April 27, 2018

Virginia Coastal Zone Management Program
Semiannual Section B.2-4 Report
For the Period from October 1, 2017 – March 31, 2018

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. In addition to the permit processing and wetlands impact data for the Tidewater region of the Commonwealth, this narrative highlights any challenges encountered during the reporting period.

During the reporting period of October 1, 2017 through March 31, 2018, the VWP Permit Program issued six individual permits and 35 general permit coverages; processed 38 Notices of Planned Change on general permit coverages; two individual permit modifications; and no individual permit reissuances. For the purposes of this report, no permit application denials, withdrawals, or waivers were included.

The average time to process a general permit coverage was 28 days, and the average time to process an individual permit was 79 days. No processing delays occurred during this reporting period.

Approximately 28 acres of wetland impacts occurred during the reporting period. During this reporting period, approximately 49 wetland credits were purchased at compensatory mitigation banks and about 1 acre of wetland was created through permittee-responsible compensation.

During the reporting period, 20 compliance actions were taken on individual permits and 88 on general permit coverages. Compliance actions for 10 of the individual permits and 39 of the general permit coverages are still active. Additionally, seven compliance actions were taken on activities not having a VWP permit, and all but one of these are still active. During this period, 111 inspections took place in conjunction with the total of 115 compliance actions.

A pilot compliance initiative was launched in September 2017 to fast-track the resolution of minor compliance issues in certain situations. The pilot was rolled out in DEQ's Piedmont Regional Office with future plans to expand the pilot based on the agency's assessment of success. Initial feedback to date suggests the approach is useful and reduces the time spent by staff resolving such issues.

The VWP Permit Program did not receive comments or concerns about, or make changes to procedures associated with, expediting decision-making for the management of coastal resources.

[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.

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 sludges in such a manner that they do not have a discharge from the site. For example, an agricultural facility that temporarily stores wastewater to be land applied as part of an irrigation/fertilization program.

During the period between October 1, 2017 and March 31, 2018, five applications were received for modification of VPA Individual Permits that authorize the land application of biosolids, each is remains pending. Two other VPA permit applications were also received during that period, both for non-biosolids activities: one for a permit reissuance that remains pending; and one for an issuance that was signed and became effective during the period. Three permit modifications were completed during the period for applications, which were received prior to October 2017. The three modifications were each major modifications to add land to VPA Individual Permits that authorize the land application of biosolids.

During the period between October 1, 2017 and March 31, 2018, two applications received coverage under the VPA General Permit for Poultry Waste Management: one application was received during the previous period, the other application was received during this period, both applicants received coverage during this period. No applications were received for farms, located in the Coastal Zone Management area, seeking coverage under the VPA General Permit for Animal Feeding Operations, during this period.

DEQ – Virginia Pollution Discharge Elimination System (VPDES) Water Permitting Program
There are a total of 296 individual municipal and industrial CZM area VPDES permits. This number and the numbers in the table above represent typical activity in the program.

There are also numerous facilities registered under general permits in CZM areas including 63 car wash, 105 concrete products, 16 cooling water, 285 domestic sewage ≤ 1,000 GPD, 61 nonmetallic mineral mining, 28 petroleum, 13 potable water treatment, 57 seafood processors, and 538 industrial stormwater. These represent typical numbers for permit registrants in CZM areas in Virginia. There are a number of general permit coverages that are automatically covered under a permit (e.g., pesticide applications and hydrostatic testing) and are not entered into the CEDS data base.

VPDES/VPA - October 1, 2017 – March 31, 2018*										
	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	18	334	1	172	0	NA	41***	NA
VPA	1	185	0	NA	3	438	0	NA	1	68
VPA GP	2	64.5	0	NA	0	NA	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 March 31, 2018.

c) DEQ – Water Program Enforcement and Compliance

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

Informal measures, such as Warning Letters and Letters of Agreement, are used in those cases where non-compliance is not significant in nature and where compliance can be achieved in a short period of time. For the period October 1, 2017 through March 31, 2018, DEQ issued 178 Warning Letters and zero Letters of Agreement for violations of VPDES, VPA, VWPP, and Ground Water program requirements.

Formal enforcement actions are used in those cases where non-compliance is more serious or may take a significant amount of time to correct. Formal measures generally involve the issuance of a Notice of Violation followed by a Consent Order, or an Executive Compliance Agreement in the case of a state agency. In some cases, Unilateral Administrative Orders or court orders may be sought. Between October 1, 2017 and March 31, 2018, DEQ issued 13Notices 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 twenty-one Consent Orders that assessed a total of $215,545 in civil charges.

Table 1

Measure	Action Type	Count	Total Civil Charges Assessed
Informal	Warning Letters	178	N/A
Informal	Letters of Agreement	0	N/A
Formal	Notices of Violation	13	N/A
Formal	Consent Order	21	**$215,545**
Total		**212**	**$215,545**

d) DEQ – Air Permitting Program

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

Period: October 1, 2017 – March 31, 2018

PERMIT TYPE	NUMBER OF PERMITS ISSUED	AVERAGE PROCESSING TIME (Days)
PSD & NA	0	NA
Major	0	NA
Minor	39	49
Administrative Amendment	8	21
Exemptions	11	54
State Operating	0	NA
Federal Operating (Title V) Initial Issuance	0	NA
Federal Operating (Title V) Renewal	9	192
Acid Rain (Title IV)	0	NA
Total Number Permits Issued	**67**	

* 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, Portions of the Piedmont Regional Office and the Tidewater Regional Office only.

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

Federal Operating (Title V) = a source that emits **10 tons or more** per year of any hazardous air pollutant, **or 25 tons** per year of any combination of hazardous air pollutants or emits any criteria pollutant above 100 tons per year.
Acid Rain (Title IV) = Permits issued specifically to address SO_2 and NO_x from electric generating units covered under the Acid Rain regulations.

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

Permits pending as of March 31, 2018

PERMIT TYPE	NUMBER OF PERMITS PENDING
PSD & NA	3
Major	1
Minor	45
Administrative Amendment	4
Exemptions	6
State Operating	9
Federal Operating (Title V) Initial Issuance	7
Federal Operating (Title V) Renewal	39
Acid Rain (Title IV)	2
Total Permits Pending	**116**

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

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

Period: October 1, 2017 – March 31, 2018

PERMIT TYPE	NUMBER OF PERMITS WITHDRAWN	NUMBER OF APPLICATIONS DENIED
PSD	0	0
Major	0	0
Minor	1	0
Administrative Amendment	0	0
Exemptions	1	0
State Operating	4	0
Federal Operating (Title V)	0	0
Acid Rain (Title IV)	0	0
Total Permits Rescinded	**6**	**0**

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

e) DEQ – Air Program Enforcement and Compliance

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

Informal measures include Requests for Corrective Action, Informal Correction Letters, Warning Letters, and Letters of Agreement. These actions are used in those cases where non-compliance is not significant in nature and where compliance can be achieved in a short period of time. During the six-month period beginning October 1, 2017 through March 31, 2018, DEQ issued 37 Requests for Corrective Action, and 28 Warning Letters.

Formal enforcement actions are used in those cases where non-compliance is more serious or may take a significant amount of time to correct. Formal measures generally involve the issuance of a Notice of Violation and negotiation of a Consent Order, or an Executive Compliance Agreement in the case of a state agency. In some cases, Unilateral Orders or court orders may be pursued. Between October 1, 2017 and March 31, 2018, DEQ initiated three new formal enforcement actions via issuance of Notices of Violation. Additionally, the Agency issued 25 Consent Orders; assessing $63,325 in civil charges.

Table 1

Measure	Action Type	Count	Total Civil Charges Assessed
Informal	Requests for Corrective Action	37	N/A
Informal	Informal Correction Letter	3	N/A
Informal	Warning Letters	28	N/A
Formal	Notices of Violation	26	N/A
Formal	Consent Orders	25	$63,235
Total		**119**	**$63,235**

f) DEQ – Erosion and Sediment Control

Summary of Specific Outputs:

Specific Outputs	Progress / Status
8 CZM Chesapeake Bay Land Disturbing Activities Permitted - Projects less than 1 acre found within Chesapeake Bay Designated Areas.	Permit coverage has been issued and projects are under construction. Compliance is achieved through ongoing permit review, technical assistance, and project inspection.
201 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.
72 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.
70 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.
10 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.
10 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.
371 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.

Erosion & Sediment Control (ESC) and Stormwater Management (SWM) Laws and Regulations are designed to help reduce pollutants in the Chesapeake Bay, and require localities, developers, and consultants to be certified in various knowledge and practices. The law requires DEQ to offer two certification tracks, one for ESC and another for SWM.

Each track includes training courses to assist people to become certified as: Program Administrators, Inspectors, Plan Reviewers and Combined Administrators, and requires individuals to pass a professionally administered certification exam. Each certification type is valid for 3 years and individuals can recertify by completing continuing education throughout the certification period.

As of March 31, 2018 total certified individuals in Virginia are as follows:

- 1,090 total people Dual Certified. (913 people as of September 30, 2017)
- 742 total people certified in Stormwater Management only. (701 people as of September 30, 2017)
- 2,245 total people certified in Erosion and Sediment Control only. (2,315 people as of September 30, 2017).

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

No Report submitted at this time.

2) VIRGINIA MARINE RESOURCES COMMISSION (VMRC)

a) VMRC – Habitat Management Division

During the period October 1, 2017 through March 31, 2018, the Habitat Management Division received 909 applications for projects involving State-owned submerged lands, wetlands or dunes. These applications were for projects such as piers, boathouses, boat ramps, marinas, dredging and shoreline stabilization. As the clearinghouse for the Joint Permit Application all applications were assigned a processing number by the Division and forwarded to the appropriate agencies, including, local wetlands boards, the Norfolk District of the U.S. Army Corps of Engineers, the Department of Environmental Quality, VIMS and others as necessary.

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

The Habitat Management Staff completed actions on 881 applications received during the period. Action on most applications was completed within 90 days after they were received. As such, a number of the actions taken during the period were for applications received prior to October 2017. 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 36 projects. During the reporting period the Commission considered 19 protested projects or projects requiring a staff briefing, The Commission also approved 17 projects over $500,000.00 in value.

During the reporting period local wetland boards throughout Tidewater Virginia acted on 233 projects involving tidal wetlands. Of this total, 191 were approved as proposed, 24 were approved as modified, 17 are pending, 1 no permit was required, and 45 required compensation either on or off site (23), or through payment of an in lieu fee (22) accounting for 38,155 square feet of tidal wetland impacts.

b) VMRC – Fisheries Management Division

At the October 2017 meeting, the agency established an emergency amendment to the cobia regulation for an October 1, 2017 closure for the commercial cobia fishery in Virginia's waters. Also, the agency established the final regulation to an emergency amendment for summer flounder that allows each vessel to land the 7,000 pound trip limit one time from October 16 through December 31, 2017. The commission established amendments to the blueline tilefish recreational season as May 1 through October 31.

At the December 2017 meeting, the agency established the 2018 coastal area commercial fishery striped bass quota as 138,640 pounds.

At the January 2018 meeting, the agency adopted amendments to the golden tilefish regulation that established the recreational harvest and possession limit for golden tilefish as eight fish.

At the February 2018 meeting, the agency established the commercial black sea bass directed fishery quota for 2018 at 664,000 pounds and changed the bycatch trip limit cap to 1,500 pounds. The commission also adopted amendments to the scup regulation that established the commercial scup landing period dates, the 2018 commercial summer period quota for Virginia as 14,296 pounds, and set a vessel trip limit to 5,000 pounds for the summer period.

At the March 2018 meeting, the agency established an amendment to the summer flounder regulation that allows New Jersey vessels that possess summer flounder, harvested commercially from federal waters, to enter Virginia waters but not offload summer flounder in Virginia. The commission also amended the summer flounder regulation that lowers the recreational summer flounder minimum size limit from 17 inches to 16 ½ inches. At the same March 2018 meeting, the commission passed amendments to the cobia regulation that established a 6-fish daily vessel limit for all commercial gears; established a daily possession limit of 2 cobia per Commercial Fisherman Registration Licensee, for all commercial gears; and established a recreational season of June 1st through September 30th.

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: 10/01/2013
END PERIOD: 09/30/2018

Category	2013/2014		2014/2015		2015/2016		2016/2017		2017/2018	
	Convictions	Arrests	Convictions	Arrests	Convictions	Arrests	Convictions	Arrests	Convictions	Arrests
Buyers	10	10	5	6	2	2	1	4	0	0
Casting Garbage/Trash	5	5	1	1	3	3	2	2	0	0
Clams	4	7	2	3	3	3	1	1	0	0
Commercial Fishing License	6	10	7	10	21	30	13	16	2	2
Conchs	7	9	1	1	3	3	0	0	0	0
Crabs	92	120	121	138	70	102	68	89	0	2
Federal Violation	0	0	0	0	0	0	0	0	0	0
FIP Violations	58	60	76	81	47	48	41	42	2	2
Fish	75	81	150	163	168	197	193	216	44	53
Freshwater Fishing without a license	12	16	20	22	24	34	19	20	1	1
Gill Nets	14	18	17	24	13	27	20	34	0	0
Habitat/Wetlands	0	0	0	0	0	0	0	0	0	0
License Tags	3	4	1	1	4	9	0	2	0	0
Mandatory Reporting	0	0	9	18	10	20	2	11	0	0
Misc	0	0	0	0	0	0	0	0	0	0
Non-residents	0	0	0	0	0	0	1	1	0	0
NSSP	0	0	0	0	0	0	0	0	0	0
Other Agencies	227	279	383	462	285	343	362	435	98	124
Oysters	109	161	174	297	107	216	75	100	36	40
Piers	0	0	0	0	0	0	0	0	0	0
Police Powers	78	90	95	114	118	129	87	103	0	0
Removal of Obstructions	1	1	1	1	3	3	1	12	0	0
Resisting officer	0	0	0	0	0	0	1	1	0	0
Shellfish	5	6	14	25	7	8	10	16	0	0
SW Recreational Licenses	190	241	205	234	232	254	191	200	19	20
TOTALS:	**896**	**1118**	**1282**	**1601**	**1120**	**1431**	**1088**	**1305**	**202**	**244**
PERCENT OF CONVICTIONS:	**80.14%**		**80.07%**		**78.27%**		**83.37%**		**82.79%**	

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

From October 1, 2017 through March 31, 2018, the VDH Division of Shellfish Sanitation had:
1205 acres of shellfish grounds closed to harvesting,
372 acres of shellfish grounds seasonally closed,
622 acres of shellfish grounds opened, and
1206 acres of shellfish grounds seasonally opened.

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

The Department received and reviewed a total of 24 VMRC Permit Applications, and processed as follows:

Three (3) Permit Applications needed action in the Marina Program.

Twenty-Three (23) applications were approved based on meeting the requirements of providing adequate facilities of the Marina Regulations if applicable.

Two (2) applications were denied because of inadequate facilities. (1) One of those rejected was later approved after meeting our regulatory requirements.

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, reviewing nutrient management plans, enhancing private sector plan development, and other nutrient reduction activities to achieve the Commonwealth's nutrient reduction commitments of Chesapeake Bay TMDLs. In the coastal zones of Virginia, DCR staff have overseen the development of nutrient management plans covering 16,701.73 acres during the reporting period (10/1/2017 – 3/31/2018). Many plans are active for up to three years, but all new or revised acreage developed in the coastal zones during the reporting period are summarized in the following table:

Table 1: Planned nutrient management acreage by land use and costal management zones. Plans started between 10/1/2017 – 3/31/2018.

CZM Basin	Number Of Plans	CZM Crop Acres	CZM Hay Acres	CZM Pasture Acres	CZM Specialty Acres	Total
Albemarle Sound	1	-	7.52	-	-	**7.52**
Atlantic Ocean	3	978.60	29.20	-	3.10	**1008.02**
Chesapeake Bay Coastal	10	2,389.76	104.93	-	-	**2,494.69**
Chowan	3	582.24	-	8.90	-	**591.14**
James	1	74.35	9.71	23.53	-	**107.59**
Potomac	1	128.40	-	-	-	**128.40**
Rappahannock	14	7,528.16	76.01	-	-	**7,604.17**
York	9	4,687.38	72.82	-	-	**4,760.20**
Total:	**42**	**16,368.89**	**300.19**	**32.43**	**3.10**	**16,701.73**

Shoreline Erosion Advisory Service
The Shoreline Erosion Advisory Service (SEAS) was created in 1980 by the Virginia General Assembly. The program provides technical assistance to private landowners and local, state and federal agencies owning property that is experiencing shoreline erosion in tidal Virginia. The SEAS services include: site investigations, written reports, plan reviews, construction inspections, permitting assistance and education. Since its inception, the SEAS program has evaluated hundreds of miles of shoreline and provided invaluable technical assistance to thousands of Virginia property owners experiencing shoreline erosion.

An additional SEAS engineer came on board on April 25, 2017. The new staff person is nearing the completion of the training necessary to work independently within one year of their start date.

For this reporting period, SEAS staff conducted 42 site visits, wrote 37 advisory reports, evaluated 45,325 feet of shoreline and reviewed and provided comments on 9 joint permit applications. SEAS provides advisory assistance to tidal and non-tidal shorelines in Virginia. During a site visit, staff walks the shoreline with the owner and assesses the cause or causes of the erosion problem. The staff then review with the owner, what they believe are the most appropriate shoreline erosion control and protection strategies for that site. The options range from planting vegetation, to bank grading, to large rock structures such as riprap revetments and breakwaters.

The SEAS program is currently working with the Virginia Institute of Marine Science (VIMS), Virginia Marine Resources Commission (VMRC), and DEQ to develop a process to calculate, track, and report, to the EPA Chesapeake Bay Program, sediment and nutrient reductions from completed tidal shoreline erosion stabilization projects. These reductions will help Virginia meet its Chesapeake Bay TMDL WIP goals. The first round of these reductions was reported to DEQ in late October, 2017. A summary of those results is below.

Protected Shoreline Length (ft.)	Protected Shoreline Length (miles)	Number of Sites
95,569	54.3	493

Pollutant	Total Reduction (lbs./year)	Total Reduction (tons/year)
TP	2,841.01	1.42
TN	4,048.86	2.02
TSS	13,851,810.78	6,925.91

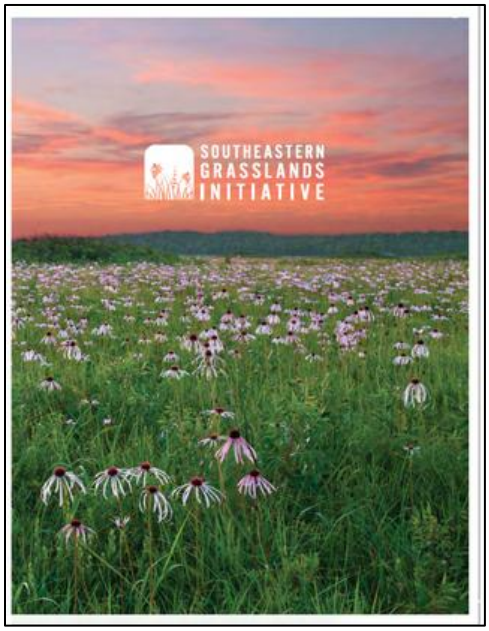
b) DCR - Division of Natural Heritage

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

Natural Heritage Staff Participate in Kickoff of Southeastern Grasslands Initiative – 11/13/17
The Natural Heritage Chief Biologist and Staff Botanist recently attended a conference focused on the preservation and restoration of grasslands in the southeastern United States. This event, held at Austin Peay State University in Clarksville, Tennessee, brought together botanists, ecologists, land managers, and fundraisers from across the southeast to address one of the greatest conservation priorities in our region.

Activities extended beyond the conference to include field visits to protected and restored properties in the area. The stated purpose of this recently established initiative is to reverse the dramatic decline of grassland habitats in the southeast. Research, educational, and other priorities were discussed, but the practical matters of securing significant funding and acting quickly on a landscape scale to protect these unique ecosystems were heavily emphasized. Grasslands as a whole are among the most endangered habitat types in the United States, with those in the largely forested south even more vulnerable due to their naturally scattered geography and the long history of habitat degradation in the region. Despite being widespread enough to merit frequent mention by early explorers, it is estimated that a tiny fraction of these grass-dominated habitats remain, with many of them seriously impacted by man.



Southeastern Grasslands Initiative Conference

Federal/State Listed Threatened Plant Occurrences Updated in Coastal Plain Rivers – 10/30/17
The DNH Field Botanist, with help from the Botany Field Assistant, Eastern Region Operations Steward, Southeastern Region Steward, and a Wildlife Refuge Specialist with the Eastern Virginia Rivers National Wildlife Refuge Complex of the U.S. Fish and Wildlife Service, conducted boat surveys in October to determine the status of 6 of the Virginia occurrences of the Federal and State Listed Threatened plant sensitive joint-vetch (*Aeschynomene virginica*, G2/S2/LT/LT). Sensitive joint-vetch is a tall annual herb, a member of the pea family, found in fresh to slightly brackish tidal marshes from North Carolina to New Jersey. These occurrences on Coastal Plain tributaries of the James River, Chickahominy River, and Rappahannock River were targeted as their statuses had not been updated recently. Sensitive joint-vetch was rediscovered in at least portions of 4 of the 6 occurrences, all on tributaries of the James River and Rappahannock River. No plants were observed in two of the occurrences on tributaries of the Chickahominy River in Charles City and James City counties. During the surveys, additional marsh habitat was surveyed beyond the vicinity of the known sensitive-joint vetch. Plants were found in new areas in the James River drainage in Henrico, Charles City, and Chesterfield counties. This project was funded by the Virginia Department of Agriculture and Consumer Services and the U.S. Fish and Wildlife Service.

Heritage Division Plans Cooperative Agreement with US Forest Service – 12/7/17
Staff biologists from the DCR Natural Heritage Division met with biologists from the US Forest Service to talk about a 2018 Scope of Work under a large Cooperative Agreement between the agencies. This 5-year agreement funds Virginia Natural Heritage to conduct biological inventories on the George Washington and Jefferson National Forest. These inventories will provide information to the US Forest Service so that they can meet regulatory requirements required for them to move forward with a multitude of forest management

practices including forestry, prescribed fire, recreational uses, invasive species treatments, and others. Since the inception of the Natural Heritage Program, the relationship between these two agencies has been strong and it has resulted in outstanding biodiversity conservation. 188 Special Biological Areas (SBAs) covering over 105,000 acres are designated in the George Washington and Jefferson National Forest plan.

Report Submitted for Vegetation Inventory of the Marshes of Occoquan Bay NWR— 2/28/2018
The DCR Natural Heritage Field Botanist Nancy Van Alstine and Vegetation Ecologist Karen Patterson submitted a report for a vegetation inventory of the marshes of Occoquan National Wildlife Refuge (NWR) to the U.S. Fish and Wildlife Service, Potomac River National Wildlife Refuge Complex. Occoquan NWR is located in Prince William County in northern Virginia off the Potomac River. Marshes were surveyed by kayak and on foot in August 2017, with the help of Botany Assistant Nicole Knudson, in order to search for rare plants, assess the vegetation communities, and develop lists of the native and invasive plant species. A small population of a state rare plant, marsh pea (*Lathyrus palustris*, G5/S1), and a significant vegetation community, American Lotus Aquatic Bed, were found. The American Lotus Aquatic Bed occurrence was the first occurrence of this community to be mapped by DCR; its state conservation status rank is currently unknown. A total of 89 plant species were observed with 76 native, 12 non-native, and one undetermined species; 8 of the non-native species are considered invasive species by the DCR Natural Heritage Virginia Invasive Plant Species List. This inventory was funded by the U.S. Fish and Wildlife Service.



Marsh Pea (*Lathyrus palustris*) [Left]. American Lotus Aquatic Bed, with Nicole Knudson [Right].


Sensitive joint-vetch, in fruit and flower


Cluster of robust fruiting sensitive joint-vetch plants

12th Annual Virginia Atlantic Slope Mollusk Recovery Group Meeting – 3/29/18
Staff Zoologist Steve Roble and Field Zoologist Ellison Orcutt attended the 12th annual meeting of the Virginia Atlantic Slope Mollusk Recovery Group held on March 29 in Verona. The approximately 30 attendees (some via conference call from as far away as Massachusetts and Ohio) included representatives from state (VDCR, VDGIF) and federal agencies (US Fish and Wildlife Service, US Forest Service), private consulting firms, and academia (professors and graduate students). Topics discussed during the meeting included recent field surveys for endangered and threatened freshwater mussels in Virginia, population assessments, mussel taxonomy and genetics, laboratory propagation, environmental impact studies and mussel translocations, and other issues relevant to the conservation of freshwater mussels inhabiting the Atlantic Slope drainages of Virginia. Roble and Orcutt gave presentations on recent field work conducted by Natural Heritage staff on two populations of the federally endangered James Spiny mussel that inhabit Rock Island Creek (Buckingham County) and the Tye River (Nelson County), respectively.

Prescribed Burning

Natural Heritage Prescribed Burning Kicks Off for 2018 -2/28/18
After weeks of unfavorably wet weather conditions, on February 28, Natural Heritage staff were able to complete DCR's first prescribed burn project of 2018. With assistance from DGIF, USFWS and TNC, DCR's Rebecca Wilson and Darren Loomis led burning operations on 64 acres to release young longleaf pines from competition at Cherry Orchard Bog Natural Area Preserve, just south of Petersburg. Longleaf seedlings were planted at this site in 2013 on uplands adjacent to a Coastal Plain Seepage Bog community that supports rare plants and one rare animal species. This open wetland community and adjacent longleaf pine woodlands were historically maintained by frequent, low intensity fires. Decades ago, a major transmission line was constructed through the bog; however, instead of destroying resources, Dominion Energy's vegetation management to prevent tree regrowth had the beneficial side effect of maintaining the open, sunny conditions required by many rare species. DCR's burning over the last 15 years has resulted in large increases in rare plant populations. Expansion of the fire management footprint around the seepage wetland as part of longleaf pine restoration work is yielding further increases in the extent of natural heritage resources at the preserve.

Prescribed burning at Cherry Orchard Bog Natural Area Preserve to maintain and expand rare species habitat, plus reduce competition for recently-planted longleaf pine seedlings.

Prescribed Burning to Reduce Competition for Longleaf Seedlings-03/05/18

On March 5, 2018, DCR's Natural Heritage staff and their key partners (DCR State Parks, AmeriCorps, U.S. Fish and Wildlife Service, The Nature Conservancy) completed a record number of acres burned in one day on lands of the state natural area preserve system – 750 acres – at South Quay Sandhills Natural Area Preserve, south of Franklin, VA. While most of February 2018 was far too wet to allow burning, several windy days in early March created drier, desired conditions. A good north breeze on the day-of-burn helped push fire quickly across the units. Three burn units were treated simultaneously with three experienced DCR burn bosses directing operations on each. Southeast Region Steward, Darren Loomis, led burning on a 158-acre unit; Eastern Fire Manager, Rebecca Wilson led efforts on a 254-acre unit; Prescribed Fire Technician (retired USFWS), Tim Craig, led a crew comprised mostly of fire-ready AmeriCorps volunteers on a third 232-acre unit. All 26 crewmembers joined forces at the end of the day to burn a fourth and final 106-acre unit. All burn units contained 2-year-old grass-stage longleaf pine seedlings planted in December 2015. Fast-moving surface fires benefit longleaf seedlings by top-killing surrounding woody plant competitors. While needles of fire-resistant longleaf are singed, seedlings are left unharmed and free of competition. In this way, fire has been the natural process that for millions of years allowed longleaf pine natural communities to dominate much of the southeastern Coastal Plain.

DCR Natural Heritage fire staff led prescribed burning operations on 750 acres at South Quay Sandhills Natural Area Preserve on March 5, 2018 to release two-year-old longleaf pine seedlings from competition as part of longleaf pine sandhill and woodland community restoration efforts.

Natural Heritage Assists with Partner Burns – 3/08/18 and 3/09/18

Staff from the Natural Heritage Program assisted the US Fish and Wildlife Service (FWS) and the Virginia Department of Game and Inland Fisheries (DGIF) with prescribed burning projects at various National Wildlife Refuges (NWR) and one state Wildlife Management Area (WMA).

On March 8, four burn units totaling 123 acres were treated with fire at Occoquan Bay NWR, located 20 miles south of Washington, D.C. This refuge features grassland and wetland habitats in a largely urbanized area. Fire was used to help control invasive woody plants and to promote diverse grasslands to benefit a variety of taxa, including migratory birds. These were the first prescribed burns conducted at this NWR in over ten years.

On March 9, interagency crews traveled to the Styer/Bishop Unit of the Rappahannock River Valley NWR located near Port Royal to conduct an 80-acre prescribed burn in a grassland unit that had not seen fire in a decade. In addition to woody plant invasion, this site has experienced invasion by the invasive woody Kudzu vine. Refuge managers had previously treated kudzu with herbicides. Following up with fire will further assist with kudzu control and habitat restoration. After operations were completed at the refuge, the burn crew moved to DGIF's Land's End WMA, where three burn units were treated with prescribed fire – adding another 11 acres to the day's total.

Natural Area Preserve Stewardship

Crow's Nest Natural Area Preserve Additions – 10/16/17
In keeping with their ongoing commitment to the Crow's Nest Preserve, Stafford County recently added 4 parcels of land (2 separate owners), totaling 124.56 acres, to the overall protected area. The first of these tracts closed on September 1 and the second on October 3. Stafford County obtained a Virginia Land Conservation Foundation (VLCF) grant to leverage this recent purchase, to match a $400,000 developer donation, approximately $50,000 in County funds, and a Northern Virginia Conservation Trust donation. The new acreage lies along the western Preserve boundary where development has been encroaching. The County conducted an extensive clean-up of debris on one of the parcels, and is currently working to have an abandoned and "neglected" house and associated structures removed from another of the parcels. Crow's Nest Natural Area Preserve, one of the crown jewels of the NAP system, would simply not exist without the long standing support of Stafford County. Not only has the County contributed approximately $13,000,000 toward acquisition costs of the land, the County continues to provide vital assistance to the management of Crow's Nest by providing office space for DCR staff, opening and closing public access gates, and assisting with maintenance of the Preserve's infrastructure.

Mature forests, large individual trees such as American Beech (Fagus grandifolia) are found on the newly acquired property to be added to Crow's Nest Natural Area Preserve. Development along the periphery threatens the quality of Preserve; this pile of tires was removed from a perimeter tract by Stafford County.

Heritage Staff, Nature Conservancy Staff and Volunteers Cooperate to Replace Preserve Boardwalk – 11/14/17
DCR's Natural Heritage Chesapeake Bay Region Steward joined staff from The Nature Conservancy and nine volunteers at New Point Comfort Natural Area Preserve to conduct maintenance on the boardwalk and

observation platform. The crew replaced damaged boards and replaced deteriorated and rusting nails. New Point Comfort Natural Area Preserve is located in Mathews County, is owned by The Nature Conservancy and co-managed with DCR. This preserve protects 105 acres of sandy shoreline, dunes, maritime forest and salt marsh, provides habitat for federally-listed Northeastern Beach Tiger Beetles, and is frequented by neotropical songbirds as they migrate south in the fall.

Work on the boardwalk underway

Longleaf Pine Restoration on State Natural Area Preserve—12/18/17 – 12/22/17
Darren Loomis (Southeast Region Steward) and Rebecca Wilson (Longleaf Pine Specialist) oversaw contracted operations to plant over 51,000 longleaf pine seedlings on 118 acres at three state natural area preserves (NAPs) in southeast Virginia. A total of 82 acres were planted at Cherry Orchard Bog NAP in Prince George County; 14 acres were planted at South Quay Sandhills NAP in Suffolk; and, 22 acres were planted at Blackwater Ecological Preserve in Isle of Wight County. In all areas, loblolly pine had been previously removed, followed by site preparation using mechanical methods and/or prescribed fire. DCR's planting contractor used a small and efficient crew during the one week planting period. Since 2008, DCR's Natural Heritage Program has established over 1,300 acres of longleaf pine on lands of the state natural area preserve system, managing them with frequent prescribed burns, as part of a long-term effort to restore longleaf pine communities and enhance rare species habitats.

DCR's planting contractor, Superior Forestry Services, used a 4-person crew to plant over 51,000 native longleaf pine seedlings over a 4-day period in December 2017 on three state natural area preserves in southeast Virginia.

Great Blue Heron Nest Count at Crow's Nest Natural Area Preserve — 1/26/18
Michael Lott (Regional Supervisor), Geoff Austin (Northern Operations Steward), Summers Cleary (Stewardship Technician) and Kevin Heffernan (Stewardship Biologist) completed the annual Great Blue Heron

nest count within the Potomac Creek Heronry at Crow's Nest Natural Area Preserve. Stafford County and Northern Virginia Conservation Trust (NVCT) staff assisted with the count. This large heronry is located on both Crow's Nest and an adjacent parcel owned by NVCT. The 2018 count resulted in 258 nests observed – up from the 226 nests seen in 2017. For the first time, an unmanned aerial vehicle (UAV) piloted by DCR's Kevin Heffernan was used to capture images of the heronry. Comparison of land-based nest count result will be made to nest counts using aerial images. Several curious Bald Eagles flew over to check out the UAV; however, no close encounters occurred.



Great blue heron nests located at Crow's Nest (Left). Aerial view of the Potomac Creek Heronry (Right).


Vertical aerial photo taken by UAV showing at least 24 heron nests in a large sycamore tree.

Master Naturalist Volunteers Assist at Crow's Nest Natural Area Preserve—1/27/18
Michael Lott (Regional Supervisor) and Summers Cleary (Stewardship Technician) met with 11 members of the Central Rappahannock Chapter of the Virginia Master Naturalists (VMN) who have agreed to assist DCR staff on weekends to manage public access at the Raven Road entrance at Crow's Nest Natural Area Preserve. Volunteers will greet visitors to the preserve and answer questions. During the meeting, DCR staff discussed volunteer expectations, went over training materials and answered questions. VMN volunteers have assisted with many projects at Crow's Nest including trail construction and maintenance, invasive species removal, and trash cleanup. Recently, VMN volunteers helped with an erosion control project along the Crow's Nest Point Trail.

Central Rappahannock Chapter VMN volunteers helping DCR staff construct a water bar (erosion control structure) along the trail to Crow's Nest Point.

Busy Day for Public Access at Crow's Nest Natural Area Preserve—- 1/27/18 – 1/28/18
Over the weekend of January 27-28, daily visitation at Crow's Nest hit an all-time high. On Saturday, January 27, the 18-space Raven Road Access parking area was full for much of the day between 9:30 and 3:30. During this period, approximately 70 cars and close to 200 visitors arrived. At least 10 cars were turned away, with the message that they should return later in the day when the preserve was less crowded. DCR staff greeting visitors noted that people were, for the most part, understanding. Staff provided suggestions for near-by, alternative hiking destinations including the Crow' Nest Brooke Road parking area and shoreline trail, as well as the Stafford County Civil War Park. As the word continues to spread about Crow's Nest as a remarkable place to be outdoors and view wildlife, and with warmer and longer days this spring, the chances for similarly busy days in February, March and April appear high.

Crow's Nest experienced high visitation on January 28, 2018, with a full parking area for most of the day and many visitors hiking the trails.

Current Issue of Virginia Wildlife Features Elklick Woodlands Natural Area Preserve – 1/29/18
Virginia Wildlife, the magazine of the Virginia Department of Game and Inland Fisheries, has a feature story on the Elklick Woodlands State Natural Area Preserve in its current (Jan-Feb 2018) issue. The article, written by freelance writer Glenda Booth and illustrated by photos from Virginia Natural Heritage ecologist Gary Fleming, details the unusual ecology and plant life of the Elklick Preserve, which harbors two globally rare natural communities and several state rare vascular plants. The story also contains an account about how the site was saved from development as a golf course and residential area. Elklick Woodlands Natural Area Preserve is owned and managed by the Fairfax County Park Authority, but dedicated as a state natural area preserve under conservation easements with DCR and the Northern Virginia Conservation Trust.

Northern Hardpan Basic Oak-Hickory Forest, a globally rare community type, on a rocky slope at Elklick Woodlands State Natural Area Preserve. Photo by Gary P. Fleming.

Session on Virginia Coastal Terrestrial Habitats and Natural Resource Management – 1/30/18
Eastern Shore Region Steward, Dot Field, led a session on Virginia coastal terrestrial habitats and natural resource management for the Virginia EcoTour Guide Certification Course. The course, sponsored by the Coastal Zone Management Program, focuses on all aspects of ecotourism, including local cultural and natural history, essential guiding skills, customer service, ecosystem science, and "Leave No Trace" principles. The course is offered in a combined web and classroom settings. The classroom option, for local students, is held at the Eastern Shore Community College. Upon completion, students are awarded the Virginia EcoTour Guide Certification. Twenty-two students are currently enrolled.

Dr. Musselman and Professor Hogan Visit Mutton Hunk Fen – 2/2/18
Dr. Lytton Musselman, the Mary Payne Hogan Professor of Botany at Old Dominion University (ODU), visited Mutton Hunk Fen NAP along with US Army Corps of Engineers staff and ODU graduate students. Eastern Shore Region Steward, Dot Field, provided a tour of the sea-level fen and surrounding freshwater seepage areas. The visitors enjoyed some cold-weather botany explorations and examined the unique hydrologic factors that contribute to the formation of this globally rare community type. The group continued on to Savage Neck Dunes NAP for a self-guided tour.

Mutton Hunk Fen Natural Preserve- ODU Site Visit

Road Maintenance at Crow's Nest— 2/6/18
Geoff Austin, Northern Region Operations Steward and Summers Cleary, Northern Region Stewardship Technician worked with staff from Stafford County Department of Utilities to complete needed roadwork at Crow's Nest Natural Area Preserve. The recent freeze/thaw weather pattern along with increased visitation had led to wash boarding and pothole formation along the entrance road. James Rainey with Stafford County Utilities hauled six loads of gravel from a local VDOT storage yard. Thanks also to Jason Pauley and James

Henderson with Stafford county Utilities for coordinating the work and to Reece Banks with Stafford County Landfill for assistance loading the truck. These collaborative efforts are essential to the successful management of Crow's Nest.


Road maintenance at Crow's Nest NAP.

Operations Stewards Assist with DCR Site Safety Officer Training—2/5/18 – 2/9/18
In order to facilitate a safe and healthy work environment, operations stewards Richard Ayers and Wes Paulos have served on the DCR Site Safety Committee for several years. During the first week of February, Ayers and Paulos helped conduct DCR's Site Safety Officer (SSO) Training. This training equips site safety officers with the skills they need to ensure that their staff is working in the safest possible work environment. The training covered work place inspections, pesticide storage and handling, electrical wiring hazards, share point navigation, etc. Both Ayers and Paulos are proud to serve as Natural Heritage's Safety Committee representatives, and contribute to this important DCR objective.

SSO's and Committee members.

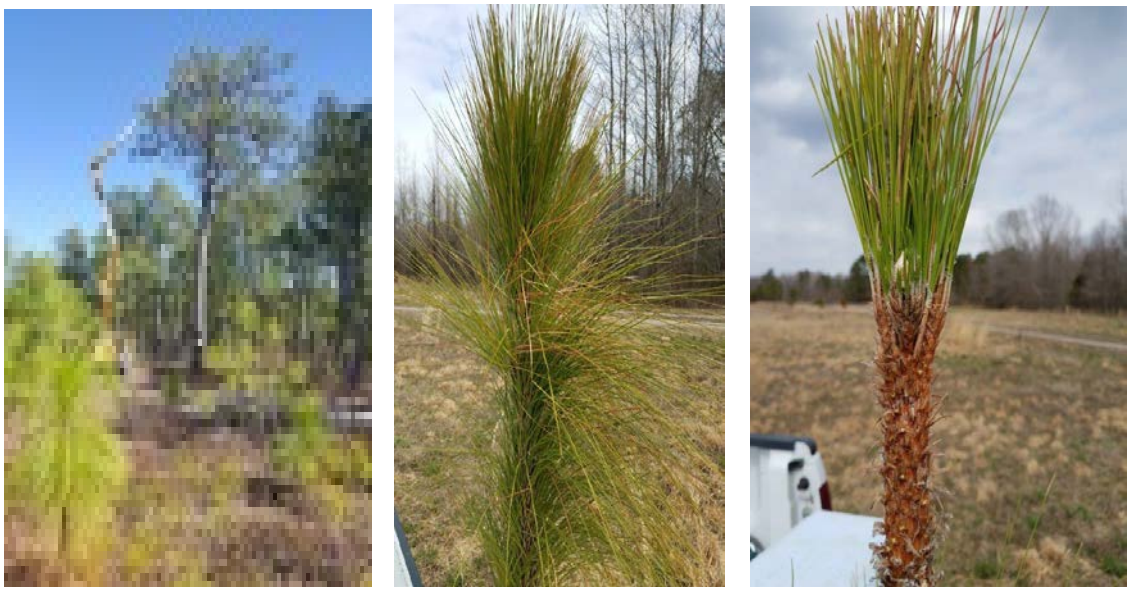
Presentation on Phragmites – 2/8/18
Eastern Shore Region Steward, Dot Field, gave a presentation on Phragmites distribution and control to the Chesopeian Garden Club. The presentation focused on the biology and life history of Phragmites, the threats it presents to marshes and other coastal wetlands, and methods of control in an urban setting. Phragmites is a highly invasive grass that compromises the ecological functions of wetlands. Eighteen club members attended.

Cape Charles Natural Area Preserve Volunteer Stewardship Committee Meeting-2/21/18
On February 21, the Cape Charles Natural Area Preserve (CCNAP) Volunteer Stewardship Committee (VSC) met for a "greet and meet" lunch and information session on the Eastern Shore. New committee members were introduced, and veteran members shared their experiences and insights. DCR's Eastern Shore Region Steward, Dot Field, provided an overview of the Natural Heritage Program mission, the duties of volunteer stewards, and answered questions and concerns. The Cape Charles VSC is one of four such teams of volunteers on the Eastern Shore. Each committee is comprised of citizen volunteers (primarily Virginia Master Naturalists) who assist with visitor contact and outreach, trail and general preserve maintenance, invasive species control, and species list updating. Volunteers visit their designated NAP every week on a rotating schedule. They provide a much needed, and appreciated, extra sets of eyes, ears and hands for Eastern Shore stewardship staff. The Cape Charles VSC currently has 18 members. Other preserves on the Eastern Shore with a VSC include Savage Neck Dunes NAP, Magothy Bay NAP and Mutton Hunk Fen NAP.

Cape Charles Natural Area Preserve volunteer stewards at a recent meeting on the Eastern Shore.

Assistance to Department of Forestry with Longleaf Pine Grafting Project – 2/2018-3/2018
DCR's Southeast Region Steward, Darren Loomis, assisted Department of Forestry staff with collecting scion wood from mature longleaf pines located on DCR's South Quay Sandhills Natural Area Preserve and DOF's South Quay State Forest, south of Franklin, Virginia. The term "s*cion wood*" refers to healthy young (small) branches removed from mature tree crowns, which are then grafted onto robust rootstocks for the purpose of developing a genetically diverse seed orchard. DOF staff are currently developing

such a longleaf pine seed production facility at New Kent Forestry Center near Providence Forge. Creating grafted seed-producing trees from known selections (source trees) helps ensure genetic diversity of seedlings. Grafted seed trees also develop into mature, cone-bearing trees much faster than do standard, un-grafted seedlings. These benefits of genetically diverse and accelerated longleaf seed production will help both DCR and DOF reach their shared objective of producing larger numbers of seedlings to restore longleaf pine to southeast Virginia, both on public and private lands.



Collecting scion wood from a mature longleaf pine at South Quay Sandhills Natural Area Preserve.(Left) Root Stock(Middle), Root Stock Prepared (Right.)

Root Stock Topped (Left), Scion Prepared (Middle), Scion inserted (Right).

Graft wrapped(Left), Graft sealed with Parafilm(Middle), Graft wrapped with aluminum foil and tagged with date and parent tree (Right).


The final process – wrapping the graft with aluminum foil.

Master Naturalist Volunteers Assist at Bush Mill Stream Natural Area Preserve – 3/27/18
On Tuesday, March 27, volunteers from the Northern Neck Chapter of the Virginia Master Naturalists assisted DCR's Eastern Operations Steward, Neil Gunter, with stewardship projects at Bush Mill Stream Natural Area Preserve in Northumberland County. They started by clearing preserve hiking trails of downed trees and woody debris from recent wind events, and also trimmed encroaching vegetation along trail edges. After completing the trail work, the group assisted with maintaining nearly one mile of preserve boundary by replacing old, damaged or missing signs. The boundary line work gave the volunteers an opportunity to see some of the more remote parts of the preserve away from trails, and also provided a better appreciation for the reasons why DCR maintains clearly-marked property boundaries on the NAP system.

Invasive Species

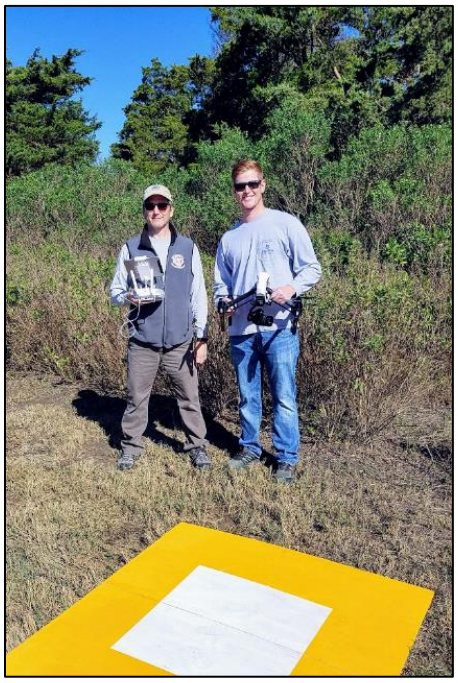
Phragmites Control on Southeast Virginia Natural Areas and State Parks – 10/02/17
The non-native, invasive wetland grass *Phragmites australis* is invading the globally imperiled wind-tidal oligohaline marshes of Back Bay and its tributaries. Using a helicopter for application, herbicide was sprayed

onto patches of the invasive grass in order to control its spread. 35 acres were treated at False Cape SP/NAP during the week of October 2, 2017.

Heritage Staff Leads Class on Invasive Plants – 10/17/17
DCR Stewardship Biologist led a class on invasive plants in Virginia forests for the Charlottesville Area Tree Stewards 2017 trainees. Over thirty trainees attended the class, held at Albemarle County's Ivy Creek Natural Area. The presentation included definitions of native, introduced, and invasive species; invasive species vectors; impacts of invasives on native species and natural communities; and a long section on wavyleaf grass: impacts on natives, how to identify, report, and control is rapidly growing threat to Virginia forests.

Heritage Staff leads Invasive Species Workshop for VA Master Naturalists – 10/26/17
DCR Stewardship Biologist led a workshop on invasive species for a group of eighteen Eastern Shore Master Naturalist trainees at DCR's Mutton Hunk Fen Natural Area Preserve. The workshop included an introduction and overview of the invasive species and a hike around the preserve to look at invasive plants species found there while hearing about the impacts and management challenges associated with invasives.

Heritage Stewardship Biologist Surveys Natural Area Preserve with Drone – 10/27/17
DCR Stewardship Biologist and Invasive Species Technician conducted several drone flights at Mutton Hunk Fen Natural Area Preserve. The flights resulted in over 500 aerial photographs that were processed to create georeferenced orthographic mosaics for use in high-resolution maps of Phragmites infestations and a rare natural community, a seaside fen. Still photography and video was also captured for use in presentations and other media. The DCR Stewardship Biologist is an FAA-certified unmanned aerial system (UAS) pilot. He has been exploring the use of drones as a tool to support a variety of projects on DCR lands, including rare and invasive species mapping and monitoring of restoration efforts.



The Natural Heritage Drone Flight Crew pictured with their high visibility landing pad

Aerial drone footage of the forest restoration project at Mutton Hunk Fen NAP

Aerial footage of a Phragmites stand in the seaside marsh located at Mutton Hunk Fen NAP

English Ivy Removal at Reedy Creek –3/25/18
Colleen O'Brien (DCR Project Review Intern) organized a RIP Team Event to remove invasive species from sections of the James River Park. The team consisted of 17 hardworking individuals from the DCR Natural Heritage Program, DCR Public Communications Office, VCU students, and community activists. The removal site was a sloped area close to the Reedy Creek Canoe Access within the James River Park System. Prior to the removal process, Rob Evans, DCR Protection Manager informed the group of some characteristics of the targeted invasive species, English Ivy, as well as the positive impact that would result from the removal efforts.

All of the trees in the area were freed from the ivy vines by severing the root at the trunk's base. The team ripped out more than two pickup truck loads of English Ivy in under 4 hours!

English Ivy Removal Event-James River Park System

Information Management

Heritage Staff Presents at Mid-Atlantic Water Resources Conference – 10/12/17
The Natural Heritage Landscape Ecologist presented a talk at the Mid-Atlantic Water Resources Conference. The presentation was titled "Prioritizing lands to protect our waters: a strategic approach with Virginia ConservationVision", and gave an overview of the ConservationVision Watershed Model. The 2-day conference, held at the National Conservation Training Center in Shepherdstown, WV, drew attendees from multiple states, with a full slate of informative talks related to water resources. The agenda can be found at http://midatlanticwrc.org/event-info/agenda/.

A panel convened to discuss water resources-related policies in the Mid-Atlantic.

Final Report submitted to US Fish and Wildlife Service: Region 5 – 10/16/17
A final report entitled 'Species Distribution Modeling of Threatened and Endangered Species throughout Region 5' and species distribution models for seven federally listed species (*Aeschynomene virginica*, *Glyptemys muhlenbergii*, *Helonias bullata*, *Isotria medeoloides*, *Platanthera leucophaea*, *Schwalbea americana*, and *Scirpus ancistrochaetus*) were delivered to the US Fish and Wildlife Service – Region 5. Species Distribution Modeling uses known locations of a rare species and co-occurring environmental variables (i.e. specific climate variables, soils data, elevation, etc.) to statistically identify areas that have not been physically surveyed in the field, where suitable habitat for those rare species may occur; model output maps predict suitable habitat in areas that have not yet been surveyed. This project was undertaken in partnership with the New York Natural Heritage Program and benefited greatly from the additional collaboration with the Pennsylvania Natural Heritage Program and the Florida Natural Areas Inventory. Starting with input datasets of known species locations and 88 environmental variables, we used Random Forest statistical software to build the models. The result was an output map for each species modeled, with probability values depicting where suitable habitat for each species may occur, or high probability areas where a species' habitat could be restored.

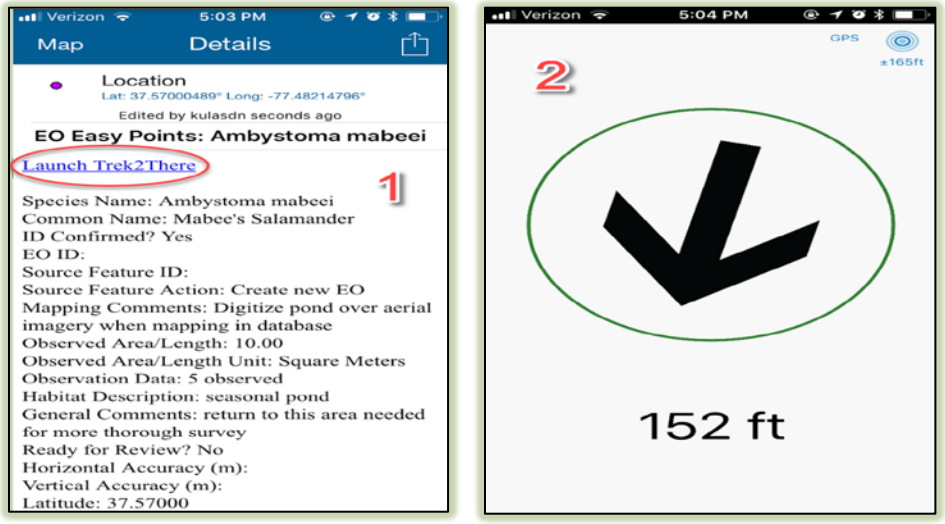
USFWS – Region 5

Final Report submitted to the South Atlantic Landscape Conservation Cooperative – 10/16/17
A final report entitled 'Integration of At-risk and Range-Restricted Species Models and Strategic Conservation Information into the SALCC Conservation Blueprint' and species distribution models for ten species (*Ambystoma cingulatum*, *Echinacea laevigata*, *Heterodon simus*, *Lindera melissifolia*, *Lythrum curtissii*, *Notophthalmus perstriatus*, *Phemeranthus piedmontanus*, *Rhus michauxii*, and *Schwalbea americana*) were delivered to the South Atlantic Landscape Conservation Cooperative. This project was undertaken in partnership with the Florida Natural Areas Inventory and benefited greatly from the additional collaboration with the New York and the Pennsylvania Natural Heritage Programs. Starting with input datasets of known species locations and 88 environmental variables, we used Random Forest statistical software to build the models. The result was an output map for each species modeled, with probability values depicting where suitable habitat for each species may occur, or high probability areas where a species' habitat could be restored. Short profiles for each species are reported to the SALCC and partners to summarize life history and known threats, and recommendations for potential conservation and monitoring protocols are suggested.

The SALCC study area:

Advances in Mobile Data Collection Techniques — 1/29/18

Natural Heritage Data and GIS Specialist Danielle Kulas has recently added new functionality to mobile data collection technology used by Natural Heritage field biologists and Natural Area Preserve stewards. The Collector App, which field staff have been using to gather rare species information in the field with their smartphones and tablets since 2015, only provides street directions to mapped features. Street directions are not useful to Natural Heritage staff since field work is often performed in remote areas far from roads. ESRI has enabled GPS metadata (such as Latitude and Longitude coordinates) attachment to map layers, which allowed Danielle to implement a workaround for the directions issue. Now, when field staff identify a point feature in the Collector App, the resulting information window contains a link that opens a separate app called Trek2There. The Trek2There App reads the Latitude and Longitude associated with the point and gives a distance and bearing to the selected point from the surveyor's current location. Trek2There allows the surveyor to move (if terrain allows) "as the crow flies" to the desired location, ensuring more efficient and accurate navigation in the field.



The above example depicts a selected Mabee's Salamander observation point information page in the Collector App (Left), and the launch of Trek2There to guide the surveyor from their current location to the Mabee's Salamander point (Right). Please note that this data was created for demonstration purposes and the Latitude and Longitude coordinates shown do not represent an actual Mabee's Salamander observation.

Updated and Automated Natural Heritage Conservation Sites – 2/23/18
A Conservation Site ("ConSite") is a non-regulatory planning boundary delineated by the Virginia Natural Heritage Program to identify key areas of the landscape worthy of preservation. ConSites are built around one or more known occurrences of rare plants, animals, and/or significant natural communities. They include associated habitat and adjacent land to serve as a buffer, with special emphasis on maintaining large contiguous tracts of natural land cover.

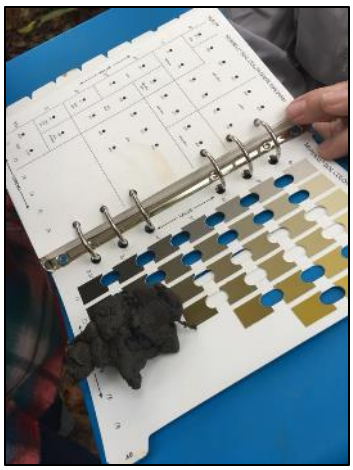
Until now, ConSites have been delineated by hand with heads-up digitizing in a Geographic Information System (GIS). Collaborating with DCR-Natural Heritage staff, Landscape Ecologist Kirsten Hazler has developed a suite of customized GIS tools for an automated, more streamlined, efficient, and repeatable ConSite delineation process. The automated process also factors transportation surfaces, waterways, core blocks of natural land cover, and highly developed "exclusion zones" into the ConSite boundaries.

This week, the ConSite delineation team reached a major milestone in the transition from manual to automated site delineation. Five hundred ninety-four (594) site boundaries stored in Biotics (the Natural Heritage spatial database) were replaced with new boundaries. This represents about 40% of existing ConSites. We anticipate full transition of all terrestrial sites to updated boundaries by the end of 2018.

Example of an automatically delineated site.

Outreach and Education

Wetlands Class at Crow's Nest – 10/14/17
The DCR Natural Heritage Northern Regional Supervisor along with staff from the Tri-County/City Soil and Water Conservation District taught an introductory wetlands class to a group from the Central Rappahannock Master Naturalists Chapter. The 3.5-hour course focused on the different definitions of wetlands, wetland types, ecosystem functions and values and wetland delineation. After an introduction, participants observed various plant and animal adaptations to their wetland habitats, evidence of wetland hydrology and upland versus hydric soils. The class was held at Crow's Nest Natural Area Preserve. Twenty-two future Master Naturalists participated in the class.

Participants observing the freshwater tidal marsh (left), and students using a Munsell soil chart (right).

Webinar presented to the USFWS Region 5 IPaC Coordinators – 10/17/17
A webinar entitled 'Species Distribution Modeling for USFWS – Region 5' was presented to the US Fish & Wildlife Service – Region 5 Information for Planning and Conservation (IPaC) Coordinators, by the Species Modeling Project Manager at DCR-Natural Heritage and the Director of Science from the New York Natural Heritage Program. The methods and raster outputs for the seven models (funded by the USFWS – Region5) were reviewed and discussed. The species covered are: *Aeschynomene virginica*, *Glyptemys muhlenbergii*, *Helonias bullata*, *Isotria medeoloides*, *Platanthera leucophaea*, *Schwalbea americana*, and *Scirpus ancistrochaetus*. Representatives from federal, state, and university organizations attended the webinar.


Image of one of the species modeled, the federally and state listed bog turtle (Glyptemys muhlenbergii), and an example aerial image of an area of modeled spredicted suitable habitat.

New Department of Forestry Staff Visit Chub Sandhill Natural Area Preserve – 10/18/17
27 staff with the Virginia Department of Forestry visited Chub Sandhill Natural Area Preserve as part of their new employee orientation. These new DOF employees learned about the joint efforts of DCR and DOF to restore longleaf pine to southeast Virginia. Longleaf pine forests once occupied over a million acres of land in Virginia but were reduced to just a few hundred trees by the year 2000. Since 2007, DOF and DCR have been working together to bring longleaf and its associated fire-maintained ecosystem back to Virginia. Field trip participants learned about longleaf pine ecology and visited DCR's first longleaf pine restoration project covering 80 acres that was planted in February 2008.

Natural Heritage Outreach to Lynchburg College Staff and Students – 10/20/17
DCR's Eastern Operations Steward, a Lynchburg College graduate, participated at a college-sponsored panel discussion connecting alumni and current students within similar disciplines. The focus was on how coursework, internships and student activities contributed to various alumnae's professional career paths. The Eastern Operations Steward shared information about DCR's Natural Heritage Program with students, staff and faculty. Information was also provided to the Environmental Science program chair about potential research and

education opportunities on DCR's State Natural Area Preserve System, as well as how to access natural heritage data via the on-line NH Data Explorer system.

Natural Heritage Staff Teaches Master Naturalist Session – 10/27/17
The DCR Natural Heritage Chesapeake Bay Region Steward taught a session of the 2017 Northern Neck Master Naturalists Basic Training Class. The 17 class members learned about mammalogy and herpetology with an emphasis on species native to the Northern Neck. The session culminated with trips to Dameron Marsh and Hughlett Point Natural Area Preserves to look for evidence of mammals, reptiles, and amphibians, as well as observe shoreline dynamics on the Chesapeake Bay. The Virginia Master Naturalist program is comprised of 29 local chapters engaged in natural resource education, citizen science, and stewardship.

Interagency Fire Refresher at Pocahontas State Park – 11/01/17
The day-long Eastern Virginia Interagency Fall Fire Refresher at Pocahontas State Park was held. Over 60 wildland fire fighters took part in order to maintain required crew qualifications. Participants completed a work capacity test ("pack test") consisting of walking three miles carrying 45 pounds (arduous certification). Chesterfield County Fire Department (CCFD) provided an ambulance for medical standby. Afterward, a classroom session was held with presenters from the Department of Forestry (DOF), U.S. Fish and Wildlife Service (FWS) and DCR reviewing the 10 Standard Firefighting Orders and the 18 Watch-Out Situations. After lunch, the group rotated through four field practical stations: fire shelter deployment; fire-line first aid; UTV loading and load securing; and, radio use for fire operations. Participating agencies and organizations included DCR Natural Heritage and State Parks, Department of Game & Inland Fisheries, DOF, The Nature Conservancy, FWS and CCFD.




Interagency prescribed fire crew members participated in an annual Fire Refresher held November 1, at Pocahontas State Park.

Volunteer Trail Maintenance at Bush Mill Stream Natural Area Preserve – 11/02/17
DCR Natural Heritage Chesapeake Bay Region Stewardship staff were joined at Bush Mill Stream Natural Area Preserve by four volunteers from the 2017 Northern Neck Master Naturalists Basic Training Class. The crew conducted basic trail maintenance, removed downed trees, and helped carry large 6”x6” posts that will be installed as trail intersection markers. Bush Mill Stream Natural Area Preserve protects 103 acres along a tributary of the Wicomico River in Northumberland County. The preserve is home to a rare fern and exemplary examples of Coastal Plain Oak-Beech-Heath Forests and Seepage Swamps.

Bush Mill Stream Natural Area Preserve

Heritage Staff Presents at Albemarle-Pamlico Ecosystem Symposium – 11/06/17
The Healthy Waters Program (HWP) Manager provided a presentation at the Albemarle-Pamlico Ecosystem Symposium hosted by the Albemarle-Pamlico National Estuary Partnership (APNEP) in Raleigh, NC. The HWP Manager presented *Developing a Watershed-based Ecological Health Plan for the Chowan Basin*, giving an overview of the Virginia Healthy Waters Program, the aquatic integrity assessment of the Chowan Basin, the newly adopted *Criteria for Ecologically Healthy Watershed Conservation* and the conservation plan for the Raccoon Creek watershed. Specific focus was on the development of the conservation criteria as it compares to typical watershed restoration criteria which are intended to meet water quality standards. Outcomes from the meeting include the re-engagement of the Chowan Roundtable utilizing the Raccoon Creek plan as a means to advance protection activities in the basin, exploring the development of a NC-based healthy waters program and expanded partnerships with APNEP, NCDEQ and TNC in the Chowan basin.

November Outreach Efforts on the Eastern Shore – 11/8/17 – 11/21/17
During November 2017, DCR’s Eastern Shore Region Steward engaged in several events to promote the Natural Heritage Program’s mission. On November 8, a presentation was given for the Virginia Master Gardeners Eastern Shore Chapter on the ecological benefits of landscaping with native plants. On the same day, the Eastern Shore Steward served on a panel for a Virginia Eastern Shore Land Trust workshop exploring concepts presented by Aldo Leopold’s *A Sand County Almanac* and focusing on personal connections to the land. On November 16 a talk was given at the Cape Charles Yacht Club annual meeting about the Virginia Natural Heritage Program’s mission, plus an overview of the nine state natural area preserves located on the Eastern Shore. Another presentation on November 21 for the Garden Club of Virginia’s Eastern Shore Chapter highlighted native plants of the Shore. In total, these outreach efforts resulted in contact with 147 Eastern Shore residents.

Longleaf Pine Presentation by Zach Bradford— 1/11/18
The DCR – Natural Heritage Chesapeake Bay Region steward, Zach Bradford, presented at the January meeting of the Pocahontas Chapter of the Virginia Native Plant Society. His presentation, *"Longleaf pine and fire-adapted plants of southeast Virginia,"* introduced the audience of 30 to several native plants adapted to frequent fire as well as longleaf pine, a tree that used to cover over 1,000,000 acres in southeast Virginia but now numbers only about 200 mature trees. Longleaf pine requires frequent low-intensity fires for seed germination and early growth. In addition to fire suppression, the precipitous decline in Virginia longleaf pine is attributed to feral hogs and the destruction of mature trees to make turpentine. To date, DCR's Natural Heritage Program has planted over 680,000 native longleaf pine seedlings on 1,342 acres on state Natural Area Preserves.


Long Leaf Pine

Presentation on Breeding Birds for Virginia Master Naturalists – 2/20/18
DCR's Northern Region Supervisor, Michael Lott, gave a presentation on the breeding bird monitoring program at Crow's Nest Natural Area Preserve to the Central Rappahannock Master Naturalist chapter. The presentation focused on the objectives of the program, survey protocol and a summary of four years of monitoring data. There was a particular focus on how different bird species utilize the varied plant communities at Crow's Nest and how the data collected could inform management decisions in the future.



Wood Thrush and Kentucky Warbler nests observed at Crow's Nest Natural Area Preserve.

Fire Ecology Class at William & Mary- 2/27/18
The DCR Natural Heritage Longleaf Pine Restoration Specialist Rebecca Wilson, Chesapeake Bay Region Steward Zach Bradford, and The Nature Conservancy's Bobby Clontz presented to Dr. Harmony Dalgleish's fire ecology class at the College of William & Mary. They introduced the 15-student class to longleaf pine, its associated fire-adapted plants, and the fire ecology of southeast Virginia. Due to positive student response, a follow-up field trip to state Natural Area Preserves has been planned for April.

A fire-dependent, young longleaf pine.

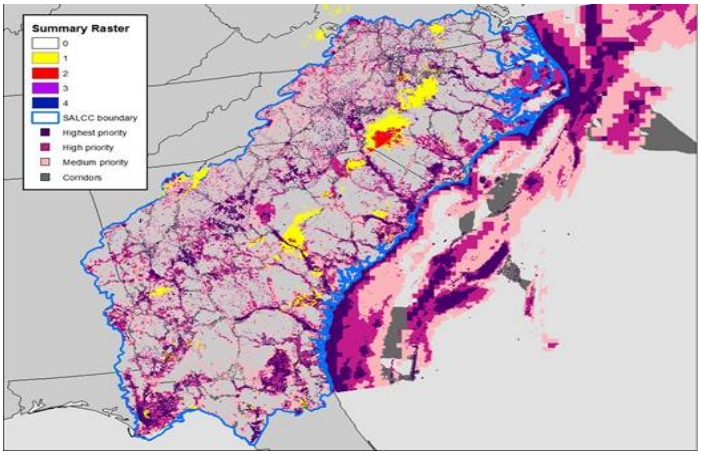
Presentation at Belmont Estate on Crow's Nest Natural Area Preserve –3/08/18

DCR's Northern Regional Supervisor, Michael Lott, gave a presentation on the ecology of Crow's Nest Natural Area Preserve at the University of Mary Washington's Belmont Estate. The presentation was part of a public programming series put on at Belmont and was open to all. After a brief introduction to the Natural Heritage Program and the cultural history of the Crow's Nest Peninsula, the presentation focused on ecological characteristics of the preserve, including local geology, soils, vegetation communities, and wildlife. Fifty people attended the presentation.

Recent wildlife photos from Crow's Nest Natural Area Preserve: marbled salamander (left) and river otter (right).

Webinar Presented to South Atlantic LCC – 3/15/18

The Species Modeling Project Manager, Anne Chazal, collaborated with the Chief of Conservation Science from the Florida Natural Areas Inventory to present a webinar to the South Atlantic LCC. The talk, entitled "Integration of At-risk and Range Restricted Species Models and Strategic Conservation Information into the SALCC Conservation Blueprint," presented final methods and outputs from 10 species distribution models of at-risk and range-restricted species. Attendees included federal, state, university, and non-profit conservation professionals across the southeastern US.



Map of species distribution models

Land Conservation

Successful Virginia Land Conservation Foundation (VLCF) Grant Round − The Division of Natural Heritage was awarded several grants that will allow for expansion of existing Natural Area Preserves across the Commonwealth-10/16/17

1) Antioch Pines Natural Area Preserve (Isle of Wight County). A $419,900 grant will allow purchase of up to 142 acres along the eastern flank of the Preserve that will serve as important "smoke buffer" to support the Division's active and essential controlled burn program. In addition, the tract supports forests of "very high" value (according to Virginia Department of Forestry's Forest Economics Model), and high priority areas for longleaf pine restoration.
2) Magothy Bay Natural Area Preserve (Northampton County). A $398,400 grant will provide matching funds to acquire 161 acres in two parcels near the southern end of the Delmarva Peninsula. When these transactions are completed, DCR will be very close to a "shore-to shore" connector between existing protected areas. Each fall, this area briefly supports one of the largest concentrations of land birds along the East Coast. As a major stopover area during migration these birds need food and cover before crossing open water and flying south. Existing farm fields provide little direct benefit to these species, so the Natural Heritage Program and its partners will actively restore such areas to native vegetation to provide migratory songbird critical forage and natural cover from predators.
3) Blackwater Scenic River Corridor Protection (Isle of Wight County). A partially funded grant request will expand protection of up to 2 miles of river frontage along the east bank of the Blackwater River, a state designated Scenic River. When combined with the adjacent Antioch Pines Natural Area Preserve, nearly 5 contiguous miles of river frontage "viewshed" along the east bank of the river will be protected. The project would protect forests of "very high" value, according to the Department of Forestry (VDOF), as well as the national champion overcup oak (*Quercus lyrata*).

Other projects of note:

1) The Nature Conservancy obtained a grant to establish the Catharine M. Grey Preserve in Accomack County. Funding will help acquire a 127-acre property along the Captain John Smith Chesapeake National Historic Trail and the Onancock Water Trail, and adjacent to Parker's Marsh Natural Area Preserve.

Grafton Ponds Natural Area Preserve Expansion – 1/08/18

A recent focus on long-term resiliency planning around Grafton Ponds Natural Area Preserve in York County has brought new insights and expanded collaboration. The biological value of the area has long been known. The 3000-acre conservation site associated with the 375-acre Grafton Ponds NAP includes one of the largest complexes of globally rare seasonal wetlands in Virginia and the Mid-Atlantic Region. These globally rare ponds support several rare species including what may be the best remaining Virginia population of Mabee's Salamander, a state listed threatened species. The ConservationVision Development Vulnerability Model scores the area with the two highest rankings of vulnerability. Indeed, the Peninsula region is the 2nd most highly developed coastal region in Virginia and much of the lower Peninsula is effectively already developed. Newport News and the Peninsula Airport Commission own substantial acreage in this area.

As part of Dominion Energy's Skiffes Creek settlement under the auspices of the Virginia Land Conservation Foundation, DCR-Natural Heritage worked with Newport News Waterworks and DHR to develop a successful proposal for funding. Funding was awarded to purchase 390 acres, with open space easements on an additional 300 acres of Newport News-owned lands as match, expanding the dedicated area of the Grafton Ponds NAP. This conservation success leveraged Natural Heritage resource information and essential partnership to permanently protect some of Virginia's most significant natural heritage and historic resources.

The state listed threatened, Mabee's Salamander.

Natural Heritage Data Management Totals for FY2017:

Activity 10-01-17 – 03-31-18

Activity	**Total Number in Database:**
New Mapped Locations (EOs) – 22	Animal Mapped Locations (EOs) - 609
Updated Mapped Locations (EOs) - 62	Plant Mapped Locations (EOs) - 1223
New Conservation Sites - 10	Community Mapped Locations - 574
Updated Conservation Sites – 28	Conservation Sites - 590

Managed Areas: (Acres added coastal zone) – 9,979.94 Acres
Mapped Tracts: (total in coastal zone) - 38 Tracts
Mapped Managed Areas: (total in coastal zone) - 37 Managed Areas

DCR – Healthy Waters

For the grant reporting period, the Environmental Scientist/Analyst with the Virginia Commonwealth University, Center for Environmental Studies 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.

The Healthy Waters Program is supported through funding from several grant sources including the VA CZM Section 306, US EPA Section 319 Nonpoint Source Program, and the Chesapeake Bay Implementation Grant. 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 and data integration.

Programmatically, the assessment of program resources and needs has continued to determine gaps and areas of improvement. Data integration, geographic expansion, and data re-sampling continue to be the top focal areas of the analysis with immediate attention addressed to integrate existing INSTAR data into the DNH data explorer and the creation of new Ecological Occurrences (EOs) and Stream Conservation Units (SCUs). Challenges to administering the Program are development of new data to complete the statewide coverage, and the resource and staffing needs to conduct field assessments. Heritage staff participated with the VCU field crew to collect INSTAR data and were supported with CZM funding. This increased capacity in the program is a critical advancement in the program within the Division of Natural Heritage and permits the collection of data by additional field personnel aside from specific grant related activities. This process provides the Healthy Waters Program the ability to identify and track trends in Healthy Waters.

The inclusion of VDCR DNH staff has been a valuable piece to assist the HWP, however, the data collected are in raw form and require the development of models to interpret such information to make relevant to the Program, as a whole. The INSTAR model is typically done on a basin scale and by VCU to provide for comparable results within a defined area and in a consistent manner. The collection of raw data permits an additional cataloging of resources to further inform the development of an INSTAR model when resources are present for the specific region or basin.

The Program Manager continued to participate in the Chesapeake Bay Program Healthy Watershed Goal Implementation Team to coordinate the involvement of VA Departments of Conservation and Recreation, Environmental Quality and Forestry. To continue the progress being made by the Commonwealth, the HW Program Manager coordinated with the Heritage Division staff to begin the process of conducting a threat assessment to the 2014 HW sites in the Chesapeake Bay. The outcome is an identified list of HW sites that are most vulnerable to changes and most likely to be lost to future changes.

The grant supported the development of an analysis and prioritization of statewide SCUs and a vulnerability assessment of existing healthy water sites in the Chesapeake Bay watershed. The analysis and prioritization of the SCUs was initiated to result in an identification of those SCUs deemed “most valuable” to guide conservation planning on a watershed scale ensuring ecologically healthy aquatic conditions are maintained. This activity, diverges from the typical work of the DNH and bridges the DNH Sections of Healthy Waters, Protection and Stewardship. The vulnerability assessment is intended to identify those healthy sites most likely to be affected by changes in land use or land cover, resulting in a loss of healthy sites. This assessment is being conducted by the NHP staff under the Data Management Section and will be shared with the Bay Program to inform the Management Strategies to ensure 100% of State identified healthy waters remain in 2025. Conservation planning on a watershed basis would be a divergent from the opportunistic approach under which some conservation actions are achieved. To support this approach, the VDCR HWP developed and submitted a proposal to the US Endowment of Forestry and Communities to support the Healthy Waters Program. If awarded, this proposal would include a field position that would directly work in support of conservation and protection actions to ensure ecologically healthy aquatic conditions are maintained under the Healthy Waters

Program. Likely partners on the application included the Virginia Chapter of the Nature Conservancy, Albemarle-Pamlico National Estuary Partnership, North Carolina Department of Environmental Quality, VA DEQ, and VA DOF.

During the reporting period, the HW Program Manager presented at the Albemarle-Pamlico National Estuary Partnership State of the Sound Symposium on the Chowan Basin Protection Plan and the USEPA approved a-I conservation criteria. An outcome was a renewed interest from both states to advance land conservation in a shared resource and to implement the MOU between NC and VA for shared resource priorities.

The Program Manager continued to meet with both the James River Association and the Friends of Rappahannock River to discuss how the INSTAR data and HWP might inform their protection actions in their respective regions. The HWP also met with USEPA Region 3 Office to discuss better integrating HWP data into the Watershed Resources Registry.

c) DCR – Division of Outdoor Recreation

Scenic Rivers -
An addition in the VA Scenic Rivers program was:
adding 45 miles to the Upper James Section of Designated Scenic River for a total of 59 miles. Code Section 10.1-413.

Collaboration on Scenic Rivers –
Staff met with VCU and discussed the learning modules for a fall class on Scenic resources and Virginia Scenic Rivers. The confirmed class is 37529 ENVS 591-001 TOP: SCENIC RES POLICY & ASSESS and will be on Tuesdays and Thursdays from 0930-1045 on the VCU Campus, except for field exercises. Several professionals in the visual assessment and from the Scenic Rivers Program have agreed to speak to the students during the course.

National Trails

DCR completed 18 scenic value documentations for the Potomac Heritage National Scenic Trail. Three story maps have been created to promote attractions near Potomac State Parks for people traveling along the Trail.
State Trails

DCR coordinated a stakeholder meeting for Fairfax County to discuss options for closing a challenging gap in the Potomac Heritage Trail near the Lorton VRE station. DCR also coordinated a stakeholder meeting and developed a conceptual plan for Integrating the Potomac Heritage National Scenic Trail Into the vicinity of Loudoun Heights.

DCR developed a connecting trails map for the 2018 Virginia Outdoors Plan for connecting every planning district into the statewide trails system.

Virginia Outdoors Plan

Chesterfield County Parks and Recreation – Projects East of I-95

1. James River Conservation Area – Complete site plan and 50% level construction drawings completed – awaiting funding
2. Dutch Gap Conservation Area – (Phase I) Floating boardwalk and observation platforms – complete; Phase II awaiting funding

3. Brown & Williamson Conservation Area - Trailhead and 2-mile trails system – in progress
4. Historic Point of Rocks – Strachan House Restoration – in progress

5) Department of Game and Inland Fisheries (DGIF)

Large Game

Bear, Deer, and Turkey Harvests

Hunting season for these species occurs across the entire coastal zone with specific hunting seasons and bag limits designed to accomplish population management objectives outlined within each species' management plan. To monitor the harvest of these species, the Department maintains a game checking system. For bears, all success hunters must take their bear to a game check station to register the harvest, harvest location (i.e., county), and collect a tooth for aging. The Department uses the age of harvested bears to reconstruct the population size and demographics to monitor population trends. For deer and turkeys, hunters have the choice of taking their harvest to a game check station or registering their harvest via one of the Department's electronic checking systems (i.e., telephone, internet, mobile app). Information on the hunter, location of harvest, and basic biological data on the harvested animal are reported. Harvest per unit area estimates are used to monitor population trends over time.

Small Game

Quail, rabbit, squirrel, raccoon and songbird monitoring

The annual quail call and rabbit survey is performed by agency staff and volunteers throughout the month of June. Observers are assigned routes designated along secondary roads throughout Virginia. Each route consists of two sections. During the first nine-mile section, observers stop every mile to perform two minute counts of singing male bobwhites. During this section, they also record the number of rabbits observed at and between stops. The final section is an 11 mile route that observers drive without stopping while recording rabbits observed. This survey is very useful for tracking population trends for Bobwhites Statewide and in the climate regions of Virginia. Additionally, in certain quail focal counties within the coastal zone (King William, King and Queen and Essex) more intense monitoring is done for quail and song birds associated with quail habitats.

The rural mail carrier survey is conducted annually in August. More than 3000 survey cards are sent to over 500 Post Offices with rural routes throughout Virginia. Participating carriers record quail, rabbits, grey squirrels, fox squirrels, live raccoons, and dead raccoons observed over a five-day period while delivering mail on their route. This survey remains useful for monitoring species and population trends that we would have very little data for otherwise, particularly at the state level.

Private lands wildlife habitat technical assistance

DGIF in partnership with the Natural Resources Conservation Service and the Conservation Management Institute at Virginia Tech, employee a team of five private lands wildlife biologists that make numerous site visits to private lands throughout Virginia, including the coastal zone. The purpose of these site visits is to offer high-level technical habitat management advice to landowners desiring to manage for a suite of species that includes bobwhite quail, pollinating insects and many songbirds. These biologists make approximately 400 site visits annually - potentially influencing management on over 50,000 acres per year. These biologists also offer expertise in habitat incentives programs available to landowners, helping landowners enroll in incentives program where desired and applicable.

Environmental Services

Tidal Surface Water Intake Proposals

DGIF's Environmental Services Section (ESS) is responsible for reviewing permit applications, policy changes, land use changes, NEPA documents, land development projects, water supply or intake projects and other items

to ensure avoidance of impacts upon threatened, endangered, and tiered species; designated wildlife resources; and any of the programs or resources over which we have jurisdiction or our constituents have an interest. Notable during this reporting period is that VDGIFs ESS staff have been working closely with VDEQ and VMRC on a number of recently proposed tidal river intakes. Tidal intakes represent a different suite of possible wildlife impacts than there non-tidal, entirely freshwater counterparts, requiring VDGIF ESS and Aquatic staff to stretch their tidal systems understanding.

ESS also has reviewed a number of private and commercial development projects, energy projects, and road projects within the coastal zone during this reporting period.

Wetlands

Mitigation Banking

VDGIF continues to participate on the Inter-Agency Review Team that oversees stream and wetland mitigation banking and provide input on new banks all over Virginia, including the coastal zone. Numerous proposals have been made for new banks and/or additions to existing banks within the coastal region of Virginia during this reporting cycle.

Invasive Species

Feral Hogs

VDGIF continues its partnership with USDA-Wildlife Services Virginia (USDA-WS) staff in leading the Virginia Interagency Feral Hog Committee. Formed in 2011, the committee serves to address the growing feral hog population noted in other southeastern states and in Virginia, most notably in 2010 when numerous groups of loose or feral swine were discovered in previously unoccupied areas across the Commonwealth. For FY2018, VDGIF funded $120,000 to USDA-WS to continue feral hog monitoring, mapping, and trapping operations at three select locations across Virginia: Orange/Culpeper counties, Southwest Virginia, and the southeastern areas of Back Bay National Wildlife Refuge (BBNWR) and False Cape State Park (FCSP). This funding assists one of three USDA-WS specialists to continue monitoring and trapping efforts in BBNWR and FCSP, in addition to spending a portion of their annual time assisting DGIF staff with feral hog trapping efforts at Cavalier Wildlife Management Area (WMA), where transient groups of hogs pass through the property seasonally.

A state law became effective July 2016 allowing for federal and state wildlife agencies to control for feral swine by aircraft (§29.1-114). In 2017, those efforts resulted in 24 hogs taken from False Cape State Park in the City of Virginia Beach. In March 2018, USDA-WS aerial operations resulted in no feral swine taken and no observance of feral hog damage on Back Bay NWR and False Cape State Park. However, the following night, a hog was captured on camera crossing the state line into False Cape State park from North Carolina. An aerial operation is scheduled by North Carolina USDA-WS immediately south of the state line in April. Combined aerial and trapping operations in Virginia and aerial operations in North Carolina have resulted in a significant reduction of this coastal population. Efforts will continue to monitor and remove any feral swine. Also in March 2018, an aerial survey of the Cavalier WMA resulted in no feral swine nor habitat damage observed.

Feral swine calls continue to come into the Virginia Human-Wildlife Conflict Helpline, a collaborative effort between USDA-WS and VDGIF to provide the public with current scientifically-based information to resolve problems with wildlife. During this reporting period, the helpline staff received wildlife calls from across the state; however, swine calls came from King William, Mathews, Middlesex, Suffolk, and Surry counties.

An additional threat to Virginia is escaped domestic hogs. Domestic hogs easily adapt to a free-range scenario and within one generation become feral. Understanding the reproductive capabilities of swine having 2-3 litters every 14-16 months, with a litter size of 6-8 individuals, it's not hard to see how quickly a population of feral hogs can be established from an escaped domestic situation. The following two examples illustrate this thereat:

a) King William Project Area

USDA-WS, in coordination with King William County Animal Control and VDGIF law enforcement personnel, began to remove swine from the King William project area in December 2016 on over 1,500 acres of land near the intersection of routes 600 and 604 in King William County. This land had many heritage-breed hogs that roamed freely, which created frequent conflicts with several adjacent landowners and motorists traveling on Herring Creek Road. During this reporting period, USDA-WS removed 69 hogs from this tract. At this time, there have been no additional reports of free-ranging hogs from the hunt club. USDA-WS will continue to monitor for activity in this area and respond accordingly, as there was recently a report of hogs within a few miles of the property.

b) Suffolk Project Area

In October 2017, USDA-WS received several calls of pigs along Arthur Drive in the City of Suffolk. The pigs appeared to be relatively tame and were often reported on the side of the road or in yards. USDA-WS worked with Suffolk Animal Control personnel to locate an owner in the area but no one in the vicinity claimed the hogs. It is rumored that the hogs were released after a nearby resident no longer wanted to care for them, but this information has not been substantiated. USDA-WS began trapping operations promptly and removed 21 hogs that appeared to be a mix of domestic swine breeds. No further reports have been received from this area, but USDA-WS is continuing to investigate other feral swine reports from southern Suffolk near the North Carolina border.

NonGame Species Monitoring and Research

Bald Eagles

VDGIF's nongame bird expert recently began bald eagle trapping at Quantico U.S. Marine Corps Base in Prince William County, VA. So far, two eagles have been captured and outfitted with cellular transmitters to inform our air strike hazard study.

American Oystercatcher Winter Surveys

The DGIF, The Nature Conservancy – Virginia Coast Reserve and the USFWS did not conduct an annual winter American Oystercatcher survey in 2017 due to unfavorable weather conditions.

Piping Plover Fall Migration Surveys

From July 10 – October 10, 2017 DGIF and staff from The Nature Conservancy - Virginia Coast Reserve and Chincoteague National Wildlife Refuge conducted weekly piping plover fall migration surveys on six sampling plots along the Virginia barrier island chain. The purpose of this effort was to quantify the number of plovers utilizing the barrier islands during the fall migratory period, look for banded individuals to assist with survival studies and establish length of stay in Virginia, and assess human impacts at critical stopover locations. Sixty-one surveys were completed, which yielded 286 observations of one or more piping plovers. A total of 706 plovers were counted during the survey period, 23 of which were uniquely marked individuals. All but 11 banded individuals were observed multiple times, indicating that most birds stayed longer than one week on Virginia's barrier islands. The longest length of stay by a banded bird was 54 days (August 17 – October 10, 2017). The largest flocks (10 or more birds) were observed on Assateague, Assawoman and Cedar islands in the ocean intertidal zone.

Introductory Materials for update of the Virginia Marine Mammal Conservation Plan

The original Management Plan for Sea Turtles and Marine Mammals in Virginia was published in 1995 and was undertaken, in part, through a Virginia Coastal Zone Management Program (VCZM) grant. The sea turtle component of the plan has been updated as a combined effort with the state of Maryland and is awaiting internal review. The same update needs to be completed for the marine mammal component of the original plan, which is lacking the latest information on the distribution, abundance and ecology of these species in Virginia and does not address new threats that have arisen since the writing of the original plan. In December 2016, the

DGIF entered into a contract with the Virginia Aquarium and Marine Science Foundation to draft the introductory narrative of the marine mammal conservation plan to include the following components: (1) species descriptions, distribution, abundance estimates and life history parameters most relevant to Virginia; (2) current limiting factors and threats with a focus on those which are most relevant to Virginia; (3) existing legislation, regulations & Cooperative Agreements in Virginia; and (4) current marine mammal conservation efforts in Virginia. A near complete draft of the plan's introduction was reviewed by the DGIF at the end of the last reporting period and the final draft was approved during this next reporting period.

Sea Turtles and Fishing Piers – Mitigating Hook-and-line Interactions

Sea turtles in Virginia face many threats to their survival, including serious injury and mortality from entanglement in commercial fishing gear, vessel strikes from both commercial and recreational vessels, and entanglement and ingestion of recreational hook and line gear and marine debris. While federal regulations address many concerns posed by commercial fishing, interactions with the recreational hook-and-line fisheries remain largely unreported and/or unaddressed. In recent years, reported interactions between recreational fishermen and sea turtles in Virginia have been increasing dramatically. From 2009-2012, an average of 2.5 "hooked" sea turtles were reported per season. In 2015, a total of 47 sea turtles were incidentally taken by the hook and line fishery, of which 35 underwent some level of rehabilitation prior to being released. In 2016 and 2017 the totals rose to 55 and 57, respectively.

In December 2016, the DGIF entered into a contract with the Virginia Aquarium and Marine Science Foundation (VAQF) to develop realistic conservation, mitigation and/or regulatory measures that minimize the impact of recreational hook and line fishing on sea turtles in Virginia. Because most of the hook-and-line interactions documented in Virginia is occurring on fishing piers, most of the effort will focus on the recreational pier fishery. The VAQF proposes to fulfill the following three objectives: (1) build on the pilot study efforts of the Virginia Pier Partner Program to educate the recreational pier fishing community on how to report hooked sea turtles and respond properly to these interactions; (2) expand collection and analysis of data on fishing gear and bait types gathered from piers and pier-caught sea turtles to better understand the nature of these interactions for mitigation; and (3) test technology that will allow for the detection of ingested hooks without veterinary assistance. Progress made to date includes the preliminary analysis of gear and bait data, which indicates that j-hooks baited with squid is by far the most commonly recorded gear/bait combination among hooked turtle interactions. Metal detector trials were also completed during this reporting period. Preliminary results suggest that two of the three detectors tested may be effective tools for detecting ingested hook, each had an accuracy rate of > 85%. Additional analyses will examine the effect of turtle size (i.e., carapace length) and hook type on detector effectiveness. Final project deliverables are due in April 2018.

Atlantic Slope Freshwater Mussel Propagation

The VA Department of Game & Inland Fisheries continues its cooperative Atlantic Slope freshwater mussel propagation facility with the U.S. Fish & Wildlife Services' Harrison Lake National Fish Hatchery in Charles City, marking the 11th year of production and 12th year of operation at the VA Fisheries and Aquatic Wildlife Center (VFAWC). Propagation for the 2018 season began with collection of mussel broodstock in March with one exception. In September of 2017, yellow lampmussel (*Lampsilis cariosa*) were collected from the Dan River, Rockingham County, NC and held overwinter at VFAWC. Thus far, we have collected 51 individuals of six species from four rivers (Table 1). In early March, VFAWC collected gravid alewife floater (*Utterbackiana implicata*) from Rappahannock River, King George County. Then in late March we obtained creeper (*Strophitus undulatus*) and triangle floater (*Alasmidonta undulata*) from the South River, Augusta County and eastern pondmussel (*Ligumia nasuta*) from the Anacostia River, St. Mary's County, MD. Additional collections are in progress and will end in June after collection of the short-term brooding species, James spinymussel (*Parvaspina collina*) and Atlantic pigtoe (*Fusconaia masoni*) (Table 1).

Infestations began in March with two batches of yellow lampmussel using 100 Largemouth bass each and one batch of Eastern pondmussel using 100 largemouth bass. We also infested a variety of fishes comprising fantail darter (*Etheostoma flabellare*), common shiner (*Luxilus cornutus*), brook trout (*Salvelinus fontinalis*, wild and

cultured), and sculpin (*Cottus sp.*) with triangle floater larvae. Target propagation goal for 2018 is approximately 737,500 mussels of 14 species with grow out and release of approximately 30K mussels. Most of the species targeted for propagation in 2018 are not listed as threatened or endangered, but all are listed either as a species of greatest conservation need in Virginia's Wildlife Action Plan, species of concern by the USFWS, or are being produced as part of Natural Resource Damage Assessment and Restoration settlements. Work with federal and state endangered James spinymussel continues for the 4th year and we are again focusing efforts on the state-threatened and federally petitioned green floater (*Lasmigona subviridis*). Currently, we are holding over 1K James spinymussel propagated in 2016 and they are over 20 mm in length and nearly 11K green floater propagated in 2017 that are over 10 mm in length. We also have added brook floater to our propagation list, which is the 1st time we will attempt to propagate this state-endangered mussel. In addition to propagation during 2018, numerous sub-adult mussels propagated from 2015-2017 are being held for continued grow-out and release, with some mussels slated to be sent to North Carolina State University, USFWS in Wisconsin, University of Georgia, and the Anacostia Watershed Society for toxicity studies and outreach.

In order to work with freshwater mussels with unknown or difficult to obtain hosts (i.e.: *Elliptio complanata*, *Elliptio fisheriana*, *Strophitus undulatus*, and *A. undulata*) we will begin conducting in-vitro propagation in collaboration with Virginia Commonwealth University (VCU) this summer. VCU has provided research space while VDGIF and USFWS have provided necessary equipment and a Masters student stipend with funding from NRDAR. This technique eliminates the need for host fish by allowing the larvae to metamorphose in a sterile, nutritive medium.

VFAWC added an alarm system to each existing fish and mussel culture system. Probes monitor water flow and temperature in the event of equipment failure. Electricians also increased the electrical capacity in two propagation rooms for planned expansion. As part of that expansion, we are building two additional aquatic habitat (AHAB) units for conducting host infestations with fauna from different drainages and have purchased an additional fish holding system. We built two additional tubwellers for sensitive mussel species that benefit from longer periods of indoor culture. We are also constructing a gently recirculating sediment system for newly metamorphosed juveniles. This system will improve water quality while maintaining features of existing static mussel culture systems that sensitive species may require.

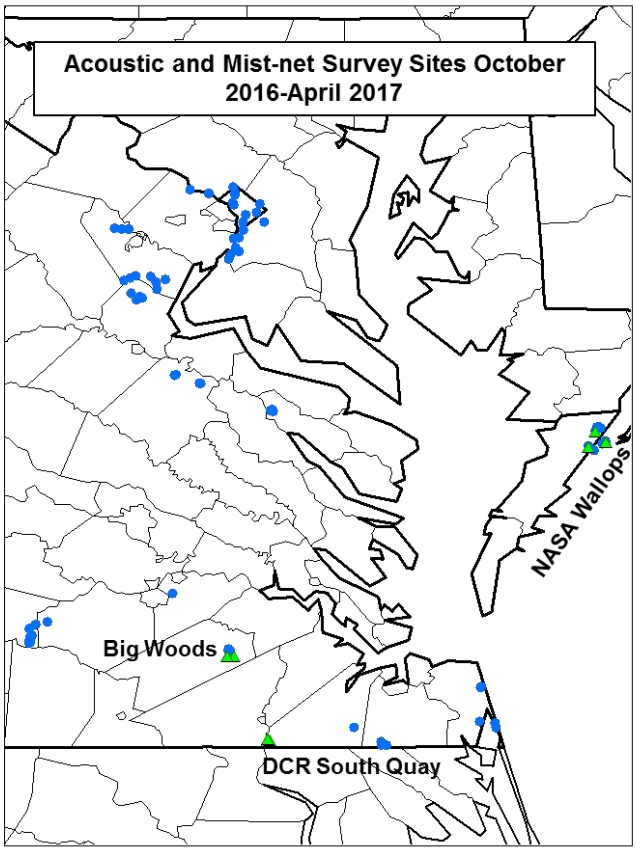
Table 1. Planned and completed broodstock collections for the 2018 propagation season.

Mussel Species	Collection Location	Number Collected	Production goal
*Alasmidonta undulata**	South River	10	1,000
	Dan River		1,000
Alasmidonta varicosa	Cacapon River		1,000
*Elliptio complanata**	Broad Bull Run		2,000
*Elliptio fisheriana**	Broad Bull Run		-
Fusconaia masoni	Dan River		500
Lampsilis cardium	Potomac River		150,000
Lampsilis cariosa	Dan River	5	50,000
Ligumia nasuta	Anacostia River	4	1,000
Lampsilis radiata	Nottoway/Meherrin River		50,000
Lasmigona subviridis	Cacapon River		100,000
	Dan River	10	100,000
Parvaspina collina	Dan River		15,000
	Cowpasture River		15,000
*Strophitus undulatus**	South River	9	1,000
Utterbackiana implicata	Rappahannock River	13	250,000
Total		51	737,500

*Supplemented by in-vitro propagation.

Winter Bat Foraging and roost Habitats in the Coastal Plain

To assess fall, winter and early spring presence and activity of bats in the Piedmont and Coastal Plain, VDGIF contracted with the U.S. Geological Survey, Virginia Cooperative Fish and Wildlife Research Unit and the Virginia Tech Department of Fisheries and Wildlife Conservation to conduct a pilot mist-netting and acoustic survey effort from October 2016-March 2017 in eastern Virginia. This effort also included adjacent portions of Maryland and the District of Columbia from the Potomac River Corridor south to the Norfolk-area (Figure 1). Mist-netting occurred in/around Big Woods VDGIF-VDOF-TNC complex, South Quay Natural Preserve and NASA Wallops Island, January-March 2017 over a total of 40 net-nights. Captures were limited to big brown bats (*Eptesicus fuscus*), eastern red bats (*Lasiurus borealis*), Southeastern Myotis (*Myotis austroriparius*) and evening bats (*Nycticeius humeralis).* Acoustical surveys using Wildlife Acoustic SM4 zero-crossing/frequency division detectors with omni-directional microphones mounted on 3 m poles occurred at 89 sites for a total of 12,314 detector-nights. Owing to staggered detector deployment and periodic battery failure, survey effort was not constant among sites, seasons (fall: October-November, winter: December-February, and spring: March-April) or growing season survey zones (northern Virginia: 220 days, central Virginia: 240 and 260 days, and southeastern Virginia: 280 days). Acoustic data were identified with U.S. Fish and Wildlife Service and U.S. Geological Survey approved Kaleidoscope 4,2 software. Per species, data were compared using a general linear mixed model in SAS 9.4 with season and growing season categories as fixed effects and presence of water at the survey site as a blocking factor. Because the winter season was the most complete survey period, a pre-planned comparison comparing activity by species between southeastern Virginia and the remainder of the study area was performed. Although a total of 394,781 echolocation passes attributed to bats were recorded, any call file not identified at the maximum likelihood estimator of $P > 0.1$ was deleted from statistical comparisons. Similarly, data from the small-footed bat (*Myotis leibii*) were excluded as that species was only recorded in the extreme northwestern portion of the Potomac River corridor. To further illustrate bat activity patterns, nightly activity by detector site totals were modeled using a kernel density 2 estimator across the fall, winter and spring seasons in SAS 9.4. Results were highly variable among bat species, however, all species showed some level of activity throughout the duration of the survey effort. During the winter period, Southeastern Myotis, little brown bat (*Myotis lucifugus*), northern long-eared bat (*Myotis septentrionalis*) and Indiana bat (*Myotis sodalis*) activity was concentrated in southeastern Virginia, consistent with concurrent U.S. Fish and Wildlife Service winter monitoring occurring in northeastern North Carolina. Nonetheless, some level of northern long-eared bat activity was recorded in the northern and central portions of the study area, albeit at extremely low levels. Additional mist-netting using 2016-2017 acoustic data as a guide is scheduled to begin in January 2018 and continue through April 2018 when weather permits.



SECTION B.3 FEDERAL CONSISTENCY

During the period of October 1, 2017 and March 31, 2018, the Office of Environmental Impact Review/Federal Consistency (OEIR) reviewed 127 development projects for consistency with the Virginia Coastal Zone Management Program (VCP). This represents 79% of the total amount of projects reviewed (160) during this period. Major state projects accounted for 18 projects, 4 were State Corporation Commission reviews, 11 were National Environmental Policy Act (NEPA) documents without a federal consistency component, 67 were federal actions, and 60 were federally funded projects. The 67 federal actions included 37 federal agency activities, 30 federal licenses and approvals, and 0 outer continental shelf projects. The 37 federal agency activities included 22 projects submitted under the residual category pursuant to the federal consistency regulation (15 CFR 930.31(c)), which consisted of U. S. Department of Housing and Urban Development (HUD) mortgage insurance projects. All federal consistency determinations and federal consistency certifications were completed within the established legal deadlines.

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

Table 1 depicts federal projects in Tidewater Virginia reviewed from 10-1-17 to 3-31-18.

TYPE OF FEDERAL PROJECTS REVIEWED*	NUMBER OF PROJECTS COMPLETED	REVIEW PERIOD
*Direct Federal Actions	37	30-60 Days
** Federal Activities (approvals & permits)	30	90 Days
***Federally Funded Projects	60	30 Days
Outer Continental Shelf	0	45-60 Days
TOTAL	**127**	**30-90 DAYS**

*Includes 22 FCDs reviewed under the residual category of Subpart C of the Regulations. (HUD Mortgage Insurances).

**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. Nationwide and regional general permits are certified every five years or as requested by the Norfolk District U.S. Army Corps of Engineers.

*** These include federal assistance to state and local government reviewed under Subpart F.

FEDERAL PROJECTS REVIEWED FOR CONSISTENCY WITH THE VCP from 10/1/17 to 3/31/18

I. Federal Agency Projects

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

Virginia Capes Range Complex, Hampton Roads, Department of the Navy:
The U.S. Department of the Navy (Navy) proposes to conduct U.S. Fleet Forces expeditionary training events in the inland areas of the Virginia Capes Range Complex of the Hampton Roads fleet concentration area in southeastern Virginia. The proposed federal agency action includes the continuation of current types and frequency of inland training events that have been conducted for decades at Navy installations in Hampton Roads, as well as the addition of new training events on Navy-owned and non-Navy training areas. The purpose of the proposed federal agency action is to maintain Navy readiness by continuing to execute current types of inland training at current levels and in current locations; accommodate changes in annual frequency of training; support future training requirements; achieve and sustain readiness of ships and squadrons; and support the acquisition and implementation of advanced military technology into the fleet. Within the action area, which encompasses 10 training locations, commands conduct basic, coordinated unit level field training exercises, as well as integrated unit training intended to introduce, build, and maintain necessary skills. The training locations are listed below:

Navy-owned (federal) training locations include:
• Joint Expeditionary Base Little Creek
• JEB Fort Story
• Dam Neck Annex (and portions of neighboring Camp Pendleton State Military Reservation)

• Naval Auxiliary Landing Field Fentress
• Northwest Annex
• St. Juliens Creek Annex
• Naval Weapons Station Yorktown
• Cheatham Annex
Non-Navy owned training locations include:
• First Landing State Park
• A segment of the Southern Branch of the Elizabeth River

No construction is involved in the proposed federal actions. With few exceptions, the training activities will occur on land (e.g., beaches, firing ranges, established demolition pits, mock urban villages, piers and trails) within military installation boundaries. The few exceptions include the underwater movements of remotely operated vehicles at Jones Pond within Cheatham Annex; vessel movements and blank fire along a segment of the Southern Branch of the Elizabeth River; and personnel movements (physical fitness training) along the park trails of First Landing State Park.

Back River Navigation Channel Dredging:
The Norfolk District of the U.S. Army Corps of Engineers proposes to dredge the Back River Navigation Channel in support of Joint Base Langley-Eustis-Langley (JBLE-Langley) in the Cities of Hampton and Poquoson, Virginia. The channel provides access and safe navigation in support of national defense to JBLE-Langley from the Chesapeake Bay. The project includes maintenance and new work dredging of the Back River Navigation Channel with the transport and placement of the dredged material at the Norfolk Ocean Disposal Site (NODS). Dredging will be conducted mechanically (i.e. clamshell) to a maximum depth of -15 feet mean low low water (MLLW) removing up to 205,000 cubic yards (CY) of material each dredging cycle, of which 35,000 CY is new work dredging for this cycle only. The new work dredging will occur within the approach to the newly constructed JBLE fuel pier. The channel will be dredged by a mechanical dredge and placed onto ocean-going barges/scow for dredged material transport to the Norfolk Ocean Disposal Site (NODS). The center of the NODS is located 17 nautical miles east of the mouth of the Chesapeake Bay. Dredging is expected to commence in July/August 2018 and be completed within approximately 150 days to 180 days. Provided the project proceeds as proposed and the Corps complies with all Virginia CZM Program requirements, then DEQ's Section 401 CWA certification requirements are satisfied.

II. Residual Category

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

Former Buick-Proposed The Muse Apartments:
The U.S. Department of Housing and Urban Development (HUD) proposes to provide mortgage insurance under HUD Section 221d(4) to P/R Mortgage and Investment Corporation to finance the construction of the proposed The Muse Apartments by Herman and Kittle Properties, Inc. (applicant) in the City of Richmond. The HUD program provides mortgage insurance for multifamily rental housing for moderate-income families. The property is located at 1400 Semmes Avenue and 400 West 14th Street and consists of two separate but contiguous parcels (Parcel IDs S0000157001 and S0000157015) that comprise 2.767 acres of developed land. The site contains four vacant commercial buildings (1400 Semmes Avenue) and one vacant single-family residential structure (400 West 14th Street). The residential structure was built in the early 1900s and the commercial structures were built between 1953 and 1969 and operated as a former Buick dealership. The structures will be demolished and replaced with a residential apartment complex with onsite parking.

Aldon Norwood Justice Poultry Houses:
The U.S. Department of Agriculture (USDA), Farm Service Agency (FSA) proposes to provide a federal loan under the Guaranteed Farm Loan Program to Aldon Norwood Justice (applicant/owner/operator) to finance the proposed construction of three poultry houses by a third party contractor. The poultry houses are proposed for construction on a property located on the east side of Coardtown Road north of the intersection with Chincoteague Road in New Church, Accomack County, Virginia. The property contains about 40-acres of tillable land as well as wooded areas. The poultry houses will be 60 feet by 600 feet in size, with a total capacity of 141,000 birds or 47,000 birds per house. The owner will obtain a contract to grow broilers with Tyson Foods.

Palmer's Creek Development:
The U.S. Department of Housing and Urban Development (HUD) proposes to provide mortgage insurance under HUD Section 221(d)(4) to finance the construction of the Palmers Creek Development by the Bonaventure Realty Group, LLC (applicant) in Spotsylvania County. The Section 221(d)(4) program provides mortgage insurance for multifamily rental housing for moderate-income families. The property is located at 9012 Jefferson Davis Highway and consists of approximately 20.97 acres of undeveloped and wooded land. The property is bounded by Jefferson Davis Highway and Pick-a-Part to the east; undeveloped wooded land, Massaponax flea market and Nice Auto Sales to the north; Pools and Spas, Pine Hollow Nurseries and undeveloped wooded land to the south; and undeveloped wooded land to the west. The Palmers Creek Development would consist of a three building, 300-unit multi-family apartment complex, two multi-tenant commercial buildings, driveways, parking lots, lighting, and landscaping. The proposed development will be served by existing municipal water and sewer systems.

III. Federal Activities (Permits, Licenses and Approval)
These projects were reviewed pursuant to Subpart D of the Consistency Regulations (15 CFR §930.53)

New Kent County Water Supply Project:
The Norfolk District of the U.S. Army Corps of Engineers (Corps) is reviewing a Joint Permit Application submitted by New Kent County (applicant) for the issuance of an individual permit pursuant to Section 404 of the Clean Water Act (CWA) (Public Law 95-217) for impacts to jurisdictional waters of the United States from the New Kent County Water Supply Project in New Kent County. The County proposes to construct a water intake on the Pamunkey River with a seven-mile pipeline to a new water treatment plant. The intake structure would consist of a wedge wire screen intake array consisting of three 36-inch diameter units with one millimeter (mm) screen slots. The initial withdrawal rate will be approximately one million gallons per day (mgd), increasing to an average of five mgd, and a projected maximum of eight mgd by 2060. The proposed project will permanently convert 0.177 acres of palustrine forested wetlands (PFO) to palustrine emergent wetlands (PEM), 0.018 acres of palustrine scrub shrub wetlands (PSS) to PEM, and permanently impact 215 linear feet of stream channel. The project will temporarily impact 0.19 acres of PFO, 0.018 acres of PSS, 0.07 acres of PEM, and 265 linear feet of stream channel.

DEQ issued a 90-day status report (11/29/17) on the state's review due to the need for additional discussion between the Virginia Marine Resources Commission staff and New Kent County officials regarding the development of measures to mitigate the impact of water withdrawals on the entrainment and inpingement of fish eggs and larvae leading to the mortality of anadromous fish species. Ultimately New Kent did not contact VMRC until a few days before the legal deadline for the state to respond to the FCC. DEQ issued a conditional concurrence based on the
requirement that New Kent obtain a VMRC permit. Based on DEQ’s review of the FCC and the comments from reviewing agencies, DEQ concurs that the proposal is consistent with the enforceable policies of the Virginia Coastal Zone Management Program provided the applicant obtains all required permits and authorizations.

Richmond International Airport – Three Airport Improvement Projects:
DEQ completed a coordinated review of a Federal Consistency Certification (FCC) submitted by the Capital Region Airport Commission (Commission or applicant) for the Three Airport Improvement Projects at Richmond International Airport. The applicant is seeking approval from the Federal Aviation Administration (FAA) for the project work. The airport proposes to implement elements of the Master Plan Update at Richmond International Airport (RIC) in Henrico County. The airport, located approximately ten miles east of downtown Richmond, encompasses approximately 2,580 acres and maintains three active runways. The airport is surrounded by commercial and residential areas as well as woodland and open land. Specific projects in the Master Plan Update have been identified as priorities to be completed within three to five year at the airport. The projects can be generally divided into two categories: 1) those required to meet evolving Federal Aviation Administration (FAA) safety requirements and operational limitations as facilities reach the end of their useful life, and 2) those that address Airport expansion issues that affect the ability to meet current and projected demand. The proposed action involves three projects. The first is the construction of an approximately 450-foot by 650-foot cargo operations facility on the airside to connect to the existing Taxiway "M" (per the project update letter dated October 23, 2017 that detailed a revised layout for the cargo operations facility). This project also involves the construction of a parking lot. The second is the construction of a new 20,000 square-foot maintenance storage building at the Airport Maintenance Facility. The third is the construction of a 100-foot by 100-foot paved area at the Aircraft Rescue Firefighting (ARFF) Training Area to allow for the use of the Commonwealth's Mobile Fire Training simulator and for the ARFF to conduct FAA-mandated Aqueous Foam discharge training. The applicant certifies that the project is consistent with the enforceable policies of the Virginia Coastal Zone Management Program. Based on DEQ's review of the FCC and the comments from reviewing agencies, DEQ concurs that the proposal is consistent with the enforceable policies of the Virginia Coastal Zone Management Program provided the applicant obtains all required permits and authorizations with respect to erosion and sediment control, coastal lands management, wetlands impacts and air pollution control.

Back River Navigation Channel Dredging:
The Norfolk District of the U.S. Army Corps of Engineers proposes to dredge the Back River Navigation Channel in support of Joint Base Langley-Eustis-Langley (JBLE-Langley) in the Cities of Hampton and Poquoson, Virginia. The channel provides access and safe navigation in support of national defense to JBLE-Langley from the Chesapeake Bay. The project includes maintenance and new work dredging of the Back River Navigation Channel with the transport and placement of the dredged material at the Norfolk Ocean Disposal Site (NODS). Dredging will be conducted mechanically (i.e. clamshell) to a maximum depth of -15 feet mean low low water (MLLW) removing up to 205,000 cubic yards (CY) of material each dredging cycle, of which 35,000 CY is new work dredging for this cycle only. The new work dredging will occur within the approach to the newly constructed JBLE fuel pier. The channel will be dredged by a mechanical dredge and placed onto ocean-going barges/scow for dredged material transport to the Norfolk Ocean Disposal Site (NODS). The center of the NODS is located 17 nautical miles east of the mouth of the Chesapeake Bay. Dredging is expected to commence in July/August 2018 and be completed within approximately 150 days to 180 days. Provided the project proceeds as proposed and the Corps complies with all Virginia CZM Program requirements, then DEQ's Section 401 CWA certification requirements are satisfied.

IV. Outer Continental Shelf Activities
No projects were reviewed during the time period of this report for this category.

V. Federal Funds

DEQ completed the reviews of 60 projects from October 1, 2017 to March 31, 2018 that were submitted under 15 CFR, Part 930, Subpart F for federal financial assistance to state and local governments. The projects break out as follows:

1	new home construction
20	home rehabilitations/weatherizations
6	new multifamily housing construction/rehabilitation
11	demolitions of blighted property
1	wastewater and water system improvement
2	recreational facility construction and improvements
1	conservation land acquisition
16	Clean Vessel Act Pump-out station projects
1	Parking lot construction
1	Non-profit service center rehabilitation

Examples of Federally –funded projects which were reviewed:

CARITAS Center Redevelopment Project- 2301 Everett Street:
According to the submission dated and received March 2, 2018, CARITAS Center, LLC (CARITAS, applicant) proposes to use U.S. Department of Housing and Urban Development (HUD) funding to rehabilitate the former Philip Morris Blended Leaf Plant and Pump House building located at 2301 Everett Street in the City of Richmond. CARITAS has applied for HUD Community Development Block Grant (CDBG) funding through Henrico County (lead locality), the City of Richmond, and Chesterfield County. The building will be converted by Historic Housing, LLC (developer) into a multi-use service center utilized by the CARITAS Center for office, warehouse, and residential space. CARITAS is a non-profit organization that provides shelter and resources for those struggling with addition and homelessness. The property, which is now owned by CARITAS, consists of one, 137,000-square foot multi-story brick and block industrial building that dates to the 1960's. The project will preserve and restore the historic building and exterior asphalt parking areas will be re-paved.

733 Tanbark Drive Interior and Exterior Repairs:
The Newport News Redevelopment and Housing Authority (NNRHA or applicant) proposes to replace existing asphalt shingles, repair exterior trim, replace a rear door, repair a brick porch and handrails, repair interior walls and floors, and repair plumbing in a bathroom at a single-family residential structure. The residence was constructed in 1963 on 0.17-acre and is located at 733 Tanbark Drive in the City of Newport News, Virginia. The submission does not indicate that the repairs would involve the expansion of the footprint of the structure or result in any ground disturbance. Federal funding for the proposal will come from the U.S. Department of Housing and Urban Development (HUD).

Warwick Yacht and Country Club Sewage Pump-Out Installation:
The Virginia Department of Health (VDH) proposes to provide U.S. Fish and Wildlife Service Clean Vessel Act (CVA) funding for the installation of a sewage pump-out unit on the service dock at the Warwick Yacht and Country Club in the City of Newport News. VDH receives CVA funding to assist Virginia localities and private sector entities in the construction, renovation, operation, and maintenance of pump-out stations and waste reception facilities for recreational boaters and also for educational programs that inform boaters of the importance of proper disposal of their sewage through the Sport Fish Restoration and Boating Trust Fund.

The Warwick Yacht and Country Club has installed the sewage conveyance line and electrical utility to the pump-out. This part of the project was executed outside of the CVA program and therefore will not be funded.

The project will include the installation of a sewage pump-out system in close proximity to the bulkhead closest to the boat ramp, a previously disturbed site. The owner has elected to use an existing sewage-holding tank that served the old pump-out unit. Trenchingwill occur in the parking lot where a number of underground water and electric lines that serve the docking system are located.

Demolition of Structures at 1200 Jefferson Avenue:
The Newport News Redevelopment and Housing Authority (NNRHA or applicant proposes to demolish and dispose of an unoccupied/abandoned former lumber yard with several commercial structures dating from 1956 and located at 1200 Jefferson Avenue in the City of Newport News, Virginia. The structures are located on a 5-acre lot. The submission does not indicate that there are plans to replace the structure at this time. Federal funding for the demolition will come from the U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant program.

SECTION B.4 PROGRAM CHANGES

During the reporting period the Virginia CZM Program continued efforts to develop draft narrative enforceable policies. Work focused on policies implemented by the Virginia Department of Environmental Quality (DEQ) and the Virginia Department of Health (VDH). Topics included coastal lands (DEQ - Chesapeake Bay Preservation Act) and shellfish sanitation (VDH). One full advisory committee meeting was held in January, 2018 by the William & Mary Coastal Policy Center (CPC) supported by a Virginia CZM grant. The advisory committee consisted of representatives from NOAA, DEQ, VDH, the Office of the Attorney General, the Department of Defense, and the Hampton Roads Planning District Commission. CPC staff organized the advisory committee meeting, along with two smaller meetings with DEQ staff and VDH staff. They drafted narrative policies for consideration by the full committee at its next meeting, which was scheduled for April, 2018.