October 30, 2024

Virginia Coastal Zone Management Program
Semiannual Section B.2-4 Report
For the Period from April 1, 2024 – September 30, 2024

SECTION B.2 PERMIT ADMINISTRATION, MONITORING AND ENFORCEMENT

1) DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ)

a) DEQ – Virginia Coastal Zone Management Program

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

b) DEQ – Water Permitting Programs

DEQ- Virginia Water Protection Permit (VWPP) Program

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

During the reporting period of April 1 to September 30, 2024, the VWP Permit Program issued 51 general permit coverages and eight individual permits; processed 36 Notices of Planned Change on general permit coverages; and processed 17 individual permit modifications in Virginia's coastal counties.

The average time to process a general permit coverage was 25 days, and the average time to process an individual permit was 92 days.

Approximately 107 acres of non-tidal wetland impacts and zero tidal impacts occurred during the reporting period. During this reporting period, approximately 343 wetland credits were purchased at compensatory mitigation banks or through in-lieu fee programs, and approximately 707 acres of nontidal preservation was received as compensatory mitigation.

During the reporting period, three compliance actions[2] on individual permits and 25 compliance actions on general permit coverages were taken. Compliance actions for six of the general permit coverages are still active at the time of this report. Additionally, seven compliance actions were taken on activities not associated with a VWP individual permit or general permit coverage, and six of these are still active at the time of this report. During this period, 157 compliance inspections took place.

The VWP Permit Program continues to coordinate permitting actions with the Virginia Marine Resources Commission. DEQ's VWP Permit Program did not receive comments or concerns during the reporting period about expediting decision-making for the management of coastal resources. DEQ tracks various steps in permitting processes through the Permit Enhancement and Evaluation Platform (PEEP) tool available on DEQ's web site. One goal of this 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), Notice of Violation (NOV), or Request for Corrective Action (RCA).

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

During the period between April 1, 2024 – September 30, 2024, five VPA – Individual Permit (IP) permit applications were received. One application was for the reissuance of a permit for a facility to land apply municipal wastewater. One application was for the reissuance of a permit for a facility that land applies industrial wastewater. One application was for the modification of a permit for the land application of biosolids. Two applications were for the reissuance of permits for facilities that land applies biosolids. The permit action was completed for one application received during a previous period. The application was for the reissuance of permits for the land application of biosolids.

During the period between April 1, 2024 – September 30, 2024, one application was received for a VPA – General Permit (GP). The permit action during this period was for a coverage under the VPA General Permit for Poultry Waste Management (PWM) and completed during this period. The one application was seeking to change the operation.

DEQ – Virginia Pollution Discharge Elimination System (VPDES) Water Permitting Program
There is a total of 263 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:

- 47 vehicle wash
- 111 concrete products
- 8 cooling water
- 345 domestic sewage ≤ 1,000 GPD
- 53 nonmetallic mineral mining
- 31 petroleum
- 16 potable water treatment
- 42 seafood processors
- 506 industrial stormwater.

These represent typical numbers for permit registrants in CZM areas in Virginia. There are also 63 registrants under the MS4 general permit. There are a number of general permit coverages that are automatically covered under a permit (e.g., pesticide applications and hydrostatic testing) and are not entered into the CEDS database. There are also 60 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	29	528	0	NA	0	NA	29***	NA
VPA	0	NA	1	742	0	NA	0	NA	10	377
VPA GP	0	NA	0	NA	1	15	0	NA	0	NA

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

* Information from CEDS (Comprehensive Environmental Data System) database

** Major modifications

*** This represents existing VPDES individual permits expired but pending through September 30, 2024.

c) DEQ – Water Program Enforcement and Compliance

DEQ continues to apply both informal and formal enforcement measures in the enforcement program. Reference the graphics on the next page.

Informal measures, such as Warning Letters, are used in those cases where non-compliance is not significant in nature and where compliance can be achieved in a short period of time. For the period April 1, 2024 through September 30, 2024, DEQ issued 20 Warning Letters for violations of VPDES, VPA, VWPP, and Ground Water program requirements.

Formal enforcement actions are used in those cases where non-compliance is more serious or may take a significant amount of time to correct. Formal measures generally involve the issuance of a Notice of Violation followed by a Consent Order, or an Executive Compliance Agreement in the case of a state agency. In some cases, Unilateral Administrative Orders or court orders may be sought. Between April 1, 2024 and September 30, 2024, DEQ issued 18 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 22 Consent Orders that assessed a total of $153,110.51 in civil charges.

The three regions in the Coastal Zone Management area that are included in the Water Program's formal and informal enforcement measures graphics are the Tidewater, Piedmont, and Northern Regions.

Water Program Enforcement - Warning Letters and Notice of Violations in the Coastal Zone Management Area

FILTERS:

Date Sent
04/01/2024 to 09/30/2024

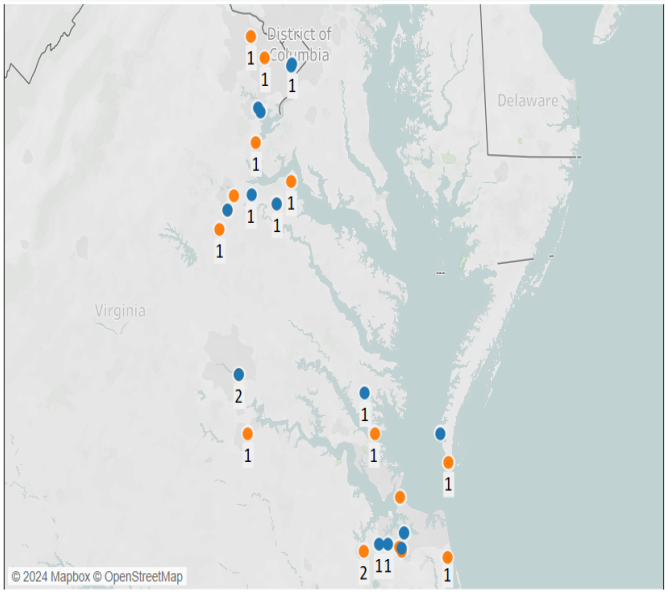
Region Office Name
Multiple values

Permit Type
Multiple values

Number of Warning Letters and NOVs per Region in the Coastal Zone Management Area

	Grand Total	Northern	Piedmont	Tidewater
Grand Total	38	17	7	14
NOV	18	9	3	6
WL	20	8	4	8

Warning Letters and Notice of Violation in the Coastal Zone Management Area



Water Program Enforcement - Consent Orders and Civil Charges in the Coastal Zone Management Area

FILTERS:

Executed Date
04/01/2024 to 09/30/2024

Region Office Name
Multiple values

Total Number of Consent Orders in the Coastal Zone Management Area

Enforcement Action Type	
Grand Total	22
Consent Order	21
IFF/1186 Order	1

Total Civil Charges in the Coastal Zone Management Area

Enforcement Action Type	Executed Date	Enforcement Action Nu..	
Grand Total			$153,110.51
Consent Order	04/16/2024	PR23-0809	$3,307.50
	05/01/2024	PR24-0110	$13,890.80
	05/14/2024	PR23-1220	$11,576.25
	05/23/2024	PR23-1109	$9,942.67
	06/04/2024	NR22-0622	
	06/06/2024	PR23-1214	
	07/12/2024	NR24-0109	$10,059.50
	08/01/2024	PR23-0804	$4,627.00
		PR23-0805	$8,367.62
	08/05/2024	PR24-0101	$41,766.90
	08/21/2024	PR23-0604	$6,739.00
		PR23-0719	
	08/27/2024	TR24-0102	$3,762.00
	09/16/2024	NR23-1010	$12,733.88
	09/19/2024	PR24-0311	$11,032.00
	09/20/2024	PR24-0702	$1,603.00
		PR24-0709	$3,307.50

d) DEQ – Air Permitting Program

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

Period: April 1, 2024 – September 30, 2024

PERMIT TYPE	NUMBER OF PERMITS ISSUED	AVERAGE PROCESSING TIME (Days)
PSD & NA	0	NA
Major	0	NA
**Minor	77	25
Administrative Amendment	4	28
Exemptions	2	15
State Operating	0	NA
Federal Operating (Title V) Initial Issuance	3	309
Federal Operating (Title V) Renewal	18	460
Acid Rain (Title IV)	0	NA
Total Number Permits Issued	**104**	

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

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

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

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

Permits pending as of September 30, 2024

PERMIT TYPE	NUMBER OF PERMITS PENDING
PSD & NA	2
Major	1
Minor	73
Administrative Amendment	2
Exemptions	4
State Operating	4
Federal Operating (Title V) Initial Issuance	12
Federal Operating (Title V) Renewal	45
Acid Rain (Title IV)	0
Total Permits Pending	**143**

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: April 1, 2024 – September 30, 2024

PERMIT TYPE	NUMBER OF PERMITS WITHDRAWN	NUMBER OF APPLICATIONS DENIED
PSD	0	0
Major	0	0
Minor	2	0
Administrative Amendment	0	0
Exemptions	1	0
State Operating	0	0
Federal Operating (Title V)	2	0
Acid Rain (Title IV)	0	0
Total Permits Rescinded	**5**	**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 graphic on the following page.

Informal measures include Requests for Corrective Action and Warning Letters. These actions are used in those cases where non-compliance is not significant in nature and where compliance can be achieved in a short period of time. During the six-month period beginning April 1, 2024 through September 30, 2024, DEQ issued 0 Requests for Corrective Action, and 0 Warning Letters.

Formal enforcement measures are used in those cases where non-compliance is more serious or may take a significant amount of time to correct. Formal measures generally involve the issuance of a Notice of Violation and negotiation of a Consent Order, or an Executive Compliance Agreement in the case of a state agency. In some cases, Unilateral Orders or court orders may be pursued. Between April 1, 2024 and September 30, 2024, DEQ initiated 6 new formal enforcement actions via issuance of Notices of Violation and issued 0 Consent Orders; assessing $77,980.30 in civil charges.

The three regions in the Coastal Zone Management area that are included in the Air Program's formal and informal enforcement measures graphics are the Tidewater, Piedmont, and Northern Regions.

Air Program Enforcement - Actions and Civil Charges in the Coastal Zone Management Area

FILTERS:

Date Executed
4/1/2024 to 9/30/2024

Region Office Name
Multiple values

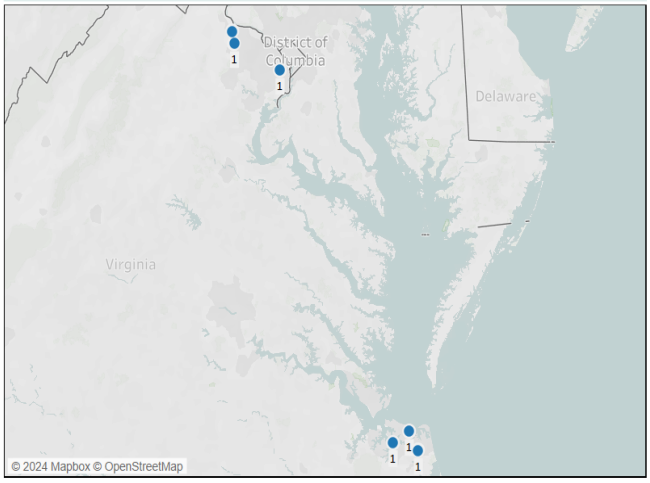
Air Coastal Zone - Formal and Informal Enforcement Actions in the Coastal Zone Management Area

Consent Order	
Notice of Violation	6
Request for Corrective Action	
Warning Letter	
Grand Total	6

Air Coastal Zone Civil Charges in the Coastal Zone Management Area

Executed	Id	NOV Number	
Grand Total			$77,980.30
6/21/2024	300000009360	ATRO002860	$9,921.00
	300000009361	ATRO002861	$4,960.50
7/8/2024	300000009351	ANRO002831	$6,942.00
7/15/2024	300000009338	ANRO002813	$16,871.00
9/6/2024	300000009313	ATRO002756	$8,000.00
9/16/2024	300000009302	ANRO002735	$31,285.80

Notice of Violations in the Coastal Zone Management Area



Action Type
Consent Order

f) DEQ – Erosion and Sediment Control

Summary of Specific Outputs:

Specific Outputs	Progress / Status
6 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.
103 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.
31 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.
31 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.
3 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.
6 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.
180 Total CZM Land Disturbing Activities Permitted thru coverage under the Construction General Permit.	Coastal Zone Management resources are conserved and restored through permit compliance.

Supplemental Narrative:

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

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

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

Technical Assistance & Training
During the reporting period April 1, 2024– September 30, 2024 staff continued to provide technical assistance and training to Bay Act localities. For this period, three outreach events were conducted, and 86 instances of technical assistance or outreach, 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, 62 environmental impact reviews were conducted.

Compliance Reviews
During the reporting period, one Condition Reviews was ongoing. Since the Compliance Review process was reinitiated in 2015 (after having been suspended for a period of three years to allow LGAP staff to work on local stormwater program development, and then again for one year for LGAP staff to work on the Phase III WIP), 84 reviews have been initiated or completed and 78 localities have been found compliant. Additionally, the next round of compliance were initiated and 10 localities reviews have begun. During these reviews, staff assess how well local governments are ensuring that impervious cover and land disturbance are minimized, and indigenous vegetation is preserved on approved development projects and if other Chesapeake Bay Preservation Act general performance criteria are being applied to the use and development of land.

2) VIRGINIA MARINE RESOURCES COMMISSION (VMRC)

a) VMRC – Habitat Management Division

During the period April 1, 2024, through September 30, 2024, the Habitat Management Division received 1,467 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 176 compliance inspections on permits issued by VMRC and 86 permits issued by local wetlands boards.

The Habitat Management Staff completed actions on 1,354 applications received during the period. Action on most applications was completed within 90 days after they were received. As such, staff completed actions taken during the period were for applications received prior to September 2024. 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 29 projects. During the reporting period the Commission considered 5 protested projects or projects requiring a staff briefing, The Commission also approved 11 projects over $500,000.00 in value. Additionally, The Commission approved 13 projects that required a wetland and/or a beaches and dunes permit, for various localities that have not adopted those ordinances.

During the reporting period local wetland boards throughout Tidewater Virginia acted on 163 projects involving tidal wetlands. Of this total, 143 were approved as proposed, 12 were approved as modified, 8 no permit was necessary, and 33 required compensation, either on or off site (3), or through payment of an in lieu fee (30) accounting for 12,553 square feet of tidal wetland impacts.

b) VMRC – Fisheries Management Division

At the April 2024 meeting, the agency established season dates for the 2024 recreational black sea bass fishery as May 15 through July 15 and August 4 through December 31 and streamlined the black sea bass aquaculture process.

At the May 2024 meeting, the agency streamlined the cobia aquaculture process by putting permit conditions on the permit itself and removed them from regulation.

At the June 2024 meeting, the agency established a quota and license transfer system for the menhaden purse seine bait sector. Also, the agency added the height required for identifying information on eel pot (and crab) buoys as described in Section 28.2-712 of the Code of Virginia.

At the August 2024 meeting, the agency reclassified the oceanic whitetip shark from the commercially and recreationally permitted shark list to the commercially and recreationally prohibited shark list.

At the September 2024 meeting, the agency established snagging Atlantic menhaden and mullet species in the *Mugel* genus (white mullet, striped mullet, and flathead grey mullet) for recreational anglers.

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: 10/01/2019
END PERIOD: 09/30/2024

Category	2019/2020		2020/2021		2021/2022		2022/2023		2023/2024	
	Convictions	Arrests	Convictions	Arrests	Convictions	Arrests	Convictions	Arrests	Convictions	Arrests
	0	0	0	0	0	0	1	1	6	6
Buyers	0	0	5	5	5	6	0	0	1	1
Casting Garbage/Trash	0	0	1	2	0	0	0	0	1	2
Clams	0	0	0	0	5	5	0	0	1	1
Commercial Fishing License	15	52	11	17	13	28	6	9	4	6
Conchs	2	3	0	0	0	0	0	0	0	0
Crabs	39	54	38	54	41	57	32	39	17	28
Federal Violation	0	0	0	0	0	0	1	1	0	0
FIP Violations	2	3	14	19	1	2	0	0	1	1
Fish	250	275	194	206	122	141	105	120	114	134
Freshwater Fish without license	0	0	0	0	0	0	0	0	4	5
Freshwater Fishing without a license	1	2	6	6	1	1	2	3	0	0
Gill Nets	16	16	4	8	10	11	4	5	0	2
Habitat/Wetlands	0	0	0	0	0	0	0	0	2	4
License Tags	0	0	1	2	0	2	1	2	0	1
Mandatory Reporting	8	38	0	4	1	7	4	4	1	1
Misc	3	18	5	5	5	9	35	38	44	54
Non-residents	0	0	0	0	0	0	0	0	0	0
NSSP	1	1	0	0	0	0	0	0	0	0
Other Agencies	268	344	167	190	186	258	134	159	48	59
Oysters	49	127	32	50	38	51	38	45	11	18
Piers	3	3	0	0	0	0	0	0	0	0
Police Powers	0	0	0	0	0	0	0	0	3	5
Removal of Obstructions	1	1	3	3	5	5	3	7	0	3
Resisting officer	0	0	0	0	0	0	0	0	0	1
Safe Boating Act	0	0	0	0	0	0	0	0	30	31
Shellfish	0	1	0	0	0	0	2	2	0	0
SW Recreational License	0	0	0	0	0	0	0	0	18	19
SW Recreational Licenses	68	81	42	48	71	81	51	58	21	21
TOTALS:	**726**	**1019**	**523**	**619**	**504**	**664**	**419**	**493**	**327**	**403**
PERCENT OF CONVICTIONS:	**71.25%**		**84.49%**		**75.90%**		**84.99%**		**81.14%**	

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

From April 1, 2024 through September 30, 2024, the VDH Division of Shellfish Safety and Waterborne Hazards had:
431 acres of shellfish grounds formerly open year-round now closed to harvesting year-round,
1283 acres of shellfish grounds formerly closed year-round now open to harvesting year-round,
563 acres of shellfish grounds formerly open year-round now seasonally closed,
586 acres of shellfish grounds formerly closed year-round now seasonally opened,
911 acres of shellfish grounds formerly seasonally closed now closed year-round, and
287 acres of shellfish grounds formerly seasonally opened now opened year-round.

The statistics on applications for sanitary facilities at marinas and other places where boats are moored are usually contained in this section of the Section B.2-4 Report. However, VDH did not report on these statistics for this reporting period.

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 29,300.73 acres during the reporting period (04/01/2024 – 09/30/2024). Many plans are active for up to three years with all new or revised acreage developed by DCR planners in the coastal zones during the reporting period summarized in the following table:

CZM Basin	Number Of Plans	CZM Crop Acres	CZM Hay Acres	CZM Pasture Acres	CZM Specialty Acres	Total
Albemarle Sound	5	213.24	-	-	2.03	**215.27**
Atlantic Ocean	6	1120.05	-	-	-	**1120.05**
Chesapeake Bay Coastal	11	5809.33	15.37	12.73	-	**5837.43**
Chowan	10	1599.98	-	11.85	-	**1611.83**
James	17	1411.80	122.02	48.92	21.90	**1604.64**
Potomac	10	114.17	-	51.28	5.24	**170.69**
Rappahannock	20	12398.74	80.44	64.23	-	**12543.41**
York	27	5571.04	407.54	218.83	-	**6197.42**
Total:	**106**	**28238.35**	**625.37**	**407.84**	**29.17**	**29300.73**

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.

For this reporting period, SEAS staff conducted 126 site visits, wrote 62 advisory reports, evaluated 52,642 feet of shoreline, and reviewed and provided comments on 65 joint permit applications (JPAs). During a site visit, staff walks the shoreline with the owner and assesses the cause(s) of the erosion problem. Staff then review with the owner, what they believe are the most appropriate shoreline erosion control and protection strategies for that site. The suite of solutions to shoreline erosion varies along a continuum of green-to-grey infrastructure (e.g., marsh toe revetments of oyster shell bags, stone sills with sand nourishment and marsh vegetation plantings, offshore gapped breakwater systems, riprap revetments, wood or vinyl bulkheads). Living shorelines are the Commonwealth's preferred alternative – and *de facto* permitting option – for stabilizing eroding tidal shorelines.

SEAS is working with VIMS, VMRC, DEQ, and others to 1) identify shoreline management practices (e.g., living shorelines) across tidal Virginia that qualify for Chesapeake Bay TMDL WIP pollutant reduction credits, 2) verify that installation of these practices meets the specifications set out by USEPA's Chesapeake Bay Program, and 3) quantify and report the earned pollutant reduction credits as part of the Commonwealth's efforts to meet goals established in the WIP. The first round of these pollutant reduction credits was reported to DEQ in October 2017; subsequent rounds were reported annually thereafter (see table below). During this reporting period, SEAS continued to analyze data and verify practices. The next round of pollutant reduction credits will be reported to DEQ in October 2024.

SEAS continues implementation of a $1M, three-year grant from the National Fish and Wildlife Foundation (NFWF) to accelerate the scale and the rate of living shoreline implementation in Rural Coastal Virginia. In May 2024, NFWF approved a no cost extension request; the grant is now scheduled to end in March 2025. During this reporting period, work extended across the project's four objectives: 1) grow and enhance the existing partnership of entities engaged in living shoreline implementation; 2) develop a cache of shovel-ready living shoreline projects with completed designs; 3) construct new living shorelines on socially vulnerable sites; and, 4) document the installation of recently implemented shoreline management projects for crediting towards WIP goals. During this reporting period, SEAS 1) assisted in the deployment of a coordinated training program for living shoreline designers and contractors (CBLP Shorelines certificate course); 2) worked with local SWCDs to expand the availability of a living shoreline financial incentive program for residential property owners (VCAP) in a previously ineligible geography; 3) strengthened relationships with multiple federally-recognized Tribes by providing technical assistance on shoreline management options for tribally-owned properties; 4) worked with VIMS to beta test the ShoreWatch application which is a tool for consistently collecting living shoreline monitoring data following newly established protocols; 5) after multiple years of work from numerous partners, publicly celebrated the completion of the first living shoreline funded thru the State's agricultural cost-share program; and, 6) worked with VIMS and the Mattaponi Indian Tribe to complete regulatory permitting to construct a living shoreline with grant funds on the Tribe's Reservation.

	Total Submitted 2017-2023
Protected Shoreline (ft)	375,676
Number of Sites	1,802
Pollutant – TN [Total Reduction (lbs/yr)]	40,337.6
Pollutant – TP [Total Reduction (lbs/yr)]	27,370.4
Pollutant – TSS [Total Reduction (tons/yr)]	22,554.0

b) DCR - Division of Natural Heritage

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

Inventory

On April 12, 2024, Natural Heritage ecologists, Kristin Taverna and Kathleen McCoy completed the ecosystem map and full vegetation description for Powhatan State Park, part of an effort to complete ecosystem maps and full vegetation descriptions for five state parks across the state – Powhatan State Park, York River State Park, Mayo River State Park, Sweet Run State Park, and Wilderness Road State Park. The reports and associated maps will help inform the upcoming natural resource master plan revision, in addition to serving as a long-term reference resources for the parks. The park maps and reports identify and describe numerous significant Natural Heritage resources (element occurrences) across all five parks, including new sites for the globally and state rare Coastal Plain Calcareous Seepage Swamp (G2/S2) at York River State Park. This vegetation type is known *only* from calcareous ravines in the James and York River drainages, in James City, Surry, and York counties.

Natural Heritage has 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 25 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 field work and mapping will focus on the following five state parks during the upcoming 2024 field season: Pocahontas, New River Trail, Hungry Mother, Staunton River, and Hayfields.

Coastal Plain / Piedmont Calcareous Seepage Swamp at York River State Park with high cover of brome-like sedge (Carex bromoides) in the herb layer. Photo by Gary Fleming, August 2006.

A different expression of Coastal Plain / Piedmont Calcareous Seepage Swamp in the southern end of York River State Park with a mixed forb herb layer and bald cypress (Taxodium distichum) in the canopy. Photo by Kristin Taverna, May 2023.

On April 26, 2024, DCR-DNH Vegetation Ecologist added a new plant species to the flora of the Commonwealth. On that day while Joey Thompson was exploring special habitats at Fort Walker (formerly A.P. Hill), he came upon an unfamiliar plant in the Genus *Hexastylis*. This week, the identity of the plant was verified as Sandhills Heartleaf (*Hexastylis sorriei*), a globally rare species once thought to be restricted to the sandhills region of North Carolina and South Carolina. An expert on the plant Genus verified the find using

photographs and specimens prepared by Mr. Thompson. Sandhills Heartleaf seems to prefer areas that are frequently burned, including the ecotones (transition zones) between Pine-Oak woodlands and acidic seepage swamps that are managed with prescribed fire at Fort Walker. On the same day, a new population of Low Frostweed (*Crocanthemum propinquum*, G4/S1) was found in a regularly burned open area. This species has not been seen in Virginia since 1995 and only one other potentially extant population is known in Virginia.

Left: Sandhills Heartleaf (*Hexastylis sorriei*, G3/S1). Right: Low Frostweed (*Crocanthemum propinquum*, G4/S1).

On May 15-16, 2024, researchers from the Daniel's Lab at the Florida Museum of Natural History McGuire Center joined DCR-Natural Heritage Zoology and Stewardship staff to survey for caterpillars of the state rare Frosted Elfin (*Callophrys irus*, G3/S1) butterfly. Surveys were completed at multiple sites in southeastern Virginia including two Natural Area Preserves. Surveys for Frosted Elfin caterpillars consist of searching through patches of their host plant, Sundial Lupine, for forage damage hoping that caterpillars are nearby. Surveys are equally, if not more, productive at night when blacklights are utilized to make the caterpillars glow in contrast to the plants they are feeding on. The two Frosted Elfin caterpillars collected are joining a captive rearing effort to boost populations at diminishing sites. The Daniel's Lab is also gathering genetic samples of Virginia populations to better understand population dynamics across the greater range of the species.

Natural Heritage and Daniels Lab members pose in the dark using blacklights (left). A Frosted Elfin caterpillar illuminated in the dark by a blacklight on its host plant Sundial Lupine (right).

On August 1, 2024, Leadership from DCR and Fort Walker (Caroline County, Virginia) entered into a 10-year Intergovernmental Support Agreement (IGSA). This agreement lays the foundation for Natural Resources Staff at Ft. Walker and biologists from DCR to more efficiently partner in the conservation of the garrison's natural heritage resources. Fort Walker manages over 76,000 acres to provide military training to U.S. troops. Fort Walker is also an important partner in stewarding the state's natural heritage resources which include over 100 occurrences of 33 species and communities tracked by DCR's Natural Heritage Program. These include federal listed species such as swamp-pink, small-whorled pogonia, and Indiana bat; the state listed New Jersey Rush; the critically imperiled Coastal Plain/ Outer Piedmont Seepage Bog; and the imperiled sandshills bog lily.

The Intergovernmental Support Agreement was signed by Matt Wells, Director of DCR (seated, left) and Lt. Colonel Mathew Bauer (seated, right). Staff from DCR and Ft. Walker look on. (Photo by Chris Hall, Ft. Walker)

Natural Area Preserve Stewardship

On April 10, 2024, eight volunteers from the Eastern Shore Chapter of the Virginia Master Naturalists and four Coastal Region stewardship staff planted an assortment of 163 native forbs, ferns, and shrubs and 48 plugs of American Beachgrass (*Calamagrostis breviligulata*) at Cape Charles Natural Area Preserve. Three weeks previously, invasive species were removed for three consecutive days, and this area was the focus of this planting effort. Species included Golden ragwort (*Packera* aurea), Sensitive fern (*Onoclea* sensibilis), Winterberry (*Ilex verticillate*), Elderberry (*Sambucus canadensis*), Red chokeberry (*Aronia arbutifolia*), Buttonbush (*Cephalanthus occidentalis*), and more. These native plants were sourced from a Virginia nursery and grown on the Eastern Shore of Virginia. After removing decades of invasive species, some of which were allelopathic, planting species important for invertebrates and other wildlife was an important step to improve the biodiversity and ecosystem services of this preserve. Efforts to control invasive species and manage planted natives will continue.

From top left, clockwise: ESVMN Doug Pocock & Mimi Stitt; Maggie Long; Abby Gale; DCR & VMN group Bryan Ehrenfried, Ann Quigley, Jack Saladino, Doug Pocock, Kellie Piekarsky, Mimi Stitt, Will Mears; Rob Harris for native planting day at Cape Charles Natural Area Preserve.

On April 11, 2024, DCR Northern Region stewardship staff opened the recently completed re-route of a section of the Crow's Nest Point Trail to the public at Crow's Nest Natural Area Preserve. The new section of trail extends approximately 0.5 mile through mesic mixed hardwood forest while passing several large chinquapin oaks before rejoining the existing trail near a bluff overlooking Potomac Creek and the Potomac River. The new trail was constructed to bypass an increasingly wet section of the existing trail that was located along an old road. In addition to a more sustainable and drier trail tread, hikers will enjoy dramatic views of several ravines and improved views over Accokeek Creek. Staff spent approximately eight weeks designing and constructing the trail re-route with the assistance of Virginia Outdoors Foundation staff from VOF's Bull Run Mountains Natural Area Preserve.


Photos along the recently completed re-route of a section of the Crow's Nest Point Trail at Crow's Nest Natural Area Preserve.

On April 30 and May 2, 2024, DCR-DNH Coastal Region stewardship staff worked with the Bay Creek community volunteer stewardship committee and the volunteers from the Eastern Shore Chapter of the Virginia Master Naturalists to remove invasive bamboo and wisteria at Cape Charles Natural Area Preserve. The westernmost 20 acres of this preserve were the most recent acquisition in the region, purchased in 2021. Bamboo was present from a planting by the adjacent property owner along the boundary in about 2006. The first efforts to remove these challenging invasive plants were made in February of 2023, but this year we were able to chip the bamboo onsite, rather than having to trailer it away. As the dense bamboo was removed, native Pignut Hickory *Carya glabra*, greenbrier *Smilax* sp., and Jack-in-the-Pulpit *Arisaema triphyllum* were found. As sunlight now reaches the forest floor, we look forward to watching more native plants emerge to support more diverse fauna and overall habitat health.

Clockwise from top left: ESVMN volunteers with just cut invasive bamboo; dense bamboo before efforts; volunteer beside one of a half dozen piles of chipped bamboo; clear forest floor after efforts.

On May 8, 2024, DCR-DNH Chesapeake Bay Region Stewardship staff installed fencing and signs to restrict visitor access to a portion of Bethel Beach Natural Area Preserve in Mathews County. This area, formerly a sand spit and now separated from the rest of the shoreline by a narrow channel, is often used by rare Least Tern for nesting. Humans and unleashed dogs cause Least Tern to leave their nests for extended periods of time, leaving their eggs and chicks exposed in the hot summer sun. This area of Bethel Beach Natural Area Preserve is closed to visitors until September 15 to allow Least Tern chicks ample time to fledge.

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

On May 16, 2024, DCR-Natural Heritage Stewardship Staff joined partners from Virginia's Departments of Forestry (DOF) and Wildlife Resources (DWR), The Nature Conservancy, and volunteers from the Virginia Master Naturalists (Historic Southside Chapter) to sow native grass and forb seeds into nursery flats as part of a new native groundcover restoration initiative among the Longleaf Pine Cooperators Group. Seeds were collected from natural area preserves in the Southeast region. Staff at the DOF Sussex County Nursery will tend to these seedlings for members of the partnership. Once well established, they will be planted into a native seed "orchard" to provide a native understory seed source for regional restoration projects, primarily those associated with the region's longleaf pine reestablishment efforts.

Partners from VDCR, VDOF, VDWR, The Nature Conservancy, and Virginia Master Naturalists standing in front of one of three trailers filled with freshly planted nursery trays holding local ecotype native groundcover plant species.

On May 28, 2024, Chesapeake Bay Region Supervisor Zach Bradford, Vegetation Ecologist Joey Thompson, and Coastal Region Stewardship Technician Jack Saladino visited a difficult to access portion of Northwest River Natural Area Preserve in pursuit of Woodland Ladies'-tresses Orchid (*Spiranthes sylvatica*), a recently described and somewhat controversial species thought to be in Virginia but lacking any modern observations. Woodland Ladies'-tresses Orchid was recently separated from the very closely related Grass-leaved Ladies'-tresses Orchid (*S. vernalis*) by its larger, creamy green with green striped flowers (vs. white with green stripes restricted to the lip) and preference for dry to mesic coastal woodlands (vs. sunny boggy areas). Genetic analysis of the two species has thus far failed to show major differences, but Woodland Ladies'-Tresses Orchid is accepted as a valid species by most authorities in Southeastern North American botany. Pressed herbarium specimens of Grass-leaved Ladies'-tresses Orchid were reviewed and several showed characters consistent with the new Woodland Ladies'-tresses Orchid. Most of these specimens are nearly a century old and are from now-developed areas of Virginia Beach, but a single specimen from 1995 was collected from the then newly-dedicated Northwest River Natural Area Preserve. The several dozen-strong population was successfully located and the large, showy plants were confirmed to be the world's northernmost Woodland Ladies'-tresses Orchid occurrence.

Left: Woodland Ladies'-tresses Orchid (Spiranthes sylvatica) Right: Grass-leaved Ladies'-tresses Orchid (S. vernalis

Woodland Ladies'-tresses Orchid in situ at Northwest River Natural Area Preserve

On May 28-29, 2024, Coastal Region Stewardship staff aided in field work expeditions to the Northwest River Natural Area Preserve and the North Landing River Natural Area Preserve respectively. The Northwest River NAP trip was highlighted by ecological observations and discoveries from Vegetation Ecologist, Joey Thompson, and Chesapeake Bay Region Supervisor, Zach Bradford. Bradford's efforts were focused on locating and documenting the taxonomically debated Woodland Ladies' Tresses Orchid (*Spiranthes sylvatica*); while Thompson revisited vegetation plots and documented natural community occurrences, some of which had not been observed in over 20 years. Thompson also joined a boat expedition to North Landing River NAP with Stewardship Biologist, Kevin Heffernan, Invasive Species Technician, A.G. Sweany, Coastal Region Stewardship Technician, Jack Saladino, and Coastal Region Public Access Technician, Will Mears. Heffernan and Sweany piloted a camera-mounted drone to fly over tracts of the preserve in which aerial herbicide application for *Phragmites australis* was performed in October 2023. The purpose of these drone flights is to investigate the efficacy of the aerial herbicide in allowing native plants to replace the phragmites in herbicide treated marsh understory.

Joey Thomspon and Zach Bradford discover Woodland Ladies' Tresses orchid at Northwest River NAP (left) and (left to right) A.G. Sweany, Kevin Heffernan, and Will Mears prepare for a drone flight at the Sorey tract of North Landing River NAP (right).

On June 4, 2024, four Natural Heritage staff and seven volunteers from the Eastern Shore Chapter of the Virginia Master Naturalists worked at Magothy Bay Natural Area Preserve during an annual trail maintenance day that happens each spring. The work included trimming back vegetation encroaching on the trail through an area of the preserve that was restored by planting thousands of native shrubs in 2009 and 2010. This year work focused on ensuring safe traverse of the trail by carefully trimming over five truckloads of vegetation and removing climbing invasive Japanese honeysuckle. Staff replaced aging boards on the kiosk to improve preserve appearance and in preparation for new signage. These events instill an increased sense of ownership and responsibility of the preserves, helping volunteers to continue to improve their stewardship skills and share them with others in the community. They also present the preserve as a place that has a significant management presence and is cared for, thus deterring potential inappropriate behavior on the preserves.

DCR-Natural Heritage Staff and ESVMN Volunteers after a morning of stewardship (left) and volunteers trimming the trail (right) at Magothy Bay Natural Area Preserve.

On June 20, 2024, the DCR-DNH Northern Region Stewardship staff assisted scientists with the United States Geological Survey (USGS) with sediment cores taken from Potomac Creek near the mouth of Accokeek Creek adjacent to Crow's Nest. The sediment cores are part of a study intended to establish the long-term history of algal blooms in Accokeek and Potomac Creeks based on analysis of pigments, pollen, charcoal, physical properties, lithology, and radiometric dating. It is also anticipated that analysis of sediment cores will provide a record of changes in vegetation, sedimentation, and fire regimes in the area.

DCR and USGS staff collecting a sediment core from Potomac Creek adjacent to Crow's Nest Natural Area Preserve.

On July 2, 2024, DCR Northern Region staff with assistance from colleagues with the Virginia Outdoors Foundation and the Northern Virginia Conservation Trust, completed the 2024 breeding bird monitoring program at Crow's Nest Natural Area Preserve. In total, 162-point counts were completed at 81 randomly placed locations within the preserve. An additional five locations were surveyed twice during the season by a volunteer at the adjacent Crow's Nest Research Center, a non-profit organization dedicated to conservation, wetlands research, and environmental education for public benefit. This season, a king rail (S2B/S3N), a species included on DCRs Natural Heritage Rare Animal List, was detected in the freshwater tidal marshes along Accokeek Creek. In addition, least bitterns (S3B/S3N), a species on DCRs Animal Watch List, were detected again this season along Accokeek Creek, including three individuals seen at one survey point. Also, a rare plant species, Water-plantain Crowfoot (*Ranunculus ambigens,* S1/G4), was discovered this week in a section of tidal hardwood swamp at Crow's Nest. This species is known from fewer than 20 scattered locations across the Commonwealth.

A Prothonotary Warbler (left), a breeder in forested wetlands and Water-plantain Crowfoot (right), a recently discovered rare plant at Crow's Nest.

On July 16, 2024, DCR-Natural Heritage Northern Region staff completed a tire cleanup project at Crow's Nest Natural Area Preserve. Over many years, many tires had been dumped along a ridge and adjacent slopes within the recently acquired Accokeek Bottomlands addition. A second, smaller pile of tires was cleared from near the entrance gate on Raven Road. In total, approximately 300 tires were cleared from the preserve. Thanks to Phil Hathcock and Michael Cross with the Rappahannock Regional Landfill for providing the dumpster and assisting with the project. In addition, DCR Northern Region staff wrapped up the second annual amphibian monitoring project at Crow's Nest. Eight point-count sites were established along the floodplain of Accokeek Creek and sampled using the protocol described in the North American Amphibian Monitoring Program. Each point was sampled four times between February and July. Eleven species of frogs and toads were detected. This project is designed to tract the long-term population trends of amphibians at Crow's Nest and to provide data that could guide stewardship activities within the preserve.

Northern Region team after completing cleanup (left), and a green treefrog (right) at Crow's Nest.

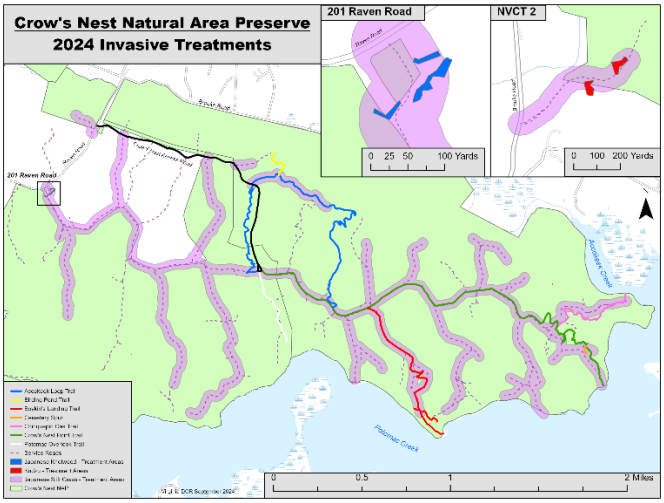
Over the month of August 2024, Coastal Region Stewardship staff made improvements to make the Cape Charles Natural Area Preserve more welcoming and appropriate for public access. An entry sign permit application was approved by the Town and added to help visitors find the preserve and its parking area. The parking area had never been constructed to provide clarity to visitors, nor to prevent the entry of golf carts or other vehicles. Decades' old construction materials beneath the ground surface forced the use of more extensive equipment for the pole installation, but there is now a guardrail and gate, which create a sense of direction and place. The old, rotting kiosk roof was completely replaced, which will help protect the new interpretive signage. Creating a welcoming, well-cared for entry and parking area for preserves helps visitors better enjoy and respect the state property. Near future planned improvements include adding gravel, parking stops, new trail wayfinding signs, and additional kiosk signage.

Clockwise from top left: New entry sign at Cape Charles NAP; new guardrail at parking area; new gate and guard rail; refurbished kiosk with new backboard, interpretive signs, and roof.

On September 5, 2024, DCR-Natural Heritage, Chief of Natural Area Stewardship Lesley Starke, co-hosted the annual Longleaf Cooperators of Virginia meeting, with over 40 people in attendance. This partnership has made possible the return of longleaf pine on the Virginia landscape and includes active participation from DCR, DOF, DWR, TNC, USFWS, NRCS, ODU, Cooperative Extension, as well as private landowners. Building on many years of successes, this group is currently engaging in a strategic planning process to update their conservation plan for longleaf pine, and its associated ecosystem here in Virginia, the northern extent of the range. Rob Sutter with Enduring Conservation Outcomes facilitated the meeting and will be working further with leadership and strategy teams to complete the conservation plan by the end of the year.

Rob Sutter explaining to the Longleaf Cooperators of Virginia the next steps in the strategic planning process.

In September 2024, DCR - Natural Heritage Northern Region staff completed invasive species control efforts for the 2024 season at Crow's Nest Natural Area Preserve. Work this season focused on continuing efforts to control Japanese stiltgrass (*Microstegium vimineum*), wavyleaf grass (*Oplismenus undulatifolius*), beefsteak plant (*Perilla frutescens*), mile-a-minute vine (*Persicaria perfoliata*), kudzu (*Pueraria montana*), and garlic mustard (*Alliaria petiolata).* Japanese stiltgrass and beefsteak were treated along approximately 15-miles of trails and roads along with adjacent forested areas. Staff will continue control efforts on Japanese knotweed (*Reynoutria japonica*), Japanese barberry (*Berberis thunbergii*), tree-of-heaven (*Ailanthus altissima*), and periwinkle (*Vinca minor*) into the fall. The National Capital Region Invasive Plant Management Team with the National Park Service focused their effort this season on a large kudzu patch in the recently acquired Accokeek Bottomlands Addition.



Pre- and and post-treatment photos of Japanese stiltgrass (top) and areas treated this season (bottom) at Crow's Nest Natural Area Preserve.

On September 24-26, DCR's Natural Heritage Public Access Coordinator, Wes Paulos, and Chief of Natural Areas Stewardship Lesley Starke, worked with the Eppley Center at Indiana University to develop and implement a three-day training on accessibility in the park and recreation environment. The workshop participants included staff from DCR Divisions of Natural Heritage, Planning & Recreation Resources, and State Parks; Virginia Department of Wildlife Resources and the US Forest Service. Important focus was placed on Other Power-Driven Mobility Devices, where accessibility meets the outdoor environment, accessible programming and learning details about the Architectural Barriers Act and the Americans with Disabilities Act. The workshop was hosted at Pocahontas State Park allowing the instructors to showcase a park that continues to work on the challenges of ADA/ABA requirements. Students went into the park and assessed the conditions that people with disabilities face when they visit a park and the outdoor environment. Additionally, participants

developed strategies to help the park to become more inclusive with programming and infrastructure. DCR continues to strive to provide the most accessible experience possible so that more of our population may know our natural Virginia.

Eppley Center instructors describing ADA requirements.

State park staff describing the functionality of tracked wheelchairs

Invasive Species

On May 28-29, 2024, DCR-Natural Heritage staff met contractor staff on site to cut invasive Ravenna-grass *Tripidium ravennae*, to prevent seed development/spread this season and to enable effective chemical treatment in the early fall. With funds from the Virginia Department of Forestry and support from DCR procurement staff, DCR-DNH coastal stewardship staff established a contract with a qualified company to conduct invasive species management activities at Mutton Hunk Fen Natural Area Preserve (NAP). Ravenna-grass is increasingly appearing in places well away from ornamental plantings, grows to over three meters in height and, at Mutton Hunk Fen NAP, has both formed a dense one-acre colony that is spreading throughout an area of over six acres of the preserve. During the May and subsequent June site visits, the contractor also treated other invasive plant species - Autumn olive, Chinese privet, multiflora rose, Callery pear, and English ivy - using basal bark and cut stump methods of herbicide application. The contractors will return in the fall and winter to complete their contractual obligations of a full year of seasonally appropriate management activities. Mutton Hunk Fen NAP is the only land accessible (and public access facility) NAP in Accomack County, about an hour drive from the nearest land accessible preserve. Having a competent contractor complete invasive species management activity on this preserve allows Coastal Region Stewardship staff to efficiently focus their efforts on the other four land accessible preserves in Northampton County.

Top: Drone photo taken by Kevin Heffernan in 2022 with Ravenna grass visible both to the north and south of the trail. Bottom left and right, photos of Ravenna grass.

On June 12, 2024, Chesapeake Bay Region Stewardship staff, Zach Bradford and Hali Haskins, released 800 *Oobius agrili* pupae on county-owned property adjacent to Hickory Hollow Natural Area Preserve in Lancaster County. *Oobius agrili*, a tiny stingless wasp with no common name, is a natural predator of emerald ash borer (EAB; *Agrilis planipennis*), an invasive non-native beetle currently decimating ash trees (*Fraxinus* spp.) in North America. The parasitoid wasp lays eggs directly into EAB eggs which are then consumed by the developing wasp larvae. The release site, a swampy ravine shared between Lancaster County and Northern Neck Audubon Society's Hickory Hollow Natural Area Preserve, is home to a globally imperiled (G2S2) Coastal Plain Calcareous Swamp co-dominated by green ash (*Fraxinus pennsylvanica*). This natural community is known globally from only Virginia's coastal plain, and the scattered occurrences are the result of surface topography and hydrology intersecting an ancient fossil shell layer. This parasitoid wasp release is part of larger collaborative effort between the Virginia Department of Forestry and the United States Department of Agriculture (USDA) to release EAB predators in suitable ash stands on public property in Virginia. The parasitoid wasps were produced and supplied from the USDA's Animal and Plant Health Inspection Service (APHIS), Plant Protection and Quarantine (PPQ) EAB Parasitoid Rearing Facility in Brighton, Michigan.

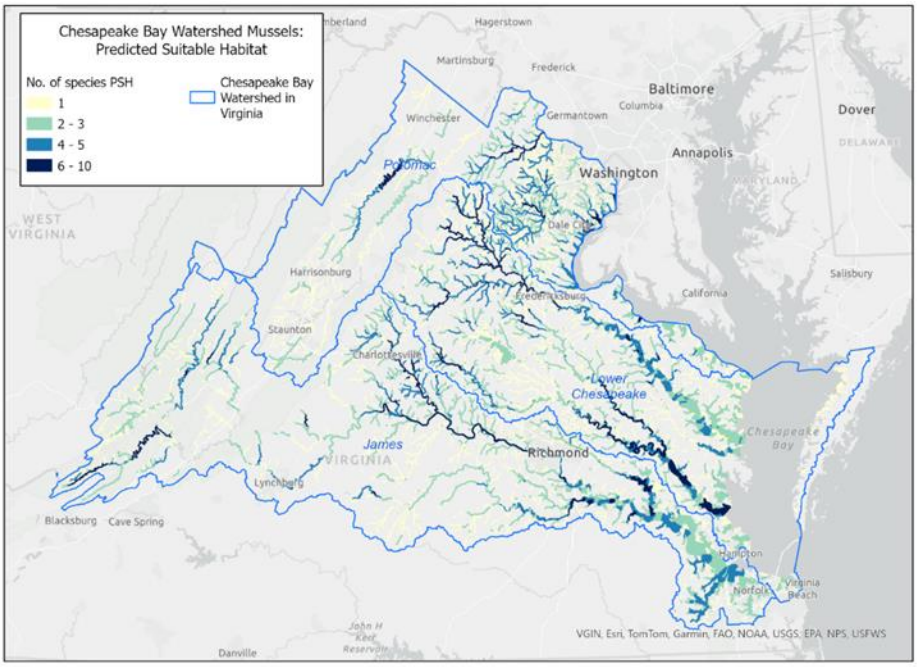
Wasp pupae in a deployed "oobinator," a modified pill jar that protects the developing wasps before they emerge over several weeks.

On June 13, 2024, a group of DCR-Natural Heritage Program staff partnered with a James River Park System (JRPS) staff member at the Heritage Half-Acre (HHA) to continue invasive plant management at the site. The JRPS staff member identified a patch of *Dioscorea polystachya* (Chinese yam or Cinnamon-Vine) on the site and talked about the park's increasing efforts to stop the spread of the invasive vine within the park system. A large patch of *Dioscorea polystachya* was removed from the HHA during the event.

Top Photos-Cinnamon Vine/Chinese Yam (Dioscorea polystachya). Bottom photo- Natural Heritage and James River Park Staff HHA invasive removal group.

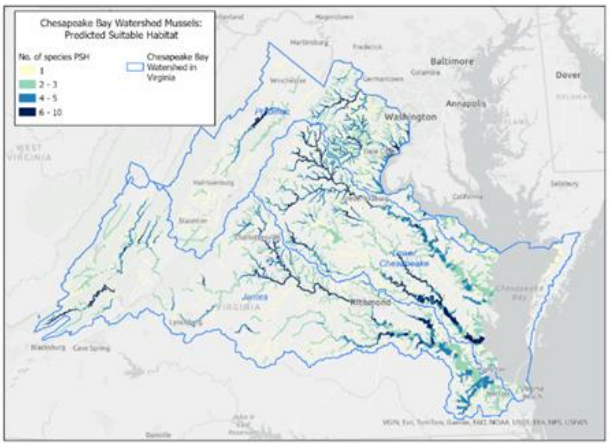
Information Management

On April 11, 2024, the Chief of Biodiversity Information and Conservation Tools, Joe Weber, delivered a presentation entitled “A Mussel Richness Map for the Virginia Chesapeake Bay Watershed” at the Biodiversity Without Boundaries (BWB) 2024 Conference in Seattle, WA. BWB is the NatureServe Network's semi-annual conference that convenes scientists from more than 60 network programs in North America, plus scores of government agencies, leading academic institutions, and fellow conservation organizations, to celebrate successes, collaborate on new initiatives, share innovations, and design the future. The mussel richness mapping project is intended to provide guidance as to where protection and restoration efforts should occur to enhance biodiversity and resilience, improve ecosystem services, and engage citizens. The presentation described the methods used to model all native mussels of the Virginia portion of the bay watershed, stack and summarize those models to create the Mussel Richness Map (MRM) and delineate flow buffers to target lands for conservation and restoration activities. A select set of hotspots from the MRM will be surveyed in the field later this year to validate the map, and to provide more data for better understanding of mussel distributions. The results of this project will inform several planning efforts, including a freshwater statewide mussel conservation plan being developed by the Virginia Department of Wildlife Resources. The presentation was received well, and attendees suggested funding sources for expanding the extent of the project to the Commonwealth, and beyond. During the conference, NatureServe hosted a closed working session with forestry companies and network representatives to continue discussions about using network data during procurement activities to meet the requirements for Sustainable Forestry Initiative (SFI) certifications. Joe provided the Virginia perspective during this meeting. NatureServe plans to reconvene this working group in-person at the SFI Annual Conference in June, in Atlanta, GA.



Mussel Richness Map for the Chesapeake Bay Watershed of Virginia

On September 4-6, 2024, DCR-Natural Heritage Program's Chief of Biodiversity Information and Conservation Tools, Joe Weber, and the Assistant Data Manager, Liam Megraw, attended the Society for Conservation GIS (SCGIS) Annual International Conference at the National Conservation Training Center (NCTC) in Shepherdstown, West Virginia. The conference convenes scientists, cartographers, cultural resource specialists, and others to showcase geospatial conservation for action, with topics ranging from data and technology to stakeholders and politics. Joe was a panelist for a plenary session titled "Navigating your Conservation GIS Career: Strategies and Pathways" and delivered a presentation titled "A Mussel Richness Map for the Virginia Chesapeake Bay Watershed" in a concurrent session. In the plenary session, Joe shared his experience from over 30 years in the geospatial conservation field, answered questions posed by the moderator, and led round-robin breakout groups for the topic of state government. For the concurrent presentation, Joe described the methods used to model all native mussels of the Virginia portion of the bay watershed, stack and summarize those models to create the Mussel Richness Map (MRM) and delineate flow buffers to target lands for conservation and restoration activities. A select set of hotspots from the MRM are being surveyed in the field now to validate the map and to provide more data for better understanding of mussel distributions. The results of this project will inform several planning efforts, including a freshwater statewide mussel conservation plan being developed by the Virginia Department of Wildlife Resources. Both presentations were received well, with attendees showing great interest and asking thoughtful questions.



Plenary session on "Navigating your Conservation GIS Career: Strategies and Pathway. Mussel Richness Map for the Chesapeake Bay Watershed of Virginia.

Outreach and Education

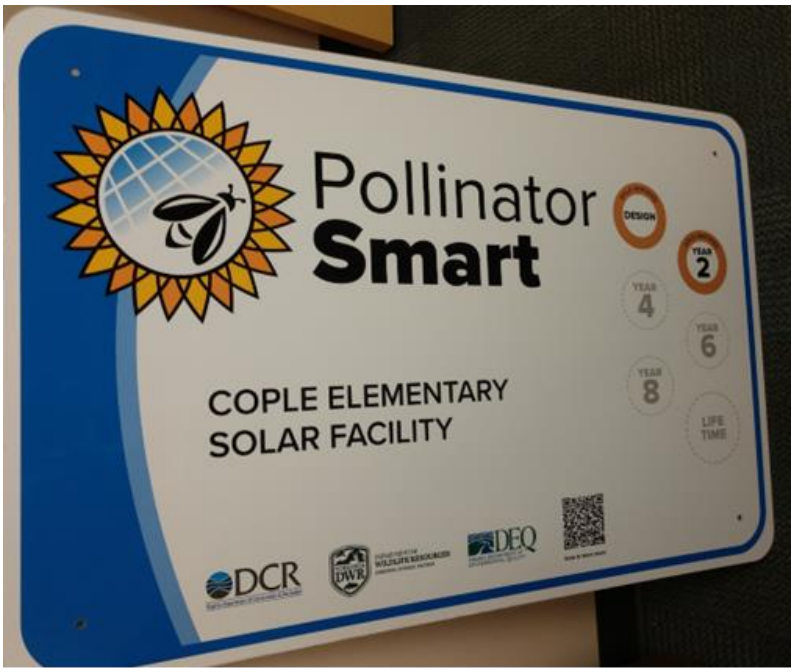
On April 20, 2024, DCR-DNH Coastal Region Steward, Shannon Alexander, assisted in organizing and staffing several outreach booths during the Earth Day Return to Our Roots festival in Exmore, one of the largest-by-population towns on the Eastern Shore of Virginia. About eight volunteers from the Eastern Shore Chapter of the Virginia Master Naturalists (ESVMN), two Virginia Department of Environmental Quality (VDEQ) staff from Richmond, and the Coastal Region Steward had four distinct stations at the event. The ESVMN station focused on pollinators and their host plants with butterfly activities for children. The DCR station focused on DNH and the Natural Area Preserve system and was shared with VDEQ information about preventing balloon litter. VDEQ's Plant Eastern Shore Natives booth gathered contact information from about 30 individuals interested in receiving the new regional native plant guide when it becomes available. Despite a rainy morning, the weather cleared and brought with it a couple hundred attendees of all ages. These tables educated attendees on various topics that will help them be better stewards and more aware of unique ecological resources in the region and the state.

Left: Shannon Alexander, VDCR & Virginia Witmer, VA CZM. Right: ESVMN assists booth visitors with butterfly watercolor craft.

On May 9, 14, and 16, 2024, expert guides from the Eastern Shore Virginia Master Naturalist Chapter and Natural Heritage Stewardship staff led about 10 guests each at Savage Neck Dunes NAP, Magothy Bay NAP, and Mutton Hunk Fen NAP, respectively. This is the second consecutive spring that these three interpretative walks were held at Preserves as part of a course organized by the Academy for Lifetime Learning (ALL). Participants learned about native and invasive plant species, restoration techniques, shoreline management complications, unique bird and invertebrate species, and more. These events inspire support of the Division and Agency missions, conservation actions on private properties, and participation in future volunteer activities at state preserves.

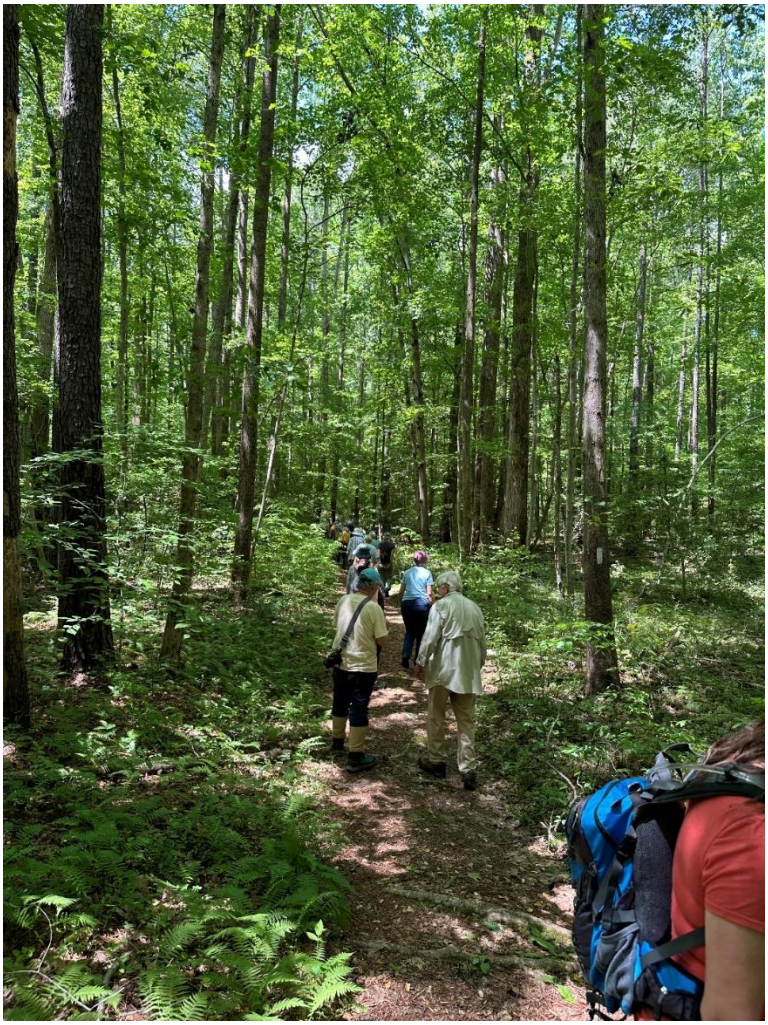
ESCC Academy of Lifetime Learning Course Participants at Mutton Hunk Fen NAP (left) and at Magothy Bay NAP with ESVMN David Boyd speaking (right).

On May 14, 2024, Virginia's Pollinator Smart Team including DCR-DNH's Nicki Gustafson and a representative from James Madison University (JMU) held a panel discussion entitled "Ecovoltaics 200: Exploring Virginia's Pollinator Smart Program" at the Virgina Solar Summit. The presentation included an introduction to the Pollinator Smart program, a summary of native and pollinator plant requirements in solar ordinances across the state, and a comparison of the strategies employed by the current certified sites to meet the requirements of the program. JMU presented on how they made the decision to seek Pollinator Smart certification and the specifics of their solar site. The panel discussion informed companies and organizations involved in solar development about the goals of the program as well as encourage them to think about how they can incorporate the principles of the program into their development practices. The Pollinator Smart team also debuted the new Pollinator Smart signs developed with assistance from DCR's Public Communication and Marketing Office, and via funding from the Department of Environmental Quality. Also, a big thank you to the DCR sign shop for printing the signs and Natural Heritage stewardship for their assistance with the signs for the Solar Summit.



Pollinator Smart signs for certified solar facilities.

On May 16, 2024, DCR-DNH Chesapeake Bay Region Supervisor, Zach Bradford, assisted leaders from the Northern Neck Chapter of the Virginia Native Plant Society with a field trip at Hickory Hollow Natural Area Preserve in Lancaster County. The 20 participants learned about the history of the site and the community effort that led to its protection, explored the intersection of geology and botany as it relates to the unique calcium-rich swamps on the site, and viewed numerous wetland plants including several species that are disjunctions from Virginia's mountains. Hickory Hollow Natural Area Preserve is owned by the Northern Neck Audubon Society and managed in partnership with DCR's Division of Natural Heritage.



Participants enroute to Cabin Swamp, a Coastal Plain Calcareous Seepage Swamp natural community home to 130 plant species.

On June 1, 2024, partners with the Eastern Shore Land Trust (ESLT) hosted a Clean the Bay Day – part of a larger Chesapeake Bay Foundation watershed-wide effort – along the shoreline of Savage Neck. The efforts began on an ESLT eased property to the south of Savage Neck Dunes Natural Area Preserve and included the preserve in their cleanup efforts. DCR's Coastal Region Steward, Shannon Alexander, welcomed volunteers and talked to them about the Division's mission and the significance of the shoreline for the federally listed Northeastern Beach Tiger Beetle (*Habroscelimorpha dorsalis dorsalis*). She also spoke about best practices while removing debris along the shoreline to reduce the risk of negatively impacting the species. This partnership not only cleans up the preserve but allows us to encourage care of our sensitive bay shorelines and its inhabitants to a group of people we may not otherwise reach.

DNH Coastal Region Steward Shannon Alexander speaks to Clean the Bay Day volunteers (top, photo by Les Willis), volunteers along the Savage Neck shoreline (center), and volunteers with collected marine debris (bottom, photo by Les Willis).

On June 6 and 13, 2024, DCR-DNH Northern Region Stewardship staff welcomed students in the Fredericksburg Regional Governor's School Wetlands Class to Crow's Nest Natural Area Preserve. The students are rising 7th graders attending many different schools in the Fredericksburg area. While at Crow's Nest, students learned about the human history of the Crow's Nest Peninsula, the conservation efforts that led to the dedication of the preserve and the ecological importance of, and the ecosystem services provided by, the freshwater tidal wetlands along Accokeek Creek. After this introduction, students enjoyed a two-hour paddle that was co-led by DCR staff. Teachers and staff with the City of Fredericksburg's Walker Grant Middle School organized and taught the weeklong class. Kayaks and boating guidance were provided by the Virginia Outdoors Center. Approximately 35 students participated in each session. This was the seventh year the class has visited Crow's Nest.


DCR Northern Region Supervisor and Steward, Mike Lott, speaks with participants in the Governor's School Wetland Class at Crow's Nest Natural Area Preserve (left). Students in kayaks viewing the Crow's Nest Peninsula from a different perspective on the water (right).

On June 8, 2024, DCR's Senior Project Review Assistant, Barbara Gregory and Zoology Lab Manager, A.J. Bordell represented Natural Heritage at the Native Pollinator Festival and Native Plant Sale. The event, held at Deep Run Park in Henrico, VA, included various organizations, such as the Henrico Master Gardeners, Virginia Department of Forestry, and the Virginia Herpetological Society as presenters. Attendees engaged in discussions about Virginia's rich natural resources and the pivotal role of native plants and pollinators. The Natural Heritage booth captivated both adults and children alike with its insect displays. Participation in this outreach event facilitated engagement with new audiences, many of whom were introduced to the division for the first time!

Natural Heritage Staff (Barbie Gregory) providing information to festival attendee.

On June 22, 2024, DCR's Project Review Assistant, Nicki Gustafson represented Natural Heritage at the Pollinator Palooza sponsored by the James City County Williamsburg Master Gardeners. The event, held at Veterans Park in James City County Virginia, included exhibits from the Butterfly Society, Monarch Watch, Williamsburg Area Beekeepers, Colonial SWCD, Plant Virginia Natives and several others. Despite the heat, attendees were excited to learn about native plants and pollinators. It was a great opportunity to introduce the Natural Heritage Program and our resources to new audiences. The insect display cases designed by Zoology Lab Manager A.J. Bordell, attracted visitors eager to learn about Virginia's diversity of bees and other native insects.

DCR-Natural Heritage Display at Pollinator Palooza Event

On August 12, 2024, the Chesapeake Bay National Estuarine Research Reserve (CBNERR) and the Virginia Institute of Marine Science (VIMS) brought the Estuary Explorers (rising 7th and 8th grader students) summer camp participants to Savage Neck Dunes NAP. The science camp is based out of the VIMS in Gloucester Point, but the Estuary Explorers get to participate in an overnight trip to the VIMS Eastern Shore Laboratory along the seaside in Wachapreague. To ensure the campers get an opportunity to explore the bayside, the partnership with VDCR to visit Savage Neck Dunes Natural Area Preserve is a perfect match. VDCR staff met the group on site to introduce them to the Division of Natural Heritage and the preserve and offer interpretation along the trail to the Chesapeake Bay. While along the shoreline, they stayed out of the densest Northeastern Beach Tiger Beetle habitat and were able to do some gentle seine netting. This trip allowed them to learn about terrestrial and estuarine flora and fauna and how VDCR works to protect the special places they call home.

Clockwise from top left: VIMS/CBNERR summer camp staff and youth at Savage Neck Dunes NAP shoreline, Striped Burrfish (*Chilomycterus schoepfi*) in hand, group observing haul from seine netting.

On September 4, 2024, DCR-Natural Heritage Ecologist Joey Thompson presented at the Middle James Roundtable Annual Meeting in Charlottesville, Virginia. The Middle James Roundtable is a collaborative effort among various stakeholders in the Middle James watershed to improve water quality and the overall health of local communities. The topic of the presentation was Natural Communities on the Flora of Virginia (FOVA) App. In addition to a general overview of the FOVA App and the capabilities it offers for plant identification, the incorporation of the DCR Natural Communities information to the App was discussed and demonstrated. With these and other recent updates to the FOVA App, the products of the work done by DCR Botanists and Ecologists are more accessible than ever.

On September 14, 2024, DCR's Seasonal Zoology Lab Technician, Sage Lockett represented Natural Heritage at Pollinator Palooza. The event, held at Studio Two Three in Richmond, attracted various organizations, including the Xerces Society, Lewis Ginter Botanical Garden, and Wild Ones Natural Landscapers. Enthusiastic attendees discussed Virginia's native plants and pollinators, and their ecological importance. The Natural Heritage booth drew a crowd of adults and children alike with eye-catching insect displays, educational coloring pages, and information on DCR's Virginia Native Plant Finder. With positive reception, the booth introduced community members to this mission of DCR's Natural Heritage Program, the resources the division offers, and local ecology.

DCR – Natural Heritage Zoology Lab Technician, Sage Lockett, with DCR's booth, including educational insect displays, at Pollinator Palooza.

For over a year, the DCR Coastal Region Steward, Shannon Alexander, has been working with the Virginia Coastal Zone Management Program (VCZMP) and members from the Eastern Shore Chapters of the Virginia Master Naturalists and the Virginia Master Gardeners to update the regional native plant guide in preparation for reinvigorating the regional initiative. VCZMP generously supported the regional initiative with a print run of 3,500 copies of the fully revised regional guide and ESVMG and ESVMN volunteers contributed hours of their time to the revision. The Plant Eastern Shore Natives Campaign was initiated in 2012 and was the first region in what is now a statewide initiative housed at www.PlantVirginiaNatives.org, referenced at https://www.dcr.virginia.gov/natural-heritage/nativeplants. Over 40 people attended three meetings held across the region to learn about the program and, if they so choose, can get more involved. Providing the public with information about which plants are native to their region, why they are important, and where to find them supports the Division of Natural Heritage's mission to conserve and protect biodiversity in the Commonwealth.

Clockwise from top left: New regional native plant campaign logo; Cover of the new regional guide; Virginia Witmer of the VCZMP speaks to a group of interested residents on 7/23/24 at VIMS Eastern Shore Laboratory; Display at the 8/1/2024 event at the Chincoteague National Wildlife Refuge.

Land Conservation

On August 28, 2024, DCR's Natural Area Protection staff submitted 5 proposals to the Virginia Land Conservation Foundation. In recent years this program has become the only stable and recurring funding source to support acquisitions for natural area preserves. The current proposals seek over $3.5 million in funding to protect approximately 2,300 acres at several sites across Virginia. These include 3 different projects along the Ellett Escarpment, in Montgomery County, supporting the Ellett Valley Milipede (*Pseudotremia cavernarum*). DCR-DNH's cave & karst team believes this is Virginia's most at risk cave-dependent invertebrate, with a worldwide range confined to a handful of square kilometers east of Blacksburg and no existing protections. Another of the grants seeks funds to add over 100 individual parcels to Crow's Nest (Stafford County) in a former subdivision along the Preserve's western boundary. Funds will allow DCR to continue to work closely

with Stafford County and the Northern Virginia Conservation Trust who have assembled these lots into an efficient package, in what is expected to be the first of multiple phases aimed at "finishing" protection of the Crow's Nest Peninsula. This project will also enable expanded public access at this Preserve, a project already beginning with American Rescue Plan Act funding. The last project seeks critical funds to match DCR-DNH's recent grant award of $5,600,000 to acquire an additional 1,900 acres due east of South Quay Sandhills in the City of Suffolk., in partnership with TNC.

Natural Heritage Data Management Totals for FY2023:

Activity 4-1-24 – 9-30-24

New Mapped Locations (EOs) – 52
Updated Mapped Locations (EOs) - 67
New Conservation Sites – 65
Updated Conservation Sites – 182

Total Number in Database 9-30-24:

Animal Mapped Locations (EOs) – 716
Plant Mapped Locations (EOs) – 1367
Community Mapped Locations – 637
Conservation Sites – 745

Other Mapped Locations* (EOs) – 43
Geologic Mapped Locations (EOs) – 2

* Other = Bird Nesting Colony, Colonial Wading Bird Colony, Land Migratory Roost Site, and Monarch Butterfly Migratory Roost Site

Managed Areas: (Acres added 4-1-24 – 9-30-24) – 3,589.05 Acres
Mapped Tracts: (total number in coastal zone) – 5,156 Tracts
Mapped Managed Areas: (total number in coastal zone) – 3,643 Managed Areas

Healthy Waters

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

The Healthy Waters Program (HWP) is supported through funding from several grant sources including the VA CZM Section 306, US 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 Program including the administration and oversight, Program growth and expansion, improvement in capacity, acquisition and analysis of new data, tool and model development and data integration at the DCR.

Effort during the reporting period was most heavily weighted on responding to and coordinating with the Virginia Department of Environmental Quality (DEQ) upon news that the funding from EPA to support the HWP was both being eliminated and that one year of the three-year award was not available. The loss of

funding has severely impacted the ability of VCU to fully commit to the hiring of a grant funded position. The HWP Manager coordinated with the DEQ Director of the Division of Water Planning to co-host a meeting to update the DEQ staff on the background, achievements, objectives and funding challenges of the program. While the meeting was a productive opportunity to network and update those staff, the loss of future funding and a year in a three-year grant significantly impacts the ability to advance the program.

The HWP Manager's effort was put toward the defining of those objectives and intent of the Field Coordinator position, as well as confirming that the position would be based and housed at DCR-DNH. The HWP Manager coordinated with the VCU Rice Rivers Center, Department of Life Sciences and Human Resources to outline the responsibilities of the grant funded, term limited, Classified Employee. The intent of the HW Field Coordinator (FC) is to take those tools created at the DCR-DNH and work closely with conservation partners to advance those conservation actions from planning tools into tangible implementation. Given the expected funding, the position is to target areas in the Chesapeake Bay Watershed both upper and coastal areas but also include those areas in the Chowan basin. The HWP Field Coordinator is intended to leverage the application of agricultural or forestry best management practices to meet local Total Maximum Daily Load Watershed Implementation Plan measures in impaired but ecologically healthy waters. The HWP Field Coordinator is intended to leverage the work of the eight (8) Coastal Planning District Commissions (PDCs) to assist coastal communities, Conservation Districts, Virginia Department of Forestry, Land Trusts, other agencies on HWP community-based natural resource identification and protection.

The HWP Manager continued to serve as the VA representative on the HW Goal team remaining consistent that the Commonwealth will set their own course for long-term protection action. The HWP Manager attending the Chesapeake Bay Goal Team meetings on June 10, 2024, August 12, 2024, and is preparing for the October 21, 2024 meeting.

c) DCR – Planning and Recreational Resources

DCR-PRR was involved in the planning and design of two water access points in the Coastal Zone. The project at York River State Park involved dock replacement and dredging, and the project at Widewater State Park involved construction of a new boat ramp and parking area.

Multiple grant rounds and other DCR-PRR funded projects are also ongoing within the coastal zone; however, none have closed during the grant reporting period. DCR staff are in the review stage of the Virginia Outdoors Plan 2024, which includes many topics related to land conservation, resource management, and recreation for all Virginia residents.

5) Department of Wildlife Resources (DWR)

I. Wetlands

Mitigation Banking:

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

Wetland Restoration:

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

- 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 will undergo experimental creation and management of black rail breeding habitat. This project will create approximately 100 acres of black rail habitat, and if successful, will help inform impoundment management for the benefit of Eastern Black Rails and other marsh dependent species at other coastal impoundments in Virginia, including others at Doe Creek, and throughout the mid-Atlantic. The Center for Conservation Biology conducted avian monitoring in 2022 prior to construction to determine avian occupancy and plan to conduct two years of post-construction avian occupancy monitoring. The VDWR monitored pre-construction vegetation and has initiated groundwater hydrology monitoring in the summer of 2023, adhering to the adaptive management and monitoring protocols developed by the ACJV Black Rail Working Group and project partners. Approximate project completion date is December 31, 2025.

II. Nongame Species Monitoring and Research

Shorebirds and Colonial Nesting Waterbirds:

2024 Virginia Plover Survey

The Annual Virginia Plover Survey (VPS) was conducted from June 1 - 9, 2024 to obtain statewide breeding population estimates for the federally threatened Piping Plover *(Charadrius melodus)* and the state endangered Wilson's Plover *(Charadrius wilsonia)*. VPS participants examined all suitable nesting habitats shared by both species of plovers in coastal Virginia.

A preliminary total of 104 Piping Plover breeding pairs were observed during the 2024 survey (Table 1). This year's pair total reflects a 21% decrease over last year's survey total of 131 pairs. Breeding distribution did not change in 2024; all pairs were confined to the barrier islands (Assateague Island to Fisherman Island) with most birds occurring on the northern half of the island chain (Assateague Island to Cedar Island; Table 1). The preliminary 2024 end-of-season Piping Plover breeding pair total, which includes additional pairs discovered after the breeding survey was 118, which is a 20% decrease from last year's end-of-season total of 148 pairs (Figure 1). This year's breeding population decrease is the continuation of a declining trend that began in 2016 and is likely driven by multiple years of low reproductive success (see below).

A preliminary total of 17 Wilson's Plover breeding pairs were recorded during the 2024 VPS (Table 1), a 32% decrease from last year's VPS total of 25 pairs. The 2024 preliminary end-of-season total rose to 24 pairs (Table 1, Figure 2), a 4% decrease from last year's final total of 25 pairs (Figure 2). Wilson's plover breeding activity in 2024 was confined to Assateague, Metompkin, Cedar and Smith islands. This year, no Wilson's Plovers nested on Assawoman Island which is consistent with a recent trend of < 3 pairs that began in 2019. From 2012 – 2018, four to ten pairs nested on Assawoman island. In 2019 and 2020, only one pair was reported, in 2021 the number

increased to 2 pairs, then last year there were zero pairs. This decline tracks closely with the recent decline observed in the island's piping plover population and it's not clear if the two are related. One pair was confirmed breeding on Smith Island this year, which is located on the lower end of the barrier island chain and where Wilson's Plovers have not been documented since the early 2000s (Table 1). Prior to 2006, up to 25% of the state's breeding population was reported on the southern islands (Parramore Island - Fisherman Island; DWR unpubl. data). It is not known why Wilson's plovers have largely remained absent from the southern islands since then. That fact that one pair attempted to on Smith Island this year offers some hope that the species may repopulate some of the southern islands in the future. Unfortunately, the Smith Island pair fledged zero young this year.

Plover Breeding Productivity

Staff from the DWR, The Nature Conservancy's Volgenau Virginia Coast Reserve (TNC), Chincoteague National Wildlife Refuge (CNWR), Wallops Flight Facility and Fisherman Island NWR monitored the breeding success of 97% (n = 114 pairs) of Virginia's Piping Plover breeding population (n = 118) in 2024. This year's preliminary statewide productivity estimate was 0.52 fledged young per pair monitored, a slight uptick from the Commonwealth's second lowest estimate of 0.31 reported last year (Figure 3) and well below the value (0.93 fledged young per pair) necessary to maintain a stable population in the Atlantic coast Southern Recovery Unit which extends from Delaware to North Carolina. This year's low reproductive success is the continuation of a declining trend that began in 2016. Based on demographic trends observed in Virginia and in other states, increases in annual breeding populations are often preceded by several years of productivity estimates above the value necessary to maintain a stable population. Conversely, annual population declines are often correlated with consecutive years of low productivity, which is what appears to be occurring in Virginia (see Figures 1 and 2). Factors contributing to the low productivity are not clear but may include increasing populations of Ghost Crabs (*Ocypode quadrata*) on several of the islands, which are known nest and brood predators, increased activity by avian predators such as gulls, Peregrine Falcons (*Falco peregrinus*) and Great Horned Owls (*Bubo virginianus*), and encroaching vegetation creating barriers to backside foraging areas. This year's preliminary site-specific productivity estimates are presented in Table 2.

The staff from DWR, TNC and CNWR monitored the breeding success of 100% of Virginia's 2024 Wilson's Plover breeding population. A total of 19 young fledged among the 24 pairs monitored which yielded a productivity estimate of 0.79 fledged young per pair monitored. This year's productivity estimate represents a decrease over last year's estimate of 0.84 (Figure 4). Despite the slight downtick in this year's productivity, Wilson's Plovers continue to fare better than Piping Plovers, especially in the last five years.

Table 1. Preliminary Virginia Plover Survey results, June 1 – 9, 2024. Totals in parentheses reflect preliminary end-of-season Piping Plover and Wilson's Plover breeding pair estimates for sites where survey estimates were lower.

Site	Piping Plover Pairs	Wilson's Plover Pairs
Assateague Island	18 (20)	0 (2)
Wallops Island	1	0
Assawoman Island	8	0
Gargatha Beach	8	0
Metompkin Island	21 (23)	1
Cedar Island	18	15 (20)
Dawson Shoals	0	0
Parramore Island	4	0
Hog Island	3	0
Cobb Island	3	0
Little Cobb Island	0	0
Wreck Island	0	0
Ship Shoal Island	1	0
Mink Island	1	0
Myrtle Island	8 (9)	0
Smith Island	2 (11)	1
Fisherman Island	8	0
Craney Island DMMA	0	0
Grandview Beach	0	0
Back Bay NWR	0	0
False Cape SP	0	0
STATE TOTALS	**104 (118)**	**17 (24)**

Figure 1. Annual number of Piping Plover breeding pairs (end-of-season totals) in Virginia, 1986 – 2024. 2024 total is preliminary.

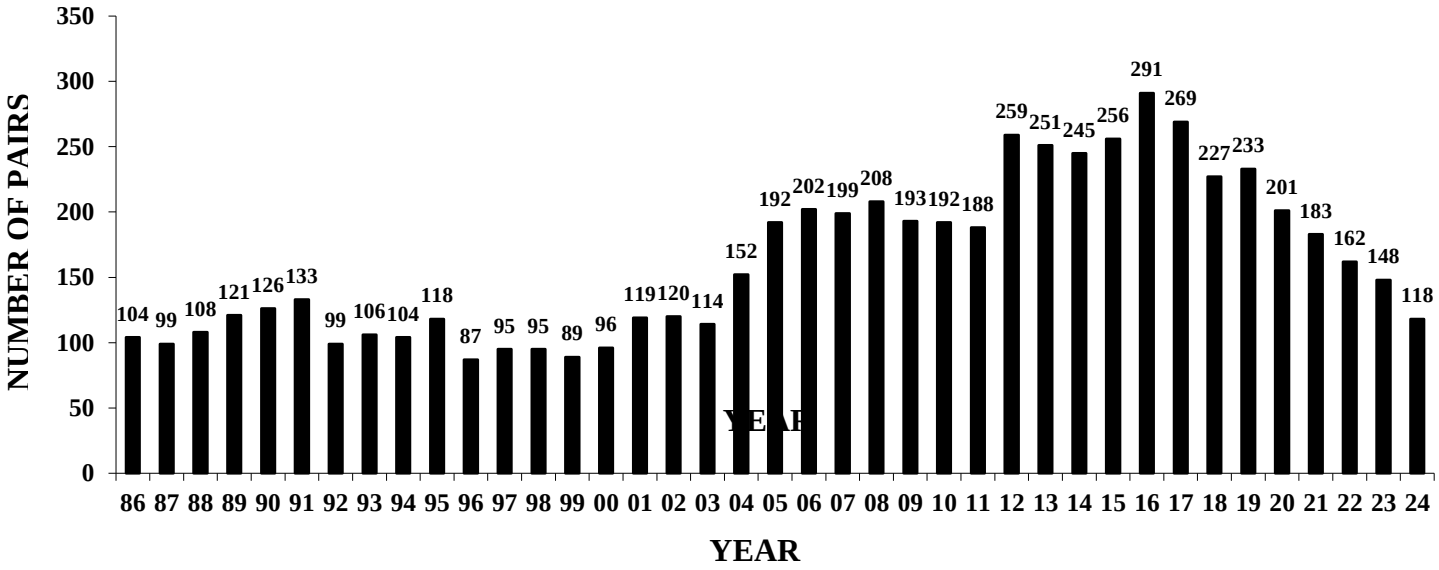


Figure 2. Annual number of Wilson's Plover breeding pairs (end-of-season totals) in Virginia, 1990 – 2024. 2024 total is preliminary.

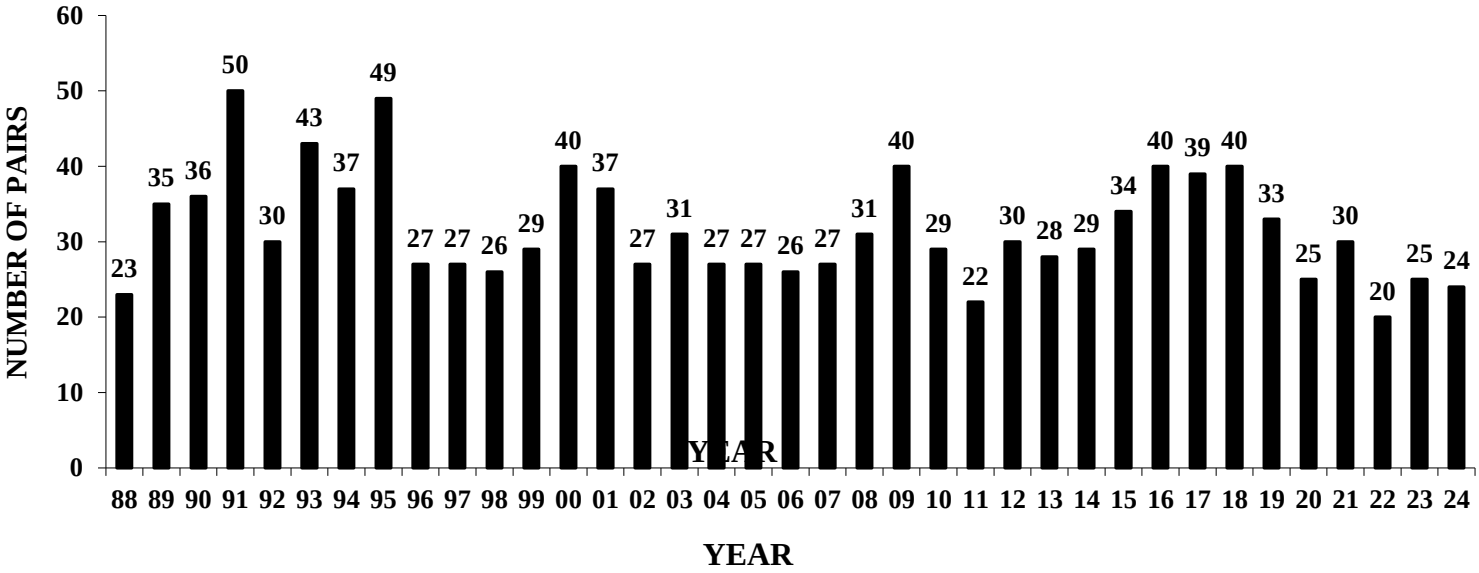


Figure 3. Annual statewide Piping Plover productivity estimates in Virginia, 1990 – 2024 (2024 estimate is preliminary). Annual estimates obtained from ≥ 75% of nests laid each year.

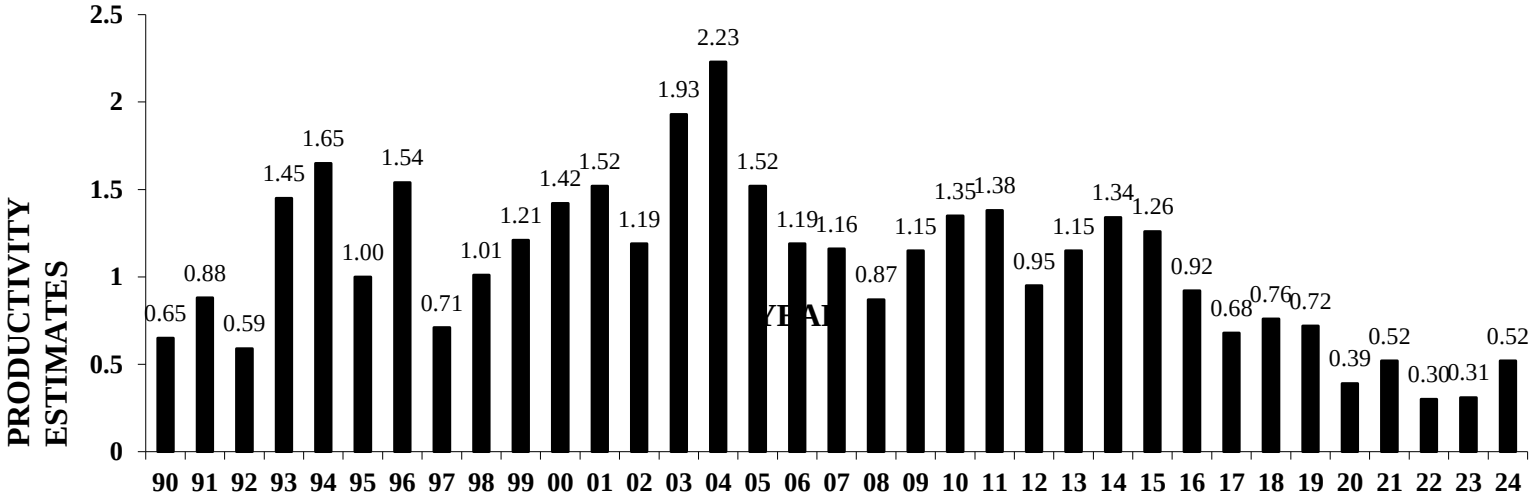


Figure 4. Annual number of Wilson's plover pairs monitored (blue bars with data labels in blue text) and corresponding productivity estimates (green line) in Virginia, 2004 - 2010 and 2013 – 2024. The 2024 estimate is preliminary.

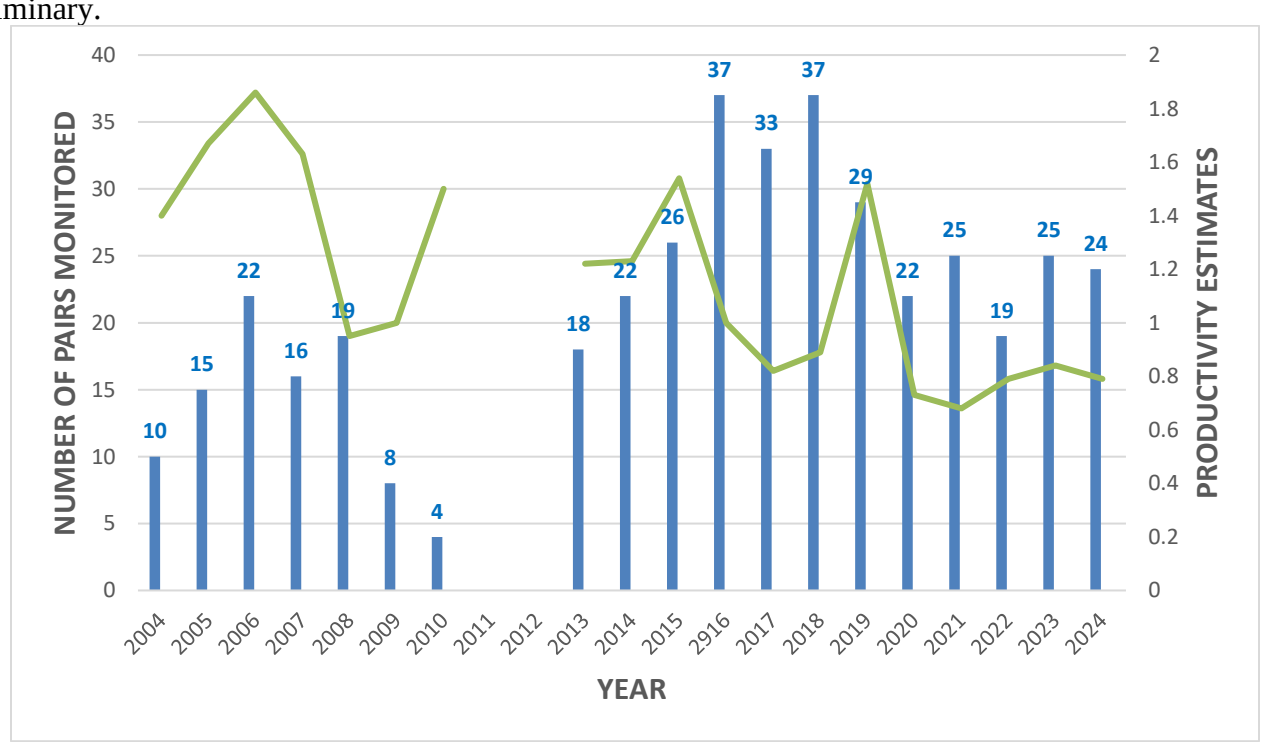


Table 2. 2024 preliminary Piping Plover productivity estimates on Virginia's barrier islands. The number of pairs monitored for productivity (n = 114 pairs) represents 97% of Virginia's end-of-season Piping Plover breeding population (n = 118 pairs). Numbers in parentheses represent 2023 final data.

SITE	# OF PAIRS MONITORED	# OF CHICKS FLEDGED	PROD.EST.
NORTHERN BARRIER ISLANDS			
Assateague Island[1]	20 (22)	18 (10)	0.90 (0.45)
Wallops Island[2]	7 (3)	1 (3)	0.14 (1.00)
Assawoman Island[1]	7 (6)	7 (2)	0.43 (0.33)
Gargatha Beach[3]	8 (9)	3 (1)	0.38 (0.11)
Metompkin Is.[3]	23 (29)	12 (12)	0.52 (0.41)
Cedar Island[3]	18 (31)	3 (5)	0.17 (0.16)
N. ISLAND TOTALS	**83 (100)**	**44 (33)**	**0.53 (0.33)**
SOUTHERN BARRIER ISLANDS			
Parramore Island[4]	4 (5)	0 (0)	0.00 (0.00)
Myrtle Island[4]	9 (8)	3 (2)	0.33 (0.25)
Smith Island[4]	11 (11)	5 (0)	0.45 (0.00)
Fisherman Island[5]	7 (3)	7 (5)	1.00 (1.67)
S. ISLAND TOTALS	**31 (27)**	**15 (7)**	**0.48 (0.26)**
STATEWIDE EST.	**114 (127)**	**59 (40)**	**0.52 (0.31)**

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

American Oystercatcher Productivity Studies

The American Oystercatcher (*Haematopus palliatus*) is a Tier II Species of Greatest Conservation Need in Virginia and is experiencing low reproductive success on the barrier islands similar to what is being observed in Virginia's Piping Plover population (Figure 5). DWR staff conducted productivity studies on Gargatha Beach and in the marshes between the village of Wachapreague and Wachapreague Inlet during this reporting period. Gargatha Beach first formed on a marsh headland between Assawoman and Metompkin islands in 2018 and has consistently supported four pairs of oystercatchers since then. In 2024, we monitored four pairs that fledged two young yielding a productivity estimate of 0.50 fledged young per pair. We monitored a total of 39 pairs in the Wachapreague marshes and collectively this population fledged 32 young which yielded a productivity of 0.82 fledged young per pair, well above the value of 0.36 fledged young per pair needed to maintain a stable population.

2023 Coastwide American Oystercatcher Survey

During previous reporting period, the DWR and The Nature Conservancy's Volgenau VA Coast Reserve coordinated and participated in VA's fifth coastwide American oystercatcher breeding survey. Previous surveys were conducted in 2003, 2008, 2013 and 2018 in conjunction with VA's coastwide colonial waterbird breeding surveys (see below). Because oystercatchers are strictly a coastal species, these surveys represent statewide population estimates. Department staff surveyed over 15 islands, marshes and shorelines from May 20 – July 15. Final results from the 2023 coastwide survey are summarized in Table 3. Virginia's breeding population increased by 61% between 2003 and 2023. It should be noted that the 2003 survey effort covered far fewer sites within the Chesapeake Bay – Eastern Shore region; therefore, the reported pair total of 42 is not an accurate estimate of the region's actual total and not directly comparable to those derived from the subsequent four surveys. Virginia's breeding population increased by 13% between 2008 and 2018 and by another 16% between 2018 and 2023. These increases are occurring even though many of the marshes and islands in the Seaside Lagoon and Chesapeake Bay – Eastern Shore regions are rapidly subsiding and/or eroding. Moreover, many of the pairs observed in the Chesapeake Bay – Eastern Shore region were observed with broods greater than 15 days old, indicating good hatch success and brood survival in these less than optimal habitats.

Figure 5. American Oystercatcher Productivity Estimates on the Virginia Barrier Islands, 2004 – 2023. Data were provided by The Nature Conservancy's Volgenau Virginia Coast Reserve.

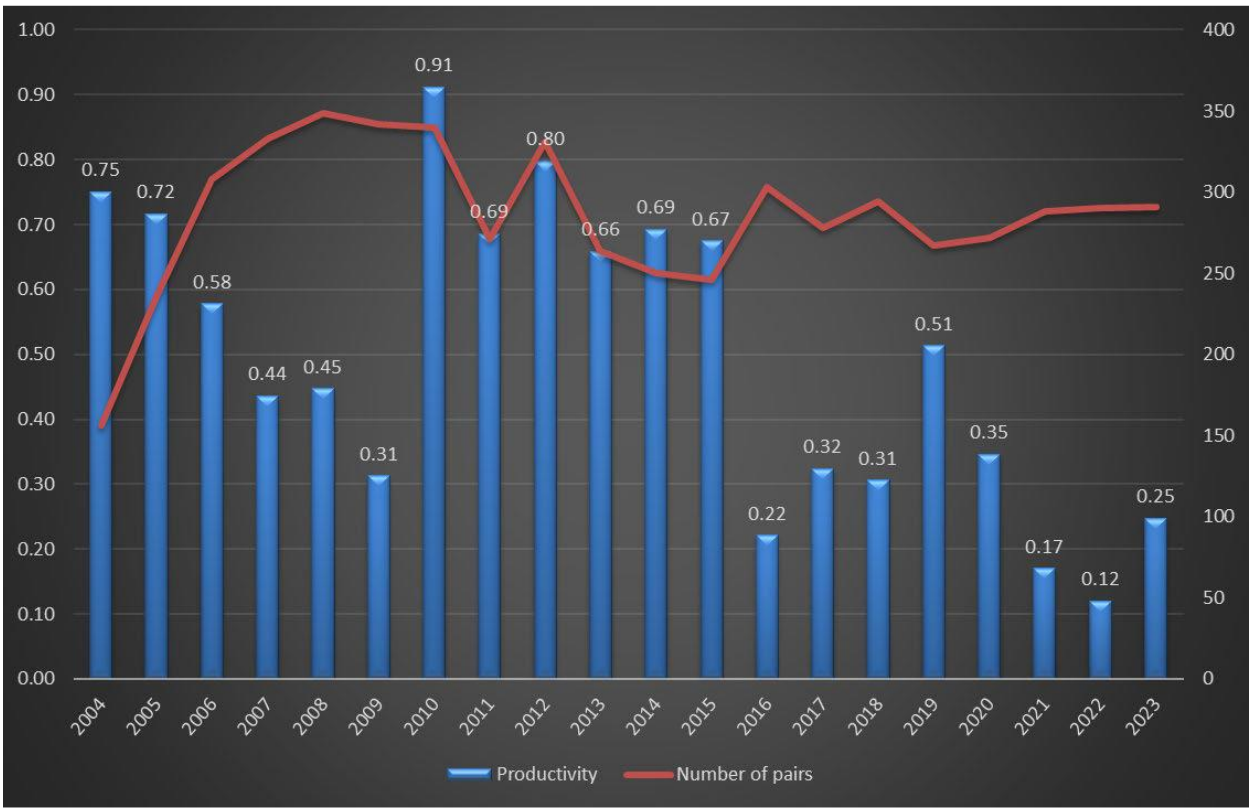


Table 3. Virginia coastwide American Oystercatcher breeding survey results, by geographic region. Coastwide surveys were conducted every five from 2003 – 2023. Summarized data were provided by The Nature Conservancy's Volgenau Virginia Coast Reserve.

Geographic Region	Year				
	2003	**2008**	**2013**	**2018**	**2023**
Barrier Islands[1]	310	395	443	496	557
Seaside Lagoon[2]	223	220	158	208	256
Chesapeake Bay – Eastern Shore[3]	42	103	120	89	111
Chesapeake Bay – Western Shore[4]	21	13	15	24	29
Other[5]	0	0	4	7	6
TOTALS	**596**	**731**	**730**	**824**	**959**

[1]Fourteen barrier islands located on the seaward fringe of the lower Delmarva Peninsula within Virginia's jurisdictional boundaries.

[2]Extensive marsh system that lies between the lower Delmarva Peninsula and the barrier islands. Chincoteague Bay marks the northern extent of the lagoon system.

[3]Islands, marshes and shorelines located in Accomack County, VA on the eastern half of the lower Chesapeake Bay.

[4]Islands, marshes and shorelines located in along the western shore of the lower Chesapeake Bay within Virginia's jurisdictional boundaries.

[5]"Other" includes primarily urban locations within the lower tidewater area of Virginia.

2023 Coastwide Colonial Waterbird Survey

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

The 2023 VA CWB survey team was comprised of several partners including the DWR, The Nature Conservancy's Volgenau Virginia Coast Reserve, the Center for Conservation Biology (CCB), and the U.S. Fish and Wildlife Service. DWR staff conducted ground surveys of 45 colonies in the Chesapeake Bay and adjacent shorelines, and on the seaside marshes and barrier islands of the lower Delmarva Peninsula. Twenty-one CWB species were encountered during these surveys, of which 11 are Species of Greatest Conservation Need.

As with previous coastwide surveys, the DWR used Wildlife and Sport Fish Restoration Program funds to contract with the CCB to: (1) conduct a single extensive aerial survey during the early stages of the breeding season to direct ground surveys; (2) conduct aerial surveys of laughing gull (*Leucophaeus atricilla*) and forster's tern (*Sterna forsteri*) colonies located in inaccessible marshes; (3) conduct aerial surveys of double-crested cormorant

(*Nannopterum auritum*) and brown pelican (*Pelecanus occidentalis*) colonies too large to survey on the ground; (4) conduct ground surveys of urban wading bird colonies in the Hampton Roads area; (5) compile, proof, enter and summarize all data collected by CCB staff and cooperating partners; (6) map all colony locations; and (7) generate a final report. The CCB successfully completed the first six activities and is currently working on finalizing the final report. Below is the report's draft executive summary.

2023 Coastwide Colonial Waterbird Executive Summary: Colonial waterbirds are highly visible components of coastal avifauna that share the unusual characteristic of nesting in assemblages of varying densities. One consequence of having large portions of populations nesting in few locations is that even restricted disturbance may have profound consequences on a population level. Development of conservation strategies for these sensitive species requires current status and distribution information. In the fall of 1992, a consortium of agencies and individuals agreed that a comprehensive monitoring program for the Virginia colonial waterbird community was needed and that assessments should be made on regular intervals for trend analyses. The initial interval was every 10 years than it was reduced to every five years in 2008. Systematic surveys have been conducted during the breeding seasons of 1993, 2003, 2008, 2013 and 2018. The 2023 survey reported here is the sixth in the time series. These surveys have covered colonial waterbird populations (24 species – Great Blue Herons were not included in 2008, 2018 and 2023 due to budgetary constraints) throughout the Coastal Plain province of Virginia.

We surveyed 297 waterbird colonies during the breeding season of 2023. Colonies supported an estimated 40,944 breeding pairs of 23 species (Table 4). Gulls were the most abundant group with more than 15,000 breeding pairs. Terns and long-legged wading birds (herons, egrets and ibis) accounted for 12,202 and 6,398 pairs respectively. Although they have declined dramatically, Laughing Gulls continue to be the most abundant species. The Seaside Region, which encompassed the barrier island/lagoon system along seaward margin of the Delmarva Peninsula northward to the Maryland/Virginia boundary line, was the most important region for the majority of colonial species encountered. In 2023, this region supported 22 of the 23 species evaluated. This region accounted for 61% and 43% of all breeding pairs and colonies respectively. For 15 of the 23 species, this region supported more than 50% of the known coastal population.

The colonial waterbird community as a whole in coastal Virginia has declined dramatically since 1993 (Table 4). Population estimates for 14 (64%) of the 22 species assessed declined between 1993 and 2018. Declines varied considerably between species with 11 species declining more than 40% and 9 species declining more than 60%. Cattle Egrets showed the highest loss rate (-98%), declining from an estimated 1,459 to only 25 pairs. Glossy Ibis declined by 82% from 1,008 to only 182 pairs. Eight species increased between 1993 and 2023. Dramatic expansions were documented for White Ibis, Double-crested Cormorant, and Brown Pelican. Several species have shown recoveries after declines or fluctuations over time.

Over the past 30 years, two major forces appear to be shaping the colonial waterbird community in Virginia. These include 1) regional shifts in population centers that are driving population increases in Virginia and 2) habitat degradation related to sea-level rise. There are several species that have increased over the past 20 years which have experienced ongoing range expansions and are riding a population wave that is progressing through Virginia. This includes Double-crested Cormorant, Brown Pelican, and White Ibis. Most of the decline in medium-sized wading birds is being driven by habitat loss related to erosion of islands and subsidence of marshes. Erosion and subsidence resulting from sea-level rise is ongoing and represents a significant threat to these populations. Several ground-nesting seabirds are likely more directly impacted by the loss of viable habitat and demographic impacts related to frequent flooding. The most notable example is the Laughing Gull that has experienced a catastrophic decline in both population and distribution (Table 4).

Table 4. Comparison of estimated number of breeding pairs obtained from the Virginia 1993, 2003, 2008, 2013, 2018 and 2023 coastwide colonial waterbird breeding surveys.

Species	1993 Pop. Est.	2003 Pop. Est.	2008 Pop. Est.	2013 Pop. Est.	2018 Pop. Est.	2023 Pop. Est.
Wading Birds						
White Ibis	3	77	119	369	1746	1602
Glossy Ibis	1008	818	657	484	366	182
Great Blue Heron	9112	9136	NS	7809	NS	NS
Great Egret	2520	2720	1588[a]	2894	1527[a]	942[a]
Snowy Egret	2329	882	895	903	893	751
Tricolored Heron	767	507	312	718	351	566
Little Blue Heron	374	310	173	178	64	104
Cattle Egret	1459	166	120	56	48	25
Green Heron	154	60	33	49	21	31
Black-crowned Night Heron	526	640	654	358	858	1545
Yellow-crowned Night Heron	388	241	212	299	602	650
Gulls						
Great Black-backed Gull	514	1084	1519	1172	1119	561
Herring Gull	8801	4521	2685	3326	1957	2063
Laughing Gull	45387	44953	37064	24160	16653	12408
Terns						
Gull-billed Tern	606	322	311	294	349	325
Caspian Tern	8	1	2	9	1	0
Royal Tern	6250	2858	3244	5321	2874	7974
Sandwich Tern	30	7	100	28	102	179
Forster's Tern	2939	2477	3065	2431	1494	1099
Common Tern	6781	1891	1442	1985	1318	1526
Least Tern	1171	843	1182	925	991	1099
Others						
Black Skimmer	3098	1828	1364	1506	1567	1691
Double-crested Cormorant	354	1338	1991	2876	5012	3012
Brown Pelican	368	1661	1924	2454	3246	2609
Total	94947	79343	60758[a]	60604	43159[a]	40944[a]

[a]Great Egrets were not surveyed along the tributaries of the western shore or throughout the swamps and Chowan watershed of Southside Virginia.

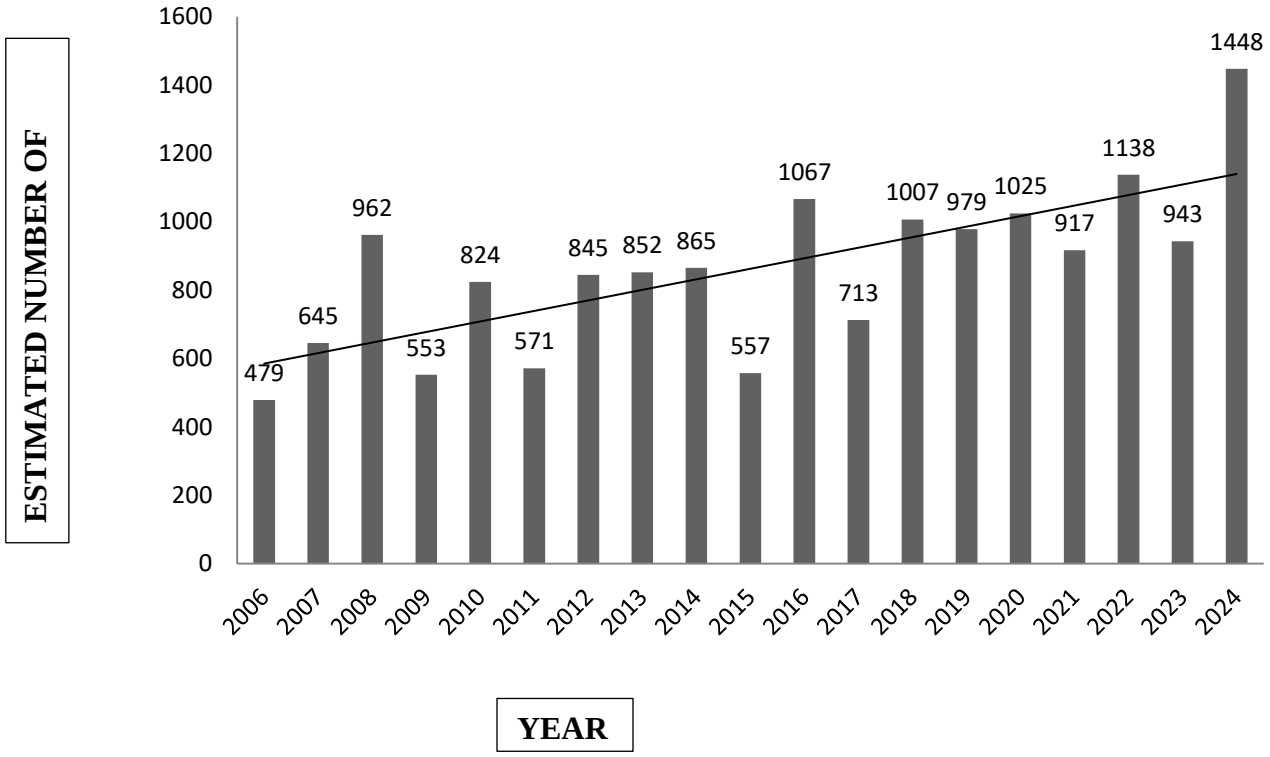
2024 Annual Atlantic Coast Least Tern Survey

In 2024, the DWR staff coordinated the 19th annual Atlantic coast Least Tern (*Sterna antillarum*) breeding survey in Virginia, an effort which began in 2006. The Least Tern is a Tier III Species of Greatest Conservation Need in the VA Wildlife Action Plan. The survey window for the southern Mid-Atlantic States (MD – NC) is June 1 – 15. Least Terns are one of the more difficult seabird species for which to obtain accurate breeding population estimates. They are highly ephemeral (abandon one site in favor of another, often several times during a single breeding season), patchy in distribution within colonies, and eggs are small and well-

camouflaged making them difficult to see. Thus, the information gathered by participating Atlantic coast states are viewed as trend data rather than actual population estimates and efforts are made by the states to maintain a similar level of effort from year to year within in the survey window.

Through the combined efforts of the DWR, The Nature Conservancy's Volgenau Virginia Coast Reserve, Chincoteague NWR, and Fisherman Island NWR, a preliminary minimum estimate of 1,448 Least Tern breeding pairs in 50 colonies was generated. This estimate does not include several small colonies along the western shore of the Chesapeake Bay; the final corrected total will be presented in next year's performance report. That said, this year's preliminary estimate reflects a 54% increase from last year's total of 943 pairs and is the highest total since surveys began in 2006 (Figure 6). This year's dramatic increase can be attributed to substantial increases in the size of several key barrier island colonies coupled with a lack of storm-related flooding events that allowed these colonies to persist through the fledging period. Despite the considerable annual fluctuations observed since 2006, it appears the Virginia Least Tern population is on an increasing trajectory (Figure 6). Over 97% of this year's breeding pairs (n = 1,415) occurred on Virginia's barrier islands and 3% (n = 33 pairs) nested at Craney Island Dredge Material Management Area in Portsmouth, VA. No rooftop nesting was reported this year.

Figure 6. Least tern breeding pair estimates in Virginia, 2006 – 2024 (2024 estimate is preliminary).



Re-sightings of Royal Terns Banded in an Urban Colony in other Virginia Breeding Colonies

In 2020, then Governor Northam directed the DWR to provide temporary nesting habitat for Virginia's largest seabird breeding colony that was displaced from the Hampton Roads Bridge-Tunnel (HRBT) South Island (SI) upon the initiation of the HRBT Expansion Project in the fall of 2019. The governor mandated that temporary habitat be created on Fort Wool (FTW), an island adjacent to SI, and on industrial barges anchored in the embayment between the HRBT and FTW until a new seabird nesting island is constructed somewhere in the vicinity of the HRBT. In 2024, with funding provided by the Virginia Department of Transportation, the DWR once again successed in providing suitable nesting habitat for breeding seabirds on FTW and the barges. One of the most beneficial outcomes from this relocation project is the banding of seabirds on SI in 2018 and 2019 and on FTW and the barges from 2020 – 2024. As of 2023, uniquely coded plastic field-readable bands (PFR) have been applied on 14,126 Royal Terns (226 adults, 13,900 young) and on 5,198 adults and chicks of five other species. In 2023, DWR and The Nature Conservancy's Volgenau Virginia Coast Reserve staff began surveying other Royal Tern colonies in Virginia for PFR-banded birds to determine if urban colonies can function as source populations. Two surveys were conducted in a colony in the Chesapeake Bay (Clump Island) and one survey was conducted in a colony located along the barrier island chain on Virginia's Eastern Shore (Cobb Island). All three surveys were conducted late in the breeding season (July and August). Despite the limited effort, a total of 331 marked individuals were observed in both colonies of which 64% (n = 211) were banded as chicks on SI and 20% (n = 67) were banded as chicks on FTW. In 2024, we conducted four re-sighting surveys in the Clump Island colony and three surveys in The Cobb Island colony from May – August. The resighting data from both colonies are still being analyzed but the Clump Island surveys yielded approximately 520 individuals that were banded on SI or FTW were confirmed breeding in the Chesapeake Bay. An additional minimum of 147 banded individuals were confirmed breeding in the Cobb Island colony. These preliminary results suggest that heavily disturbed urban colonies can serve as source populations.

Coordinated Seabird Diet Monitoring

In the fall of 2023 under the auspices of Atlantic Marine Bird Cooperative, DWR staff assisted with the planning and implementation of a pilot project that involves the coordinated collection of Common Tern and Black Skimmer diet information by Atlantic and Gulf coast states to determine if warming sea temperatures are causing shifts in the diets piscivorous seabirds. The most efficient way to gather this information is through the collection of fecal samples in breeding colonies from which DNA can be extracted and prey items can be identified at the species level. During the 2024 breeding season, seven states collected Black Skimmer fecal samples from 13 colonies, six of which were ocean-facing, three were on the Gulf of Mexico, and four were inshore colonies (Table 5). Eight states and one Canadian province collected Common Tern samples from 24 colonies, of which 16 were ocean-facing colonies and remaining eight were inshore colonies. In Virginia, the DWR staff collected fecal samples from 80 black skimmer chicks and 80 common tern chicks at two barrier island colonies. The Virginia Tech Shorebird Program collected Common Tern and Black Skimmer samples from adults and chicks at the Fort Wool and Barges colony located at the mouth of the James River. All samples have been submitted to the Cornell Laboratory of Ornithology and will be analyzed by Dr. Gemma Clucas, a research associate who has analyzed fecal samples collected in the Gulf of Maine and Antarctica.

Table 5. A summary of the number of samples collected by state and province during 2024, the first year of the coordinated seabird diet study.

Common Terns			Black Skimmers		
State/Province	**# of Colonies**	**Age class(s)**	**State/Province**	**# of Colonies**	**Age class(s)**
New Brunswick, Canada	1	Adults	New York	1	Adults & chicks
Maine	10	Adults & chicks	New Jersey	1	Chicks
New Hampshire	1	Adults & chicks	Virginia	3	Adults
Massachusetts	3	Adults & chicks	North Carolina	3	Chicks
Connecticut	2	Adults & chicks	South Carolina	1	Chicks
New York	1	Adults	Florida	3	Adults & chicks
Maryland	2	Adults & chicks	Mississippi	1	Adults & chicks
Virginia	3	Adults & chicks			
North Carolina	1	Chicks			
Total colonies	**24**			**13**	

Avian Knowledge Network Atlantic Flyway Colonial Waterbird Extension

DWR staff, with help from the Atlantic Flyway Nongame Migratory Bird Technical Section (NMBTS) and state and provincial waterbird biologists continued to work on integrating Atlantic Flyway CWB breeding data into the Avian Knowledge Network (AKN). The Atlantic Flyway Council has been funding this effort since 2020. Last year, the DWR convened a team made up of state and provincial biologists who met monthly online to establish sampling units, identify common fields and reach a consensus on field values and definitions. During this performance period, work focused on: (1) getting states and provinces to test the beta data entry interface with the new core fields added; (2) creating custom database structures for each state and province that incorporate state/province-specific data fields, species lists and sampling units; and (3) creating an overarching Atlantic Flyway CWB database structure (i.e., Program Enterprise) that will allow for flyway-scale analysis and management of data by grouping state and province databases under a single framework. Much of the work completed this year was overseen by the new Conservation Delivery Specialist hired by the Atlantic Flyway Council. This person will continue work with the state and provincial CWB data managers to complete the final tasks which include: (1) developing decision support tools such as interactive mapping tools (e.g., Shiny Apps) that will allow for comparison of CWB survey data both within states and across the flyway; and (2) getting

state/provincial CWB data managers trained on how to bulk upload data into the new AKN structure and on the function and use of new visualization, access, summary, and analytical tools.

Sea Turtles:

Based on preliminary reports received from partners, a total of 5 loggerhead sea turtle nests were documented in Virginia this year. Three loggerhead nests were recorded on the beaches of Back Bay National Wildlife Refuge and False Cape State Park and two were documented on Assateague Island in Accomack County.

Freshwater Mussels:

Atlantic Slope Freshwater Mussel Propagation
The VA Department of Wildlife Resources continued its cooperative Atlantic Slope freshwater mussel propagation facility with the U.S. Fish & Wildlife Services' Harrison Lake National Fish Hatchery in Charles City, which marks the 16th year of production and 17th year of operation at the VA Fisheries and Aquatic Wildlife Center (VFAWC).

Propagation began in April and ended in August. In that period of time, we produced 598,517 juvenile mussels from eight species (Table 1), surpassing our target number of 484,000 juveniles. VFAWC conducted propagation with three listed species in the Atlantic Slope: *Alasmidonta varicosa* (SE), *Lasmigona subviridis* (ST), and *Parvaspina collina* (FE, SE).

In 2024 so far, we released 6,295 mussels of four species into waterbodies of Virginia (Table 2). All mussels were tagged to allow for future monitoring of growth, survival, and reproduction. More tagging and releases of mussels are planned for later in the year.

This season, we provided 74,753 mussels of five species to outside organizations in support of mussel conservation, river restoration, and research in the region (Table 3).

Table 1. Summary of goals and final counts of juvenile mussels propagated in 2024.

Species	**Broodstock Waterbody**	**Propagation Goals**	**Juveniles**
Alasmidonta varicosa	Cacapon R.	15,000	13,648
Elliptio complanata	Potomac R, Licking Run, Bull Run	104,000	60,143
Lampsilis cardium	Potomac River watershed	50,000	129,282
Lampsilis radiata	Anacostia R.	60,000	16,371
Lasmigona subviridis	Tye R.	10,000	30,267
Parvaspina collina	Johns Creek	10,000	34,252
Sagittunio nasutus	Anacostia R.	85,000	106,696
Utterbackiana implicata	Delaware R, Anacostia R.	150,000	207,858
Totals		484,000	598,517

Table 2. Distribution information for mussels released by VFAWC in Fall of 2024.

Species	Broodstock Waterbody	Release Waterbody	Count	Age (months)
Alasmidonta varicosa	Cacapon R.	Broad Run	591	27-63
Lampsilis radiata	Nottoway R.	James R.	942	49-50
Lasmigona subviridis	Rappahannock R.	Rappahannock R.	230	17
Utterbackiana implicata	Rappahannock R.	James R, Rappahannock R.	4,532	28-40

Table 3. Distribution information for mussels provided by VFAWC to other organizations for restoration, propagation, and research.

Species	Organization	Broodstock Waterbody	Count	Age (months)
Alasmidonta varicosa	MD DNR	Cacapon R.	250	39
Elliptio complanata	MD DNR	Bull Run, Broad Run	12,190	1
Lasmigona subviridis	USGS	Tye R.	8,677	0
Sagittunio nasutus	PDE	Delaware R.	38,824	2-3
Utterbackiana implicata	PDE	Delaware R.	14,812	3

Note: Maryland Department of Natural Resources (MD DNR), Partnership for the Delaware Estuary (PDE), and U.S. Geological Society (USGS).

Chicken Turtle Monitoring:

DWR Herpetologist conducted an annual survey for the state endangered chicken turtle in Isle of Wight (IOW) County. The chicken turtle is a semi-aquatic turtle that reaches the northern end of its range in southeastern Virginia. The common name is believed to have been derived from an historic written account from the 1800's, which stated that they taste like chicken. The IOW County site is only 1 of 2 known populations in the Commonwealth, the other being at First Landing State Park in Virginia Beach. Also commonly referred to as the Cat Ponds, this IOW site occurs on private property and has been a "family farm" since the 1850's (formerly known as the Anchorage Plantation). DWR staff has been monitoring this population since 2012 but has been working with this landowner on a variety of conservation issues for the past few decades. The Cat Ponds is a series of sinkholes that is habitat to several Species of Greatest Conservation Need, including the state endangered tiger salamander and state threatened Mabee's salamander. Surveys are conducted using a fyke net system. This year was one of our most successful years for trapping, which resulted in the capture of 15 individuals including 13 adults and 2 hatchlings. Of the 13 adults, 12 were recaptures including an individual marked 2012, which is one of the first turtles ever marked at this site. The two hatchlings represented the first hatchlings found in Virginia.

III. Fisheries

Tidal Rivers Program, Chesapeake Bay drainage:

- VDWR conducted active tracking of Blue Catfish and Atlantic sturgeon throughout the James and Chickahominy Rivers from April 1, 2021 to throughout the performance period.
    - VDWR conducted active tracking of Blue Catfish in the James River and tributaries on seven days from April 1, 2024 throughout the performance period. Unique tag identification numbers were recorded for all detections and datetime, signal decibels, coordinates, conductivity, temperature, and turbidity was noted. These data provided information on Blue Catfish overwinter survival from fall tagging efforts in addition to movement and aggregation data.
- VDWR conducted Blue Catfish sampling in the James, Piankatank, and Chickahominy Rivers via low-frequency electrofishing from July 24 to August 9. All fish were weighed and measured; otoliths were collected from a subsample of Blue Catfish. Otoliths will provide age and growth data for Blue Catfish in these systems and allow VDWR to track long term trends in population age and size structure.
- Region 1 staff of the Virginia Department of Wildlife Resources conducted one day of spring electrofishing on the upper Piankatank River. This April survey was targeted at assessing the strength of the striped bass run in this area of the river. Initial hopes of using collected male striped bass for potential brood stock at King & Queen Fish Hatchery was the goal. A limited number of striped bass were collected with juvenile red drum, longnose gar, and largemouth bass also netted. An additional five days of striped bass brood stock collections were conducted during the month of April. Four of the days targeted the striped bass on the tidal James River and one day on the middle reaches of the Rappahannock River near Carters Wharf. The poor state of the striped bass population made for difficult times trying to find the handful of fish needed for hatchery propagation to meet the desired stocking allocations of the various impoundments.
- Electrofishing surveys of the tidal Rappahannock River started off the fall 2024 season. Four sites within Hoskins and Piscataway Creeks were surveyed on September 19th to get a jump on the salinity wedge that has been highly problematic on these lower end tributaries over the last few years. An additional five sites were conducted on September 30th in and around the Carters Wharf area of the Rappahannock River. The remaining 17 sites of the fall survey were conducted during the first week of October. The surveys allowed for a full assessment of all fish species encountered from the forage base of juvenile menhaden and gizzard shad to the apex predators of largemouth bass and blue catfish. An initial assessment of the collected data revealed declining populations of northern snakehead and bowfin.

Albemarle-Pamlico Drainage:

- During the reporting period, biologists spent 15 days surveying fish communities in Back Bay, 13 additional days collecting fish samples from Back Bay in coordination with an Old Dominion University master's project, 9 days of submerged aquatic vegetation monitoring, water quality monitoring, and vegetation restoration in Back in coordination with Virginia Tech staff.
- Biologists also spent two days surveying fish communities in the North Landing River.

Fish Passage Project

1. Stream Monitoring, Adult Anadromous Fishes

a. Chesapeake Tributaries: The Fish Passage Project of the Department of Wildlife Resources (DWR) continued with the weekly boat electrofishing for adult anadromous fish that began in mid-February and continued until the beginning of June. James River samples included the tidal/non-tidal interface area at the lower end of the

fall zone and other fall zone areas such as just below Boshers Dam (vertical slot fishway). Rappahannock River samples included the tidal area just below the tidal/non-tidal interface at Fredericksburg and at Motts Run (five miles upstream of the former Embrey Dam that was removed in 2004/2005). Chickahominy River samples were below Walkers Dam (double Denil fishway). A few James River tributaries were sampled by backpack electrofishing to determine river herring distribution as part of the effort to prioritize road stream crossings for fish passage improvement projects.

Overall, river herring catch rates were in the typical range for the main areas sampled. American Shad catch rates were down in the James and Rappahannock rivers. American Shad were not collected from the James River for otolith analysis (oxytetracycline mark on hatchery fish) in 2024 for two reasons. Very few American Shad were seen, and the last fry stocking was done in 2017 so the chance of finding any fish at least seven years old was very minimal. It is rare to find Shad seven years or older. Spawning American Shad were also absent in Chickahominy River collections in 2024.

We also sampled the South Anna River from immediately downstream of Ashland Mill Dam down to the I-95 bridge. This was a reinitiation of sampling on the South Anna River related to the impending removal of Ashland Mill Dam. American Shad, Hickory Shad, and Alewife were collected during the weekly samples along with Striped Bass, Sea Lamprey and American Eel.

As previously reported, Alewife were found all the way up to the tidal/non-tidal interface of Cornelius Creek (a James tributary) in March 2022. The triple box culvert crossing at Mill Road in Henrico County is a severe barrier as scored by the North Atlantic Aquatic Connectivity Collaborative assessment tool. This site is only 0.6 miles upstream of where Alewife were found by backpack electrofishing in March of 2023. We did not find any river herring here during limited sampling in 2024. There is also eDNA evidence that river herring ascend this stream to this crossing (VCU and USFWS) in recent years. This is a James tributary fish passage priority site and DWR is consulting with Henrico County (owner of road crossing) on the possibilities of pursuing a fish passage project at Mill Road.

Striped Bass were also collected in the upper tidal reaches of the rivers sampled in 2024. In addition to catch per unit effort (CPUE), length and weight data was collected for additional analysis. Of note, Striped Bass catch rates were higher in the Rappahannock in 2024 compared to the last several years. Unprecedented, during three consecutive weekly samples multiple large spawning females were collected between Route 1 and City Dock.

The DWR continued to monitor Alosine passage through the double Denil fishway at Walkers Dam located at river mile 24 on the Chickahominy River using an electronic counter in both exit channels and frequent, periodic exit channel trapping to obtain species composition. With the absence of commercial and recreational harvest numbers, this type of run count is critical to evaluating the overall health of herring populations. The 2024 data is still being analyzed to generate this year's count estimate. Prior years' results are as follows:

- Total fish annual passage estimates and Alewife and Blueback Herring (combined) portions to date:
    - 2018 = 487,470 total; 183,298 river herring
    - 2019 = 250,393 total; 86,980 river herring
    - 2020 = 255,460 total; 100,509 river herring
    - 2021= 166,424 total; 78,843 river herring
    - 2022 = 280,508 total; 151,430 river herring

- 2023 = 373,088 total; 216,486 river herring

- Gizzard Shad make up an average of approximately 55% of the total count annually

- Hickory Shad and American Shad are found in small numbers but not in every year

2. Stream Monitoring, Juvenile Anadromous Fishes
2024 sampling in progress: Approximately bi-weekly sampling using a bow-mounted push net was conducted from June through October on the tidal James River between Osborne Landing and the City of Richmond, the upper tidal Rappahannock River near Fredericksburg, and the Chickahominy River both in the lake above Walkers Dam and in the tidal reach below the dam. Catch rate is expressed as the number of juveniles per 100m3 of water sampled. Moderate numbers of juveniles of at least three of the Alosines were collected so far this year on the James and Rappahannock (American Shad, Blueback Herring, and Alewife). Even though very few adult American Shad were found on the Rappahannock River in the spring typical densities of American Shad juveniles have been found so far in 2024 in the upper tidal push net samples. This is important information to obtain to demonstrate successful spawning of American Shad in the Rappahannock. Numerous Blueback Herring have been collected on the Chickahominy. Sample processing will be completed in the near future.

a. Boshers Dam Vertical Slot Fishway (James River mile 113): Digital video data was collected during the 2024 spring spawning run at the Boshers Dam vertical slot fishway viewing window on the James River (river mile 113) near Richmond. Fishway evaluation has occurred annually since the 1999 inaugural season. Starting in 2016 the 15 minute per hour sub-sampling approach was modified to randomly select the ¼-hour increment of video to be reviewed. To generate species' passage estimates, the 15-minute count is multiplied by a factor of four. American Eel elvers (4" – 6" range) were collected with small nets and plastic scoops on a few occasions throughout the spring and summer of 2024 from the fishway channel with the head gate almost closed to nearly stop flow. The 2024 video review is currently underway. Highlights of the 2023 season are as follows:

- 1,252 daytime and 757 night hours of video were subsampled (randomly chosen ¼ hour of each hour of reviewable video)

- Total passage estimate for all species for was 46,904 fish (was 241,544 in 2023; 1999-2022 average=86,784)

- Four American Shad, which is well below long-term average of 133 that unfortunately continues a declining trend.

- 33,996 Gizzard Shad; 3,140Sea Lamprey (native anadromous species); 1,916 Quillback; 1,743catfish (three species); 1,060 Shorthead Redhorse; American Eel elvers observed and/or collected from channel; several other species (Smallmouth Bass, etc.)

- 30 fish species documented using the fishway to date

3. Fish Passage Projects
a. Chandlers Dam: Chandlers Dam, a DWR operated fishing lake dam near Montross failed in 2015. Major renovations, completed in spring 2020, included the construction of a pool and weir fishway to provide passage for American Eel, resident fish species and possibly river herring. The fishway is also the primary spillway for the rebuilt dam. Two extraordinary high-water events since the fall of 2020 resulted in severe damage to the dam. No sampling occurred from 2021 through 2024 because the lake remained drawn down or drained during repairs. DWR's contractor recently completed necessary repairs and renovations including adding a large concrete spillway to pass very high flows to protect the dam. The pool and weir fishway is again operational

and will be monitored periodically next spring.

b. Rapidan Mill Dam: With Embrey Dam gone from the Rappahannock River (2004/2005) DWR considers this removal to be a very high priority fish passage project and has been working with the local non-profit American Climate Partners (ACP) on plans to remove this 12' high dam located in the Town of Rapidan. Striped Bass have been confirmed below the dam and there is eDNA evidence (SERC) that river herring reach the dam. DWR provided technical assistance to ACP on their NOAA grant application for BIL fish passage funding that was successful. The first phase of funding has been awarded to begin feasibility, design and permitting that will be followed by the construction phase. ACP hired a fish passage project manager that is the current main project of the ACP subsidiary Rapidan Mill Institute. DWR plans to continue pre-removal fish data collection and to conduct post-removal fish sampling.

c. Ashland Mill Dam Removal: Ashland Mill Dam was the first impediment on the South Anna River. For several years in a row (about 12 years ago) DWR consistently documented the presence of all four Alosine species, Striped Bass, Sea Lamprey and American Eel immediately downstream of this dam making it the highest priority fish passage project in terms of diadromous fishes in Virginia. DWR has been providing technical assistance in the effort to remove this dam and teamed up with Randolph Macon College in the spring of 2024 to conduct additional pre-removal sampling below the dam. The mill property is now being used for different industrial use (i.e., not hydromechanical) making the dam obsolete. Davey Mitigation, a division of Davey Resources Group, Inc. secured access to and control of the dam so that they could remove it with the assistance of another Davey division, Wetland Studies and Solutions. The USACE and DEQ approved the MBI that permits Davey to conduct this long-desired ecological restoration project in order that they can pursue mitigation credits that can be sold to permitees for future environmental impacts in the York watershed. Removal began in September and was completed in October. DWR and RMC will begin post removal monitoring in the spring of 2025 when they expect to see target species making use of the reconnected habitat.

d. Baber's Mill Dam Removal: This 1827 dam was the first impediment on Rock Island Creek (middle James River tributary) in Buckingham County. Originally 10' tall it powered a saw and grist mill. Long obsolete, the remaining 6' tall structure was a barrier to migratory fish species, some of which are likely host fish for James Spinymussel. About 2,000 Sea Lamprey pass through Boshers Dam fishway each spring and their use of this tributary was documented in April of 2024 just before the start of removal. Wild James Spinymussel was also documented below the dam. DWR worked with Weyerhaeuser (owner) to obtain access for dam and stream surveying. DWR developed the removal plan including the associated drawings and facilitated obtaining the required permits. The USFWS provided a portion of the funding through a State Wildlife Grant to DWR and assisted with the Section 106 (historic resources) review process. The remaining balance of the funding was provided by Weyerhaeuser and an anonymous private foundation. Weyerhaeuser contracted a construction company with dam removal experience to carry out the project that occurred in April.

6) VIRGINIA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES (VDACS)

Plant Pests – VDACS administers several plant pest quarantines pursuant to the Virginia Tree and Crop Pests Law, which are intended to slow the rate of spread of invasive, damaging plant pests by restricting the artificial movement of regulated articles that are capable of inadvertently moving life stages of the pest to other uninfested parts of the Commonwealth. As of October 2024, VDACS has four (4) such quarantines active: cotton boll weevil, imported fire ant, spongy moth, and spotted lanternfly. Maps of the quarantines are below, with the exception of the cotton boll weevil quarantine, as that quarantine restricts the movement of regulated articles from other states that are infested with the cotton boll weevil.

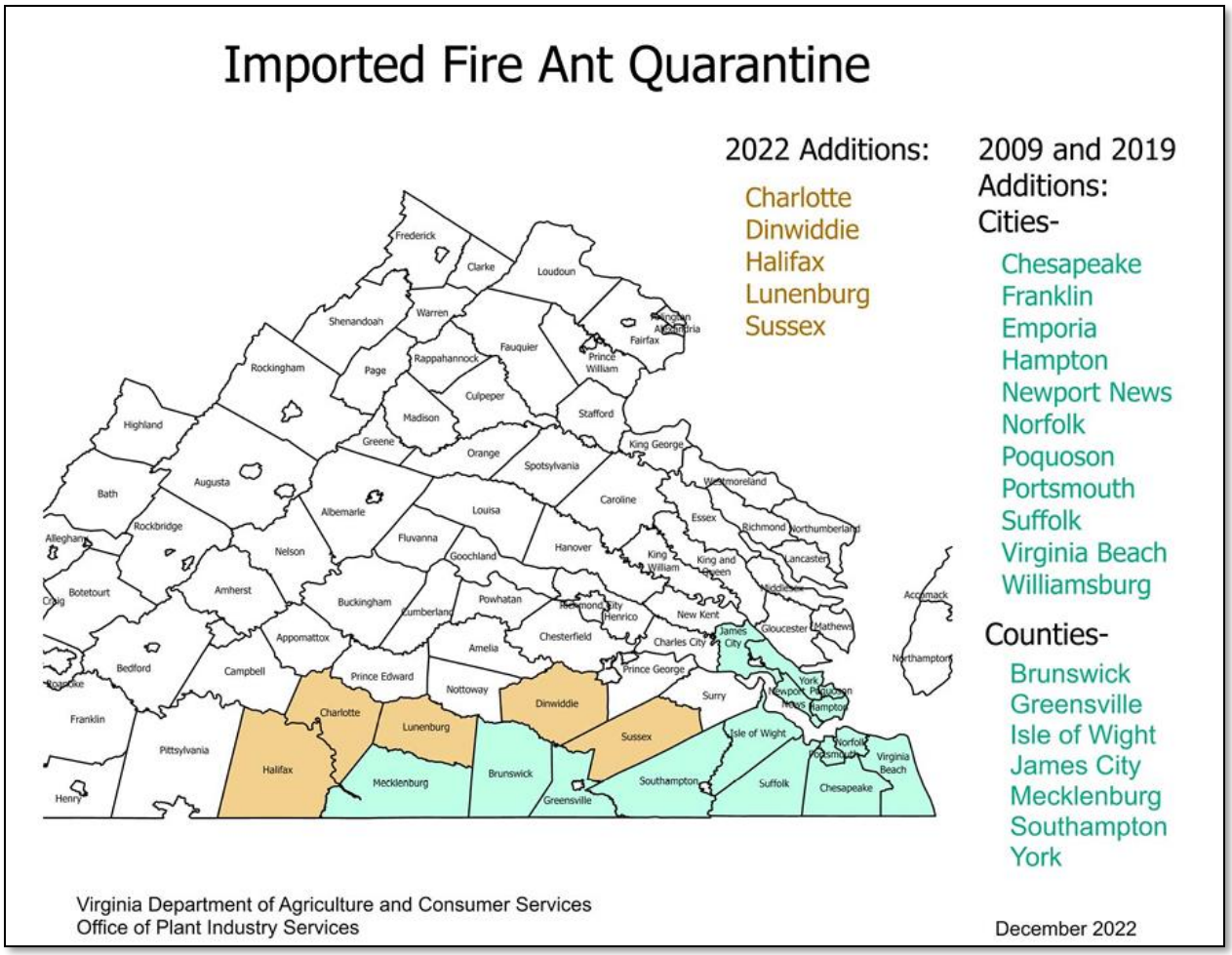


Figure 1: Imported fire ant quarantine, as of October 2024.

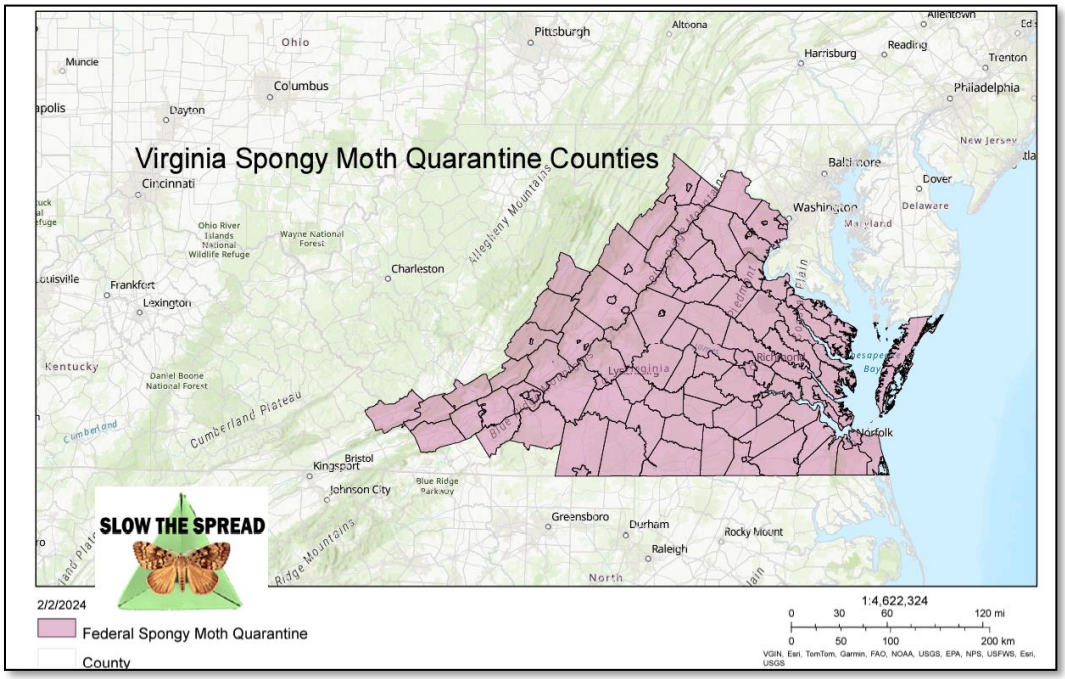


Figure 2: Spongy moth quarantine, as of October 2024.

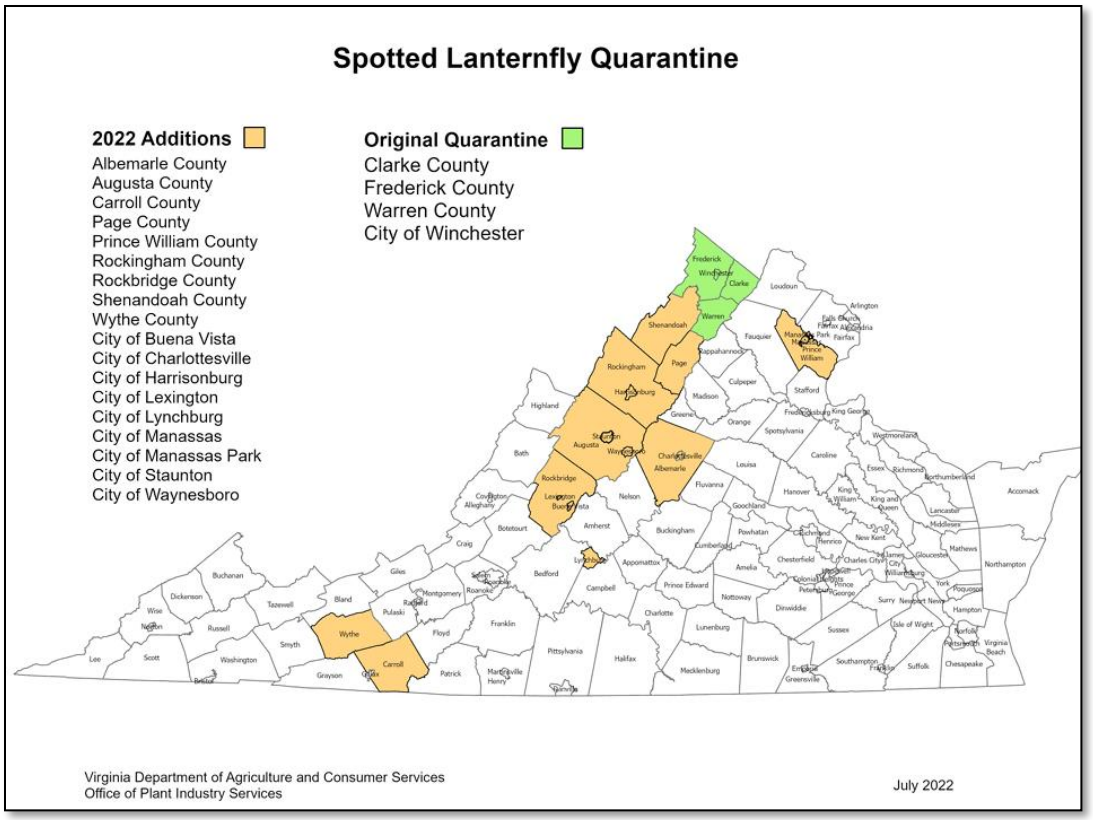


Figure 3. Spotted lanternfly quarantine as of October 2024.

Recently, VDACS's thousand cankers disease quarantine was repealed (August 15, 2024). https://register.dls.virginia.gov/details.aspx?id=11134).

Noxious Weeds – VDACS maintains a list of noxious weeds by regulation that VDACS considers to be of significant concern. On July 4, 2024, an additional 11 plant species were added to the Virginia Noxious Weed List. The full list can be found at the following link https://law.lis.virginia.gov/admincode/title2/agency5/chapter317/section20/.

SECTION B.3 FEDERAL CONSISTENCY

During the period of April 1, 2024 to September 30, 2024, the Office of Environmental Impact Review/Federal Consistency (OEIR) reviewed 61 development projects for consistency with the Virginia Coastal Zone Management Program (CZM). This represents 58% of the total amount of projects coordinated and reviewed (104) during this period. The other 43 projects were major state projects, State Corporation Commission reviews, or National Environmental Policy Act (NEPA) documents without a federal consistency component. Of the projects reviewed for consistency with the Virginia CZM Program consisted of 39 federal agency activities, 22 federal licenses and approvals, and 0 outer continental shelf projects. The 39 federal agency activities included 19 projects submitted under the residual category pursuant to the federal consistency regulation (15 CFR 930.31(c)), which consisted of federal funding to private citizens such as U. S. Department of Housing and Urban Development (HUD) mortgage insurance projects. In addition, Virginia completed 56 courtesy reviews for projects which were federally funded projects to state or local governments and/or intergovernmental reviews under Executive Order 12372. All federal consistency determinations and federal consistency certifications were completed within the established legal deadlines.

The OEIR continues to provide informal training on federal consistency requirements to consultants who prepare consistency documents for federal agencies and applicants for federal permits and maintains a website for Federal Consistency Reviews which can be accessed through DEQ's main webpage or found at https://www.deq.virginia.gov/permits-regulations/environmental-impact-review/federal-consistency The OEIR webpage is updated weekly.

Table 1 depicts federal projects in Tidewater Virginia reviewed from 4/1/24 to 9/30/24.

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TYPE OF FEDERAL PROJECTS REVIEWED*	NUMBER OF PROJECTS COMPLETED	REVIEW PERIOD
*Direct Federal Actions	39	30-60 Days
**Federal Activities (approvals & permits)	22	90 Days
***Federally Funded Projects	56	30 Days
Outer Continental Shelf	0	45-60 Days
TOTAL	**117**	**30-90 DAYS**

*Includes 19 FCDs reviewed under the residual category of Subpart C of the Regulations. (eg. HUD Mortgage Insurance and USDA Rural Development funding).

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

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

FEDERAL PROJECTS REVIEWED FOR CONSISTENCY WITH THE CZMP from 4/1/24 to 9/30/24

I. Federal Agency Projects

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

Proposed Rule to Amend the North Atlantic Right Whale Vessel Strike Reduction Rule – The National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) is proposing amendments to the existing North Atlantic right whale (NARW) vessel speed rule. NOAA NMFS states that the amendments would further reduce the likelihood of mortalities and serious injuries to endangered right whales from vessel strikes, which are a leading cause of the species' decline. The proposed rule would: (1) modify the boundaries and timing of seasonal speed restrictions (renamed as seasonal speed zones or SSZs) to better align with areas characterized by elevated collision-related mortality risk; (2) create a dynamic speed zone (DSZ) program to implement temporary mandatory speed restrictions when whales are known to be present outside active SSZs; (3) extend the size threshold of regulated vessels to include most vessels 35 feet or greater in length; and (4) update the speed rule's safety deviation provision. NOAA NMFS states that changes are needed to stabilize the ongoing North Atlantic right whale population decline and prevent the species' extinction. The

proposed changes are designed to address the risk of ongoing lethal strikes in U.S. waters, including strike events that have occurred within state coastal waters. The FCD states that the amendments were informed by a coastwide collision mortality risk assessment, and updated information on North Atlantic right whale distribution, vessel traffic patterns, and vessel strike mortality and serious injury events.

Pursuant to 15 CFR 930.43(b), the Commonwealth of Virginia objects to NOAA NMFS' consistency determination based on insufficient information pertaining to the marine fisheries enforceable policy that is administered by the Virginia Marine Resources Commission (VMRC) and the wildlife and inland fisheries enforceable policy that is administered by the Department of Wildlife Resources (DWR).

U.S. Coast Guard Training Center Yorktown New Training Building - The U.S. Coast Guard (USCG) proposes to construct a new 18,700 square foot Engineering and Weapons Training (TEW) building at the Coast Guard Training Center (TRACEN) Yorktown campus located in York County, Virginia. This is Phase 2 to a previous training building project that was built immediately to the north of the proposed building. The TEW building will be attached to the prior constructed building (Sam Travis Hall) and will share its southern exterior wall. The project will include minor demolition, construction earthwork, site restoration, administrative offices, storage spaces, classrooms, applied instruction lab, full-scale mock-ups, furniture, fixtures, modifications to and installation of new electrical utilities, telecommunications, water, and sewer.

Naval Station Norfolk Chambers Field Tree Hazard Mitigation - The U.S. Department of the Navy (Navy) proposes to remove tree obstructions identified in the Commodore Park, Granby Shores, and Merrimack Landing neighborhoods northwest of Mason Creek in Norfolk, Viriginia. Eliminating obstructions to navigable airspace in and around the airfield is critical to the enforcement of aviation safety for Naval Station Norfolk and the adjacent civilian community. It is anticipated that the airfield will fail the next biennial Terminal Instrument Procedures (TERPS) inspection if verified tree obstructions are not mitigated. This potential failure could have a severe impact to operations and mission readiness at Naval Station Norfolk Chambers Field. The proposed action will address any tree that penetrates the glide slope thereby causing obstructions to precision approach radar (PAR) 250 instrument approach surfaces. This includes approximately 200 trees already identified using airborne (Light Detection and Ranging (LIDAR)) and ground-based surveys in addition to any additional trees that are identified in future surveys including those that have grown into the glide slope since the original data was collected. The scope of work includes removal and/or crown reduction pruning (topping) of identified trees as well as applicable crane work, stump grinding and erosion control. Additionally, the scope includes mitigation to address removal of trees by planting replacement trees/shrubs in accordance with the Chesapeake Bay Preservation Act/City of Norfolk approved list.

Bailey Creek Restoration and Training Improvements at Fort Greg-Adams - The U.S. Department of the Army (Army) is proposing a stream restoration and enhancement project at U.S. Army Carrison Fort Gregg-Adams in Prince George County. The wastewater treatment training area (TA-19) is located at the intersection of Fifth Street and Bailey Creek on the eastern portion of the For Gregg-Adams. This area is the location of advanced individual training for the Army's Tactical Wastewater Purification Systems. At this site, soldiers experience how the systems respond to a raw water source with very high turbidity levels and experience season overturn, runoff and high flows in the stream. The Army proposes to remove the existing dam and riprap, create a riffle-pool system within the project area, stabilize the downstream banks, and install three lunkers (fish habitat structures) that will have a dual use as training platforms. The proposed activity is subject to review for consistency with the enforceable policies of the Virginia Coastal Zone Management Program.

NOAA Vessel Operations Undertaken in Virginia Coastal Zone, 2023 – 2038 - The NOAA Office of Marine and Aviation Operations (OMAO) has submitted a Nationwide Consistency Determination for proposed Vessels Operations Undertaken in Virginia Coastal Zone 2023-2038. OMAO vessel operations include routine activities such as vessel movement, anchoring, waste handling and discharges, and vessel repair and maintenance. For the purposes of performance and acceptance testing, calibrating, training, and troubleshooting, OMAO may also

operate active acoustic systems and other sensors, data collection systems, uncrewed marine and aircraft systems, and small boats and conduct over the side operations. The proposed action would allow for continued vessel operations that support NOAA's primary missions of charting and hydrographic surveying; assessment and management of living marine resources; oceanographic monitoring, research, and modeling; and emergency response. NOAA has submitted a Federal Consistency Determination that finds the proposed action consistent to the maximum extent practicable 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).

MBC Middle Mile Expansion Project Stony Creek Node to Prince George Splice Point Segment - The Mid-Atlantic Broadband Communities Corporation (MBC or applicant) is applying for funding from the National Telecommunications and Information Administration (NTIA), part of the U.S. Department of Commerce, to support the Middle Mile Expansion Project, a fiber optic cable, from the Stony Creek Node to the Prince George Splice Point. The approximately 16.7-mile Stony Creek Node to Prince George Splice Point segment will extend northerly between the Town of Stony Creek in Sussex County, VA and the South Prince George/ Petersburg area in Prince George County, VA. The fiber optic route will originate at the MBC node located at the southeast corner of Halifax Road and Confederate Avenue within the Town of Stony Creek, traverse east along Halifax Road, extend northward along U.S Route 301/Blue Star Highway/ South Crater Road, and terminate at the Prince George splice point located at U.S. Route 301/ South Crater Road and State Route 629/ Birdsong Road. The proposed fiber alignment will be located primarily within existing, previously disturbed public roadway right-of-way (ROW) maintained by the Virginia Department of Transportation. Approximately 90% of the proposed fiber will be installed underground via directional drilling to a depth of 36 inches with cable placement within two 2-inch by 2-inch diameter conduits. Approximately 10% of the proposed fiber will be extended overhead on existing utility poles or attached to bridges where underground installation is not possible and/or to avert environmentally sensitive areas. No new utility poles will be installed as part of the project. The project is needed to alleviate the lack of reliable broadband access within Sussex and Prince George Counties. The applicant certifies that the project is consistent with the enforceable policies of the Virginia Coastal Zone Management Program.

Proposed Arva Apartments - Dominion Due Diligence, on behalf of Berkadia Commercial Mortgage, LLC (the applicant), submitted a FCD for the proposed construction of Arva Apartments in Arlington County. The proposed project site is approximately 2.38 acres with a two-story hotel that is proposed to be demolished, asphalt parking lots and a few landscaping trees. The property is bounded by roads, mixed-use residential and commercial properties, and single-family residential areas. The eastern, northern, and western adjacent tracts of land and roadways associated with ingress/egress, stormwater, and utility connections are located within this review due to HUD's requirements. After demolition, the applicant proposes to construct a 252-unit, eight-story multi-family apartment complex with an outdoor pool and rooftop lounge. The U.S. Department of Housing and Urban Development (HUD) is processing an application for mortgage insurance under the MAP 221(d)(4) Program. Therefore, a FCD was submitted to DEQ. The proposed activity is subject to review for consistency with the enforceable policies of the Virginia Coastal Zone Management Program.

Tasley Road Energy Storage and Oak Hall Energy Storage 1 - The U.S. Department of Agriculture (USDA) proposes the construction of two energy storage systems in Accomack County, Virginia. Both project sites are 0.3 acres in size with development limited to 10,000 square feet. The projects will include site clearing and grading, installation of concrete pads, construction of gravel driveways and installation of solar panels. Both proposed project sites are located on Accomack County tax parcels. The USDA proposes to provide Rural Business-Cooperative Service (RBS) funding to the project.

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):

Polecat Creek Property - Caroline County, the applicant, is proposing to construct the Polecat Creek sanitary sewer line along Polecat Creek in the Ruther Glen area of Caroline County. In total, the line would be approximately 44,350 feet long and installed roughly parallel to Interstate 95 and Polecat Creek, ending at the Upper Polecat Creek Regional Wastewater Treatment Plant. The project is proposed to be constructed in two phases. Phase 1 consists of installing 27,000 linear feet of 30-inch diameter sanitary sewer pipe along Polecat Creek. Phase 2 consists of replacing 11,600 feet of 24-inch diameter sanitary sewer and 5,750 feet of 12-inch force main along the existing sanitary sewer system. The site encompasses multiple parcels within Caroline County, totaling approximately 8.16 miles in length and consists of approximately 53-acres of mostly wooded land. As proposed, the project would impact approximately 9.865 acres of wetlands and 189 linear feet of stream. As a result, the project qualifies for a U.S. Army Corps of Engineers (Corps) individual permit. Therefore, the proposed activity is subject to review for consistency with the enforceable policies of the Virginia Coastal Zone Management Program.

Ragged Island Oyster Restoration and Shoreline Protection Project - The DWR proposes the Ragged Island Oyster Restoration and Shoreline Protection Project along the riverside edge of the Ragged Island Wildlife Management Area (WMA) in Isle of Wight County, Virginia in partnership with Ducks Unlimited and Christopher Newport University. The existing shoreline consists of low marshy banks undergoing rapid retreat due to shoreline erosion, caused in part by rising sea levels as well as increased storm frequency and duration. The implementation of this project will help increase resiliency of the marsh and other wetland habitats by stopping erosion and enhancing the ability of the marsh to retain needed sediments. The project will provide living shoreline benefits and protection along the James River through the installation of 63 rip-rap breakwaters, the creation of sand tombolos behind the breakwaters resulting in 2.94 acres of new marsh, and vegetation plantings along 6,300 linear feet of shoreline. The exterior side of the breakwaters will include 2.36 acres of rocky shelf substrate at an appropriate elevation to encourage oyster spat attachment and growth. The installation of stone breakwaters will reduce wave action and trap sediment from longshore drift. The effects will be an increase in available habitat, a reduction in erosion-caused siltation into the James River while also building the fringe marsh needed to disperse stormwater and filter nutrients. The work will be completed from barges and no land disturbance is anticipated. Any staging will be done from a large, paved parking lot.

DWR has submitted a Joint Permit Application (JPA 24-0055, NAO-2024-00126) to the Norfolk District of the U.S. Army Corps of Engineers (Corps) for the issuance of an individual permit pursuant to Section 404 of the Clean Water Act (CWA) (Public Law 95-217) for anticipated impacts to jurisdictional waters on the James River as a result of the project. Due to the federal permit application, the proposed action is subject to review for consistency with the enforceable policies of the Virginia Coastal Zone Management Program in addition to the state environmental impact review.

Daves Store Substation - Dominion Energy Virginia proposes the construction of the Daves Store Substation located at 13714 Daves Store Lane in Gainesville, Virginia. The applicant proposes to construct a new 230 kilovolt substation immediately adjacent to the existing Heathcote Transition Station, which is located on a 10.79-acre parcel owned by Dominion. The project site is wooded, partially cleared, zoned for agricultural use and abuts Interstate 66 to the north. The new substation will be designed to accommodate future growth in the area with a buildout of four 112 megavolt ampere distribution transformers feeding up to twenty-five 34.5 kilovolt circuit breakers. The substation will be positioned adjacent to the existing transition station and will be set back approximately 150 feet from the interstate, with a variable width landscaped buffer of 10-15 feet to shield views of the new equipment. The station will be unmanned and is anticipated to have minimal impacts on

County infrastructure. The applicant is applying for an Individual Permit with the U.S. Army Corps of Engineers.

Norfolk International Terminals Dredging - The Virginia Port Authority (VPA or the applicant) is proposing the Norfolk International Terminals (NIT) Dredging project which consists of new work dredging to provide for safe navigation for Ultra Large Container Vessels (UCLV's) calling at NIT after the federal channels have been deepened. The applicant proposes to deepen to a maximum depth of -58' mean lower low water (MLLW) at the North and South Container Terminals and their respective approach channels. The North and South approach channels intersect the east side of the Norfolk Harbor Inner Harbor Federal channel. The previously authorized depths provided for - 52' MLLW at the toe of slope along the approach channel and adjacent to the berthing area. The dredged material may be either mechanically dredged and transported in sealed barges to the Craney Island Rehandling Basin (CIRB) for disposal or hydraulically pumped directly to the upland cells at the Craney Island Dredged Material Management Area (DMMA). The maximum estimated total of 2,700,000 cubic yards of dredging includes 2,000,000 of new work and approximately 700,000 cubic yards of future maintenance and material. The applicant is applying for a U.S. Army Corps of Engineers (Corps) Individual Permit for impacts associated with the project. The applicant certifies that the project is consistent with the enforceable policies of the Virginia Coastal Zone Management Program.

IV. Outer Continental Shelf Activities

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

V. Federal Funds

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

113 Campbell Lane Bath & Doors - 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 113 Campbell Lane. Repairs consist of a new bathroom including a toilet, vanity, medicine cabinet, walk-in shower for accessibility issues, and electrical work to accommodate a bathroom fan and other electrical needs.

West Ocean View Transfer Station - The City of Norfolk will be receiving financial assistance from the Federal Transit Administration (FTA) for the relocation of the West Ocean View Avenue HRT Transfer Station.

Blackstone Raw Water & Conveyance System - Nottoway County will be receiving financial assistance from the United States Department of Agriculture (USDA) Rural Development (RD) for the Blackstone Raw Water and Conveyance System.

SECTION B.4 PROGRAM CHANGES

There were no changes from April 1, 2024 – September 30, 2024. Looking forward, Virginia CZM is exploring potential program changes as it relates the 309 assessment and strategies process and the Virginia Ocean Plan development.