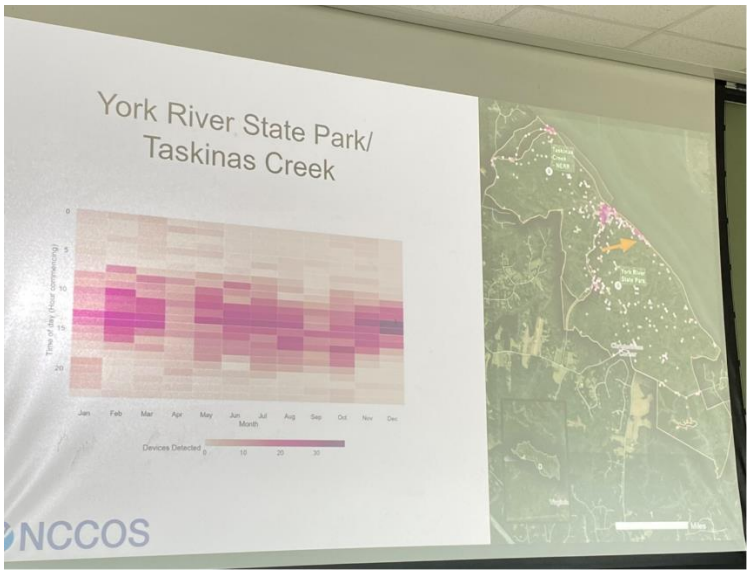



Photo of York River State Park visitation map created using anonymous cell phone data.

On August 22, 2023, DCR's Chesapeake Bay Region Supervisor Zach Bradford was contacted by an astute landowner because she observed the extremely rare cream-flowered tick-trefoil (*Desmodium ochroleucum*) on her property in southwestern Hanover County. A visit to the site that evening confirmed the identity and a survey of a sunny roadside utility corridor on her property resulted in the discovery of roughly 80 individual plants – a large population for this species. The site is underlain by base-rich soils weathered from mafic rock and it is possible that other open, sunny areas in the vicinity could be home to additional subpopulations. This newly documented population represents Virginia's second extant occurrence of cream-flowered tick-trefoil with the species having been rediscovered in Virginia in 2017 after not being observed in nearly 50 years. Cream-flowered tick-trefoil is imperiled (G2) across its entire range and is most abundant in Alabama with other southeastern states having few, scattered occurrences.

Flower and fruit from the newly discovered population of cream-flowered tick-trefoil in Hanover County

The sprawling habit and distinctive guitar pick-shaped leaflets of cream-flowered tick-trefoil

In July, 2023, Natural Heritage Stewardship staff worked with President of the Eastern Shore Chapter of the Virginia Master Naturalists (ESVMN), who submitted three applications for the new Coastal Resilience & Trees Fund offered by the Virginia Outdoors Foundation & Wetlands Watch. Announced online on September 1, 2023, all three projects were fully funded and must be completed by July of 2024. The Fund awarded a total of $17,943 and match will be provided in the form of ESVMN volunteer hours and VDCR staff efforts. All projects include development, design, and installation of interpretive signage to communicate the importance of the natural communities and educate visitors as to the reasons for various management techniques. The Cape Charles Natural Area Preserve (NAP) will receive potted native plants to be installed where invasive Amur

Honeysuckle *Lonicera maackii*, Japanese Honeysuckle *Lonicera japonica*, Mugwort *Artemesia vulgaris*, and other species are removed. The Magothy Bay NAP will also have a custom seed blend created and purchased for a 2-acre pollinator area on the Medlin tract, which is adjacent to the regional bike trail. Savage Neck Dunes NAP will receive two strategically placed exclusion ropes, stabilizing sand fencing, and American Beachgrass *Ammophila breviligulata* plugs to reduce inappropriate shoreline access and slow exacerbated erosion. The ESVMN volunteers have been extensively involved in restoration and stewardship projects over the years at these NAPs and this effort will be another successful collaboration leading to improved resource management and visitor engagement in the region.

**Invasive Species**

On June 14th, 2023, a group of Natural Heritage staff met at the Heritage Half-Acre (HHA) located within the James River Park System to continue the ongoing efforts of invasive plant management at the site. English Ivy and Japanese Honeysuckle were originally the most abundant invasive plant species in the half-acre area, which is adjacent the Buttermilk Trail. Once these vines were removed from trees and groundcover, native plants that had long been crowded out and overtopped became visible, including Boxelder, Pawpaw, and Lizard's Tail. With every visit, more native vegetation is observed emerging in the area, which becomes more distinctive from the surrounding invasives-dominated areas, as well. There are plans to hold another invasive plant cleanup at the site this fall.

HHA before invasive removal

HHA after invasive removal

Natural Heritage staff participated in the June 2023 invasive removal event

On September 28th, 2023, a dedicated group from DCR-Natural Heritage and DCR-Public Communications and Marketing Office gathered at the Heritage Half-Acre, along the Buttermilk Trail in the James River Park System, to continue invasive plant management work at the site. English Ivy and Chinese Privet were the main species targeted during this event. Loose soil at the site, due to recent rain, allowed for some deeper-rooted stems to be removed more easily. Once the invasives were removed, native species such as Hackberries, Boxelders, American Hollies, PawPaw, and Smilax became more visible. The Heritage Half-Acre will serve as an important study area for the James River Park System as JRPS staff begin their assessment of invasive management work throughout the park.

DCR staff participate in the Heritage Half Acre Invasive Removal Event

The DCR Natural Heritage Northern Region staff recently wrapped up invasive species control efforts for the 2023 season at Crow's Nest Natural Area Preserve. Work focused on continuing efforts to control Japanese stiltgrass (*Microstegium vimineum*), wavyleaf grass (*Oplismenus undulatifolius*), tree-of-heaven (*Ailanthus altissima*), beefsteak plant (*Perilla frutescens*), mile-a-minute vine (*Persicaria perfoliata*), kudzu (*Pueraria montana*), and garlic mustard (*Alliaria petiolata)*. Japanese stiltgrass and beefsteak were treated along approximately 14-miles of trails and roads along with adjacent forested areas. Staff also initiated treatment of a large kudzu patch in the southwest corner or the preserve and an area of Japanese knotweed (*Reynoutria japonica*) on a recently acquired parcel. The National Capital Region Invasive Plant Management Team with the National Park Service assisted again this year.

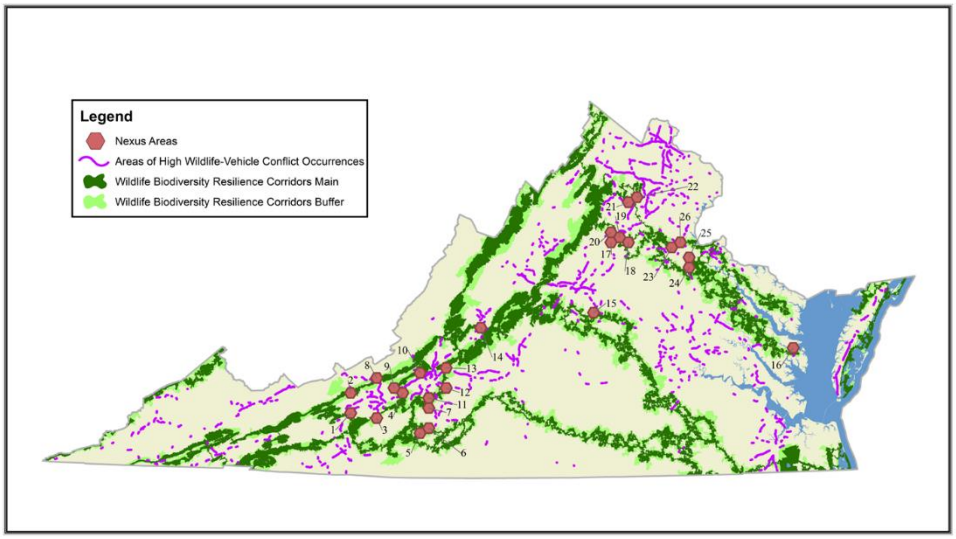
Pre- (left) and ad post-treatment (right) photos of kudzu (top) and Japanese stiltgrass (bottom) at Crow's Nest Natural Area Preserve.

**Information Management**

On April 26, DCR's Chief of Biodiversity Information and Conservation Tools, Joe Weber, participated in a presentation about Virginia's Wildlife Corridor Action Plan (Plan). Virginia is one of the first states in the eastern U.S. to create a Plan with a clear emphasis on protecting wildlife habitat corridors and reducing

wildlife-vehicle conflicts (WVC) on roadways. The leadership team is comprised of the Virginia Department of Wildlife Resources, Virginia Department of Transportation, Virginia Department of Conservation and Recreation, and Virginia Department of Forestry. Three themes guided the Plan development: promoting driver safety, improving wildlife corridor connectivity, and advancing mutual benefits (both driver safety and corridors). Aligned with these themes, geospatial analyses were conducted to develop/map (1) Areas of High WVC, (2) Wildlife Biodiversity Resilience Corridors (WBRC), and (3) Nexus Areas. Areas of High WVCs are road segments with the highest occurrences of WVCs. The WBRCs are coarse-scale corridors of natural lands that support the long-term resiliency of wildlife biodiversity. Nexus Areas are locations within the WBRCs that contain at least one Area of High WVC. These three products offer decision-making pathways, based on an organization's primary objective, for determining where wildlife crossings and corridor enhancements may be warranted. Identified Nexus Areas also position Virginia to be competitive for federal wildlife crossing and corridor funding.


Joe Weber, presenting a slide about the wildlife-vehicle conflict analysis that was conducted by the Virginia Tech Transportation Institute to support the Wildlife Corridor Action Plan. Gray Anderson (DWR) and Pat Calvert (Virginia Conservation Network) were co-presenters.




Nexus Areas of the Wildlife Corridor Action Plan, as defined by an intersection of the Wildlife Biodiversity Resilience Corridors and the Areas of High Wildlife-Vehicle Conflict Occurrences.

**Outreach and Education**

On April 12, 2023, DCR's Southeast Operations Steward, Dylan Gavagni, joined 24 other science professionals at the Tabb Middle School Science Expo in Yorktown. Over 1,200 students and family visited and learned about longleaf pine ecosystem restoration, prescribed fire, and about the amazing Natural Area Preserves managed by DCR. The night was a success and the passion for science and possible career paths sparked an interest with many young individuals.


DCR-Natural Heritage display, featuring various information, equipment and supplies related to longleaf pine ecosystem restoration and prescribed fire.

On May 6th, 2023, the Historic Southside chapter of the Virginia Master Naturalists class of 2023 visited Blackwater Ecological Preserve and Antioch Pines NAP as part of their curriculum. The seventeen field trip participants learned about the history of longleaf pine in Virginia, how the species was almost extirpated and the role that fire plays in maintaining the ecosystem and the rare species associated with it.


Virginia Master Naturalists visited Blackwater Ecological Preserve and Antioch Pines NAP to learn about longleaf pine ecosystems and their management.

On May 9-10, 2023, the DCR Northern Region staff led wildflower and birding hikes at Crow's Nest Natural Area Preserve. The trips were co-organized by the Stafford County Department of Parks and Recreation and were the last two outings of the spring season. While walking the Accokeek Loop and Accokeek Overlook trails, participants learned how the underling geology, particularly the calcium rich Aquia Formation, influences the distribution of plant communities and their associated wildflowers. Participants also learned about the importance of Crow's Nest NAP to forest interior and wetland birds. In addition, on May 12 and May 16, Northern Region staff assisted scientists with the United States Geological Survey (USGS) with sediment cores taken from two tidal wetlands at Crow's Nest. The sediment cores are part of a study intended to establish the long-term history of algal blooms in Accokeek and Potomac Creeks based on analysis of pigments, pollen, charcoal, physical properties, lithology, and radiometric dating. It is also anticipated that analysis of sediment cores will provide a record of changes in vegetation, sedimentation, and fire regimes in the area.

Participants enjoying birding Accokeek Creek (left) and USGS working in a freshwater tidal marsh along Accokeek Creek (right) at Crow's Nest Natural Area Preserve.

As part of a course organized by the Academy of Lifetime Learning (ALL) and offered through the Eastern Shore Community College, three interpretive walks were held at Natural Area Preserves (NAPs) in the Coastal Region during the month of May. Expert guides from the Eastern Shore Virginia Master Naturalist Chapter and Natural Heritage Program staff lead about 10 guests each at Magothy Bay NAP, Savage Neck Dunes NAP, and Mutton Hunk Fen NAP, on May 16th, 18th, and May 24th respectively. Participants learned about native and invasive plant species, restoration techniques, shoreline management complications, unique bird, and invertebrate species, and more. These events inspire support of the Division and Agency missions, conservation actions on private properties, and participation in future volunteer activities at state preserves.

VDCR staff, ESVMN Volunteers, and ESCC Academy of Lifetime Learning Course Participants at Savage Neck Dunes NAP (left) and Magothy Bay NAP (right).

On May 25, 2023, DCR's Chesapeake Bay Region Supervisor, Zach Bradford, joined Richmond botanist Robert Wright to present a poster at the 101st annual meeting of the Virginia Academy of Science held at the College of William & Mary in Williamsburg. The poster, entitled "Floristics and History of the Lost Clopton

Bog / Lea's Meadow Site in Richmond, Virginia," reintroduces to public to a now lost and forgotten Coastal Plain / Outer Piedmont Seepage Bog. Clopton Bog, with at least six state-listed rare and fire-adapted plant species, once occupied several acres less than three miles south of Virginia's Capitol Building in what is now an industrial area of southern Richmond City. The bog was documented by largely avocational botanists between 1921 and 1954 and its existence went unmentioned in the two major regional floristic publications of the time. Knowledge of the bog faded from memory following its destruction in the late 1950s since associated specimens, photos, and records were largely archived at the Virginia Department of Agriculture (now VDACS) and not disseminated publicly. The poster is a result of nearly four decades of investigation by Robert Wright including searches of archives and interviews of individuals with knowledge of the area. Clopton Bog represents the northernmost known occurrence of two of the rare plant species (Eaton's ladies'-tresses – *Spiranthes eatonii*; and sandbog deathcamas – *Zigadenus glaberrimus*) within the largely southeastern assemblage of rare plants at the site.

Zach Bradford presenting a poster about Richmond's lost Clopton Bog at the Virginia Academy of Science annual meeting.

On the evening of June 15, 2023, DCR's Chesapeake Bay Region Supervisor Zach Bradford led a field trip at Hickory Hollow Natural Area Preserve in Lancaster County. The field trip was organized by Friends of the Rappahannock as part of a series of walks to highlight the wetlands of the lower Rappahannock River watershed. Participants learned about the history of the preserve, explored the intersection of geology and biology as it relates to the unique calcium-rich swamps on the site, and viewed numerous wetland plants including several species that are disjunctions from Virginia's mountains. Hickory Hollow Natural Area Preserve is owned by the Northern Neck Audubon Society and managed in partnership with DCR's Division of Natural Heritage.

Globally imperiled (G2) Coastal Plain Calcareous Seepage Swamp at Hickory Hollow Natural Area Preserve

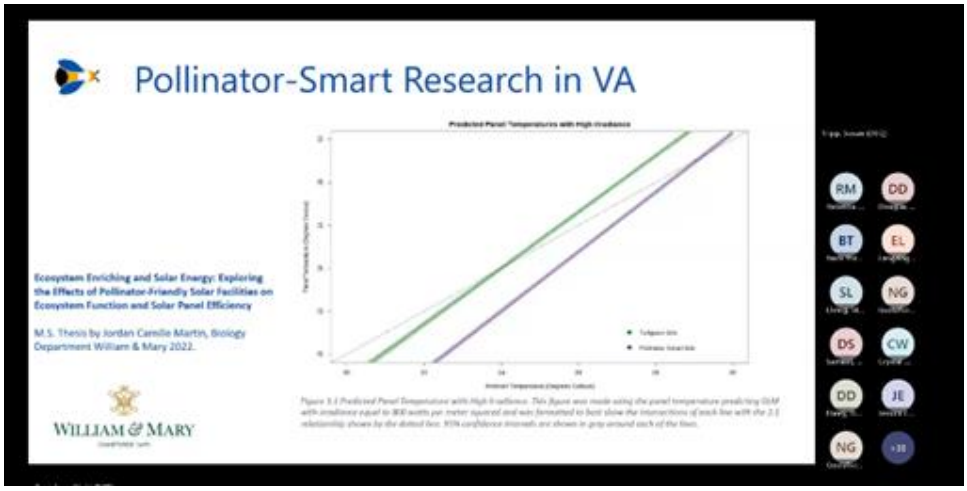
On June 8 and 15, 2023, DCR Northern Region staff welcomed students from the Fredericksburg Regional Governor's School Wetlands Class to Crow's Nest Natural Area Preserve (NAP). The students are rising 7th graders attending many different schools in the Fredericksburg area. While at the NAP, students learned about the human history of the Crow's Nest Peninsula, the conservation efforts that led to the dedication of the preserve, and the ecological importance of and the ecosystem services provided by the freshwater tidal wetlands along Accokeek Creek. After this introduction, students enjoyed a two-hour paddle trip, co-led by DCR staff. Teachers and staff with the City of Fredericksburg's Walker Grant Middle School organized and taught the weeklong class. Kayaks and boating guidance were provided by the Virginia Outdoors Center. Approximately 35 students participated in each session. This was the sixth year the class has visited Crow's Nest.

Participants in the Governor's School Wetland Class at Crow's Nest Natural Area Preserve.

The DCR Northern Regional Supervisor, Michael Lott, led a guided hike for the Rappahannock Group Sierra Club at Crow's Nest Natural Area Preserve on July 8, 2023. After a brief introduction to the Virginia Natural Heritage Program and Crow's Nest, participants set out on a 3-mile hike along the Accokeek Creek Loop Trail. While hiking, participants discussed the cultural and natural history of the Crow's Nest Peninsula. Management activities, including invasive species control and deer management, undertaken by DCR staff to maintain these mature coastal plain forests were also discussed. It was the first time visiting the preserve for many of the 12 participants.

Participants enjoyed a hike along the Accokeek Loop Trail at Crow's Nest Natural Area Preserve.

On September 12, 2023, the Virginia Pollinator-Smart Team held an informational webinar for localities across the Commonwealth. The two-hour webinar included introductory information on the solar site Pollinator-Smart certification program and its resources as well as a Q&A session. Questions regarding the Pollinator-Smart Program including native seed supply, soil and site preparation, and maintenance requirements were just a few of the questions addressed by members of the Pollinator-Smart Team from DCR-Natural Heritage, DEQ, DWR, William and Mary, and Verdantas, a consulting firm. The meeting was well attended with 49 participants including planners, board of supervisor members, county administrators from 34 localities and seven regional planning district commissions.




Pollinator-Smart Locality Informational Meeting

On September 21, 2023, Natural Heritage Stewardship staff worked with the Course Coordinators for the Eastern Shore Chapter of the Virginia Master Naturalists (ESVMN) and the Site Director of the University of Virginia, Virginia Coast Reserve LTER, Anheuser-Busch Coastal Research Center, to take a total of 30 visitors to Wreck Island Natural Area Preserve. Wreck Island is located about 7 miles from the mainland peninsula. Visitors consisted of ESVMN 2023 course trainees, joined by UVA's Dr. Deuser, DCR's Deputy Director of Operations and DCR-Natural Heritage Chief of Natural Area Stewardship. This trip followed guest presentations covering barrier island processes and research methodology implemented in the Virginia barrier island system. The topics of discussion in the classroom, on the boats, and at the Preserve included barrier island formation and their importance for migratory birds, coastal flora and fauna adaptions and function, and eelgrass restoration behind the island. Wreck Island is closed to visitation from April 15 through August 30 to protect ground nesting migratory birds. The Virginia Barrier Islands are the longest strip of undeveloped shoreline on the eastern seaboard and vital for their survival.

Left: Three ESVMN Trainees, DCR Deputy Director of Operations and DNH Chief of Natural Area Stewardship aboard a DCR vessel bound for Wreck Island Natural Area Preserve. Right: UVA Visiting Professor and USU Professor Emeritus Raymond Dueser teaches VMN Trainees about rhizomatic barrier island plants at Wreck Island Natural Area Preserve.

On September 28, 2023, Natural Heritage Stewardship staff worked with the Course Coordinators for the Eastern Shore Chapter of the Virginia Master Naturalists (ESVMN) to have an immersive experience at Savage Neck Dunes Natural Area Preserve. In the morning, DCR Field Zoologist Chris Hobson and Dr. Pablo Delis of Shippensburg University presented about entomology and herpetology respectively to the 22 trainees. The afternoon was spent discussing fish and turtles caught in fyke traps in Custis Pond and checking Dr. Delis' sampling boards along the field loop trail. All of the sampling work was supported by a research permit. Species

found and discussed included Snapping Turtle, Painted Turtle, Leopard Frog, Rough Green Snake, Rat Snake, Black Racer, Fowler's Toad, Short-tailed Shrew, and more. VMN trainees learned about the ecology of the NAP and issues impacting invertebrates, reptiles, and amphibians in the region. The value of Virginia's Natural Area Preserves for research and education cannot be understated, nor can the aid these agencies, volunteer group, and research entity partnerships provide in helping us meet overall biodiversity conservation goals.

Left: Dr. Delis of Shippensburg University has Virginia Master Naturalist Trainees learning and assisting with field herpetology research. Right: DCR-DNH Field Zoologist Chris Hobson teaches VMN course about the fauna of Custis Pond. Both photos taken at Savage Neck Dunes Natural Area Preserve.

**Land Conservation**

Natural Heritage Data Management Totals for FY2022:

Activity 4-1-23 – 9-30-23

New Mapped Locations (EOs) – 31
Updated Mapped Locations (EOs) - 133
New Conservation Sites – 45
Updated Conservation Sites – 173

Total Number in Database 9-30-23:

Animal Mapped Locations (EOs) – 707
Plant Mapped Locations (EOs) – 1322
Community Mapped Locations – 624
Conservation Sites – 702

Managed Areas: (Acres added 4-1-23 – 9-30-23) – 2,457.77 Acres
Mapped Tracts: (total number in coastal zone) – 5,057 Tracts
Mapped Managed Areas: (total number in coastal zone) – 3,588 Managed Areas

**Healthy Waters**

For the grant reporting period, the Environmental Scientist/ Policy Analyst/Program Manager with the Virginia Commonwealth University, Rice Rivers Center (VCU) in the Department of Life Sciences continued to serve as the Program Manager of the Virginia Healthy Waters Program (HWP) at the Virginia Department of Conservation and Recreation, Division of Natural Heritage (DCR).

The Healthy Waters Program is supported through funding from several grant sources including the VA CZM Section 306, US EPA Section 319 Nonpoint Source Program, and the Chesapeake Bay Program Chesapeake Bay Implementation Grant (CBIG). These sources fund various aspects of the Program including the administration and oversight, Program growth and expansion, improvement in capacity, acquisition and analysis of new data, tool and model development and data integration at the DCR.

In a continuation of previous reporting periods, funding, development and maintenance of models and tools, and the ability to increase capacity have been the foci of the HWP. Effort during the reporting period was most heavily weighted on the development of on-the-ground capacity for the HWP and the ratification of grants to support the Program. Typically, U.S. Environmental Protection Agency (EPA) grants are developed and executed in a timely manner to support the continued data development and geographic expansion. These awards have identified allocations for staff funding for field capacity, however, continue to be significantly delayed due to the lack of award from EPA to the Department of Environmental Quality (DEQ) for both Section 319 and Chesapeake Bay Program CBIG.

During the reporting period, the HWP Manager continued to coordinate communication with DEQ, DCR, and VCU to obtain the funding needed to build capacity to support on-the-ground implementation of the Program. While the program has benefited from the diverse funding which has supported the administration of the program, model development and data development, the lack of timely awards has stymied program advancement. Both the DCR and VCU have agreed they continue to be at a point halting significant work forward. While ongoing data development continues to be a need, the lack of secured funding has ceased that field work. The negative impacts are that it will directly affect the ability to influence the outcome of conserving those identified Healthy Waters (HW) sites, including meeting the Chesapeake Bay Healthy Waters Goal.

The HWP Manager has maintained that the need to increase field capacity for the Program is critical for further growth. A dedicated field-based position would take those tools created at the DCR and work closely with conservation partners to advance those conservation actions from planning tools into tangible implementation. The position would be supported through resources from Virginia Coastal Zone Management Program (CZM), EPA Section 319 and Chesapeake Bay Implementation Grant. Given the funding, the position will primarily target areas in the Chesapeake Bay Watershed both upper and coastal areas. A HWP Field Coordinator would leverage the application of agricultural or forestry best management practices to meet local Total Maximum Daily Load Watershed Implementation Plan measures in impaired but ecologically healthy waters. The HWP Field Coordinator is intended to leverage the work of the eight (8) Coastal Planning District Commissions (PDCs) to assist coastal communities, conservation districts, Virginia Department of Forestry, land trusts, other agencies on HWP community-based natural resource identification and protection. Since the DCR has been awaiting notification of award of the Chesapeake Bay Program CBIG and EPA Section 319 awards no progress was made on hiring a HWP Field Coordinator as the CZM funds are insufficient to solely support a position.

The HWP Manager continued to serve as the VA representative on the HW Goal team remaining consistent that the Commonwealth will set their own course for long-term protection action. The HWP Manager attending the Chesapeake Bay Goal Team meetings on April 10, 2023, June 12, 2023, and August 14, 2023.

### c) DCR – Planning and Recreational Resources

Multiple grant rounds and DCR-PRR funded projects are ongoing within the coastal zone, including:

Fairfax County Park Authority (FCPA) – Pohick Stream Valley Trail – Burke Station Park to Hillside Road – provides viewing and some water access.

Surry County Gray's Marina – trail including 1-mile ADA trail, amenities (signage and trailside benches) and gazebo.

Hopewell Riverwalk Phase II – constructed 8-foot wide up to 1400 linear feet Boardwalk extending Riverwalk Phase I, providing views of the water and fishing areas.

Chesterfield County – James River Conservation Area Trails – Construct approximately 2500 linear feet of shared use trails.

In Progress: Northern Virginia Regional Park Authority (NOVA Parks) – Construct 8000 linear feet of diverse-use trails including bridges and crossings to renovate Occoquan Bull Run Trail System.

In Progress: James River National Wildlife Refuge – USFWS will develop nature trail with support signage for water and wildlife viewing.

DCR staff are also in progress with writing and editing the Virginia Outdoors Plan 2023, which includes many topics related to land conservation, resource management, and recreation for all Virginia residents.

## 5) Department of Wildlife Resources (DWR)

### I. Wetlands

Mitigation Banking

DWR continues to participate on the Interagency Review Team that oversees stream and wetland mitigation banking and provide input on new banks all over Virginia, including the coastal zone. Numerous proposals were made for new banks and/or additions to existing banks within the coastal region of Virginia during this reporting cycle. DWR is also now part of the IRT overseeing the Virginia Aquatic Resources Trust Fund projects.

Wetland Restoration

DWR continues to have a voluntary wetland restoration program and is actively restoring and enhancing wetland habitats in Virginia. The program also assists private, state, local, and federal government landowners to restore wetlands on their property. Partnerships with organizations such as Ducks Unlimited (DU), the U.S. Fish and Wildlife, the U.S. Department of Agriculture's farm bill programs, the Chesapeake Bay Foundation, and many others have resulted in additional wetland acres restored.

DWR administers funds through the Virginia Migratory Waterfowl Stamp Grant for Wetland Restoration Projects to provide assistance to non-profit organizations for wetland restoration and enhancement activities. The Virginia Migratory Waterfowl Stamp funds accrue from a mandatory stamp required of waterfowl hunters annually. A request for applications to gather proposed projects for 2023 was released on February 27, 2023,

and two applications submitted by DU were accepted in May 2023. One of these projects is located in Virginia's Coastal Zone Management area at Lake Tecumseh in Virginia Beach which borders the Back Bay National Wildlife Refuge northern boundary. In February 2023, DU also submitted a North American Wetlands Conservation Act (NAWCA) grant that included a request to fully fund the Lake Tecumseh project which has been conditionally approved and is currently awaiting final management board approval.

DWR is currently involved in several wetland restoration and enhancement projects within the coastal zone that are currently underway.

- In partnership with Ducks Unlimited, a project funded by Chesapeake Wild and the 2022 Virginia Migratory Waterfowl Stamp Grant is currently under construction at Doe Creek Wildlife Management Area (WMA) which will replace several outdated water control structures, repair dike damage, and clear trees, enhancing approximately 147 acres of managed wetland. Construction efforts for this project are anticipated to be completed by the end of 2023.

- In collaboration Atlantic Coast Joint Venture Black Rail Working Group partners, a multi-year C-SWG project entitled Black Rail Habitat Creation and Restoration - Designing Management Techniques to Expand the Black Rail Population along the Atlantic Coast C-SWG was approved and funded by the USFWS in late 2021 to create/restore federally threatened (and state endangered) Eastern Black Rail (*Laterallus jamaicensis jamaicensis*) habitat. Two of the six existing impoundments at Doe Creek WMA will undergo experimental creation and management of black rail breeding habitat. This project will create a approximately 100 acres of black rail habitat, and if successful, will help inform impoundment management for the benefit of Eastern Black Rails and other marsh dependent species at other coastal impoundments in Virginia, including others at Doe Creek, and throughout the mid-Atlantic. The Center for Conservation Biology conducted avian monitoring in 2022 prior to construction to determine avian occupancy and plan to conduct two years of post-construction avian occupancy monitoring. The DWR monitored pre-construction vegetation and has initiated groundwater hydrology monitoring in the summer of 2023, adhering to the adaptive management and monitoring protocols developed by the ACJV Black Rail Working Group and project partners. DWR staff are currently working through aspects of project design and implementation. Approximate project completion date is December 31, 2025.

- Another component of the 2021 C-SWG project, and under the guidance of the ACJV Black Rail Working Group and project partners, DWR is currently planning a prescribed burn of over 300 acres of high and low marsh at Saxis WMA during the winter of 2023/24, followed by an herbicide application of reemerging of phragmites in the fall of 2024. The Saxis marshes were considered a stronghold for Black Rails in Virginia, with as many as 25 calling Black Rails detected in the early 1980s. Since then, the population has dwindled and has dropped to two in the state's 2014 survey. The Center for Conservation Biology conducted an inventory and monitor in 2022 prior to construction to determine avian occupancy and plan to conduct two years of post-construction avian occupancy monitoring. The DWR monitored pre-construction vegetation and has initiated groundwater hydrology monitoring in the summer of 2023.

- Coastal Zone Management Act Section 306A funding for a wetland restoration effort occurring on newly acquired lands at Doe Creek WMA was fully approved in October 2023. This wetland enhancement project will consist of plugging manmade ditches that are currently draining the property and will result in the enhancement of over 100 acres of wetlands. This project is currently in the final stages of the design phase and DWR staff anticipate construction activities occurring the summer of 2024.

- Also in partnership with DU, DWR is working on a NAWCA funded project at Mattaponi WMA which will include road/dike maintenance, ditch cleanout, and the installation of water control structures. This project will result in the enhanced management of approximately 85 acres of wetland habitat and is currently in the design and permitting phase. Construction is anticipated to occur in the spring and summer of 2024.

- In late October 2022, the DWR repaired a dam and restored hydrology to one of only three know Coastal Plain breeding site for the state endangered eastern tiger salamander (*Ambystoma tigrinum tigrinum*). This site in Westmoreland County was just recently discovered in 2016 at an old mill pond site (~2 acres) that had been abandoned for more than 50 years ago. Coordinating with the landowner, DWR staff were granted permission to restore the dam breach in time for the breeding season that begins in mid-December 2022. Unfortunately, the Northern Neck experienced moderate drought conditions throughout the winter and of early spring resulting from a lack of substantial rain. Conditions were not met to support breeding during the 2023 season. The wetland is currently holding 1+ foot of water and is actively being monitored ahead of the 2024 breeding season.

## II. Nongame Species Monitoring and Research

Piping Plovers and Wilson's Plovers:

2023 Virginia Plover Survey: The Annual Virginia Plover Survey (VPS) was conducted from June 1 - 9, 2023 to obtain statewide breeding population estimates for the federally threatened piping plover *(Charadrius melodus)* and the state endangered Wilson's plover *(Charadrius wilsonia)*. VPS participants examined all suitable nesting habitats shared by both species of plovers in coastal Virginia.

A preliminary total of 131 piping plover breeding pairs were observed during the 2023 survey (Table 1). This year's pair total reflects a 6% decrease over last year's survey total of 140 pairs. Breeding distribution did not change in 2023; all pairs were confined to the barrier islands (Assateague Island to Fisherman Island) with most birds occurring on the northern half of the island chain (Assateague Island to Cedar Island). The preliminary 2023 end-of-season piping plover breeding pair total, which includes additional pairs discovered after the breeding survey was 148 (Table 1), which is a 9% decrease from last year's end-of-season total of 162 pairs (Figure U). This year's breeding population decrease is the continuation of a declining trend that began in 2016 and is likely driven by multiple years of low reproductive success (see below).

A preliminary total of 25 Wilson's plover breeding pairs were recorded during the 2023 VPS (Table 1), a 39% increase from last year's VPS total of 18 pairs. The 2023 preliminary end-of-season total remained at 25 pairs (Table 1), a 25% increase from last year's final total of 20 pairs (Figure 2). Wilson's plover breeding activity in 2023 was confined to Assawoman, Metompkin and Cedar islands. One pair was confirmed breeding on Assawoman Island this year which is consistent with a recent trend of < 3 pairs that began in 2019. From 2012 – 2018, four to ten pairs nested on Assawoman island. In 2019 and 2020, only one pair was reported, in 2021 the number increased to 2 pairs, then last year there were zero pairs. This decline tracks closely with the recent decline observed in the island's piping plover population and it's not clear if the two are related. Prior to 2006, up to 25% of the state's breeding population was reported on the southern islands (Parramore Island - Fisherman Island; DWR unpubl. data). It is not known why Wilson's plovers have remained absent from the southern islands since then.

Plover Breeding Productivity: Staff from the DWR, The Nature Conservancy's Volgenau Virginia Coast Reserve, Chincoteague National Wildlife Refuge, Wallops Flight Facility and Fisherman Island NWR monitored the

breeding success of 86% (n = 127 pairs) of Virginia's preliminary piping plover breeding population (n = 148) in 2023. This year's preliminary statewide productivity estimate was 0.31 fledged young per pair monitored, a slight uptick from the Commonwealth's lowest estimate of 0.30 reported last year (Figure W) and well below the value (0.93) necessary to maintain a stable population in the Atlantic coast Southern Recovery Unit which extends from Delaware to North Carolina. This year's extreme low reproductive success is the continuation of a declining trend that began in 2016. Based on demographic trends observed in Virginia and in other states, increases in annual breeding populations are often preceded by several years of productivity estimates above the value necessary to maintain a stable population. Conversely, annual population declines are often correlated with consecutive years of low productivity, which is what appears to be occurring in Virginia (see Figures 1 and 3). Factors contributing to the low productivity are not clear but may include increasing populations of ghost crabs (*Ocypode quadrata*) on several of the islands, which are known nest and brood predators, increased activity by avian predators such as gulls, peregrine falcons (*Falco peregrinus*) and great horned owls (*Bubo virginianus*), and encroaching vegetation creating barriers to backside foraging areas. This year's preliminary site-specific productivity estimates are presented in Table 2.

The DWR staff monitored the breeding success of 100% of Virginia's 2023 Wilson's plover breeding population. A total of 21 young fledged among the 25 pairs monitored which yielded a productivity estimate of 0.84 fledged young per pair monitored. This year's productivity estimate represents an increase over last year's estimate of 0.79.

Table 1. Preliminary VA Plover Survey results, June 1 – 9, 2023. Totals in parentheses reflect preliminary end-of-season Piping Plover and Wilson's Plover breeding pair estimates for sites where survey estimates were lower.

| Site | Piping Plover Pairs | Wilson's Plover Pairs |
|---|---|---|
| Assateague Island | 16 (22) | 0 |
| Wallops Island | 2 (3) | 0 |
| Assawoman Island | 5 (6) | 1 |
| Gargatha Beach | 7 (9) | 0 |
| Metompkin Island | 31 | 2 |
| Cedar Island | 34 | 22 |
| Dawson Shoals | 0 | 0 |
| Parramore Island | 12 | 0 |
| Hog Island | 3 | 0 |
| Cobb Island | 4 | 0 |
| Little Cobb Island | 0 | 0 |
| Wreck Island | 0 | 0 |
| Ship Shoal Island | 0 | 0 |
| Mink Island | 2 | 0 |
| Myrtle Island | 7 (8) | 0 |
| Smith Island | 6 (11) | 0 |
| Fisherman Island | 2 (3) | 0 |
| Craney Island DMMA | 0 | 0 |
| Grandview Beach | 0 | 0 |
| Back Bay NWR | 0 | 0 |
| False Cape SP | 0 | 0 |
| **STATE TOTALS** | **131 (148)** | **25** |

Figure 1. Annual number of Piping Plover breeding pairs (end-of-season totals) in Virginia, 1986 – 2023. 2023 total is preliminary.

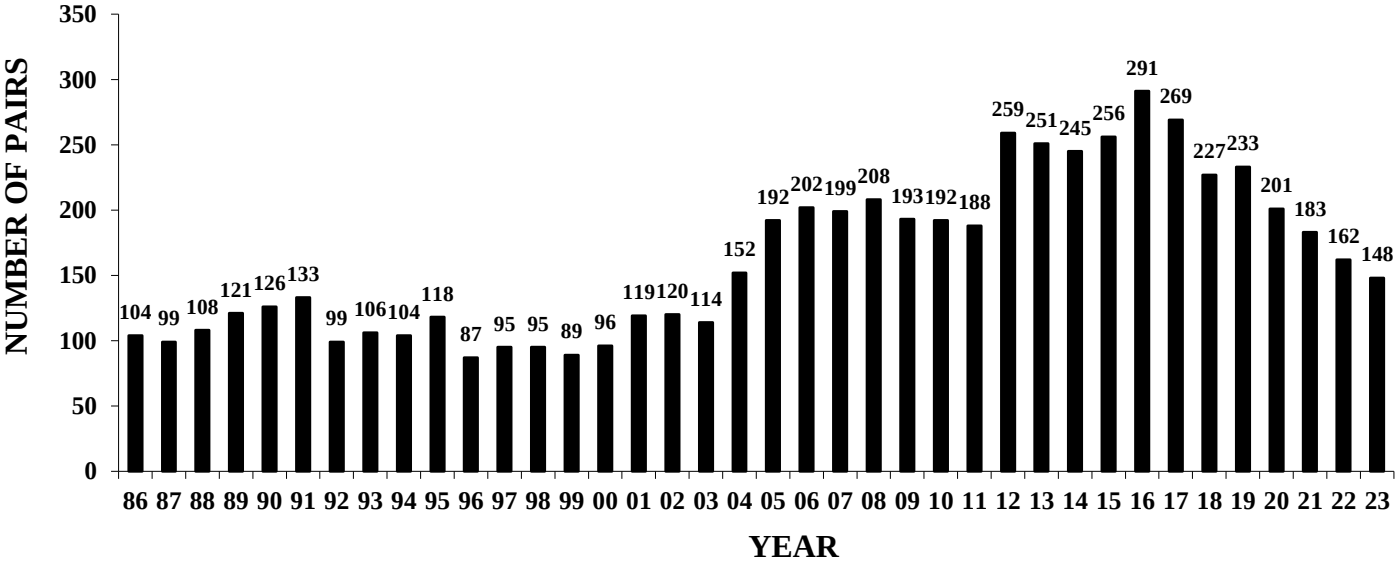



Figure 2. Annual number of Wilson's Plover breeding pairs (end-of-season totals) in Virginia, 1990 – 2022. 2022 total is preliminary.

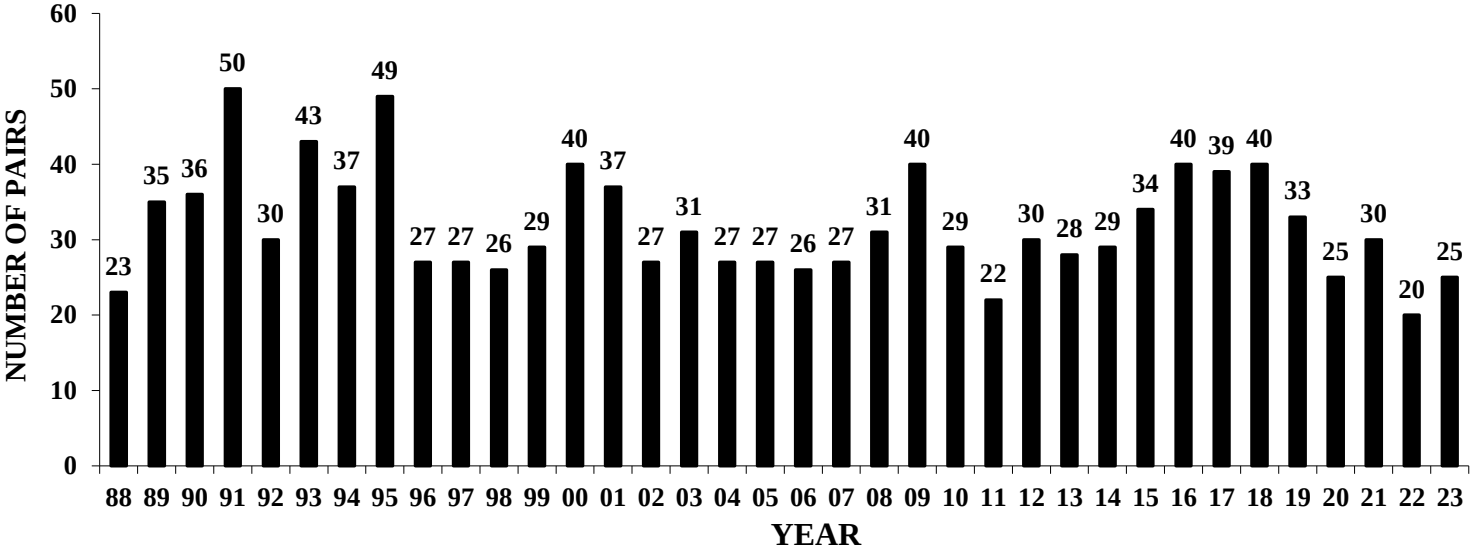


Figure 3. Annual statewide Piping Plover productivity estimates in Virginia, 1990 – 2023 (2023 estimate is preliminary). Annual estimates obtained from ≥ 75% of nests laid each year.

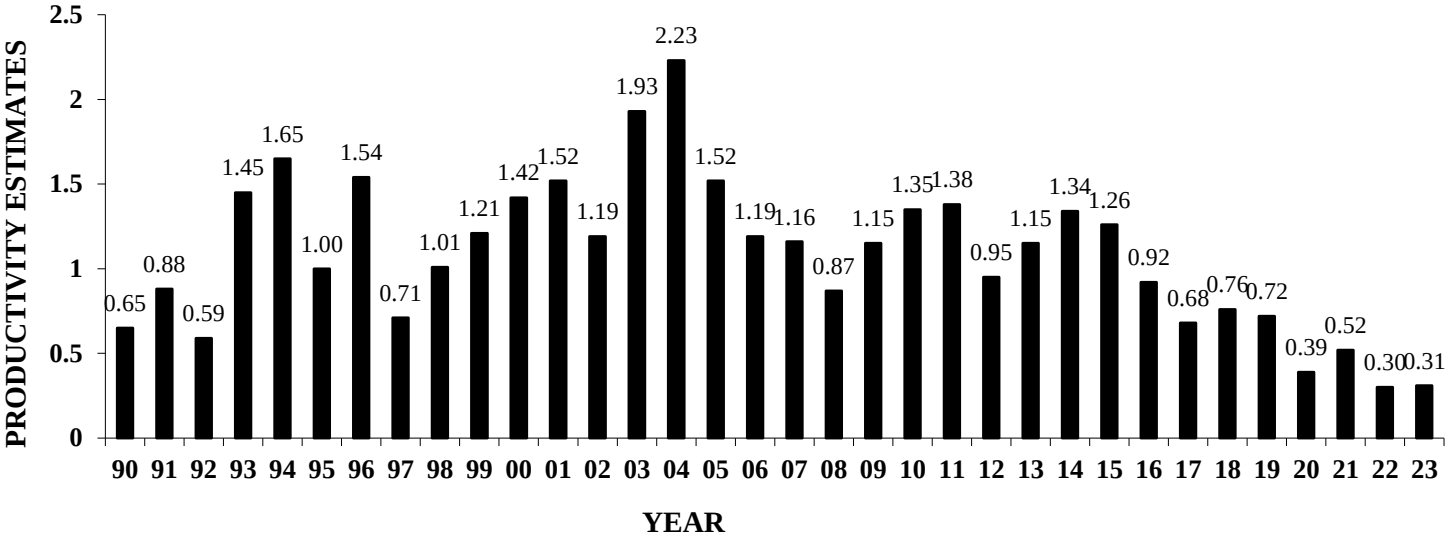



Table 2. 2023 preliminary Piping Plover productivity estimates on Virginia's barrier islands. The number of pairs monitored for productivity (n = 127 pairs) represents 86% of Virginia's end-of-season Piping Plover breeding population (n = 148 pairs). Numbers in parentheses represent 2022 data.

| SITE | # OF PAIRS MONITORED | # OF CHICKS FLEDGED | PROD.EST. |
|---|---|---|---|
| NORTHERN BARRIER ISLANDS | | | |
| Assateague Island[1] | 22 (18) | 10 (10) | 0.45 (0.56) |
| Wallops Island[2] | 3 (3) | 3 (0) | 1.00 (0.00) |
| Assawoman Island[1] | 6 (9) | 2 (3) | 0.33 (0.33) |
| Gargatha Beach[3] | 9 (9) | 1 (0) | 0.11 (0.00) |
| Metompkin Is.[3] | 29 (37) | 12 (18) | 0.41 (0.49) |
| Cedar Island[3] | 31 (38) | 5 (1) | 0.16 (0.03) |
| N. ISLAND TOTALS | **100 (114)** | **33 (32)** | **0.33 (0.28)** |
| SOUTHERN BARRIER ISLANDS | | | |
| Parramore Island[4] | 5 (7) | 0 (4) | 0.00 (0.33) |
| Myrtle Island[4] | 8 (8) | 2 (5) | 0.25 (0.63) |
| Smith Island[4] | 11 (15) | 0 (2) | 0.13 (0.13) |
| Fisherman Island[5] | 3 (5) | 5 (1) | 1.67 (0.20) |
| S. ISLAND TOTALS | **27 (35)** | **7 (12)** | **0.26 (0.34)** |
| **STATEWIDE EST.** | **127 (149)** | **40 (44)** | **0.31 (0.30)** |

[1]Data provided by the Chincoteague National Wildlife Refuge.
[2] Data provided by Wallop's Island Flight Facility biological staff.
[3] Data provided by the DWR.
[4] Data provided by The Nature Conservancy's Virginia Coast Reserve.
[5] Data provided by the Fisherman Island National Wildlife Refuge.

American Oystercatcher Productivity Studies:

The American Oystercatcher (*Haematopus palliatus*) is a Tier II Species of Greatest Conservation Need in Virginia and is experiencing low reproductive success on the barrier islands like what is being observed in Virginia's piping plover population (Figure Y). DWR staff conducted productivity studies at only one site (i.e., Gargatha Beach) during this reporting period because staff time and resources were focused on the coastwide American Oystercatcher and colonial waterbird breeding surveys (see below). Gargatha Beach first formed on a marsh headland between Assawoman and Metompkin islands in 2018. In 2023, we monitored a total of four pairs that fledged zero young. This is the second consecutive year oystercatchers failed to produce any young at this site and the cause of failure is unknown.

Coastwide American Oystercatcher and Colonial Waterbird Surveys:

During this reporting period, the DWR and The Nature Conservancy's Volgenau VA Coast Reserve coordinated and participated in VA's fifth coastwide American oystercatcher breeding survey. Previous surveys were conducted in 2003, 2008, 2013 and 2018 in conjunction with VA's coastwide colonial waterbird breeding surveys. Department staff surveyed over 15 islands, marshes and shorelines from May 20 – July 15. Final results from the 2023 coastwide survey were pending at the time of this writing and will be presented in next performance report.

Virginia's sixth coastwide colonial Waterbird (CWB) survey was conducted during this performance period. In the fall of 1992, a consortium of agencies and individuals agreed that a comprehensive monitoring program for the Virginia CWB community was needed and that assessments should be made every 10 years for trend analyses. Following the 2003 survey, the same consortium agreed the survey intervals should be shortened to every five years to increase the accuracy of the trend analyses. Past surveys (i.e., 1993, 2003, 2008 and 2013) systematically covered all 24 species of CWBs throughout the Coastal Plain of Virginia. The primary objective of all coastwide CWB surveys is to generate population estimates for colonial waterbird species currently nesting on the Coastal Plain of Virginia. A secondary objective is to produce map coverages for all colonies of waterbirds within the Coastal Plain. Taken together, these two products have and will continue to allow for the assessment of status and distribution for all colonial nesters in the eastern portion of the state. The comparison of the 2023 survey to the previous five surveys will allow for an evaluation of trends. It should be noted that all Great Blue Herons and extensive colonies of Great Egrets located along the coastal plain's major river systems were once again excluded from the 2023 survey to reduce the high costs associated with conducting aerial surveys over a large geographic area. This translates to a 15-year gap in the coverage of these colonies.

The 2023 VA CWB survey team was comprised of several partners including the DWR, The Nature Conservancy's Volgenau Virginia Coast Reserve, the Center for Conservation Biology (CCB), and the U.S. Fish and Wildlife Service. As with previous coastwide surveys, the DWR used Wildlife and Sport Fish Restoration Program funds to contract with the CCB to: (1) conduct a single extensive aerial survey during the early stages of the breeding season to direct ground surveys; (2) conduct aerial surveys of laughing gull (*Leucophaeus atricilla*) and forster's tern (*Sterna forsteri*) colonies located in inaccessible marshes; (3) conduct aerial surveys of double-crested cormorant (*Nannopterum auritum*) and brown pelican (*Pelecanus occidentalis*) colonies too large to survey on the ground; (4) conduct ground surveys of urban wading bird colonies in the Hampton Roads area; (5) compile, proof, enter and summarize all data collected by CCB staff and cooperating partners; (6) map all colony locations; and (7) generate a final report. The CCB successfully completed the first four activities and is currently working on completing the final three actions. The final report will be provided in the next performance report.

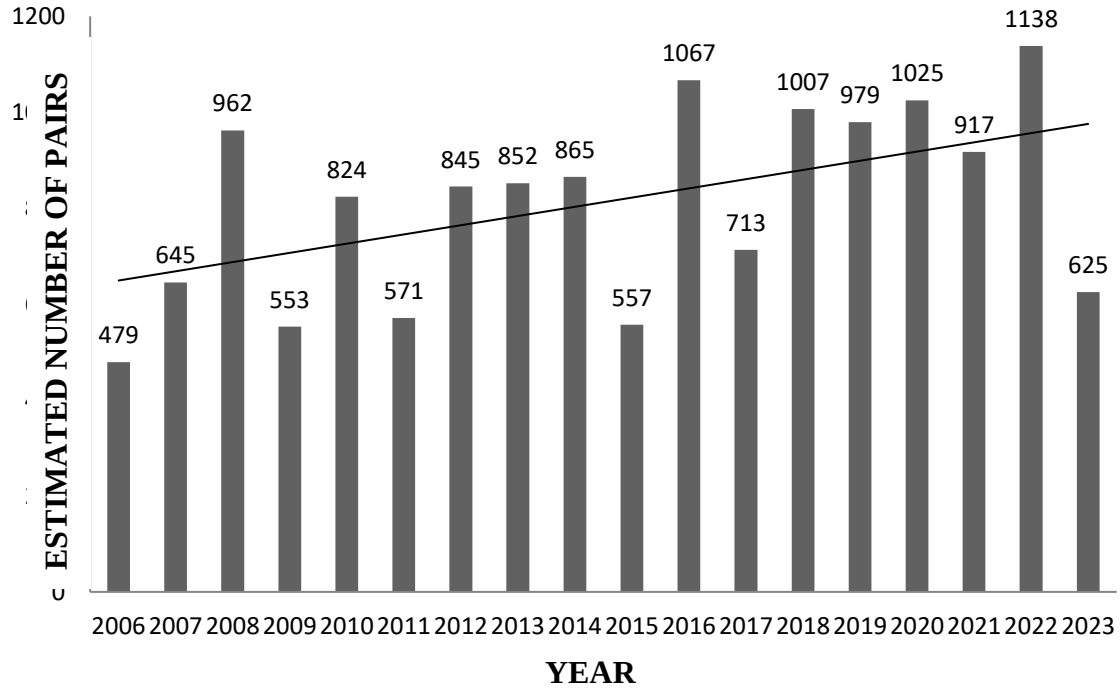
DWR staff conducted ground surveys of 45 colonies in the Chesapeake Bay and adjacent shorelines, and on the seaside marshes and barrier islands of the lower Delmarva Peninsula. Twenty-one CWB species were encountered during these surveys, of which 11 are Species of Greatest Conservation Need, Results from these and all other surveys were pending at the time of this writing and will be summarized in the next performance report.

2023 Annual Atlantic Coast Least Tern Survey:

In 2023, DWR staff coordinated the 18th annual Atlantic coast least tern (*Sterna antillarum*) breeding survey in Virginia, an effort which began in 2006. The least tern is a Tier III Species of Greatest Conservation Need in the VA Wildlife Action Plan. The survey window for the southern Mid-Atlantic States (MD – NC) is June 1 – 15. Least terns are one of the more difficult seabird species for which to obtain accurate breeding population estimates. They are highly ephemeral (abandon one site in favor of another, often several times during a single breeding season), patchy in distribution within colonies, and eggs are small and well-camouflaged making them difficult to see. Thus, the information gathered by participating Atlantic coast states are viewed as trend data rather than actual population estimates and efforts are made by the states to maintain a similar level of effort from year to year within in the survey window.

Through the combined efforts of the DWR, The Nature Conservancy's Volgenau Virginia Coast Reserve, Chincoteague NWR, and Fisherman Island NWR, a preliminary minimum estimate of 625 least tern breeding pairs in 38 colonies was generated. This estimate does not include several small colonies along the western shore of the Chesapeake Bay; the final corrected total will be presented in next year's performance report. That said, this year's preliminary estimate represents a 45% decrease from last year's total of 1,138 pairs (Figure 4), the highest total since surveys began in 2006. This year's dramatic decline can be attributed in part to a storm-related flooding event that washed out many of the colonies during the peak incubation period from which several never recovered. Despite the considerable annual fluctuations observed since 2006, it appears the Virginia least tern population is on an increasing trajectory (Figure 4). Over 90% of this year's breeding pairs (n = 587) occurred on Virginia's barrier islands and approximately 6% (n = 38 pairs) nested at Craney Island Dredge Material Management Area in Portsmouth, VA. Rooftop nesting was reported on the Langley Air Force Exchange Building this year, but when DWR staff arrived to survey the colony, the birds had abandoned the site and no evidence of nesting was found. The following day, least terns were found nesting on a training fighter jet parking area that were inadvertently taken by a sweeper truck that sweeps the surface several times a day. Several birds moved to edge of one of the runways where breeding was never confirmed.

Figure 4. Least tern breeding pair estimates in Virginia, 2006 – 2023 (2023 estimate is preliminary).



Creation of Alternative Seabird Nesting Habitat for the Displaced Hampton Roads Bridge and Tunnel Seabird Colony:

On February 14, 2020, Governor Northam directed the DWR to provide temporary alternative nesting habitat for seabirds displaced by the Hampton Roads Bridge and Tunnel (HRBT) Expansion Project through the construction period (~2025). In 2020, DWR staff obtained the necessary permits and hired contractors to transform the parade grounds of Ft. Wool, an island adjacent to the HRBT, into suitable seabird nesting habitat. At the same time, Wildlife Division staff obtained permits to lease and moor a sufficient number of flat-top barges in the embayment between the HRBT and Ft. Wool to create additional nesting habitat. The department acquired decoys and audio lures to help attract target species and engaged the Virginia Tech Shorebird Program Team (VT Team) to install and maintain the seabird attraction equipment along with remote monitoring cameras, and evaluate nesting success on Ft. Wool and the barges through regular nest and adult counts, adult and chick banding, and weekly resighting surveys of banded individuals to obtain breeding population and chick survival estimates and to gain information on post-breeding movement patterns (see previous year's report for more details). This year, DWR staff prepared Ft. Wool and once again acquired three large barges that, combined, yielded approximately 2.5 acres of suitable habitat. The department also contracted with the VT Team for a third year of bird monitoring on Ft. Wool and the barges. Table 3 presents final results from the 2020, 2021 and 2022 breeding seasons along with preliminary 2023 results. Although the 2023 numbers are incomplete and subject to change following data proofing and analyses, generally it appears the number of breeding adults for all focal species (i.e., Royal Terns, Sandwich Terns, Common Terns, Black Skimmers and Gull-billed Terns, all of which are Species of Greatest Conservation Need and Gull-billed Terns are a state threatened species) increased this year on Ft. Wool and the barges except for Royal Terns which decreased by 12% from the previous year. The cause for the decline in the Royal Tern breeding population is not clear, but there were two other royal tern colonies in Virginia this year, each with over 1,000 breeding pairs, so it's possible some may have moved to those sites. The number of young banded on Ft. Wool and barges, by species in 2020 - 2023, can be viewed in Table 4. Please note all 2023 numbers are preliminary.

Table 3. Estimated number of breeding adults and number of adults on Ft. Wool and barges. All 2023 numbers are preliminary. Data provided by the VT Shorebird program.

| Species | No. of breeding adults in 2020 | No. of breeding adults in 2021 | No. of breeding adults in 2022 | No. of breeding adults in 2023 |
|---|---|---|---|---|
| Royal terns | 12,022 | 12,566 | 13,682 | 12,052 |
| Common terns | 844 | 1,326 | 1,170 | 1,226 |
| Black skimmers | 142 | 278 | 264 | 280 |
| Gull-billed terns | 2 | 30 | 40 | 44 |
| Laughing gulls | Not measured | Not measured | Not measured | 1,368 |

Table 4. Number of young banded on Ft. Wool and barges. All 2023 numbers are preliminary. Data provided by the VT Shorebird program.

| Species | No. banded in 2020 | No. banded in 2021 | No. banded in 2022 | No. banded in 2023 |
|---|---|---|---|---|
| Royal terns | 2,113 | 3,278 | 3,284 | 1,028 |
| Sandwich terns | 46 | 77 | 149 | 9 |
| Common terns | 553 | 687 | 411 | 130 |
| Black skimmers | 105 | 149 | 119 | 75 |
| Gull-billed terns | 2 | 29 | 35 | 16 |
| Laughing gulls | 52 | 58 | 198 | 255 |

Because of the 2023 coastwide colonial waterbird breeding survey, DWR staff was able to obtain nest counts for all other colonial nesting species on Ft. Wool. They included 684 Laughing Gull nests, 202 Brown Pelican nests, 66 Snowy Egrets nests, 30 Herring Gull nests and 11 Great Black-backed Gull nests.

Lastly, DWR staff continued to engage in a variety of outreach efforts that included regular blog updates on the Ft. Wool/barges seabird project, presentations to bird clubs and Master Naturalist groups, and newspaper interviews.

Sea Turtles:

Based on preliminary reports received from partners, a total of 13 loggerhead sea turtle nests and one green sea turtle nest were documented in Virginia this year. Five loggerhead nests were recorded on Assateague Island in Accomack County. The remaining 8 loggerhead nests and the green turtle nest were discovered on ocean-facing beaches between Ft. Story Military Base and the Virginia/North Carolina border.

Freshwater Mussels:

*Atlantic Slope Freshwater Mussel Propagation*

DWR continued its cooperative Atlantic Slope freshwater mussel propagation facility with the U.S. Fish & Wildlife Services' Harrison Lake National Fish Hatchery in Charles City, which marks the 15th year of production and 16th year of operation at the VA Fisheries and Aquatic Wildlife Center (VFAWC).

Propagation began in March and ended in August. In that period of time, we produced 495,258 juvenile mussels from nine species (Table 1), surpassing our target number of 163,000 juveniles. VFAWC conducted propagation with three listed species in the Atlantic Slope: *Alasmidonta varicosa* (SE), *Lasmigona subviridis* (ST), and *Parvaspina collina* (FE, SE).

This season, we provided 61,372 mussels of six species to outside organizations in support of mussel conservation and river restoration in the region (Table 2). While no propagated mussels were directly released by VFAWC staff in this reporting period, significant numbers of mussels are planned to be released in October and November of 2023. All mussels will be tagged for future monitoring of growth, survival, and reproduction.

Table 1. Summary of goals and final counts of juvenile mussels propagated in 2023.

| Species | Broodstock Waterbody | Propagation Goals | Juveniles |
|---|---|---|---|
| *Alasmidonta undulata* | Smith Creek | 5,000 | 1,313 |
| *Alasmidonta varicosa* | Cacapon River | 15,000 | 48,304 |
| *Atlanticoncha ochracea* | Delaware River | N/A | 34,376 |
| *Elliptio complanata* | Potomac River, Licking Run | 60,000 | 15,343 |
| *Elliptio fisheriana* | Licking Run | 6,000 | 7,055 |
| *Lampsilis cardium* | Potomac River | 50,000 | 209,735 |
| *Lasmigona subviridis* | Back Creek, Cacapon River, Rappahannock River | 12,000 | 74,591 |
| *Parvaspina collina* | Johns Creek | 10,000 | 30,907 |
| *Sagittunio nasutus* | Delaware River | N/A | 73,634 |
| *Strophitus nasutus* | Smith Creek | 5,000 | N/A |
| Total | | 163,000 | 495,258 |

Note: goals were not set for *A. ochracea* and *S. nasutus* from the Delaware River; gravid *S. nasutus* broodstock were not found in Smith Creek.

Table 2. Distribution information for mussels provided by VFAWC to other organizations for restoration and propagation.

| Species | Organization | Broodstock Waterbody | Count | Age (months) |
|---|---|---|---|---|
| *Alasmidonta varicosa* | MD DNR | Cacapon R. | 125 | 24 |
| *Atlanticoncha ochracea* | PDE | Delaware R. | 17,750 | 1-3 |
| *Lampsilis cardium* | MD DNR | Potomac R. | 312 | 7 |
| *Lampsilis cariosa* | PDE | Delaware R. | 2,800 | 12 |
| *Sagittunio nasutus* | PDE | Delaware R. | 35,150 | 1-3 |
| *Utterbackiana implicata* | AWS | Anacostia R. | 5,235 | 10 |

Note: Maryland Department of Natural Resources (MD DNR), Partnership for the Delaware Estuary (PDE), Anacostia Watershed Society (AWS).

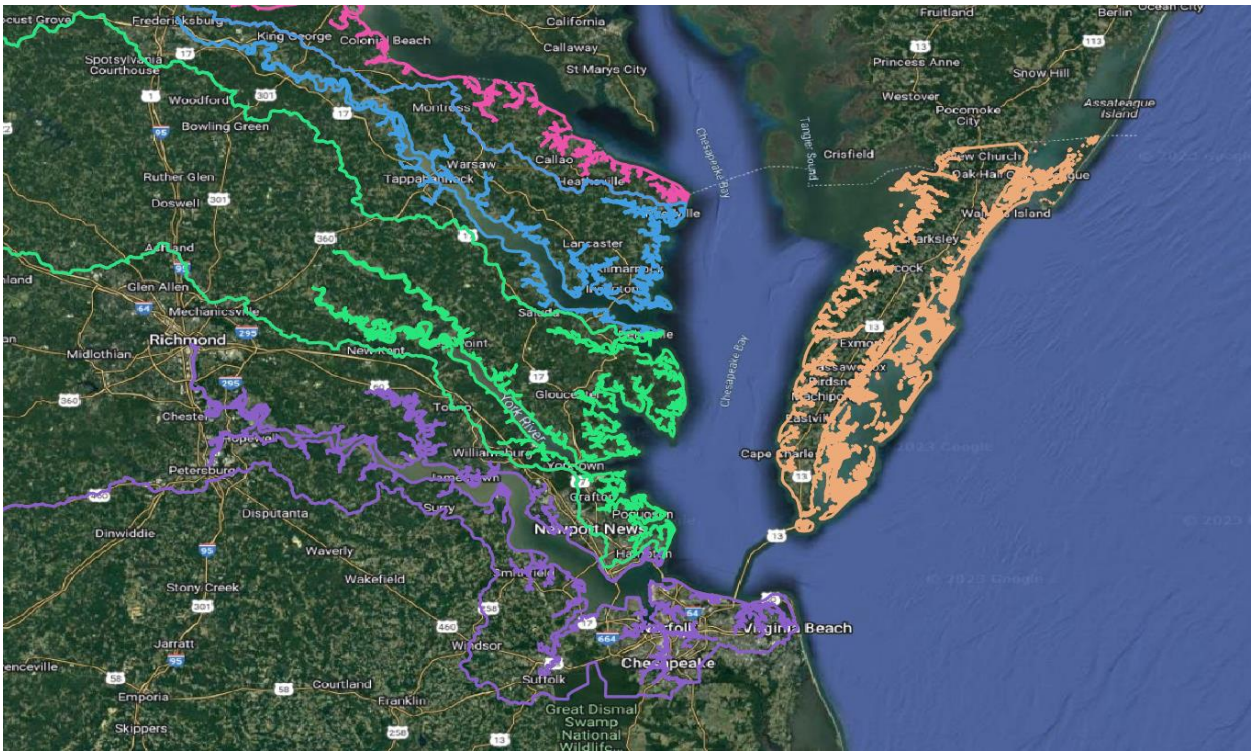
Diamond-backed Terrapins:

In 2023, DWR initiated a new participatory science project which utilized volunteers to conduct observational data on diamond-backed terrapin occurrence and crabbing pressure within the Bay and several of its surrounding tributaries. Participating volunteers signed up to survey loops via kayak during September 1st-17th and conducted

standardized head count surveys at designated points along the loop. In addition to these standardized counts, volunteers also reported any terrapins which were observed outside of designated headcount as well as any active and/or inactive crab pots they encountered in the field.

The objective for this project is to generate more public awareness for diamond-backed terrapin conservation as well as support an occupancy model which will predict high-priority shoreline areas relative to the species conservation and management. Ultimately, data collection for this project will occur on an annual basis until 2027. Results from the 2023 survey are included in the table below.

| **Sampling Zone** | **# of terrapins observed** | **# of active crab pots observed** | **# of inactive/ghost crab pots observed** | **# of survey loops sampled** |
|---|---|---|---|---|
| Eastern Shore | 1 | 19 | 1 | 3 |
| James | 63 | 44 | 1 | 6 |
| Rappahannock | 7 | 374 | 0 | 13 |
| Potomac | 0 | 43 | 0 | 2 |
| York | 87 | 300 | 2 | 12 |
| **Total** | **158** | **780** | **4** | **36** |




Map of terrapin sampling zones organized by major drainage. Orange = Eastern Shore; pink= Potomac; blue=Rappahannock; green=York and purple=James.

## III. Fisheries

Tidal Rivers Program, Chesapeake Bay drainage:

- DWR conducted active tracking of Blue Catfish and Atlantic sturgeon throughout the James and Chickahominy Rivers from April 1, 2021 to July 14, 2023.
    - DWR conducted active tracking of Blue Catfish in the James River and tributaries on seven days from April 1, 2023 to July 14, 2023. Unique tag identification numbers were recorded for all detections and datetime, signal decibels, coordinates, conductivity, temperature, and turbidity was noted. These data provided information on Blue Catfish overwinter survival from fall tagging efforts in addition to movement and aggregation data.
    - DWR conducted active tracking of Blue Catfish and Atlantic Sturgeon alongside the commercial blue catfish low-frequency electrofishing (LFEF) operation in the James River and tributaries on nine days from June 14, 2023 to July 13, 2023. Tracking days were limited due to low spring/early summer water temperatures, weather, and permit-holder equipment malfunctions. Unique tag identification numbers were recorded for all detections and datetime, signal decibels, coordinates, conductivity, temperature, and turbidity were noted. These data provide information on the behavioral response of Blue Catfish and Atlantic Sturgeon to the commercial LFEF operation.
- DWR conducted Blue Catfish sampling in the Rappahannock, Pamunkey, Mattaponi, and Chickahominy Rivers via low-frequency electrofishing from July 24 to August 9. All fish were weighed and measured; otoliths were collected from a subsample of Blue Catfish. Otoliths will provide age and growth data for Blue Catfish in these systems and allow DWR to track long term trends in population age and size structure.
- DWR conducted low-frequency electrofishing surveys in the James and Chickahominy Rivers to collect and tag an additional 30 Blue Catfish for an ongoing movement ecology project. Surveys were conducted across two days (June 7 and June 8, 2023) in Upper Chippokes Creek, James River, Chickahominy River, and Gordon Creek. Blue Catfish were anesthetized and had acoustic tags surgically implanted in their body cavity so their movement throughout the James River system could be tracked via telemetry arrays.
- DWR launched an additional five acoustic receivers in the Chickahominy River, expanding the existing array from Riverfront Park to Walkers Dam.
    - DWR also conducted receiver maintenance on previously deployed receivers in the Appomattox River, Powell Creek, Herring Creek, Ward Creek, Upper Chippokes Creek, and Chickahominy River; this included receiver software updates, regular data downloads (once/month), installing new batteries, and replacing receiver moorings.
- DWR conducted invasive species monitoring via high-frequency electrofishing in the Chickahominy River for three days in June and July 2023. Species targeted included Northern Snakehead, Alabama Bass, and Flathead Catfish; none were observed during sampling. On these days, sampling was also conducted for Largemouth Bass, following angler reports of lesions present on bass caught during tournaments. Bass with lesions were collected and submitted to VIMS for testing.
- DWR Fisheries staff conducted six days of summer electrofishing surveys of the tidal Rappahannock River from September 9$^{th}$ – August 30$^{th}$, 2023. Sampling efforts targeted 18 specifically selected sites from Port Royal on down to the lower tributaries of Totuskey and Piscataway Creeks. The targeted collection of desired fish species was delivered to Virginia Department of Environmental Quality staff as part of their ongoing Fish Tissue Contaminant Testing Study. Collections of Largemouth Bass provided addition fish for the Tidal Rappahannock Tagging Study, adding to the tally collected during

2022 surveys. Surveys of lower river sites continued to reveal low numbers of Largemouth Bass and the detection of the salinity wedge moving upriver as early as mid-June 2023. Supplemental bass stocking efforts were conducted on the tidal Rappahannock River with surplus bass collected from Ise House Pond at the King & Queen Hatchery. Selected stocking sites included Otterburn Marsh, Drakes Marsh, Baylors Creek, Totuskey Creek, and Mt. Landing Creek.

Albemarle-Pamlico Drainage:

- Aquatic Biologists sampled the Blackwater River in Isle of Wight County for anadromous fish species on a weekly basis. Sampling started during the first week of March and ran through the end of May 2023. Electrofishing sites were sampled weekly. All anadromous fish including American Shad, Alewife, Hickory Shad, Blueback Herring and Striped Bass were counted, weighed and measured (total length). Water temperatures, flow, specific conductivity and dissolved oxygen were also measured. Populations of all anadromous fish species seem to be stable in the Blackwater River.
- Biologists sampled the Blackwater River and its tributaries for Blackbanded Sunfish. As a species of concern, determining the range of the species is crucial to its management. Sampling occurred in June 2023 with several additional populations discovered. All fish collected were identified, counted, and measured then released unharmed.
- The Blackwater River was also sampled in August 2023 for all catfish species. Non-native blue catfish and native white catfish were collected in each of 4 sites from the river. Catfish were identified, counted, and measured. Populations of all catfish species seem to be low but stable at this time.
- In October of 2023, the Blackwater River was sampled with electrofishing gear to assess the community populations of all fish species. All species were identified, counted, weighed, and measured. In addition, fin clips largemouth bass were collected for analysis of origin. Biologists saw healthy but low numbers of fish in all samples from the river.
- During the reporting period, biologists spent 15 days surveying fish communities in Back Bay, 13 additional days collecting fish samples from Back Bay in coordination with an Old Dominion University master's project, 9 days of submerged aquatic vegetation monitoring, water quality monitoring, and vegetation restoration in Back in coordination with Virginia Tech staff.
- Biologists also spent two days surveying fish communities in the North Landing River.

Fish Passage Project:

1. Stream Monitoring, Adult Anadromous Fishes

*a. Chesapeake Tributaries*: The Fish Passage Project of the DWR continued with the weekly boat electrofishing for adult anadromous fish that began in mid-February and continued until the beginning of June. James River samples included the tidal/non-tidal interface area at the lower end of the fall zone and other fall zone areas such as just below Boshers Dam (vertical slot fishway). Rappahannock River samples included the tidal area just below the tidal/non-tidal interface at Fredericksburg and at Motts Run (five miles upstream of the former Embrey Dam that was removed in 2004/2005). Chickahominy River samples were above and below Walkers Dam (double Denil fishway). A few James River tributaries were sampled by backpack electrofishing to determine river herring distribution as part of the effort to prioritize road stream crossings for fish passage improvement projects.

Overall, river herring and Hickory Shad catch rates were in the typical range for the main areas sampled. American Shad catch rates were down in the James River and non-existent in the Rappahannock River. American Shad were not collected from the James River for otolith analysis (oxytetracycline mark on hatchery fish) in 2023 for two reasons. Very few American Shad were seen, and the last fry stocking was done in 2017 so

the chance of finding any fish at least six years old was very minimal. It is rare to find Shad seven years or older. Spawning American Shad were also absent in Chickahominy River collections in 2023.

As previously reported, Alewife were found all the way up to the tidal/non-tidal interface of Cornelius Creek (a James tributary) in March 2022, but Blueback Herring were not found during limited sampling in April and May. The triple box culvert crossing at Mill Road in Henrico County is a severe barrier as scored by the North Atlantic Aquatic Connectivity Collaborative assessment tool. This site is only 0.6 miles upstream of where Alewife were found by backpack electrofishing in March of 2023. There is also eDNA evidence that river herring ascend this stream to this crossing (VCU and USFWS). Documentation of herring up to this crossing raises the fish passage priority of this site. DWR is consulting with VDOT on the possibilities of pursuing a fish passage project at Mill Road.

Striped Bass were also collected in the upper tidal reaches of the rivers sampled in 2023. In addition to catch per unit effort (CPUE), length and weight data was collected for additional analysis. Only 158 Striped Bass were collected on the James in 2023 compared to over 400 in 2022resulting in a lower CPUE. Striped Bass catch rates in the Rappahannock remained low in 2023 (only 32 in 2023 and 31 in 2022. A below average cumulative CPUE is expected when the data are analyzed.

The DWR continued to monitor Alosine passage through the double Denil fishway at Walkers Dam located at river mile 24 on the Chickahominy River using an electronic counter in both exit channels and frequent, periodic exit channel trapping to obtain species composition. With the absence of commercial and recreational harvest numbers, this type of run count is critical to evaluating the overall health of herring populations. The 2023 data is still being analyzed to generate this year's count estimate. Prior years' results are as follows:

- Total fish annual passage estimates and Alewife and Blueback Herring (combined) portions to date:
    - 2018=487,470 total; 183,298 river herring
    - 2019=250,393 total; 86,980 river herring
    - 2020=255,460 total; 100,509 river herring
    - 2021=166,424 total; 78,843 river herring
    - 2022= 280,508 total; 151,430 river herring
- Gizzard Shad make up an average of approximately 55% of the total count annually
- Hickory Shad and American Shad are found in small numbers but not in every year
- Hickory Shad estimates: 222 in 2018 and 60 in 2020 (no Hickory Shad were trapped in 2023)
- American Shad estimates: 491 in 2021 and 620 in 2022 (no American Shad were trapped in 2023)

2. Stream Monitoring, Juvenile Anadromous Fishes

2023 sampling in progress: Approximately bi-weekly sampling using a bow-mounted push net was conducted from June through September on the tidal James River between Osborne Landing and the City of Richmond, the upper tidal Rappahannock River near Fredericksburg, and the Chickahominy River both in the lake above Walkers Dam and in the tidal reach below the dam. Catch rate is expressed as the number of juveniles per $100m^3$ of water sampled. Moderate numbers of juveniles of at least three of the Alosines were collected so far this year on the James and Rappahannock (American Shad, Blueback Herring, and Alewife). One Hickory Shad juvenile was collected on the XXXXX river, which is a rare find on any of the rivers sampled. Even though spring boat electrofishing did not turn up any adult American Shad on the Rappahannock River typical densities of American Shad juveniles have been found so far in 2023 in the upper tidal push net samples. Numerous Blueback Herring have been collected on the Chickahominy, and possibly Alewife and a few American Shad. Sample processing will be completed in the near future.

*a. Boshers Dam Vertical Slot Fishway (James River mile 113):* Digital video data was collected during the 2023 spring spawning run at the Boshers Dam vertical slot fishway viewing window on the James River (river mile 113) near Richmond. Fishway evaluation has occurred annually since the 1999 inaugural season. Starting in 2016 the 15 minute per hour sub-sampling approach was modified to randomly select the ¼-hour increment of video to be reviewed. To generate species' passage estimates, the 15-minute count is multiplied by a factor of four. American Eel elvers (4" – 6" range) were collected with small nets and plastic scoops on a few occasions throughout the spring and summer of 2023 from the fishway channel with the head gate almost closed to nearly stop flow. The 2023 video review is currently underway. Highlights of the 2022 season are as follows:

- 1,094 daytime and 555 night hours of video were subsampled (randomly chosen ¼ hour of each hour of reviewable video)
- Total passage estimate for all species for was 251,544 fish (only 48,528 in 2021; 1999-2021 average=80,055)
- Sixteen American Shad, which is well below long-term average of 138 that unfortunately continues a declining trend.
- 223,376 Gizzard Shad; 1,672 Sea Lamprey (native anadromous species); 2,448 Quillback; 9,800 catfish (three species); 2,964 Shorthead Redhorse; American Eel elvers observed and/or collected from channel; several other species (Smallmouth Bass, etc.)
- 30 fish species documented using the fishway to date

*3.* Fish Passage Projects

*a. Chandlers Dam:* Chandlers Dam, a DWR operated fishing lake dam near Montross failed in 2015. Major renovations, completed in spring 2020, included the construction of a pool and weir fishway to provide passage for American Eel, resident fish species and possibly river herring. The fishway is also the primary spillway for the rebuilt dam. Two extraordinary high-water events since the fall of 2020 resulted in severe damage to the dam. No sampling occurred in 2021, 2022, or 2023because the lake remains drawn down below normal pool since the damage occurred. DWR's contractor is currently conducting the necessary repairs including adding an additional concrete spillway. The pool and weir fishway should be operational again in the spring of 2024.

*b. Rapidan Mill Dam:* Rapidan Mill Dam is the first impediment on the Rapidan River and is accessible by migratory fish since Embrey Dam was removed from the Rappahannock River in 2004/2005. DWR considers this removal to be a very high priority fish passage project and has been working with a local non-profit and other partner on plans to remove this 12' high dam located in the Town of Rapidan. Striped Bass have been confirmed below the dam and there is eDNA evidence that river herring reach the dam. The non-profit plans to pursue federal fish passage funding to remove the dam. DWR plans to continue pre-removal fish data collection and to conduct post-removal fish sampling.

*c. Ashland Mill Dam:* Ashland Mill Dam is the first impediment on the South Anna River. DWR consistently documented the presence of all four Alosine species, Striped Bass, Sea Lamprey and American Eel at this dam making it the highest priority fish passage project in terms of diadromous fishes in Virginia. DWR has been providing technical assistance in the effort to remove this dam. A private firm will be gaining control of the dam and plans to pursue the "removal for mitigation banking" approach for this restoration effort.

*d. Baber Mill Dam*: This circa 1860 dam is the first impediment on Rock Island Creek (middle James River tributary) in Buckingham County. It is a barrier to migratory fish species, some of which are likely host fish for James Spinymussel. About 2,000 Sea Lamprey pass through Boshers Dam fishway each spring and this tributary is likely used by Sea Lamprey. This is a joint effort between DWR and the private forestry products company that owns the dam and surrounding land. Federal, state and private funds will be combined for this project. Pre removal sampling is underway.

## SECTION B.3 FEDERAL CONSISTENCY

During the period of April 1, 2023 to September 30, 2023, the Office of Environmental Impact Review/Federal Consistency (OEIR) reviewed 48 development projects for consistency with the Virginia Coastal Zone Management Program (CZM). This represents 50% of the total amount of projects reviewed (96) during this period. The other 48 projects were major state projects, State Corporation Commission reviews, or National Environmental Policy Act (NEPA) documents without a federal consistency component. Of he projects reviewed for consistency with the Virginia CZM Program consisted of 29 federal agency activities, 18 federal licenses and approvals, and 0 outer continental shelf projects. The 29 federal agency activities included 13 projects submitted under the residual category pursuant to the federal consistency regulation (15 CFR 930.31(c)), which consisted of federal funding to private citizens such as U. S. Department of Housing and Urban Development (HUD) mortgage insurance projects. In addition, Virginia completed 53 courtesy reviews for projects which were federally funded projects to state or local governments and/or intergovernmental reviews under Executive Order 12372. All federal consistency determinations and federal consistency certifications were completed within the established legal deadlines.

The OEIR continues to provide informal training on federal consistency requirements to consultants who prepare consistency documents for federal agencies and applicants for federal permits and maintains a website for Federal Consistency Reviews which can be accessed through DEQ's main webpage or found at https://www.deq.virginia.gov/permits-regulations/environmental-impact-review/federal-consistency The OEIR webpage is updated weekly. DEQ organized federal consistency training with NOAA Office for Coastal Management for state agency reviewers on July 19, 2023. This training was at no cost to reviewers or DEQ.

Table 1 depicts federal projects in Tidewater Virginia reviewed from 4/1/23 to 9/30/23.

| **TYPE OF FEDERAL PROJECTS REVIEWED*** | **NUMBER OF PROJECTS COMPLETED** | **REVIEW PERIOD** |
|---|---|---|
| *Direct Federal Actions | 29 | 30-60 Days |
| ** Federal Activities (approvals & permits) | 18 | 90 Days |
| ***Federally Funded Projects | 53 | 30 Days |
| Outer Continental Shelf | 0 | 45-60 Days |
| **TOTAL** | **110** | **30-90 DAYS** |

*Includes 13 FCDs reviewed under the residual category of Subpart C of the Regulations. (eg. HUD Mortgage Insurance and USDA Rural Development funding).

**These are projects reviewed under Subpart D of the Regulations. These projects include individual permits issued pursuant to Section 404 of the Clean Water Act administered by the U.S. Army Corps of Engineers.

*** These include federal assistance to state and local government reviewed under Subpart F and are considered courtesy reviews.

**FEDERAL PROJECTS REVIEWED FOR CONSISTENCY WITH THE CZMP from 4/1/23 to 9/30/23**

**I. Federal Agency Projects**

***The following projects are examples of federal agency projects subject to Subpart C of 15 CFR 930.33(a).***

Naval Station Norfolk Chambers Field Tree Hazard Mitigation Project – Conditional Concurrence for U.S. Department of the Navy Federal Consistency Determination: The U.S. Department of the Navy (the applicant) is proposing to remove trees identified in the Commodore Park, Granby Shores, and Merrimack Landing neighborhoods northwest of Mason Creek in the City of Norfolk and on public land owned by the city. Due to their heights, the trees interfere with the safe navigation of aircraft going to and from Chambers Field at Naval Station Norfolk. Removing the trees, called obstructions, will enable safe navigation of airspace in and around the airfield. The Navy states that the proposed action is critical to the enforcement of aviation safety and the adjacent civilian community. The Navy proposes to include any tree that penetrates the glide slope, which provides vertical guidance for aircraft during approach and landing. The Navy has identified approximately 400 trees using airborne and ground-based surveys in addition to any additional trees that are identified in the future, including those that have grown into the glide slope since the original survey. The project includes the removal and/or crown reduction pruning (topping) of identified trees as well as applicable crane work, stump grinding, and erosion control. Additionally, the project includes specific mitigations to address removal of trees by planting replacement trees and shrubs in accordance with the City of Norfolk's Chesapeake Bay Preservation Area requirements. FEDERAL CONSISTENCY: CONDITIONAL CONCURRENCE Based on our review (which commenced March 3, 2023) of the FCD and the comments submitted by agencies administering the enforceable policies, DEQ conditionally concurs that the proposal is consistent to the maximum extent practicable with the enforceable policies of the Virginia CZM Program provided it complies with all the applicable permits, approvals, and conditions of the enforceable policies of the Virginia CZM Program. DEQ's decision is due on May 1, 2023. Conditions which must be satisfied for the project to be consistent with the Wildlife and Inland Fisheries Enforceable Policy, which is administered by the Department of Wildlife Resources (DWR): 1. To best protect Colonial Waterbirds from harm associated with nearby project activities, the Navy shall perform a visual assessment throughout the project area and adjacent lands to determine if rookeries (site with more than one nesting pair) are present within the project site or adjacent to it. 2. The Navy shall check the CCB Mapping Portal for the newest (2018) data on the locations of Colonial Waterbird Colonies in the Commonwealth. 3. If any rookeries are found among the trees selected for removal or topping, the Navy shall adhere to a time-of-year restriction on the removal or topping of the occupied trees from February 15 through August 15 of any year. Reasons that the conditions are necessary to ensure consistency with the Wildlife and Inland Fisheries Enforceable Policy: If the federal agency does not adhere to the above-referenced conditions, then the project would be inconsistent with the wildlife and inland fisheries enforceable policy for the following reason:

If the proposed project proceeds without adhering to the above-referenced conditions then the project may adversely impact Colonial Waterbird Colonies. As such, the proposed work may adversely impact the Commonwealth's efforts in protecting wildlife resources under its jurisdiction. If the requirements of paragraphs (a)(1) through (3) of Section 930.4 of the federal consistency regulations are not met, then all parties shall treat the state agency's conditional concurrence letter as an objection pursuant to the applicable subpart.

Amendment 15 to the 2006 Consolidated Atlantic Highly Migratory Species Fishery Management Plan - The National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (Fisheries) proposes to implement Amendment 15 to the 2006 Consolidated Atlantic Highly Migratory Species Fishery Management Plan (FMP). Amendment 15 considers ways to modify, collect data, and assess areas that are currently closed to commercial pelagic longline or bottom longline fishing. Amendment 15 considers modifications to the boundaries and/or timing of existing closed areas based on delineation of high- and low bycatch risk areas that were identified using a new spatial modeling tool, HMS Predictive Spatial Modeling

(PRiSM). Additionally, it considers data collection programs in the high- and low-bycatch risk areas. Amendment 15 also would provide for regular and as-needed review of areas to identify whether conservation and management goals are being met. Additionally, Amendment 15 would provide factors to consider during review of areas, which address the high-level design elements of specific objectives, data collection and access, and the timing of continued evaluation of these, or any future, spatial management areas. Lastly, Amendment 15 considers a cost allocation program to transfer 100 percent of the HMS pelagic longline electronic monitoring sampling costs to the industry, over a 3-year phased in period, while NOAA Fisheries remains responsible for administrative costs. The proposed activity is subject to review for consistency with the enforceable policies of the Virginia Coastal Zone Management Program.

Chincoteague National Wildlife Refuge March Restorations - The United States Fish and Wildlife Service (USFWS) is proposing tidal wetlands restoration projects at three locations across the Chincoteague National Wildlife Refuge (NWR) located in Accomack County. The three proposed project locations are referred to as Assateague Channel, Sow Pond, and Lighthouse Meadows. The project will create a marsh platform to restore salt marsh and wetlands landward of existing oyster castles at Assateague Channel, remove the existing dike and water control structure at Sow Pond, and remove the existing dike and water control structure at Lighthouse Meadow. This project was considered in and meets the goals and objectives specified in the Chincoteague NWR Comprehensive Conservation Plan (CCP) and subsequent Record of Decision in November 2015. Included in the goals and objectives of the CCP was the restoration of habitat that will contribute to the recovery of three USFWS priority native bird species of conservation concern that could be listed under the Endangered Species Act. These species include the American Black Duck, the Eastern Black Rail, and the Saltmarsh Sparrow.

**II. Residual Category**

***The following are examples of consistency determinations submitted as a residual category of Subpart C pursuant to the federal consistency regulation 15 CFR 930.31(c).***

Attain at Swift Creek (Greenyard Chester Apartments) - AEI Consultants, on behalf of Bonaventure Realty Group, LLC (the applicant), submitted a federal consistency determination (FCD) for the proposed construction of the Attain Apartments at Swift Creek in Chesterfield County. The proposed project site is located at 6805 Greenyard Road in Chesterfield County. The 58.24-acre subject property is located on the south side of Greenyard Road, west of Iron Bridge Road in Chester. The property consists of wooded land and a stream. The applicant plans to remove approximately 19 acres of trees. The applicant proposes to construct three 4-story buildings for a total of 344 residential units. Additional onsite project components will consist of a clubhouse, a dog park, a cabana, a pool, two stormwater management ponds, additional private access drives, paved surface parking areas, and community landscaping. The main access point of ingress and egress will be located off Greenyard Road on the north side of the development and off Court Yard Road on the southeast side of the development. The applicant is applying to the U.S. Department of Housing and Urban Development (HUD) under the Multifamily Accelerated Program (MAP) Section 221(d)(4) for mortgage insurance. Therefore, a FCD was submitted to DEQ. DEQ previously reviewed this project under DEQ 21-092F.

Allure at Jefferson Phase I and II - The U.S. Department of Housing and Urban Development (HUD) is reviewing an application from Berkadia Commercial Mortgage for Federal Housing Administration (FHA) Section 241(a) funding for the Allure at Jefferson Phase I and II, to be developed by The Breeden Company (applicant) in Spotsylvania County, Virginia. FHA 241(a) loans are available to finance repairs, additions, and improvements to multifamily rental housing and health care facilities with FHA insured first mortgages or HUD-held mortgages. Breeden proposes to develop Phase II of the Allure at Jefferson multifamily residential development on a 4.09- acre parcel immediately adjacent to the 19.2-acre parcel consisting of the Allure at Jefferson Phase I. Phase I of Allure at Jefferson consists of 14 low-rise multifamily residential buildings housing a total of 338 dwelling units. Additional amenities consist of a clubhouse, swimming pool, playground,

concrete sidewalks, asphalt-paved parking, and associated landscaping. The proposed Phase II development would consist of the construction of 3 low-rise buildings housing a total of 112 dwelling units on the vacant 4.09-acre parcel. Phase II would provide on-site surface parking for 120 vehicles, including 1 accessible space, and 6 garages. Vehicular ingress and egress for the new development would be provided via Monroe Way which connects from Monroe Pass Road to the west.

**III. Federal Activities (Permits, Licenses and Approval)**
***These projects are examples of federal consistency certifications reviewed pursuant to Subpart D of the Consistency Regulations (15 CFR §930.53):***

Coastal Virginia Offshore Wind Commercial Development - The Virginia Electric and Power Company (Dominion Energy of Dominion), is proposing to construct, own, and operate the Coastal Virginia Offshore Wind Commercial (CVOW-C) Project (Project) located offshore Virginia and in the cities of Virginia Beach and Chesapeake. Offshore Project Components would consist of up to 205 Wind Turbine Generators (WTGs) and associated WTG Foundations (monopiles) within the Virginia Wind Energy Area (Lease Area). The Lease Area is approximately 112,799 acres and is located approximately 27 statute miles off the Virginia Beach coastline. WTG Inter-array cables in the Lease Area will connect to Offshore Substations which will connect to Offshore Export Cables to the Cable Landing Location at the Camp Pendleton State Military Reservation in Virginia Beach. Onshore Export Cables will run from the Cable Landing Location along a route from the Cable Landing Location to a Common Location north of Harpers Road. Interconnection Cables from a Switching Station located either north of Harpers Road or north of Princess Anne Road will be run to and terminate at an existing Onshore Substation (i.e. Fentress Substation) owned by Dominion. Onshore Export Cables are anticipated to be constructed as underground transmission lines from the Cable Landing Location to a Common Location north of Harpers Road, while the Interconnection Cables are expected to be constructed as overhead and/or a combination of overhead and underground (hybrid) transmission lines from a Common Location north of Harpers Road to the Onshore Substation. When complete the Project is anticipated to generate between 2,500 and 3,000 megawatts (MW) of offshore wind energy.

Dominion has submitted a federal consistency certification for the Construction and Operations Plan (COP) for the CVOW-C Project. DEQ has completed two additional environmental reviews associated with this project. The SCC application for this project (land-based components) was reviewed under DEQ #21-154S and completed on January 24, 2022. The Draft Environmental Impact Statement (DEIS) developed by the Bureau of Ocean Energy Management (BOEM) was reviewed under DEQ #22-199F and completed on February 13, 2023.

New Bulkhead and Associated Fill - JSSY LLC (the applicant) is proposing to construct a new bulkhead in the Western Branch of the Elizabeth River at a ship repair facility, which is located at 3301 Shipwright Street in the City of Portsmouth. The proposed bulkhead will be located on the western side of the property. The area behind the bulkhead, including the marine railway, will be filled to match the new bulkhead height (approximately 4 feet above the existing grade). There will be new bollards installed to assist in the proper mooring of all vessels. The proposed bulkhead (237 linear feet of the proposed 340 linear feet) would be placed in front of the existing steel and timber bulkheads where applicable. The proposed bulkhead (340 linear feet in total) would create a berthing area that is necessary for the daily operations of the facility. The bulkhead would also provide shoreline protection along an eroding shoreline as well as encapsulate the existing marine railway and any existing contaminants. A new timber pile system will be constructed in front of the new bulkhead. The three existing timber piers adjacent to the proposed bulkhead will be removed. The U.S. Army Corps of Engineers is reviewing the project under Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Sections 401 and 404 of the Clean Water Act (Public Law 95-217). Therefore, the applicant submitted a federal consistency certification to DEQ for review.

Avenlea - Markel/Eagle Partners, LLC (the applicant) proposes to construct a multipurpose development, called Avenlea, in Henrico County. The proposed project includes the construction of multifamily homes and

commercial areas on 84 acres, which are located at 12700 and 12600 Bacova Drive within the Glen Allen area of Henrico County. The property is undeveloped with trees. The proposed project site is bordered by undeveloped land and residentials to the north, North Gayton Road to the east, Bacova Drive, and I-64 to the south, and undeveloped land to the west. The project also includes the installation of utilities to support the development. The applicant states that a permit is necessary from the U.S. Army Corps of Engineers. Therefore, the applicant submitted a FCC to DEQ for review.

Charter Colony West - HHH Land, LLC (the applicant) is proposing to construct 479 residential housing units, including single family detached homes and townhouses in Chesterfield County. The proposed project, called Charter Colony West, would be located east of Route 288 and south of the terminus of Old Otterdale Road and Westbury Drive. The existing site access is available via Old Otterdale Road, located immediately north of the property, and within the project vicinity are forested areas and areas currently under construction for residential development. The project site is approximately 155 acres. The applicant proposes to impact approximately 1.56 acre of wetland and 1,074 linear feet of stream channel. The applicant states that the project qualifies for an individual permit from the U.S. Army Corps of Engineers (Corps) due to proposed impacts to wetlands. Therefore, the applicant submitted an FCC to DEQ for review. The FCC states that a portion of the impacts associated with the project are already authorized via a 22-SPGP-RCIR/NAO-2020-01861 from the Corps and a WP4-21-2443 from DEQ.

**IV. Outer Continental Shelf Activities**

No projects were reviewed during the time period of this report for this category.

**V. Federal Funds**

***The following are examples of consistency determinations submitted as Subpart F pursuant to the federal consistency regulation 15 CFR 930.90. These are completed as courtesy reviews:***

311 Allen Ave. Water Line Replacement - The City of Hopewell has received Community Development Block Grant funding (CDBG) from the U.S. Department of Housing and Urban Development (HUD) for housing rehabilitation improvements at 311 Allen Avenue. The project consists of the replacement of the main water line serving the house and replacement of the subflooring and carpet.

Judeo-Christian Outreach Center 3H Housing - The U.S. Department of Housing and Urban Development (HUD) is providing funding for the redevelopment of the Judeo-Christian Outreach Center facility located at 1053 and 1049 Virginia Beach Boulevard in Virginia Beach, Virginia. The facility is currently developed with four structures and provides emergency single-night housing and meal service to those in need. Existing structures will be demolished and a three-story approximately 20,000 square foot building, housing 38 single-housing rental units, administration space, and kitchen/dining hall with associated parking will be constructed.

## SECTION B.4 PROGRAM CHANGES

There were no changes from April 1, 2023 – September 30, 2023.