April 28, 2023

Virginia Coastal Zone Management Program
Semiannual Section B.2-4 Report
For the Period from October 1, 2022 – March 31, 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 October 1, 2022 to March 31, 2023, the VWP Permit Program issued nine individual permits and 65 general permit coverages; processed 25 Notices of Planned Change on general permit coverages; and processed 11 individual permit modifications in Virginia's coastal counties.

The average time to process a general permit coverage was 21 days, and the average time to process an individual permit was 110 days.

Approximately 49 acres of non-tidal wetland impacts and two acres of tidal impacts occurred during the reporting period. During this reporting period, approximately 101 wetland credits were purchased at compensatory mitigation banks or through in-lieu fee programs.

During the reporting period, two compliance actions[2] on individual permits and 18 compliance actions on general permit coverages were taken. Compliance actions for five of the general permit coverages are still active at the time of this report. Additionally, five compliance actions were taken on activities not associated with a VWP individual permit or general permit coverage, and two of these are still active at the time of this report. During this period, 243 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 deployed the Permit Enhancement and Evaluation Platform (PEEP), a new public-facing tool that tracks various steps in permitting processes. One goal of this new tool is to identify any potential improvements in permitting efficiency on the part of applicants and relevant agencies.

[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.
[2] Warning Letter (WL) or 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 October 1, 2022 – March 31, 2023 for the VPA Individual Permits (IPs):

Three permit applications were received for VPA – Individual Permits (IP), two applications were for permit modifications of facilities that is authorized to land apply biosolids and the other application was for the reissuance of a VPA IP for the land application of biosolids. The three permit applications are pending. One permit action was completed for an application that was received during a previous reporting period – the reissuance of a permit that authorizes the distribution and marketing of Exceptional Quality Biosolids.

During the period between October 1, 2022 – March 31, 2023 for the VPA General Permits:

Three applications were received seeking a permit change-facility/operation; four applications were received seeking a permit change-ownership, five permit applications were processed during this reporting period. Two permit applications were received seeking coverage under the VPA General Permit for Poultry Waste Management (PWM). No PWM general permit coverages were issued or reissued during the period.

One permit action was completed for an application that was received seeking a permit change-facility/operation of the coverage under the VPA Animal Feeding Operations (AFO) general permit during the previous period. No AFO general permit coverages were issued or reissued during the period.

DEQ – Virginia Pollution Discharge Elimination System (VPDES) Water Permitting Program
There is a total of 267 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 54 vehicle wash, 106 concrete products, 9 cooling water, 333 domestic sewage ≤ 1,000 GPD, 59 nonmetallic mineral mining, 27 petroleum, 16 potable water treatment, 43 seafood processors, and 516 industrial stormwater. These represent typical numbers for permit registrants in CZM areas in Virginia. There are also 64 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 data base. There are also 62 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	16	576	1	109	0	NA	55***	NA
VPA	0	0	1	169	0	0	0	NA	1	11
VPA GP	0	0	0	NA	6	6	0	NA	0	0

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 March 31, 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 October 1, 2022 through March 31, 2023, DEQ issued 165 Warning Letters and 1 Letter 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 October 1, 2022 and March 31, 2023, DEQ issued 33 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 14 Consent Orders that assessed a total of $238,165.56 in civil charges.

Table 1

Measure	Action Type	Count	Total Civil Charges Assessed
Informal	Warning Letters	165	N/A
Informal	Letters of Agreement	1	N/A
Formal	Notices of Violation	33	N/A
Formal	Consent Order	14	**$238,165.56**
Total		**213**	**$238,165.56**

d) DEQ – Air Permitting Program

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

Period: October 1, 2022 – March 31, 2023

PERMIT TYPE	NUMBER OF PERMITS ISSUED	AVERAGE PROCESSING TIME (Days)
PSD & NA	0	NA
Major	0	NA
**Minor	88	29
Administrative Amendment	3	52
Exemptions	1	8
State Operating	1	49
Federal Operating (Title V) Initial Issuance	1	110
Federal Operating (Title V) Renewal	9	611
Acid Rain (Title IV)	0	NA
Total Number Permits Issued	**103**	

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

** Due to a reevaluation of applicability of the Non-Metallic Mineral Processing General Permits, several general permits were reissued as minor New Source Review permits. This is a one-time event.

Note: The information provided for this report includes data from the Northern Virginia Regional Office, Portions of the 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 March 31, 2023

PERMIT TYPE	NUMBER OF PERMITS PENDING
PSD & NA	1
Major	0
Minor	73
Administrative Amendment	1
Exemptions	2
State Operating	7
Federal Operating (Title V) Initial Issuance	10
Federal Operating (Title V) Renewal	67
Acid Rain (Title IV)	9
Total Permits Pending	**170**

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 October 1, 2022 through March 31, 2023, DEQ issued 40 Requests for Corrective Action, and 34 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 October 1, 2021 and March 31, 2022, DEQ initiated 21 new formal enforcement actions via issuance of Notices of Violation. Additionally, the Agency issued 5 Consent Orders; assessing $67,961.25 in civil charges.

Table 1

Measure	Action Type	Count	Total Civil Charges Assessed
Informal	Requests for Corrective Action	40	N/A
Informal	Warning Letters	34	N/A
Formal	Notices of Violation	21	N/A
Formal	Consent Orders	5	$67,961.25
Total		**56**	**$67,961.25**

f) DEQ – Erosion and Sediment Control

Summary of Specific Outputs:

Specific Outputs	Progress / Status
9 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.
208 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.
87 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.
114 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.
17 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.
449 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 October 1, 2022– March 31, 2023, staff continued to provide technical assistance and training to Bay Act localities. For this period, two outreach events were conducted, and 71 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, 40 environmental impact reviews were conducted.

Compliance Reviews

During the reporting period, the one outstanding locality review was completed, and seven 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 77 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 October 1, 2022 through March 31, 2023, the Habitat Management Division received 1,309 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 1,264 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 October 2022. 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 35 projects. During the reporting period the Commission considered 22 protested projects or projects requiring a staff briefing, The Commission also approved 13 projects over $500,000.00 in value.

During the reporting period local wetland boards throughout Tidewater Virginia acted on 141 projects involving tidal wetlands. Of this total, 105 were approved as proposed, 30 were approved as modified, 4 no permit was necessary, 2 are pending, and 31 required compensation either on or off site (6), or through payment of an in lieu fee (25) accounting for 29,545 square feet of tidal wetland impacts.

b) VMRC – Fisheries Management Division

At the October 2022 meeting, the agency established a prohibition on the retention of shortfin mako shark within Virginia waters.

At the December 2022 meeting, the agency amended the Atlantic menhaden regulation, specifically the purse seine area and time to include: (i) the fishery agrees to not fish in the state waters inside the Chesapeake Bay Saturday through Monday of Memorial Day and Labor Day, (ii) the fishery agrees not to fish in state waters inside the Chesapeake Bay on July 4th and the Federally recognized holiday of the week, (iii) the fishery agrees to not fish in state waters inside the Chesapeake Bay on all Saturdays and Sundays between Memorial Day and Labor Day, and (iv) the fishery agrees not to fish within ½ mile of the Chesapeake Bay Bridge Tunnel as a measure of cooperation to minimize user conflicts with the recreational angling community. Also pertaining to Atlantic menhaden, the agency established a reciprocal quota transfer system between the purse seine menhaden reduction sector and the purse seine menhaden bait sector of the fishery.

At the January 2023 meeting, the agency established an emergency amendment to open a recreational black sea bass season in February 2023.

At the February 2023 meeting, the agency terminated the Recreational Cobia Mandatory Reporting Program (RCMRP) and associated species permit. Also, at the same meeting, the agency established the percentage Virginia receives of the coastwide total allowable catch per Addendum I to Amendment 3 of the Interstate Fishery Management Plan for Atlantic Menhaden.

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 DGIF 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	2	3
Conchs	3	6	2	3	0	0	0	0	0	0
Crabs	64	75	39	54	38	54	40	55	1	1
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	121	139	16	18
Freshwater Fishing without a license	23	25	1	2	6	6	1	1	0	0
Gill Nets	3	5	16	16	4	8	10	11	0	0
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	0	0
Misc	0	27	3	18	5	5	2	5	0	0
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	253	325	166	189	175	238	16	19
Oysters	82	193	49	127	32	50	36	48	8	9
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	4	4	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	6	6
TOTALS:	**1220**	**1690**	**711**	**1000**	**522**	**618**	**485**	**632**	**50**	**59**
PERCENT OF CONVICTIONS:	**72.19%**		**71.10%**		**84.47%**		**76.74%**		**84.75%**	

3) Virginia Department of Health (VDH) – Division of Shoreline Sanitation

From October 1, 2022 through March 31, 2023, the VDH Division of Shellfish Safety and Waterborne Hazards had…
352 acres of shellfish grounds formerly open year-round now closed to harvesting year-round,
738 acres of shellfish grounds formerly closed year-round now open to harvesting year-round,
721 acres of shellfish grounds formerly open year-round now seasonally closed,
885 acres of shellfish grounds formerly closed year-round now seasonally opened,
955 acres of shellfish grounds formerly seasonally closed now closed year-round, and
1792 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 (19) VMRC Permit Applications, and processed as follows:

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

Sixteen (16) applications were approved based on meeting the requirements of providing adequate facilities of the Marina Regulations if applicable.

Three (3) applications were 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 25,853.03 acres during the reporting period (10/1/2022 – 3/31/2023). 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 10/1/2022 – 3/31/2023.

CZM Basin	Number Of Plans	CZM Crop Acres	CZM Hay Acres	CZM Pasture Acres	CZM Specialty Acres	Total
Albemarle Sound	5	1095.77	76.02	-	-	**1171.79**
Atlantic Ocean	3	15.90	-	-	-	**15.90**
Chesapeake Bay Coastal	14	2178.03	9.57	-	-	**2187.60**
Chowan	6	712.33	-	-	-	**712.33**
James	10	649.60	100.38	9.88	-	**759.86**
Potomac	3	723.78	24.17	-	-	**747.95**
Rappahannock	18	10517.11	100.13	91.83	-	**10709.07**
York	19	8863.39	600.04	85.10	-	**9548.53**
Total:	**78**	**24755.91**	**910.31**	**186.81**	**0.00**	**25853.03**

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 90 site visits, wrote 56 advisory reports, evaluated 50,529 feet of shoreline, and reviewed and provided comments to VMRC on 15 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 – planting marsh vegetation, bank grading, marsh toe revetments of oyster shell bags, stone sills with sand nourishment and marsh vegetation plantings, riprap revetments, offshore gapped breakwaters, 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 the Virginia Institute of Marine Science (VIMS), Virginia Marine Resources Commission (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 EPA'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. During this reporting period, an additional 301 sites have been verified and the associated pollutant reductions were reported to DEQ in November 2022 (see table below).

During this reporting period, SEAS continued 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. Work focused on two of the project's four objectives: 1) grow and enhance the existing partnership of entities engaged in living shoreline implementation; and, 2) develop a cache of shovel-ready living shoreline projects on socially vulnerable sites, agricultural sites, and other priority sites.

	Submitted November 2021	Total Submitted 2017-2021
Protected Shoreline (ft)	63,767	356,687
Number of Sites	301	1,726
Pollutant – TN [Total Reduction (lbs./yr.)]	3,250.5	37,261.1
Pollutant – TP [Total Reduction (lbs./yr.)]	2,168.7	25,311.2
Pollutant – TSS [Total Reduction (tons/yr.)]	1,858.4	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 October 12, 2022, DCR Natural Heritage Regional Supervisors Zach Bradford and Mike Lott investigated reports of an unidentified species of Ladies'-tresses (*Spiranthes*) orchid growing in Stafford County near Crow's Nest Natural Area Preserve. These plants had been reported by a citizen-scientist on iNaturalist – a social network for mapping and sharing biological observations. Upon close examination, the plants were determined to be Fragrant Ladies'-tresses (*Spiranthes odorata*) (G5/S3), a watch listed (vulnerable) species occurring in freshwater to oligohaline tidal marshes in Virginia, and in swamp sloughs and floodplains further south. This is the first observation of this large and showy orchid along the Potomac River since 1926. A former population in Fairfax was lost long ago due to extensive development and habitat alteration during the 20th century. This new population documented in Stafford is now the northernmost extant population known, with the exception of one recently discovered anomalous disjunct occurrence along an upstate New York lakeshore. Crow's Nest Natural Area Preserve – less than a mile from the new Stafford population – boasts extensive and high quality Freshwater Tidal Marsh habitat with potential for additional Fragrant Ladies'-tresses discoveries pending DCR staff conducting marsh surveys.

Fragrant Ladies'-tresses orchid (G5/S3) has been found in northern Virginia for the first time since 1926.

On December 6, 2022 DCR's Chesapeake Bay Regional Supervisor Zach Bradford documented critically-imperiled compressed plumegrass (*Erianthus coarctatus;* G5?/S1) on Grafton Ponds Natural Area Preserve for the first time. About two-dozen flowering stems were found in a small gas pipeline right-of-way and on a hummock in an adjacent coastal plain seasonal depression pond. The discovery was made during a larger effort to relocate the species in several transmission line corridors adjacent to the natural area preserve. Compressed plumegrass, a southeastern and Gulf Coast endemic that favors boggy situations, was first documented in the vicinity in the 1990s but slipped from attention due to confusion over subsequent name changes of it and a closely related (and often co-occurring) species. Around 1,000 flowering stems over two miles of transmission line corridor were documented in this new survey effort. Grafton Ponds Natural Area Preserve in York County is owned by Newport News Waterworks and managed in cooperation with DCR. The preserve protects dozens of examples of coastal plain seasonal depression ponds formed by the dissolution of the underlying Yorktown Formation fossil shell layer. These ponds are home to numerous rare plants and animals as well as unique natural vegetation communities.

Three plumegrass species growing together near Grafton Ponds Natural Area Preserve: (Left to Right) giant plumegrass (*Erianthus giganteus*), spiral-awned plumegrass (*E. contortus*), compressed plumegrass (*E. coarctatus*).

During the 2022 field season, DCR-Natural Heritage Ecologist Joey Thompson located a new occurrence of Coastal Plain Depression Swamp (Willow Oak - Red Maple - Sweetgum Type) (G3S2) along with a new population of Red Milkweed (*Asclepias rubra*, G4G5/S2) on a several hundred-acre property owned by Chesterfield County. After reaching out to the County on December 12, 2022 to make them aware of the resources, it was learned that the County was in the process of planning to develop a park on the parcel, including parking lots, fields, courts, amenities, and numerous trail systems. The planned developments would have presented serious threats to the rare plants and communities on site. Joey planned a field visit with the Chesterfield Park Planner, Chesterfield Naturalist, and their consultant to show the locations of the rare elements as well as look at proposed alternatives to the park development plan. The Chesterfield County Parks staff is excited about the natural resources that occur on their parcel and are planning to adjust their park plans to provide more buffer to the existing natural resources.

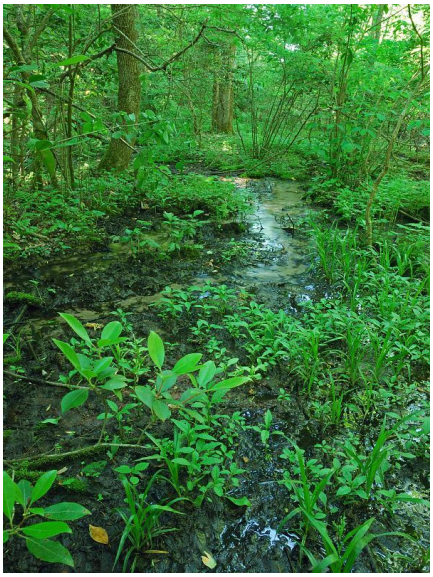
Coastal Plain Depression Swamp (Willow Oak - Red Maple - Sweetgum Type) (G3S2) on Chesterfield County-owned property.

In January 2023, DCR-Natural Heritage field biologists Jenny Stanley and Kristin Taverna submitted the final report for work focused on rare plants and natural communities at Manassas National Battlefield Park (NPS). The project involved updating information on rare plant populations and natural communities within the park, as well as resampling established vegetation plots. Data collected suggest that recent efforts to reduce white-tailed deer populations may have had a positive effect on the vegetation within the park.

Left to right: *Buchnera americana* (G5?/S1S2), *Stachys arenicola* (G5T4?/S1), *Penstemon Hirsutus* (G4/S3)

In February 2023, DCR-DNH Ecologists completed vegetative park maps for Middle Peninsula State Park and Leesylvania State Park. Natural Heritage has had a long working relationship with State Parks to map the vegetation communities in Virginia State Parks. Since 2012, Natural Heritage ecologists have inventoried and mapped the vegetation of 22 State Parks. The maps are developed using ArcGIS, and specific vegetation types are determined with on-the-ground field data collection combined with aerial photo interpretation. In addition

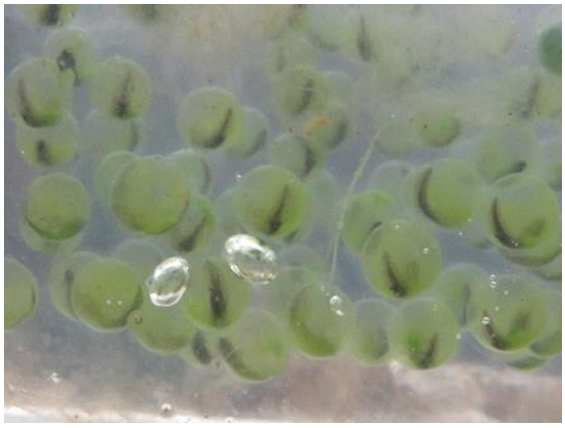
to the maps, each state park report includes vegetation descriptions, and a list of threats and specific management recommendations for each natural vegetation type in the park. Natural Heritage Ecologist Kristin Taverna completed the maps and full vegetation descriptions for Middle Peninsula State Park and Leesylvania State Park. The map for Middle Peninsula State Park identifies five significant natural heritage resources (element occurrences), including the site for two watchlist orchids, crested coralroot (*Hexalectris spicata*) and shadow witch orchid (*Ponthieva racemosa*). Both orchid species are associated with calcareous soils weathered from shell deposits. The globally and state rare Coastal Plain Calcareous Seepage Swamp (G2/S2) also occurs on the calcareous soils at Middle Peninsula. This vegetation type is known only from calcareous ravines in the James and York River drainages in James City, Surry, and York counties. The map for Leesylvania State Park identifies the rare dry oak forest community of Coastal Plain River-Bluff Xeric Oak Forest (G3/S1).



Left: Crested coralroot (*Hexalectris spicata*). This orchid is a watchlist species in Virginia and occurs in Basic Mesic Forest at Middle Peninsula State Park. Photo by Gary Fleming, August 2016.
Right: Mid-season example of Coastal Plain Calcareous Seepage Swamp at Middle Peninsula State Park. Photo by Gary Fleming, May 2010.

Natural Area Preserve Stewardship

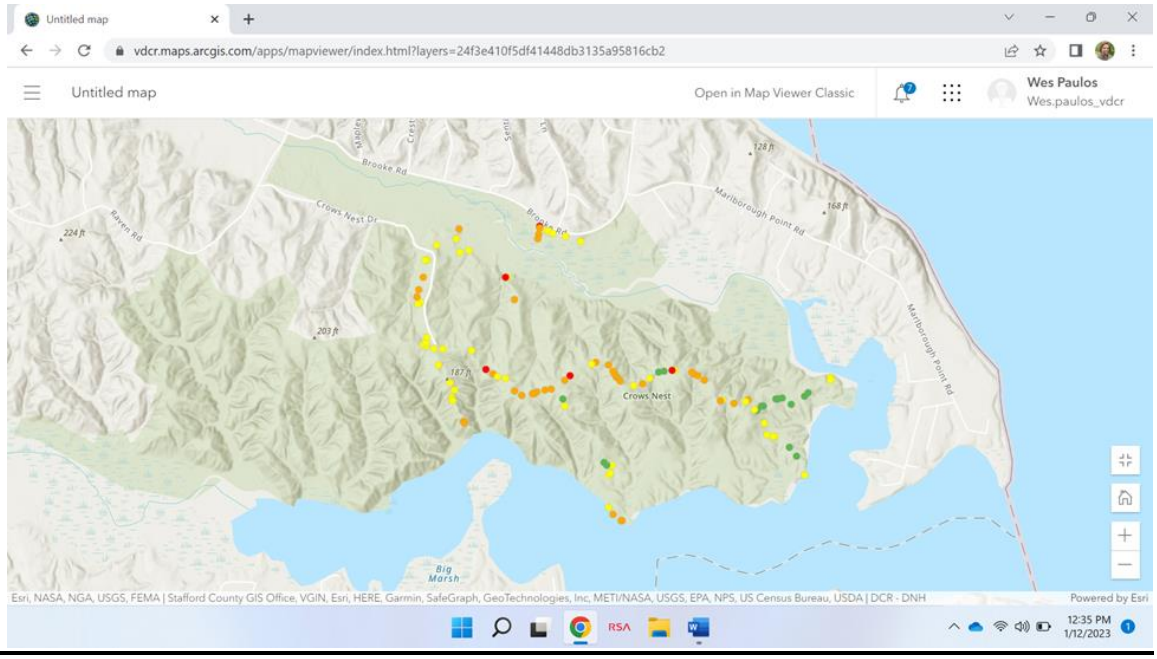
On October 21, 2022, members of the Central Rappahannock Region Chapter of the Virginia Master Naturalists (VMN) completed a report documenting their third season of monitoring amphibian populations at Crow's Nest Natural Area Preserve. VMN volunteers assisted DCR's Northern Region stewards in monitoring approximately 30 vernal pools between October 2021 and August 2022 with most located within the Accokeek Creek floodplain. Data was collected by species on egg mass numbers, larval sizes, larval abundances, presence of adults, weather conditions and presence of macroinvertebrates. Species monitored include spotted salamander (*Ambystma maculatum*), marbled salamander (*Ambystoma opacum*) and wood frog (*Lithobates sylvaticus*). 2022 was a productive year for spotted salamanders, with a total of 829 egg masses counted, as compared to 455 and 411 in 2020 and 2021, respectively. The monitoring goal is to determine long-term trends of relative species abundance to help inform preserve management decisions. VMN volunteers contributed approximately 160 hours to this monitoring effort in 2022.




Spotted Salamander larvae (left) and a Marbled Salamander guarding eggs within a vernal pool (right) at Crow's Nest Natural Area Preserve.

During November and December 2022, DCR Natural Heritage Northern Region stewardship staff conducted the first (ever) state-managed white-tailed deer hunt at Crow's Nest Natural Area Preserve in Stafford County. After staff documented negative impacts on natural vegetation at the preserve over the past few years – including to globally rare occurrences of Dry Calcareous Coastal Plain Forest – it was evident that deer management is necessary. The primary objective of the hunt was to begin a series of actions to reduce the local deer population. Over five days in November and December, hunters harvested six does and three bucks. Northern Region Stewardship staff will use this first hunt as a learning experience upon which to make improvements, in hopes that the 2023 hunt will be more successful.

On January 9-11, 2023, DCR's Natural Areas Public Access Coordinator Wes Paulos, assisted by Northern Region Operation Steward James Watling, assessed and documented conditions on just over 13 miles of trails at Crow's Nest and Hickory Hollow natural area preserves. Staff used a trail assessment survey approach that utilizes the ESRI product Survey 123. This method considers a myriad of trail features and attributes, with the surveyor assigning a condition class for specific locations along the trail. Condition classes are associated with color-coded dots placed via GPS on a preserve map. Red dots indicate an extremely poor trail condition, orange for poor, and yellow for fair. A green dot indicates that the condition has been repaired/corrected. This assessment approach enables DCR's natural area stewards to pinpoint trail problem locations and prioritize trail maintenance projects. In the last year, nearly all 57.5 miles of hiking trails located on state natural area preserves have been formally assessed.



Map of Crow's Nest Natural Area Preserve with colored dots indicating locations of surveyed trail conditions.

On February 21, 2023, Virginia Department of Transportation (VDOT) staff assisted DCR's Chesapeake Bay Region natural areas stewards by providing heavy equipment and an operator to reposition several concrete "Jersey" barriers at the terminus of Route 609 in Mathews County. This public road ends where the Chesapeake Bay meets the sandy shoreline of Bethel Beach Natural Area Preserve (BBNAP). The road itself has served as a visitor parking area since the preserve was acquired by DCR in 1991. However, as this and other secondary roads are owned by local governments in Virginia, maintenance by VDOT continues to this day. In low-lying and level Mathews County, Chesapeake Bay shorelines are rolling back – migrating – westward at an average rate of about three meters per year. When not relocated, the barriers at BBNAP are first overtopped by low sand dunes moved westward by strong easterly winds and wave action. If not moved at all, barriers would in a few years be within and under the waters of the Bay. They are essential for preventing unauthorized vehicle access onto the preserve's sandy shorelines, which provide habitat for the federal-threatened northeastern beach tiger beetle. Facilitating barrier relocation is a critical management action by BBNAP natural area stewards. The DCR-VDOT partnership has two clear benefits: 1) keeping vehicles off the sandy shorelines to protect visitor safety, and 2) protecting sensitive tiger beetle and shorebird nesting habitat.

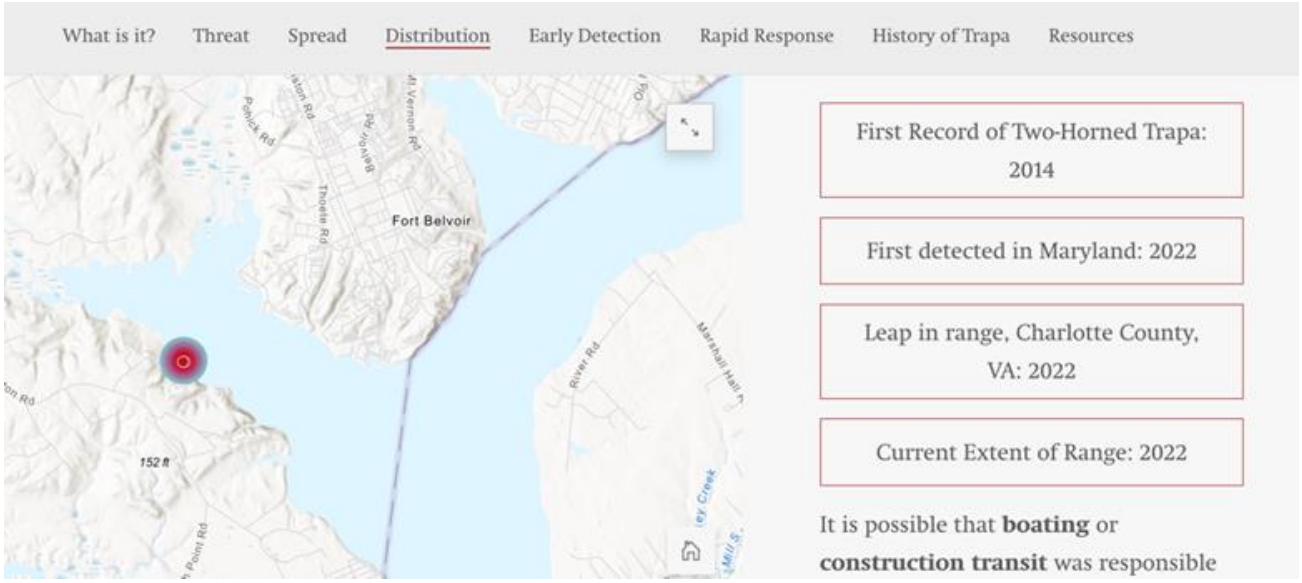
Top: Newly repositioned concrete barriers at Bethel Beach Natural Area Preserve located at the terminus of Route 609 in Mathews County. At bottom: Recent shoreline positions at Bethel Beach as determined from historic aerial imagery. The westward shoreline migration rate is about 3m/year along this reach of the Chesapeake Bay shoreline.

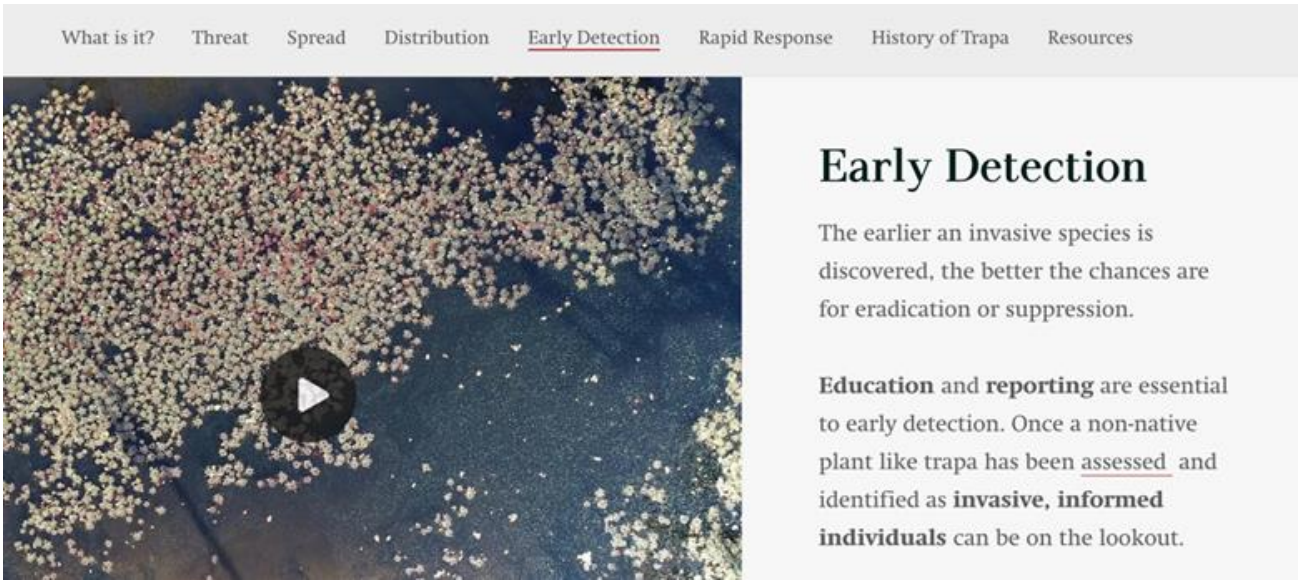
On February 27, 2023, DCR Coastal Region stewardship staff worked with the Eastern Shore Chapter of the Virginia Master Naturalists and members the Bay Creek community's volunteer stewardship committee to control invasive species and complete other stewardship tasks at Cape Charles Natural Area Preserve. This event was organized by DCR Coastal Region Steward Shannon Alexander and Bay Creek Preserve Ranger Stanley Osmolenski. DCR Coastal Stewardship Technician Jack Saladino helped coordinate the 20 volunteers who worked in three shifts throughout the day. Collectively, five trailer loads of invasive bamboo and Chinese wisteria were removed from the preserve. In addition, the preserve's boardwalk was evaluated for needed repairs, litter was picked up along the walkway, and ideas were discussed about native plant species to use in establishing a visual screen along the northern preserve boundary with CPS (Coastal Precast Systems). All-in-all, this was a highly enjoyable and productive day for DCR staff and a great team of engaged volunteers.

DCR staff and volunteers worked together at Cape Charles Natural Area Preserve to remove invasive bamboo and wisteria, plus complete other preserve stewardship tasks.

Invasive Species

On October 17, 2022, DCR Invasive Species Technician AG Sweany and Stewardship Biologist Kevin Heffernan published an online GIS-based Storymap to describe the ongoing Two-horned Trapa (*Trapa bispinosa*) invasion in northern Virginia – which has now spread to Charlotte County, VA, and Prince George County, MD. Two-horned Trapa is an aggressive aquatic invasive plant that appears to be moving between waterbodies and rapidly expanding its distribution via seed attachment to Canada Geese. Storymaps are dynamic web pages that seamlessly weave together text, photos, videos, and maps in ways that convey a large amount of information in a clean, coherent, and concise format. Storymaps also allow the user to be guidedby their own level of interest. DCR's new Two-horned Trapa Storymap can be seen here **(https://storymaps.arcgis.com/stories/05396b12d9384eb1a92f2bd66a19da64)**, will be shared with the public via social media and shared with other agencies and localities involved in the effort to stop the spread of this relatively new aquatic invader, before its significant ecological and economic harm are beyond control.





Screenshots from the Two-horned Trapa Story Map

On March 16, 2023, as part of the City of Richmond's Invasives Species Awareness month, the 13th invasive removal event was conducted at the Heritage Half Acre (HHA) located within the James River Park System (JRPS). Twenty participants from DCR (Natural Heritage, Public Communications and Marketing Office, Real Property Office, Administration) and The Nature Conservancy helped manually remove invasive species from the HHA including Japanese honeysuckle, winter creeper, English ivy, and Chinese privet. In addition, a JRPS invasive species technician assisted in stump treatment of the Chinese privet that could not be removed by hand. Several native species were observed including Solomon's seal, Lizard's tail, and American holly within the HHA, which is encouraging in the restoration of native plant diversity for this parcel surrounded by a sea of invasives. The JRPS is conserved via a DCR-held conservation easement, and this is one of several parcels in the park managed for invasives by the JRPS Invasive Species Task Force and volunteers.


Left-A bag full of hand-pulled invasive plants.
Right-Joey Thompson, Natural Heritage Ecologist, shows the reproductive structures of Chocolate vine (*Akebia quinata*), one of the many invasive species in the JRPS adjacent to the HHA.

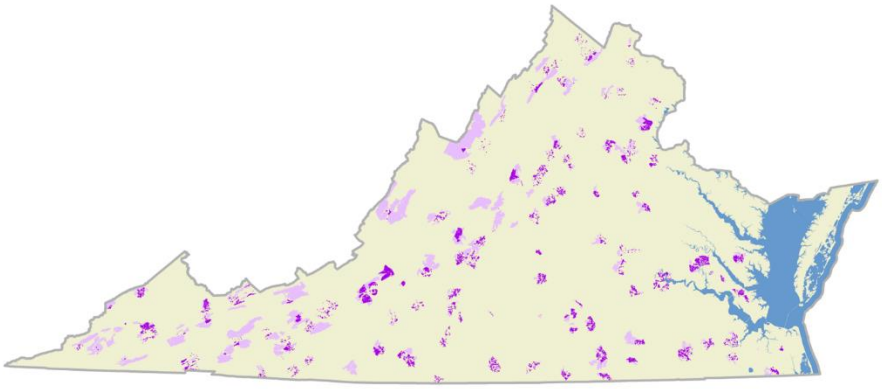
Hard working volunteers!

While all the invasive plants are far from removed, after 13 volunteer events, the HHA is stark in contrast to the surrounding invasive species-dominated vegetation along the Buttermilk Trail. As Spring arrives, this area will green up with native plants, and relatively fewer invasive plants.

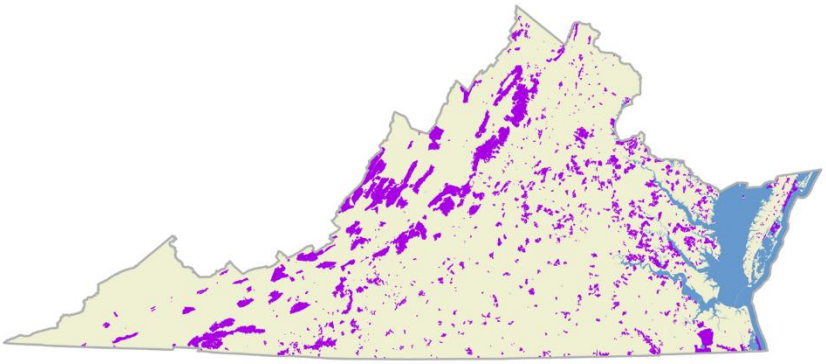
Information Management

On March 14, 2023, DCR's Chief of Biodiversity Information and Conservation Tools, Joe Weber, delivered an invited presentation on natural heritage data related to forests and waters to the Virginia Forests & Water Partnership. The talk covered Natural Heritage Conservation Sites and Stream Conservation Units, the ConservationVision Natural Landscape Assessment (VaNLA), the ConservationVision Watershed Impact Model, and the Water Quality Improvement category of ConserveVirginia. The presentation was received well by the Partnership, which includes representatives from the Virginia Department of Forestry, US Environmental Protection Agency, US Forest Service, USDA Natural Resources Conservation Service, land conservation community, drinking water utilities, Association of State Drinking Water Administrators, and Ground Water

Protection Council. DCR will continue to work with the Partnership to facilitate the targeting of lands for conservation for the mutual benefits of supporting natural heritage resources, forests, and water quality.



This image shows Ecological Cores of the VaNLA that intersect Source Water Assessment (SWA) areas for surface water intakes delineated by the Virginia Department of Health (VDH). Darker purple cores are those for which more than half of their area intersects SWA area for surface water intakes.



This image shows Ecological Cores of the VaNLA that intersect Source Water Assessment areas for ground water intakes identified by VDH.

On March 28, 2023, DCR's Chief of Biodiversity Information and Conservation Tools, Joe Weber, participated in a presentation and panel discussion 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. The presentation was attended well, and the attendees were engaged in the group discussion.

Panelists, from left to right, were Jennifer Allen (DWR), Amy Golden (VDOT), Courtney Hayes (Wild Virginia), and Joe Weber (DCR), and the session was moderated by Pat Calvert of the Virginia Conservation Network.

Outreach and Education

On October 13, 2022, DCR Pollinator Smart Team Members along with the Clifton Institute and the Virginia State University (VSU) Small Scale Farmers Program participated in a field trip to Ernst Conservation Seeds in Meadville, Pennsylvania. The purpose of the field trip was to show farmers the native seeds conditioning and processing for the commercial market as part of the Native Seed Pilot Project. Farmers visited growing fields, observed greenhouse seedling propagation, seed sorting and processing, storage, and shipping.

Native Seed Pilot Project Members visit native species growing fields

To start off the field trip, Bert Harris of the Clifton Institute provided a presentation on the NRCS grant awarded to the institute and VSU to develop methods and protocols for growing Virginia native ecotypes which are well adapted to local environmental conditions. Participants also learned about specialized equipment and seed processing at Ernst Conservation Seeds, one of the largest native seed producers on the east coast. A luncheon discussion by Monarch Vegetation Services described the high demand for native seeds through various restoration projects they were working on. The day was very successful as all farmers who participated in the field trip committed to growing native species as part of the Virginia Native Seed Pilot Project.

Virginia State University Small Scale Farmers Program and Clifton Institute staff learn about seed processing

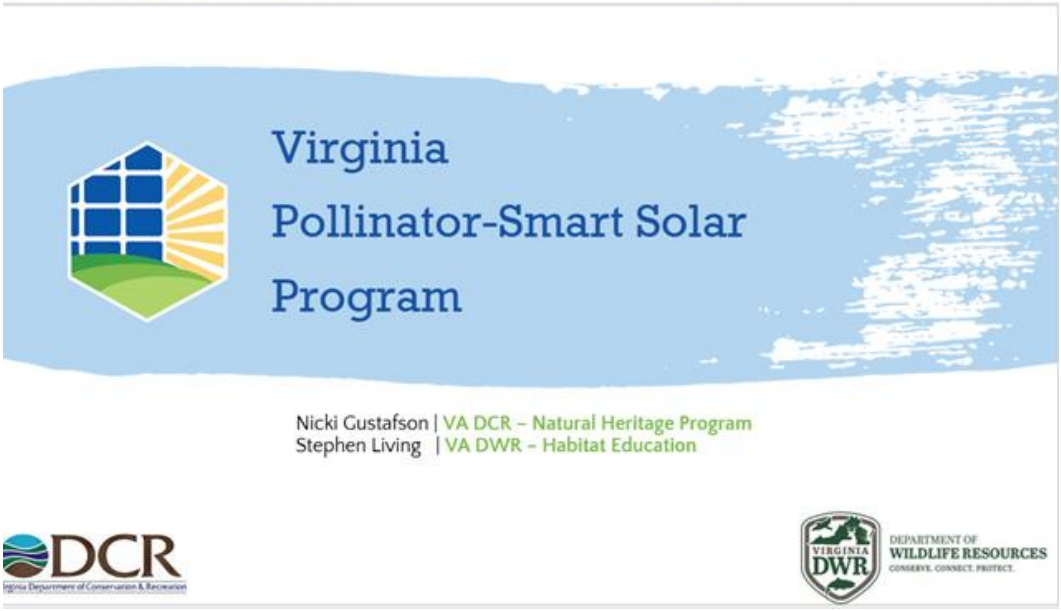
Within Virginia, there is no native seed industry with the exception of some native plant nurseries. The development of a sustainable native seed industry here in Virginia is vital to the success of the Virginia Pollinator Smart Program and would result in both environmental and economic benefits for the Commonwealth.

On October 21, 2022, Katherine Smith, a DCR-Natural Heritage Project Review Assistant attended the Virginia Clean Energy Summit 2022 held at the Greater Richmond Convention Center. This clean energy conference brought together clean energy companies and various experts in the renewable energy field. The conference highlighted opportunities and collaborations to enrich the renewable energy sector including solar, wind, electric vehicles, and other clean energy sources. Governor Youngkin gave remarks during breakfast and spoke about his desire to drive Virginia to be a leader in the clean energy sector with an “all of the above” approach including other forms of energy beyond renewables such as nuclear. There were various informative panels including discussions about converting brownfields to solar energy sites, sustainable natural gas, considerations for altering agricultural prime lands for renewable energy, and the recycling and decommissioning process for end of life of solar photovoltaic systems.

Re-Energizing Brownfields: Creative Energy (and Economic) Solutions Panel with moderator Meade Anderson from DEQ.

Electric vehicles on display for VA Clean Energy Summit 2022

On October 26, 2022, Nicki Gustafson, a DCR-Pollinator-Smart Team Member, gave a joint presentation with Steve Living from the Department of Wildlife Resources (DWR) at the Southeastern Association of Fish and Wildlife Agencies (SEAFWA) annual conference in Charleston, WV. The presentation focused on the Pollinator-Smart Program, Native Seed Pilot Project, and the benefits of native plants to wildlife. Wildlife benefits were presented by DWR, focusing on Virginia Species of Greatest Conservation Concern and the State Wildlife Action Plan. The conference was attended by state and federal wildlife agencies from across the southeast, as well as professionals from private industry including Dominion Energy. It was an excellent opportunity to engage stakeholders from wildlife conservation in this important program.



Pollinator-Smart Program Presentation at SEAFWA Conference

On October 27, 2022, DCR's Natural Heritage Northern Regional Supervisor Michael Lott assisted with a field class at Crow's Nest Natural Area Preserve and the adjacent privately-owned Crow's Nest Research Center (CNRC). Organized by New Directions in the American Landscape (NDAL), this class entitled *In the Field: An In-Person Exploration of Ecology-based Landscape Design Principles,* was primarily instructed by NDAL and CNRC representatives. After initial introductions at the CNRC, participants car-pooled to the preserve to hike the Accokeek Loop Trail while learning about the various biotic and abiotic factors that influence distribution of plant communities and associated species within Crow's Nest. DCR management actions for maintaining healthy mature coastal plain forests at Crow's Nest – such as invasive species control – were discussed. After returning to CNRC, participants learned about the Center's work to convert a recently timbered portion of the property to native grassland. In total, 32 persons participated in the class.

At left, class participants walk through a mature Chestnut Oak forest at Crow's Nest Natural Area Preserve. At right, a managed grassland at the Crow's Nest Research Center near the preserve. Photos by Jenna Webster.

On October 27, 2022, DCR Stewardship Biologist Kevin Heffernan led an invasive species class for the 2022 cohort of Eastern Shore Chapter Virginia Master Naturalist trainees. The 20 participants learned 1) how DCR defines and ranks species for inclusion in the List of Invasive Plant Species of Virginia; 2) how invasive species alter ecosystem processes and cause harm to natural resources, economic interests and human health; and 3) about current DCR projects addressing Phragmites, Wavyleaf Grass and Two-horned Trapa invasions. The class then had a tour of Mutton Hunk Fen Natural Area Preserve to learn about DCR's migratory songbird habitat restoration on the Eastern Shore. Coastal Region Steward Shannon Alexander gave an overview of this project and related ways in which invasive species can impact habitat restoration for migratory songbirds. As a bonus, the class had the opportunity to see the Natural Heritage drone in action – operated by DCR Invasive Species Technician AG Sweany – as it captured imagery of Phragmites infestations and habitat restoration progress.

Master Naturalist trainees view a recent infestation of Ravenna-grass (tall whitish grass with plumes) at Mutton Hunk Fen Natural Area Preserve. Drone photo by AG Sweany, DCR.

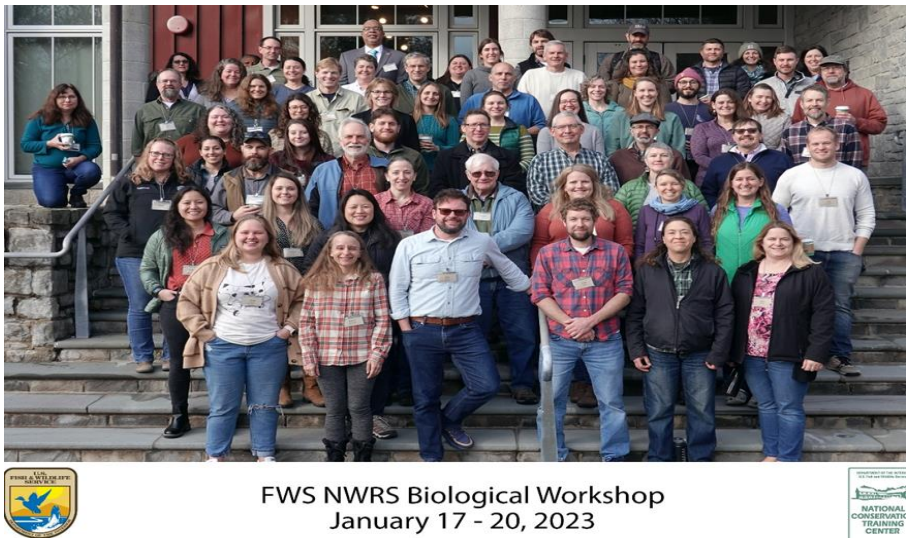
At center, a Phragmites infestation at Mutton Hunk Fen Natural Area Preserve.
Drone photo by Kevin Heffernan, DCR.

On January 17, 2023, DCR's Northern Region stewardship staff led a winter tree hike at Crow's Nest Natural Area Preserve. Participants learned about various vegetative characteristics that can be used to identify trees in winter, including terminal buds, bud scales, vascular bundle scars, acorn/nut shapes and bark patterns. While hiking the Accokeek Loop Trail, participants also learned about the different biotic and abiotic factors that influence the distribution of the plant communities and their associated tree species found within the preserve. The trip was co-organized by the Stafford County Department of Parks and Recreation and was the first outreach and education event at Crow's Nest in 2023. A total of 12 people signed up for the hike but only six showed up and endured the rainy weather to learn about the trees of Crow's Nest Natural Area Preserve.

Participants of the Crow's Nest Tree Hike braved rainy conditions on January 17.

During the period January 17-19, 2023, DCR Longleaf Pine Restoration Specialist Rebecca Wilson traveled to the National Conservation Training Center (NCTC) in Shepherdstown, West Virginia, to give an invited presentation at a U.S. Fish and Wildlife Service (FWS) Northeast Region biological workshop. Entitled *Collaboration in the Conservation Cycle*, this workshop provided training for FWS National Wildlife Refuge (NWR) biologists within the Northeast Region (Virginia to Maine). Rebecca gave the workshop's keynote presentation featuring a case study on DCR's stewardship of Chub Sandhill Natural Area Preserve, highlighting successes and lessons learned in fire management, invasive species control and biological monitoring. Rebecca

also participated in several breakout sessions, providing input on partnerships and management issues relevant to NWR managers in the Northeast Region.



Over 60 U.S. Fish and Wildlife Service staff and DCR's Rebecca Wilson participated in a workshop for Northeast Region NWR biologists in Shepardstown, WV in January 2023.

From January 28 through February 5, 2023, the Virginia Beach Winter Wildlife Festival featured workshops, library events, exhibits, field trips and more. DCR partnered with Department of Wildlife Resources (DWR) staff, who provided one boat and an operator while DCR Natural Heritage Coastal Region Stewardship staff provided a second boat and field trip leaders for a guided excursion to Wreck Island Natural Area Preserve – 7 miles off the mainland from Oyster, VA. The field trip, held on Saturday January 28, enabled 11 enthusiastic festival participants to explore Virginia's Seaside Lagoon system and barrier islands system. Various birds including Bald Eagle, Peregrine Falcon, American Oystercatcher, Dunlin and more were observed using binoculars and scopes across the tidal marsh and island habitats. Staff discussed the history and purpose of DCR's Natural Heritage Program, the uniqueness of the state's Natural Area Preserve System, and the conservation significance of the intact and undeveloped coastal barrier islands of the Eastern Shore of Virginia.

Field trip participants explored Wreck Island Natural Area Preserve as part of the Virginia Beach Winter Wildlife Festival on January 28, 2023.

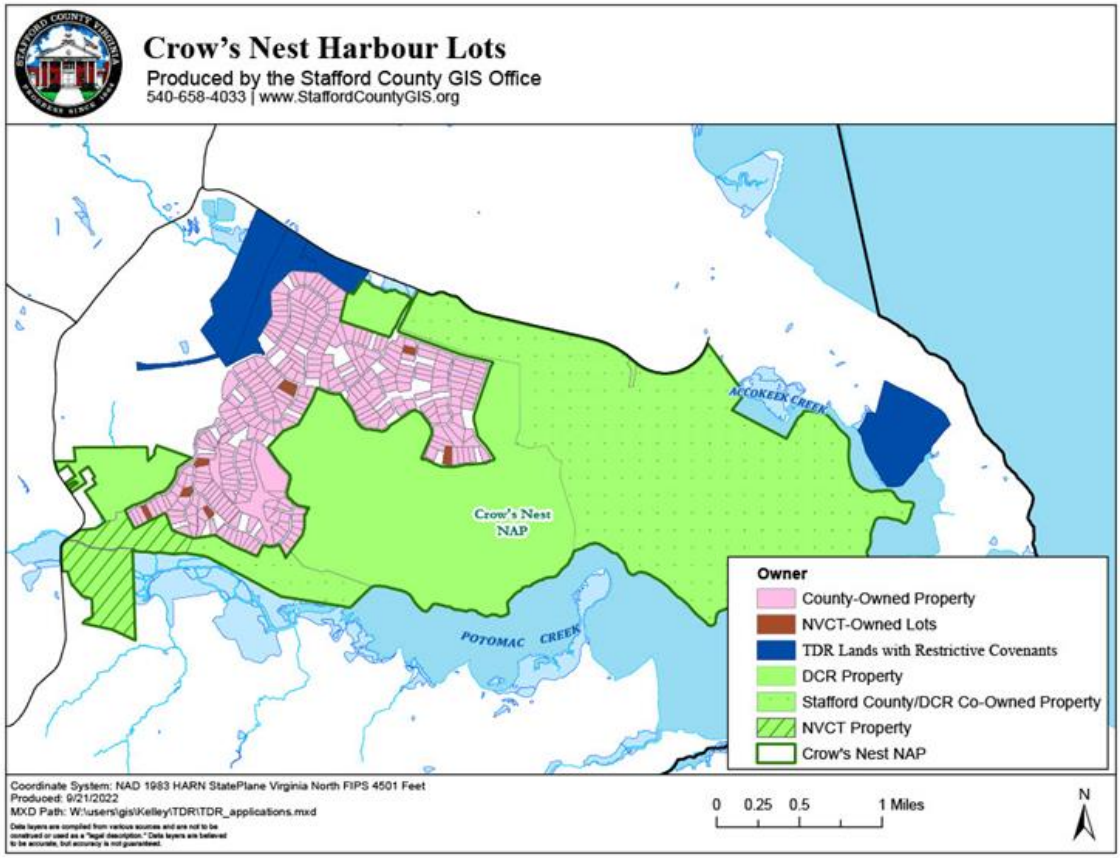
On February 24, 2023, a meeting was held at Virginia State University's (VSU) Randolph Farm in Petersburg, Virginia, to discuss the progress of the Native Seed Pilot Project funded by a multi-year Natural Resources Conservation Service's (NRCS) Conservation Innovation Grant (CIG). Issac Matlock, the Native Seed Project Coordinator of the Clifton Institute funded by the CIG, lead the discussion in updating the group on progress made during the past six months including 1) successful collection of Virginia native seed this past growing season by ecotype subcommittee members and 2) the on-going propagation of seedlings by Ernst Conservation Seeds and the Clifton Institute. These seedlings and possibly seeds will be provided to farmers this spring and fall for planting in demonstration plots for learning purposes. In addition, farmer incentives for participating in the Native Seed Pilot Project provided by The Nature Conservancy (TNC) were discussed. This funding is vital to the success of the project in covering the farmers' investments in the growing of this potential "new crop". Another field trip is planned this spring to Ernst Conservation Seeds to provide interested farmers from the Warrenton, Virginia area an opportunity to learn more about growing Virginia native species and to potentially increase the number of farmers participating in the pilot project. Also, as part of the grant deliverables, VSU will be planting demonstration plots at Randolph Farm this spring showcasing some of the collected Virginia ecotype native seed with local genetics adapted to conditions here in the Commonwealth.

These update meetings will be held on a quarterly basis to ensure all of the partners (VSU, Clifton Institute, TNC, DCR, NRCS, Ernst Conservation Seeds, the Department of Wildlife Resources (DWR) and the Capital Region Land Conservancy) involved in the pilot project are aware of the progress being made for this important effort to jump start a native seed industry in Virginia.

Fred Custis of Virginia State University and Brian van Eerden of The Nature Conservancy examine Virginia native seed collected and processed that will be planted in a demonstration plot at VSU.

Little bluestem (Schizachyrium scoparium)-Virginia Piedmont ecotype seed collected by the Clifton Institute and processed by Ernst Conservation Seeds as a part of the Native Seed Pilot Project.

On January 7, 2023, DCR's Northern Regional Supervisor Mike Lott participated in a public hearing before the Stafford County Board of Supervisors (BOS). One BOS discussion point concerned conveying an undivided interest in 855 acres owned by Stafford County in the Crow's Nest Harbour subdivision to DCR. These lots were platted in the early 1970's and are located adjacent to Crow's Nest Natural Area Preserve (CNNAP). Because of a requirement for public water and sewer to be extended to the site, the lots have never been developed. After discussion and input from the public, the BOS voted 7-0 to convey the land to DCR as an addition to CNNAP. The 855 acres will be co-owned by DCR and Stafford County, as is currently the case for a 1,700-acre portion of the preserve. The Crow's Nest Harbour lots comprise about 800 acres of mature coastal plain hardwood forest, four miles of perennial and intermittent streams and 35 acres of wetlands. Conveying the property to DCR will facilitate construction of a new parking area and trail connecting to the existing preserve trail system. These new facilities will help accommodate increased visitation levels seen at CNNAP in recent years.



Crow's Nest Harbour subdivision lots to be conveyed to DCR and added to Crow's Nest are shown in pink.

Natural Heritage Data Management Totals for FY2022:

Activity 10-1-22 – 3-31-23

New Mapped Locations (EOs) – 27
Updated Mapped Locations (EOs) - 224
New Conservation Sites – 7
Updated Conservation Sites – 110

Total Number in Database 3-31-23:

Animal Mapped Locations (EOs) – 701
Plant Mapped Locations (EOs) – 1303
Community Mapped Locations – 623
Conservation Sites – 690

Managed Areas: (Acres added 10-1-22 – 3-31-23) – 12,329.98 Acres
Mapped Tracts: (total number in coastal zone) – 5,026 Tracts
Mapped Managed Areas: (total number in coastal zone) – 3,566 Managed Areas

Healthy Waters

For the grant reporting period, the Environmental Scientist/Analyst 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-DNH).

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

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. While progress continues to be made on the refinement of the redefinition of Stream Conservation Units (SCUs) to a new polygon, Stream Conservation Catchments (SCC), the effort during the reporting period was most heavily weighted on the development of on-the-ground capacity for the HWP. Typically, EPA grants are developed and executed in a timely manner to support the continued data development and geographic expansion. These awards would have included the allocations for staff funding for field capacity however were significantly delayed due to the lack of award from EPA to Department of Environmental Quality (DEQ) for both Section 319 and Chesapeake Bay Program CBIG.

During the reporting period, discussions regarding the long-term funding for the HWP was executed through coordinated communication with DEQ, DCR-DNH and VCU to refine the need for programmatic capacity to support on-the-ground implementation of the Program. The program has benefited from the diverse funding which has supported the administration of the program, model development and data development. However, agreement from DCR-DNH and VCU is that the program has reached a point requiring it to move further and into implementation. Ongoing data development continues to be a need, but a deficiency exists in the ability to

influence the outcome of conserving those identified HW sites, including meeting the Chesapeake Bay Healthy Waters Goal.

The HWP Manager has successfully communicated the need to increase field capacity for the Program and received support from DCR management. That position would take those tools created at DCR-DNH 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 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. The 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 will likely leverage the work of the eight (8) Coastal Planning District Commissions (PDCs) to assist coastal communities, Conservation Districts, Virginia Department of Forestry, Land Trusts, Nature Conservancy and coordinate with other agencies on HWP community-based natural resource identification and protection. The DCR-DNH has been awaiting notification of award of the Chesapeake Bay Program CBIG and EPA Section 319 awards. And therefore, no progress was made on hiring a HWP Field Coordinator with only CZM funds.

The DCR-DNH HWP Manager had also met with the VCU Healthy Waters field team to refine the fieldwork and opportunities to advance conservation within the upper Tye, Piney, and Rockfish Rivers and is evaluating the focus elsewhere but has been waiting on the award of EPA and Chesapeake Bay Program funding to execute a contract. The HWP Manager continued to communicate with Department of Wildlife Resources to discuss utilizing the HWP, INSTAR data (the basis of the ecological characterization of the HWP) and tools at DCR-DNH to implement brook trout conservation measures in the upper James River watersheds.

The HWP Manager continued to serve as the VA representative on the Healthy Waters 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 October 17, 2022, December 12, 2022, and February 11, 2023.

c) DCR – Division of Planning and Recreational Resources

Multiple grant rounds and DCR-PRR funded projects are ongoing within the coastal zone; however, none have closed during the grant reporting period. In the Recreational Trails Program, the Federal Highway Administration (FHWA) funds grant round is open and includes potential maintenance projects of water trails as well. A recently authorized Land & Water Conservation Fund (LWCF) State & Local Formula (NPS Funding) grant reimbursement project in the coastal zone included the Prince William County Neabsco Regional Park Boardwalk Development project which will allow for increased natural landscape viewing and improved trails for recreation access. DCR staff are 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)

Environmental Services
DWR's Environmental Services Section (ESS) is responsible for reviewing permit applications, policy changes, land use changes, NEPA documents, land development projects, water supply or intake projects and other items to ensure avoidance of impacts upon threatened, endangered, and tiered species; designated wildlife resources; and any of the programs or resources over which we have jurisdiction or our constituents have an interest. DWR's ESS staff work closely with our conservation partners, permitting agencies and others to ensure projects located within the coastal zone are consistent with the Enforceable Policies of the Coastal Zone Program, if necessary, and/or that any permits issued for the work appropriately consider necessary wildlife and habitat protections.

Wetlands
Mitigation Banking:

DWR ESS staff continues to participate on the Inter-Agency Review Team that oversees stream and wetland mitigation banking and provide input on new banks all over Virginia, including the coastal zone.

Wetland Restoration:

VDWR continues to have an active voluntary wetland restoration program and is restoring 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, 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.

VDWR 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. These the Virginia Migratory Waterfowl Stamp funds are provided from a mandatory stamp required of waterfowl hunters and accrue annually. A request for applications to gather proposed projects for 2023 was released on February 27, 2023, and applications will be accepted through April 26, 2023.

The Chesapeake Bay Program (CBP) has recently focused much of its attention on the lagging progress towards the Wetlands Outcome stated in the Chesapeake Bay Agreement. VDWR has been identified as the state's lead agency for this initiative and lead the development of the Virginia Wetlands Action Plan which was included in the CBP Restoring the Wetlands of The Chesapeake Bay Watershed Post-Workshop Action Plan, released January 2023. An internal group including senior leadership and several key staff has formed to understand existing barriers and identify strategies to increase the rate of voluntary wetland restoration and enhancement projects implemented in the state. One of our first tasks will be to build a diverse partnership involving the many wetland practitioners in the state. This partnership will include members from state, federal, and non-governmental organizations (NGOs) to collectively work together to identify opportunities and obtain the resources needed to implement projects.

VDWR is currently involved in several wetland restoration projects within the coastal zone that have recently been completed or accepted for grant funding.

- In late October 2022, the VDWR 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, VDWR 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.

- In partnership with Ducks Unlimited, a NFWF Small Watershed Grant and Virginia Migratory Waterfowl Stamp Grant were awarded to replace several outdated water control structures, repair dike damage, and clear trees, enhancing approximately 147 acres of managed wetland at our Doe Creek Wildlife Management Area. Ducks Unlimited performed onsite survey in March of 2023 and is currently working on project design plans.

- 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 Wildlife Management Area (WMA) will undergo experimental creation and management of black rail breeding habitat. This project will create a total of 103 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 VDWR will contract with the Center for Conservation Biology to inventory and monitor one year of pre-construction avian occupancy and two years of post-construction avian occupancy. The VDWR will monitor pre- and post-construction vegetation hydrology throughout the life of the project. We plan to adhere to the adaptive management and monitoring protocols developed by the ACJV Black Rail Working Group and project partners. DWR staff are currently working through project design and permitting. 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, VDWR will test two methods of large-scale phragmites control: 1) prescribed burning and 2) the application of herbicide. Each method will be applied on a 125-acre tract of marshland directly adjacent to one another (one treatment per replicate, 250 acres total). The Saxis marshes were considered a stronghold for Black Rails in Virginia where as many as 25 calling Black Rails were detected in the early 1980s but dropped to two in the state's 2014 survey. The VDWR will contract with the Center for Conservation Biology to monitor one year of pre-treatment avian occupancy followed by two years of post-treatment monitoring. The VDWR will monitor pre- and post-treatment vegetation throughout the life of the project. We plan to adhere to the adaptive management and monitoring protocols developed by the ACJV Black Rail Working Group and project partners.

- Coastal Zone Management Act Section 306A funding was recommended for a wetland restoration effort occurring on newly acquired lands on Virginia's Eastern Shore abutting Doe Creek Wildlife Management Area. The wetland enhancement 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 design phase and DWR staff are currently working through project design and permitting.

- Also in partnership with Duck Unlimited, a NAWCA proposal has been recommended for approval for a project on 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.

Waterfowl

Atlantic Brant and Tundra Swan Winter Count and Productivity Surveys

Population size data are traditionally collected during annual midwinter survey counts. States that traditionally have wintering populations of Atlantic brant and tundra swans conduct ground or aerial counts of these species. The number of each species counted in the wintering area is used for Atlantic brant to set the brant hunting season for the following year and for tundra swans the number of permits issued to tundra swan hunt states.

Atlantic Flyway productivity surveys for Atlantic brant and tundra swans have been conducted annually since 1978. Each state or province with wintering Atlantic brant and tundra swans uses a scan sample survey to enumerate the age of Atlantic brant and determine the number of young per family group for each portion of the wintering population.

Table 1. Mid-winter inventory (MWS) counts for Atlantic brant and tundra swan in VA and in the Atlantic Flyway (AF) along with results of productivity surveys and percent change from the long term year average (%+/-).

	MWS Count	% Immature	Young / Family
Atlantic Brant (VA)	6,335	N/A	N/A
Atlantic Brant (AF)	121,475	8.6	2.4
Tundra Swan (VA)	7,836	11.0	1.6
Tundra Swan (AF)	1143,420	11.7	1.6

American Black Duck and Mallard Movement and Productivity Tracking

Over the winter VDWR Biologists have been conducting their annual post hunting season waterfowl banding operations targeting wintering American black ducks and mallards. This banding effort provides estimates of survival which are critical for harvest management of both species. In conjunction with this project, staff have been marking female black ducks and mallards with solar powered gsm transmitters that will allow VDWR biologists and other project collaborators to track the movements of these waterfowl throughout their annual life cycle. In addition to tracking migration patterns these transmitters are able to monitor very small-scale duck movements and can be used to indicate key activities throughout the annual cycle (i.e. nesting, brood rearing).

This is the second year of a four-year cooperative project with ducks being marked throughout the Atlantic Flyway from Ontario to South Carolina. In February and March of 2023 transmitters were deployed on 30 female black ducks and 21 female mallards wintering in Virginia. In addition, 24 female mallards were tagged with geolocators attached to tarsal bands that when recovered will provide data needed to compare movement and nesting patterns with ducks wearing backpack transmitters. As of March 28, 17 out of the 30 black ducks and 16 out of the 21 mallards have commenced their spring migration and moved out of Virginia to northern

breeding grounds. The map below shows spring movements of mallards marked in Virginia. More information can be found on the project website here https://atlantic-flyway-waterfowl-gps.weebly.com/

Atlantic Population Canada Goose Migration Research
During February, VDWR migratory game bird staff have been capturing Atlantic Population Canada geese as a part of a cooperative migration chronology research project. The Atlantic Population is the primary cohort of migratory geese that winters in Virginia and throughout the Chesapeake Bay watershed. Captured geese are banded and a portion of adult females are outfitted with solar powered GPS neck collars that upload location data through cell phone towers. Geese collared on the wintering grounds in Virginia and Maryland are in addition to geese that were collared on the breeding grounds of the Ungava peninsula in far northern Quebec. Other partners on this project are Maryland DNR, Pennsylvania Game Commission and the Canadian Wildlife Service. Over 30 geese collared on the Ungava breeding grounds made the long trek to winter in Virginia and an additional 23 geese have been collared at other areas in Eastern Virginia. The majority of the geese left Virginia for the finger lakes of New York in late February and are currently (4/18) staging on the St. Lawrence and Ottawa rivers between Ottawa, Ontario and Montreal, Quebec.

Submerged Aquatic Vegetation Survey in Back Bay, Virginia.
A survey to evaluate the abundance and species composition of Submerged Aquatic Vegetation (SAV) has been conducted periodically in Back Bay since the late 1950's. The survey was conducted occasionally during the 1990's, but only once (2004) from 2000 through 2008. The survey was reinitiated by the Virginia Department of Game & Inland Fisheries in 2009 and has been conducted each year since then (2009 – 2022 except 2021 due to low water conditions).

In 2022, the SAV survey was conducted in early October. Using the same methods that have been used in the past, three two-square-foot bottom samples were taken using modified oyster tongs at 500-meter intervals along eight transect lines in the Virginia portion of Back Bay. A total of 240 samples were taken. For each sample, the species of SAV was recorded along with a visual estimate of percent cover or density (low, medium, high). Water depth and GPS coordinates were recorded at each sampling location.

SAV was found in 55 of the 240 samples (22.9%). In general, SAV was more abundant in shallower water and in areas sheltered from excessive wind and wave energy. The species of SAV found were similar to those reported in previous years, but were present in slightly different percentages. Naiad and wild celery were the most common SAV species detected at 12.9% and 12.5% respectively. Other SAV species (and percent occurrence) included Nitella (9.2%), Eurasian milfoil (5.0%), wigeon grass (2.5%), sago pondweed (2.5%), redhead grass (1.3%), and coontail (1.3%). SAV abundance in 2022 is below the 2009-2015 average (34%).

Submerged Aquatic Vegetation is an important component of the Back Bay ecosystem. SAV helps improve water quality and provides an important food and habitat source for many fish and wildlife species. Waterfowl numbers in Back Bay are generally correlated with SAV abundance. In years with good SAV growth waterfowl numbers are generally high, while in poor SAV years waterfowl numbers are usually much lower. Mid-winter waterfowl counts were plotted with SAV abundance to show this relationship (Figure 1).

Aquatic Wildlife Resources
Tidal Rivers Program

- VDWR conducted active tracking of Blue Catfish and Atlantic sturgeon throughout the James and Chickahominy Rivers from October 3, 2022 to March 31, 2023.
    - VDWR conducted active tracking of Blue Catfish in the James River and tributaries on 15 days from October 3, 2022 to March 31, 2023. Unique tag identification numbers were recorded for all detections and datetime, signal decibels, coordinates, conductivity, temperature, and turbidity were recorded. These data provided information on Blue Catfish movement and aggregation

data. VDWR identified a potential Blue Catfish spawning area in Powell Creek in March 2023 as part of these efforts.
    - VDWR attempted to tag an additional cohort of 40 Blue Catfish in October 2022; however, the rapid 10°C water temperature drop caused by Hurricane Ian in September 2022 rendered low-frequency electrofishing equipment ineffective and Blue Catfish could not be collected at depth. VDWR staff were able to tag an additional 10 Blue Catfish with surgically implanted acoustic tags on October 17, 2022 using a combination of low-frequency and high-frequency boat electrofishing. The remaining 30 fish will be tagged in April or May 2023, once water temperature reach 21°C.
- VDWR conducted Yellow Perch monitoring for approximately two days via boat electrofishing in the Rappahannock River in March 2023 to assess the spawning population.
- VDWR conducted fall community sampling in the James, Chickahominy, Pamunkey, Mattaponi, Piankatank, and Rappahannock rivers via boat electrofishing from October 3 to October 21, 2022. All fish were weighed and measured; otoliths were collected from a subsample of White Perch. Otoliths will provide baseline age and growth data for White Perch across tidal waters. Below average water temperatures due to Hurricane Ian put an early stop to community sampling.
    - VDWR Fisheries staff assisted VIMS researchers in tagging Northern Snakehead and Bowfin in the Piankatank River during community sampling as part of a project investigating comparative movement patterns and home range overlap.
- VDWR conducted approximately four days of invasive species monitoring via boat electrofishing in the Chickahominy and Mattaponi rivers between October 3 and October 21, 2022. Flood conditions from Hurricane Ian prevented more extensive monitoring in these and other tidal rivers.

Back Bay and associated tributaries

- Back Bay- Fisheries community sampling by boat electrofishing during October through November of 2022 for a total of 10 days, as well as genetic sampling for hatchery-origin Largemouth Bass. Water quality for general water quality parameters on each sampling day.
- North Landing River- Fisheries community sampling by boat electrofishing during October 2022, Water quality for general water quality parameters on each sampling day.

Fish Passage Program

Stream Monitoring, Adult Anadromous Fishes

Chesapeake Tributaries: Weekly boat electrofishing for adult anadromous fish began in February (2023) on the tidal Chickahominy River below Walkers Dam (2/10), the James River in the upper tidal reach at Richmond (2/23) and on the upper tidal Rappahannock River at Fredericksburg (2/23). Once targeted anadromous species showed up sampling expanded to upstream reaches. This includes sampling below Boshers Dam on the James, in the upper reaches of Chickahominy Lake and five miles upstream of Fredericksburg on the Rappahannock. The first alosine found this year was an American Shad in the Chickahominy River on February 10 but their numbers have been very low to non-existent in most of the tidal and fall zone reaches so far this spring. Alewife and Hickory Shad were the most abundant alosines in the upper tidal James and upper tidal Rappahannock through March. Alewife numbers were typical below Walkers Dam, in periodic fishway trapping and in the upper lake through March. Blueback Herring first arrived at Walkers Dam in late March. A few American Shad and Hickory Shad made it into electrofishing samples below Walkers Dam in March. February was unseasonably warm, and several cold spells slowed down the alosine runs during March. VDWR is planning backpack and boat electrofishing for river herring on a few selected tributaries to the James downstream of Richmond as part of the effort to prioritize fish passage needs at road stream crossings. For example, Cornelius Creek will be sampled by backpack when normal spring flow returns. In 2022, Alewife were found all the way up to the tidal/non-tidal interface, which is only 0.6 miles downstream of a road stream

crossing barrier at Mill Road in Henrico County. Sampling will determine if river herring are utilizing the stream up to Mill Ro Road and attempting to get past this road crossing barrier.

Adult sampling will continue through early June. Adult monitoring is conducted to determine the extent of migration into restored habitat and to analyze inter-annual trends of abundance of the herring and shad populations. The Striped Bass population is also sampled to gain information on abundance and size class distribution.

Fishway Monitoring

Boshers Dam Fishway (James River): The vertical slot fishway went into operation for the season in early March 2023. By the end of March resident species such as Quillback and Shorthead Redhorse (both in the sucker family) were observed passing through the fishway. American Shad, although usually few in number, start to pass in April. The Shadcam Live project is a team effort with the City of Richmond (dam owner) in its second year. The live feed returned via the VDWR website during the last week of March 2023. Previously Shad Cam was provided as still images that refreshed every five seconds. At least 30 species of fish use the fishway annually. These include American Shad, Gizzard Shad, and the Sea Lamprey that are native to the James. American Eel elvers also take advantage of the fishway when migrating inland to their grow out habitat. Digital video will be reviewed post-season to generate run count estimates by species.

Walkers Dam Fishway (Chickahominy River): This double Denil fishway remains open to passage throughout the year. We installed the electronic counting equipment on February 7, 2023, to begin data collection for the 2023 anadromous spawning run. With the absence of commercial and recreational harvest numbers, this type of run count is critical to evaluating the overall health of herring populations. Through March Alewife dominated most of the alosine passage. An update on the 2022 and past year results is as follows:

- 2022: Gizzard Shad=127,430; Blueback Herring=131,715; Alewife=19,717; Other species, including a few American Shad, Bluegill, Yellow Perch, etc.=1,646.
- 2021: Gizzard Shad=79,842; Blueback Herring=65,103; Alewife=13,740; Other species, including a few American Shad, Bluegill, Yellow Perch, etc.=7,739.
- Total annual passage estimates to date:
    - 2018=487,470 (182,628 river herring)
    - 2019=250,393 (85,960 river herring)
    - 2020=255,460 (100,509 river herring)
    - 2021=166,424 (78,843 river herring)
    - 2022=280,508 (151,432 river herring)
    - Gizzard Shad average about 50% of the total count annually

Stream Monitoring, Juvenile Alosines

In 2022, juvenile alosine sampling that was started in June continued through October on the Chickahominy and Rappahannock rivers, and into early November on the James River. The Chickahominy was sampled in the tidal reach immediately downstream of Walkers Dam and in the impoundment just upstream of the dam. The James sample area was the tidal reach from Richmond down to the Osborne Landing area. The upper tidal Rappahannock was sampled in the Fredericksburg area. Fish were collected using a bow mounted push net with a 3.2 mm mesh net (round; 0.76 m diameter). A flow meter is used to determine the amount of water sampled during a push net sample. The catch per unit of effort is recorded as the number of each target species collected per $100m^3$ of water sampled. Blueback Herring was the only alosine species found in the James sampling and were present from June through early November. Alewife were found in Chickahominy Lake in July. Blueback Herring were found in Chickahominy Lake from July through October and also in river samples below the dam in September and October. No American Shad or Hickory Shad juveniles were found in the

Chickahominy during the entire sampling season. American Shad and Blueback Herring juveniles were found consistently in the tidal Rappahannock during the four nights of sampling from June through October. Alewife juveniles were found in the Rappahannock on the one night of sampling in August. No Hickory Shad were found in the Rappahannock sampling. The Boshers Dam fishway pool was not sampled in 2022 because very few American Shad were found below Boshers Dam during the spring (boat electrofishing) and thus passage and subsequent spawning upstream of the dam was anticipated to be minimal.

Fish Passage Projects

Road Stream Crossing Fish Passage: The VDWR is working with partners (U.S. Fish & Wildlife Service, Virginia Commonwealth University, and James River Association) to prioritize fish passage projects at road stream crossings in tidal James tributaries as part of the Hampton Roads Bridge Tunnel expansion mitigation effort. VDWR staff conducted crossing assessments in the fall of 2022 in both the James and Rappahannock watersheds. Several DWR Wildlife Management Area crossings and nearby crossings were also assessed. Like our partners we use the NAACC (North Atlantic Aquatic Connectivity Collaborative) protocol.

Rapidan Mill Dam Removal: The VDWR is continuing to work with The Center for Natural Capital/Rapidan Mill Institute to plan for the removal of Rapidan Mill Dam on the Rapidan River. Now that Embrey Dam is gone from the Rappahannock, Rapidan Mill Dam is the next upstream barrier to migratory fishes. It should be noted that The Center for Natural Capital changed its name to American Climate Partners during this reporting period.

Ashland Mill Dam Removal: Ashland Mill Dam is the first impediment on the South Anna River. VDWR 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. VDWR has been providing technical assistance in the effort to remove this dam. The mill property recently was sold, and efforts are being made to secure access to the dam so that a removal project may be developed.

NonGame Species Monitoring and Research

Maintenance of Alternative Seabird Nesting Habitat for the Displaced Hampton Roads Bridge –Tunnel Seabird Colony :

On February 14, 2020, Governor Northam directed the VDWR 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. For the third year in a row, the department has engaged the Virginia Tech Shorebird Program Team (VT Team) to 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. The project's focal species include royal terns, sandwich terns, common terns, gull-billed terns and laughing gulls. All but the sandwich tern are Species of Greatest Conservation Need. The gull-billed tern is a state threatened species in Virginia.

During this reporting period, the department received the 2022 final report from the VT Team. The table below present final estimates of breeding adults and number of young banded results from the 2020 - 2022 breeding seasons. The VT Team was unable to obtain breeding adults estimates for laughing gulls because they nest in the rip-rap on Ft. Wool where it is too difficult and disruptive to detect and accurately count nests or incubating adults. Overall, the number of birds nesting on Ft. Wool and the barges increased with each successive year. These increases were largely driven by royal and sandwich terns. The number of young banded decreased

slightly between 2021 and 2022 but is still well above the number banded in 2020. Approximately 112 brown pelican pairs nested on Ft. Wool for the first time in 2022. They constructed nests in the rip-rap and shrubs surrounding the snowy egret colony and on top of a few of the casements.

Final estimated number of breeding adults and number of young banded on Ft. Wool and barges, by species in 2020, 2021 and 2022.

Species	Est. # breeding adults in 2020	Est. # breeding adults in 2021	Est. # breeding adults in 2022	# young banded in 2020	# young banded in 2021	# young banded in 2022
Royal terns	10,542	11,462	13,452	2,110	3,278	3,284
Sandwich terns	236	272	434	52	77	149
Common terns	828	1,326	1,170	550	687	411
Black skimmers	142	278	264	102	149	119
Gull-billed terns	2	30	40	2	29	35
Laughing gulls	No data	No data	No data	32	58	189
Totals	**11,750**	**13,368**	**15,360**	**2,848**	**4,278**	**4,187**

In 2023, VDWR staff prepared Ft. Wool and once again leased three industrial-sized barges that, combined, will yield approximately 2.5 acres of suitable habitat. The department has also contracted with the VT Team for a fouth year of bird monitoring on Ft. Wool and the barges. During this reporting period, department staff also 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. Lastly, the VDWR has renewed its contract with USDA Wildlife Services to continue rat control and management of avian predators.

Atlantic Slope Freshwater Mussel Propagation

The Virginia Department of Wildlife Resources continues its cooperative Atlantic Slope freshwater mussel propagation facility with the U.S. Fish & Wildlife Service's Harrison Lake National Fish Hatchery (HLNFH) in Charles City, marking the 16th year of production and 17th year of operation at the Virginia Fisheries and Aquatic Wildlife Center (VFAWC). Propagation for the 2023 season began with collection of freshwater mussel broodstock in March 2023. Thus far, VDWR has collected 48 individuals of four species from five water bodies (Table 1).

The target propagation goal for the calendar year of 2023 is 163,000 juvenile mussels across eight species for future grow out and release of approximately 16K mussels. Most of the species targeted for propagation in 2023 are not listed as threatened or endangered, but are listed either as a species of greatest conservation need in Virginia's Wildlife Action Plan, species of concern by the USFWS, or are being produced as part of Natural Resource Damage Assessment and Restoration settlements. Work with federal and state endangered James Spinymussel (*Parvaspina collina*) continues for the 9th year and VDWR is again focusing efforts on the state-endangered Brook Floater and the state-threatened and federally-petitioned Green Floater.

VFAWC staff, USFWS personnel, and VDWR staff began collections for the 2023 propagation season in March of 2023 with the collection of Green Floater, *Lasmigona subviridis*, in three water bodies: the Rappahannock River, the Cacapon River (WV), and Back Creek (WV). Brook Floater, *Alasmidonta varicosa*, was also collected from the Cacapon River (WV). Triangle Floater, *Alasmidonta undulata*, broodstock were collected from Smith

Creek. Our partners with the Partnership for the Delaware Estuary collected Tidewater Mucket, *Atlanticoncha ochracea*, from the Delaware River (DE) for propagation and future release in the Delaware River. All broodstock collections occurred in Virginia unless otherwise stated.

VDWR has already carried out six separate larval infestations using three mussel species (Brook Floater, Tidewater Mucket, Triangle Floater) on two fishes [Brook Trout (Brook Floater and Triangle Floater), White Perch (Alewife Floater)]. We are currently monitoring 25 Green Floater for the spontaneous release of metamorphosed juveniles from the above water bodies.

VDWR is currently holding considerable numbers of mussels among twelve species that were propagated in previous years, including: approximately 3,500 Brook Floater, more than 8,000 Yellow Lampmussel, more than 48,000 Plain Pocketbook, approximately 3,000 Northern Lance, and approximately 6,700 Eastern Lampmussel. In October of 2022, we released 4,372 mussels of four species, including 903 Green Floater (Table 2). VDWR also delivered 15,405 mussels of four species to partnering organizations within this reporting period.

Table 1. Planned and completed broodstock collections for the 2023 propagation season.

Species	Waterbody	Number Collected	Collection Date	Propagation Goal
Alasmidonta undulata	Smith Creek	4	3/27/2023	5,000
Alasmidonta varicosa	Cacapon River	15	3/21/2023	15,000
Atlanticoncha ochracea	Delaware River	4	3/22/2023	-
Elliptio complanata[1]	Broad Run, Bull Run, Cacapon, Potomac, Licking Run	-	-	60,000
Elliptio fisheriana[1,2]	Licking Run	-	-	6000
Lampsilis cardium	Potomac	-	-	50,000
Lasmigona subviridis	Rappahannock River, Back Creek, Cacapon River	25	3/17 - 3/23/23	12,000
Parvaspina collina	Mill Creek	-	-	10,000
Sagittunio nasutus	Delaware R.	-	-	-
Strophitus undulata	Smith Creek	0	N/A	5,000

[1]Propagation either partially or completely using *in vitro* methods

[2]Limited propagation for research on improved methods

Table 2. VFAWC freshwater mussel releases October 2022 through April 2023.

Species	Date	Number Released	Broodstock Stream	Release Stream	Mean Length (mm)	Year Class
Alasmidonta varicosa	10/14/2022	71	Cacapon River	South River	>25	2021
Elliptio complanata	10/14/2022	389	Potomac R.	South River	>25	2021
Lasmigona subviridis	10/14/2022	574	Back Creek	South River	>25	2019, 2020, 2021
	10/20/2022	210	Back Creek	South River	33.1	2020
	10/26/2022	68	Rappahannock R.	Rappahannock R.	31.4	2021
	11/10/2022	51	Back Creek	Back Creek	34.2	2020
Utterbackiana implicata	10/7/2022	1411	Rappahannock R.	Wards Creek	52.5	2021
	10/7/2022	608	Rappahannock R.	Flowerdew Hundred Creek	70.0	2019, 2021
	10/26/2022	990	Rappahannock R.	Rappahannock R.	53.1	2021

SECTION B.3 FEDERAL CONSISTENCY

During the period of October 1, 2022 and March 31, 2023, the Office of Environmental Impact Review/Federal Consistency (OEIR) reviewed 44 development projects for consistency with the Virginia Coastal Zone Management Program (VCP). This represents 52% of the total amount of projects reviewed (84) during this period. Major state projects accounted for 18 projects, 10 were State Corporation Commission reviews, 12 were National Environmental Policy Act (NEPA) documents without a federal consistency component, 43 were federal actions, and 34 were federally funded projects to state or local governments. The 44 federal actions included 17 federal agency activities, 27 federal licenses and approvals, and 0 outer continental shelf projects. The 17 federal agency activities included 6 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. 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.

Table 1 depicts federal projects in Tidewater Virginia reviewed from 10/1/21 to 3/31/22.

TYPE OF FEDERAL PROJECTS REVIEWED*	NUMBER OF PROJECTS COMPLETED	REVIEW PERIOD
*Direct Federal Actions	17	30-60 Days
** Federal Activities (approvals & permits)	27	90 Days
***Federally Funded Projects	20	30 Days
Outer Continental Shelf	0	45-60 Days
TOTAL	**64**	**30-90 DAYS**

*Includes 6 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.

FEDERAL PROJECTS REVIEWED FOR CONSISTENCY WITH THE CZMP from 10/1/21 to 3/31/22

I. Federal Agency Projects

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

Ocean View Dune Restoration Project (Willoughby Spit and Vicinity Hurricane and Storm Damage Reduction Project Section 408 Determination) - The U.S. Army Corps of Engineers (Corps) is reviewing the proposed Ocean View Dune Restoration Project, which is located within the limits of the Willoughby Spit and Vicinity Hurricane and Storm Damage Reduction Project, under the Section 408 Review Program. The purpose of a Section 408 review is to ensure that the Congressionally-authorized benefits of a Corps project are not undermined by an alteration made by others, and to ensure the alteration is not injurious to the public interest (e.g., flood risk management, coastal storm damage reduction, navigation). In order to ensure that Corps Civil Works projects continue to provide benefits to the public, Congress mandated that any use or alteration of a Civil Works project by another party be subject to the approval of the Corps. The applicant, Sea Mist LLC, proposes to conduct a dune restoration project at 1086 West Ocean View Avenue and within a portion of the limits of the federally authorized Willoughby Spit and Vicinity Coastal Storm Damage Reduction Project in Norfolk, Virginia. The project includes the placement of 18,200-square feet of sand fill and associated dune vegetation plantings on the restored seaward most dune located onsite. There are no activities occurring channel ward of mean low water. The dune restoration project is associated with the construction of three single family homes at the project site, and grading activities of the existing, landward dune will occur as part of the project as shown in the project drawings. The lot has been vacant since 2003 when the building onsite was demolished.

National Ocean Service Mapping and Surveying Activities Undertaken in the Virginia Coastal Zone, 2023-2027 The National Oceanic and Atmospheric Administration's (NOAA) National Ocean Service (NOS) proposes to conduct mapping and surveying activities in the coastal waters of Virginia during the 2023-2027 timeframe. NOS proposes to continue data collection projects in the U.S. territorial sea, the contiguous zone, the U.S. Exclusive Economic Zone (U.S. EEZ), U.S. rivers, and states' offshore waters, and some supporting activities in coastal and riparian lands such as the installation of tide gauges. NOS projects would include surveys performed from crewed vessels and remotely operated or autonomous vehicles, operated by NOS field crews, other NOAA personnel on behalf of NOS, contractors, grantees, or permit/authorization holders. NOS may use echo sounders and other active acoustic equipment and employ other equipment, including bottom samplers and conductivity, temperature, and depth instruments to collect the needed data. A project could also involve supporting activities, such as the use of divers and the installation of tide buoys. The only terrestrial activities projects would be the installation, maintenance, and removal of tide gauges and GPS reference stations.

Fort Norfolk Pier Rehabilitation - The U.S. Army Corps of Engineers (Corps) is proposing to rehabilitate the existing pier at Fort Norfolk in the City of Norfolk. The primary goal of the project is to modify the existing pier to allow for the safe mooring of three 65-foot vessels at Fort Norfolk and protect the mooring location from wave action and severe storm events. Construction on the north side of the pier would include a floating mooring system to allow for minimal adjustments of mooring lines during tidal fluctuations. A main floating dock with two finger floating docks (three slips) would be installed. The existing pier would be modified for new utilities as well as raised to accommodate rising tide levels and a new gangway would be added. Additionally, on the south side of the pier, a new boatlift for a Boston whaler vessel is proposed. All construction activities would occur over or in the Elizabeth River. The Corps does not propose upland land disturbing activities as a part of this project.

Amendment 23 to the Mackerel, Squid, and Butterfish Fishery Management Plan - The National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (Fisheries) proposes to implement Amendment 23 to the Mackerel, Squid, and Butterfish Fishery Management Plan (FMP). The management measures implemented under this FMP are intended to conserve fish resources that occur in Virginia state waters by managing catch and preventing overfishing, thereby promoting sustainable utilization. NOAA Fisheries intend to publish a rule proposing regulations to implement Amendment 23 in the Federal Register in fall 2022. If approved, Amendment 23 would revise the Atlantic mackerel rebuilding plan and set the 2023 Atlantic mackerel specifications including a commercial quota, recreational possession limit, modified closure approach, and a river herring and shad catch cap. The proposed activity is subject to review for consistency with the enforceable policies of the Virginia Coastal Zone Management Program.

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).

Twin River Apartments - The U.S. Department of Housing and Urban Development (HUD) proposes to provide Multifamily Accelerated Program (MAP) Section 221(d)(4) mortgage insurance to Berkadia Commercial Mortgage, LLC (applicant) to support the construction of the proposed Twin River Apartments multifamily development. The project site is located on an approximately 0.18-acre property bounded by Meadowville Road to the north and Meadowville Technology Parkway to the west in Chester, Virginia. The property currently consists of vacant, cleared land. The proposed development includes the new construction of one four-story building with 201 residential units. Additional site improvements will include two garage buildings, additional private access drives, paved surface parking areas, and community landscaping. The main access points of ingress and egress will be located off of Meadowville Road on the north side of the development and off Meadowville Technology Parkway on the west side of the development.

Braywood Manor Apartments - The U.S. Department of Housing and Urban Development (HUD) is reviewing an application under the HUD Section 8 Tenant-Based Assistance Housing Choice Voucher Program, Housing Assistance Payment (HAP), involving interior and exterior renovations to the Braywood Manor Apartments by Standard Communities (applicant) in the City of Norfolk, Virginia. The Section 8 Program was provides rental subsidies for eligible tenant families (including single persons) residing in newly constructed, rehabilitated and existing rental and cooperative apartment projects. The property consists of a six-story, 238-unit apartment building, constructed in 1979 on a 6.23-acre irregularly-shaped parcel of land located at 7000 Auburn Avenue. Project activities primarily involve interior renovations to existing apartments and common areas. Exterior renovations are confined to existing structures with no new construction or land-disturbing activities proposed.

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):

Haven Beach Renourishment Project - Mathews County (applicant) is applying for an individual permit from the U.S. Army Corps of Engineers (Corps) pursuant to Sections 401 and 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act for permanent impacts to wetlands and subaqueous lands associated with the proposed Haven Beach Renourishment Project. The project will place material dredged from Hole in the Wall channel as a beneficial use on Haven Beach in Mathews County, Virginia. An estimated 40,000 cubic yards of material will be hydraulically placed on the beach from Hole in the Wall shallow draft dredge channel approximately 2.5 miles north. Dredge material will be placed on about 2,400 feet of public beach at varying widths. North of the large existing breakwater (BW 1), a 60-foot wide terrace will be constructed to an elevation of +8 ft mean low water (MLW). It will have a 1:10 (V:H) slope to +4 ft MLW. A 10 ft terrace will be constructed, and then the sand will be placed on a 1:10 slope to the existing bottom. South of BW 1, the dredge material has a 50 ft wide terrace at +8 ft MLW on a 1:10 slope to +4 ft MLW, a 10 ft terrace, and 1:10 slope to the existing bottom. Toward the southern boundary the upper terrace will become narrower, only 25-30 ft wide. Because of the southward littoral drift, it is anticipated that the sand placed on the northern side will migrate south along Haven Beach. The applicant certifies that the project is consistent with the enforceable policies of the Virginia Coastal Zone Management Program.

Kalahari Resort and Conventions - Kalahari VA, LLC (the applicant) is proposing to construct a resort and convention center in Spotsylvania County. The proposed project includes an indoor and outdoor waterpark resort, family entertainment center, hotel, and convention center with associated utilities, stormwater management facilities, and parking on a 140-acre parcel. The applicant is proposing to develop approximately 98 acres. Most of the proposed project site is being farmed. The property also includes open water farm ponds and areas with trees. Wetlands and streams are proposed to be impacted. The project qualifies for an individual permit from the U.S. Army Corps of Engineers. Therefore, the applicant submitted a federal consistency certification to DEQ for review.

Chickahominy Falls Section X - CFalls, LLC (applicant) is applying for an individual permit from the U.S. Army Corps of Engineers (Corps) pursuant to Sections 401 and 404 of the Clean Water Act for impacts associated from the proposed Chickahominy Falls Section X project in Hanover County. The proposed project consists of the development of Section X of the Chickahominy Falls Development, on an approximate 9.24-acre site, located approximately 2.5 miles northeast of Glen Allen and directly southwest of the intersection of Cedar Lane and Holly Hill Road in Hanover County. The Chickahominy Falls Development is a 55+ low-maintenance residential community. The proposed project consists of the construction of 16 single-family homes and appurtenant yards, driveways, roads, sidewalks, utilities, and stormwater management facilities. Development of the project site will consist of the demolition and removal of an existing house, garage, and gravel driveway on the project site, construction of a temporary sediment basin for use during construction, clearing and grading for construction of the residential lots, roads, and stormwater management facilities/conveyances and

installation of appurtenant utilities and storm sewers. Sewer and water utilities for this project will be placed underground and will tie into existing utilities, including the off-site sanitary sewer located south of the project site. The proposed sanitary sewer tie-in will be installed using an open trench method. The Section X project site is contiguous with the previously developed Section V of the Chickahominy Falls Development. Earlier sections of the development were previously reviewed for federal consistency. The applicant certifies that the project is consistent with the enforceable policies of the Virginia Coastal Zone Management Program.

Electrical Line Distribution System at Norfolk International Airport - The Federal Aviation Administration (FAA) proposes to replace the existing power cables throughout Norfolk International Airport (ORF) in the City of Norfolk. The Electrical Line Distribution System (ELD) is a series of electrical lines that supply energy to airfield lighting and navigation systems. This will include the demolition of the existing circuits and the construction of additional power cables. The demolition of the existing circuits will involve:

- removal and proper disposal of several transformers;
- demolition of the pads, enclosures, and supporting structures surrounding the transformers; and
- abandonment and burying of low- and medium-voltage power cables.

The construction of the new circuits will involve the installation of a series of new ductbanks, transformers, equipment racks, protective steel bollards, manholes, and pullboxes. The burying of cables will involve both trenching and directional boring to avoid obstacles within the path of the laid wire. The action will take place entirely within the boundaries of Norfolk International Airport.

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:

HVAC & Heater Repair at 2014 Chestnut Ave - The Newport News Redevelopment and Housing Authority (NNRHA) proposes to use Community Development Block Grant (CDBG) funding from the U.S. Department of Housing and Urban Development (HUD) for repairs at 2014 Chestnut Avenue. Proposed project involves removing and replacing the 20-year old two-ton HVAC gas pack as well as removing and replacing the 20-year old electric water heater.

Bath & Electrical Repair at 236 Pine Ave - The City of Newport News expects to receive Community Development Block Grant funding from the U.S. Department of Housing and Urban Development for repairs at 236 Pine Avenue in the City of Newport News. The proposed project is to remove the existing tub/shower unit and replace it with a 4" curb shower unit. Proposed project also involves removing and replacing the 150 AMP electric service panel and replace five (5) outlets; two (2) ceiling fans; and one smoke detector.

Fay Towers Renovation - The Richmond Redevelopment Housing Authority (RRHA) and the City of Richmond, proposes spending funds from various sources, including HUD CDBG, HOME, ARPA, Low Income Housing Tax Credits, and Historical Tax Credits on the rehabilitation of Fay Tower. Fay Towers was constructed circa 1969 and consists of an 11-story, 16,000-square foot apartment building with 200 apartment units operated by RRHA.

SECTION B.4 PROGRAM CHANGES

In early March 2022, A draft Geographic Location Description (GLD) was sent to NOAA for review and consideration. NOAA expressed concerns that this large GLD extended too far north and too far out. Thus, no further actions have been taken on this GLD during this reporting period (Oct 1, 2022 – Apr 30, 2023). OEIR has been reviewing the approved listed activities of other states in preparation to resubmit Virginia's listed activities, however, since the listed activities and GLD effects justification are so tied and NOAA stated that they are very backed up with GLD approvals, no additional actions have been taken.