



Accomack–Northampton Coastal Resources Technical Assistance Program



Virginia Coastal Zone Management Program

Accomack-Northampton Planning District Commission

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Grant Year 2015 Task 41

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Fiscal Year 2015 Technical Assistance Annual Report

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Virginia Coastal Zone Management Program

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On the cover – Photograph taken by a recreational kayaker on Occohannock Creek, near Morley's Wharf boat ramp and public pier, Davis Wharf, Occohannock on the Bay Camp, Bay View Waterfront Bed and Breakfast, and more. The image reveals the 'off the beaten path' feeling that residents and visitors enjoy on Eastern Shore waterways.



Virginia Coastal Zone
MANAGEMENT PROGRAM



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Introduction

The Accomack-Northampton Planning District Commission (A-NPDC) was formed in 1970 to provide planning and housing services on the Eastern Shore of Virginia. A-NPDC is a regional commission consisting of Accomack and Northampton Counties and the Town of Chincoteague. In addition to Chincoteague, the A-NPDC assists 18 incorporated towns on the Eastern Shore.

The Eastern Shore of Virginia is an approximately 70-mile long peninsula between the Atlantic Ocean and the Chesapeake Bay that has remained as one of the few remaining rural regions on the Atlantic seaboard. The region is unique for its vast wealth of coastal resources. The threats of development and constant changes to the region's dynamic coastal environment put the socio-economic, natural, and built environments on the Eastern Shore at risk. As result, A-NPDC has championed several efforts focusing on ensuring a sustainable future for local economies and the environment.

Executive Summary

During the 2015 Fiscal Year (FY2015), A-NPDC published the CAWG newsletter, offered coastal management training opportunities for local government staff, and coordinated public education efforts. The A-NPDC also continued to staff the Eastern Shore of Virginia Ground Water Committee, provide GIS services, conduct state and federal environmental reviews, and work with local governments and organizations to address coastal management issues. The A-NPDC's focal project for FY2015 was to create a Regional Dredging Needs Assessment Report. This was a vital effort for advancing regional dredging in the region and required intimate cooperation with the United States Army Corps of Engineers and the newly formed Eastern Shore Regional Navigable Waterways Committee. The document and knowledge gained in its writing will serve as a major building block towards the creation of a regional shallow draft navigation and sediment management plan and further efforts toward comprehensive planning for our waterways.

As part of the overall mission, the A-NPDC maintains a coastal program with the assistance and support of the Virginia Coastal Zone Management Program and the National Oceanic and Atmospheric Administration (NOAA). Over \$1 million in grant funds and staff time were leveraged to aid the completion of multiple projects related to the goals presented in the scope of work for FY2015.

Products and Outcomes

The following sections describe the activities completed during FY2015 and their current and anticipated outcomes.

Climate Adaptation Working Group Newsletter

The CAWG is comprised of local, state, and federal representatives of government, aquaculture, agriculture, and community organizations and has met regularly since 2012. The group met once during FY2015 to coordinate coastal management efforts, provide information and solicit input from localities on state and federal initiatives, and allow the exchange of information between localities. The group participated in the Coastal Resilience Mapping and Decision Support Tool training opportunities as well. This task implements Executive Order 35, Goals 9 and 10. Newsletters were distributed to support the group and supplement local decision-making processes related to sea-level rise and climate change. However, beginning in August of 2016 the newsletter format was updated to a more online media-friendly format, and the frequency of distribution increased to biweekly. CAWG along with other A-NPDC efforts such as the Eastern Shore of Virginia Ground Water Committee are working to ensure a productive future for Eastern Shore residents and the natural environment.

The CAWG newsletters were distributed to several hundred residents and stakeholders representing dozens of agencies/groups working in coastal management. Quarterly newsletters are comprised of dozens of research and news items and planning tools, while the biweekly distribution presents ten to fifteen items. The CAWG newsletters for most of FY2015 can be found on the [Climate Adaptation page](#) of the [A-NPDC web site](#). These are digital newsletters with links to external sites and are not intended to be a printed resource.

Leveraged Accomplishments

In FY2015, the CAWG Newsletter resulted in directly assisting and enhancing the following activities:

- ◆ Engaged over 30 partnering and participating agencies including local, state, and federal government agencies and local NGOs;
- ◆ Held one meeting;
- ◆ Engaged local residents and stakeholders in the Hazard Mitigation Plan update for 2016;

- ◆ Coordinated with the NASA Wallops Flight Facility and the Accomack Wallops Working Group to incorporate local data into local adaptation planning efforts;
- ◆ Continued coordination with the Nature Conservancy to develop the [Coastal Resilience](#) Decision Support Tool;
- ◆ Engaged with local stakeholders during a training for [Coastal Resilience](#) applications; a fact sheet about the project, the [Phase I Training Session Manual](#), and additional materials will continue to be available at <http://conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/virginia/Pages/vaeasternshore.aspx>.
- ◆ Participated in about ten relevant webinars; and
- ◆ Reviewed approximately 40 adaption-related projects.

Coastal Management Training

The A-NPDC coordinated twelve training and outreach events during FY2015. The events are summarized in the following sections. This task implements Executive Order 35, Goals 6, 8, 9, and 10. Overall, we strive to not only provide educational and training opportunities and relevant reports, but also safe places to discuss vital issues on the Shore, including, but not limited to coastal access, cultural heritage, conservation and recreation, hazard mitigation and resiliency, tourism and economics, health and the outdoors, and collaboration and corroboration among existing entities on the Shore. The table below identifies specific events and includes existing and anticipated outcomes. The sign in sheets and similar materials for the educational and training activities are available upon request.

Table 1: Training and Outreach Events

<u>Event Title</u>	<u>Date(s)</u>	<u>Outcomes</u>
Local Watershed TMDL Working Group Meeting for Little Mosquito and Assawoman Creeks	10/15/2015; 3/23/2016	A total of 32 participants contributed local knowledge and concerns that can be incorporated into the TMDL Implementation Plan in order to positively impact water quality in these and adjacent waterbodies. Participants also learned a lot about the TMDL process and nutrients in their tidal creeks that they can share with others so that residents can make better decisions with regard to the health of our waters.

<u>Event Title</u>	<u>Date(s)</u>	<u>Outcomes</u>
Local Watershed TMDL Working Group Meeting for Nassawadox Creek	10/12/2015	Thirteen participants. All VDEQ presentations and reports are available provided by VDEQ online . <i>See outcome above.</i>
Northern Accomack County Ground Water Summit	10/22/2015	Educating local governments, businesses, and residents about the geology and formation of the Shore and the effects this has on the sensitivity of our ground water supply, increases their dedication to its proper stewardship. Seven participants learned this and more and can take that knowledge back to their friends, families, and communities.
W&M Law Students - Coastal Hazards Tour	10/23/2015	Teaching individuals who will eventually aid in making legal decisions concerning management of our coastal areas is vital. On the ground exposure to areas at risk to coastal hazards, which are increasing will leave a lasting impression on 20 students, who will take this increased appreciation back to their inland communities and fellow students.
Accomack County Planning Commission Ground Water and Permitting Presentation	12/09/2016	Accomack County Planning Commission and staff have an important influence on our groundwater resources through zoning and other land use management practices. Fourteen participants at this event learned about groundwater permitting and its importance for modeling impacts from water withdraws and long-term planning for sustainable use of our sole source aquifer.
DGIF & VA Tech: Boating Access (BOA) Focus Group	2/25/2016	Bringing together stakeholders to contribute input to identify current problems with VDGI BOAs and to what users would like to see in the future is an important way to ensure the longevity of our recreational and commercial access. Thirteen participants from all over the Shore attended.

<u>Event Title</u>	<u>Date(s)</u>	<u>Outcomes</u>
Wetlands Watch SLR Application Training	3/23/2016	Primarily members of our Climate Adaptation Working Group made up the fourteen participants in this training. The Wetlands Watch mobile application allows those who understand its use to log high tide and storm flooding events for getting an idea of the degree of the problem in our communities, comparing this to other coastal areas, and for long-term citizen science data collection. Each participant also learned how to teach others about the application and organize independent training events themselves.
Watermen's Tourism Training	04/25/2016	About a half dozen watermen and/or recreational boaters (with appropriate licensure) participated in this workshop, where they learned about establishing a tourism business both in the classroom and on the water. Giving our watermen an alternate way of supporting themselves, while expanding options for ecotourism on the Shore is vital to the cultural longevity of working the water and to the local economy.
12 th Annual Household Hazardous Waste Collection	05/07/2016	Convenience Centers in Horntown, Grangeville, Birdsnest served over 60 people and prevented about 1.1 tons of hazardous materials from potentially contaminating our ground and surface waters. The promotional campaign and word of mouth from participants also serves to educate residents about the proper ways to dispose of wastes and benefits of doing so.
Coastal Resilience presentation for the Accomack County Planning Commission	06/08/2016	Teaching our local planners and commissioners about increasing risks to our community and potential ways to improve our resiliency is an opportunity that we embrace and that will have far reaching effects beyond the thirteen present for this presentation.
Tangier Town Council - Coastal Resiliency and Planning Discussion	06/16/2016	As one of our most unique and one of our most at risk coastal communities, initiating and facilitating discussions about options for their future with the Town Council of Tangier is vital and time sensitive. From these discussions, we hope to come up with a comprehensive or 'vision' plan that will carry Tangier and its rich culture successfully into the next century.

<u>Event Title</u>	<u>Date(s)</u>	<u>Outcomes</u>
Presentation to the Eastern Shore Regional Navigable Waterways Committee (ESRNWC)	08/15/2016	With continued funding barriers, developing a prioritized plan to improve the dredging of our waterways and beneficial use of the spoil is vital. Fifteen people from the ESRNWC, local government, and the public attended to learn about data gaps and contribute their knowledge of safety and navigability of our sea and bayside waterways.
Virginia Outdoor Plan (VOP) Regional Meeting	08/23/2016	The largest meeting for the Outdoor Plan that VDCR has seen on the Eastern Shore, this meeting included 23 people from various organizations and agencies. The constructive discussions that occurred at this meeting will not only aid in the creation of a comprehensive regional chapter in the 2018 VOP, but will also lead to collaborative efforts towards a healthier and better integrated Eastern Shore constituency with more opportunities to get out and embrace the natural areas that define this region.

Technical Assistance

The A-NPDC provided technical assistance to local, state, and federal organizations on numerous occasions including environmental review, GIS, and information services during FY2015. Technical assistance activities are summarized in the following sections. This task implements Executive Order 35, Goals 1, 2, 4, 6, 9 and 10.

Partnerships

The A-NPDC partnered with over 50 government and NGO organizations during FY2015 to complete projects aimed to complete the Scope of Work. **Table 2** summarizes A-NPDC partnerships for FY2015.

Table 2: FY2015 Partnerships

ID	Agency/Group	Partnership Activity
1	34 Agencies, Governments, and NGOs	A-NPDC staff coordinated the Eastern Shore CAWG which brought together 34 partnering groups quarterly to address climate change and sea level rise in the region.

ID	Agency/Group	Partnership Activity
2	TNC, VESLT, DGIF, Ducks Unlimited, NWR, VDCR, & more	The Southern Tip Partnership (STP) collaborates to ensure the effective conservation of lands on the Eastern Shore. The STP is also providing insight and input towards the development of the report: <i>Socio-economic Impacts of Conserved Land on Virginia's Eastern Shore</i> .
3	NASA Wallops Flight Facility	A-NPDC staff provided guidance during the development of the Mid-Atlantic Coastal Resilience Institute.
4	Accomack County/NASA	A-NPDC staff served on the joint Land Use Study Working Group which involved regional coastal management issues for ongoing and future activities at the Wallops Flight Facility.
5	The Nature Conservancy	A-NPDC staff partnered with TNC to leverage the Enhancing Coastal Resiliency on Virginia's Eastern Shore project funded through the NFWF Hurricane Sandy Disaster Resilience Fund.
6	VIMS, VCZMP, Middle Peninsula PDC & Northern Neck PDC	A-NPDC served as partnering agency on the Rural Working Waterfronts Coalition and leveraged funding through VCZM to ensure and enhance working waterfronts in the VA coastal zone.
7	VDCR NHP, ESVA Resource & Development Council, Town of Exmore	A-NPDC staff worked to coordinate potential opportunities to implement the Shore Big Trees Program. On Earth Day several trees were planted in the new Town of Exmore park. A-NPDC staff also maintained a native tree list to give to interested localities to plant their own native tree.
8	ESVA Environmental Education Council	A-NPDC staff served on the regional council to further environmental education efforts within the region.
9	Eastern Shore Watersheds Roundtable	A-NPDC staff served on the Steering Committee of the ESVA Watersheds Network. The network is a local watershed group that began meeting annually in 2001 to address pollution reduction strategies for ESVA watersheds through public education and outreach, data sharing, and research communication.
10	Eastern Shore Disaster Preparedness Coalition	A-NPDC staff served on the regional coalition focused on disaster preparedness and emergency management. Local VCZMP products were incorporated into the group's discussions and planning activities.
11	Eastern Shore Healthy Communities	A-NPDC staff coordinated with ESHC on their trails and potential linking to the Seaside Trail, etc.
12	VDCR	A-NPDC partnered in the development of the Virginia Outdoors Plan by hosting and coordinating local public input sessions.
13	USGS	The Ground Water Committee contracted USGS to complete electromagnetic-Induction logging of all relevant regional wells to be used primarily to determine changes in salinity of our ground water.
14	VDGIF	A-NPDC organized and co-facilitated a Boating Access Focus Group and facilitated outreach to local stakeholders for the next steps in the three-year study process.

ID	Agency/Group	Partnership Activity
15	Department of Environmental Quality	A-NPDC facilitated two workshops for DEQ on the TMDL's in both Little Mosquito and Assawoman Creeks, and in Nassawadox Creek.
16	VDOT	A-NPDC worked closely with VDOT to create and initiate the Sponsor-A-Highway Pilot Program, which will clean up our rural roadways.
17	Waste Watchers of the Eastern Shore	A-NPDC staff worked with this non-profit organization towards increasing recycling and reducing littering through various projects.
18	ESVA Regional Navigable Waterways Committee	A-NPDC staff worked with the Committee to complete the Regional Dredging Needs Assessment and attended meetings with the USACE in efforts towards more comprehensive planning for dredging in the future.
19	VA Department of Historic Resources	A-NPDC staff provided local guidance for the development of a historic resources survey focused on identifying properties and structures at risk to coastal hazards.
20	Wetlands Watch	A-NPDC staff worked with this not-for-profit organization to have a training for the use of their new Sea Level Rise application and following data collection sessions.
21	VA Department of Conservation and Recreation	A-NPDC staff worked with VDCR to organize and facilitate the Eastern Shore VA Outdoors Plan meeting and worked with staff to ensure that all ideas were appropriately captured.
22	Geological Society of America	A-NPDC participated in the GSA Annual Conference field trip to the Barrier Islands to present local coastal issues to the group.

Leveraged Funds

The A-NPDC used NOAA/VCZMP grant funds to leverage services and complete projects aimed at improving coastal management on the Eastern Shore of Virginia. **Table 3** summarizes instances where NOAA/VCZM grant funds were leveraged during FY215. Over \$1.6 million was leveraged in FY2015 utilizing NOAA /VCZMP grant funds.

Table 3: FY2015 Leveraged Funds

ID	Group/ Event	Activity	FY2015 Amount
1	Malcolm Pirnie, Inc.	Eastern Shore Ground Water Committee funds used to support consulting hydrogeologist to the Eastern Shore Ground Water Committee.	\$21,666
2	Rural Chesapeake Bay/Seaside of VA Working	Funds used to leverage VCZMP grant to develop Eastern Shore chapter within the first Virginia Working Waterfronts Plan.	\$7,000

ID	Group/ Event	Activity	FY2015 Amount
	Waterfront Coalition		
3	FEMA/VDEM	Funds used to leverage a rewrite of the Eastern Shore Hazard Mitigation Plan.	\$133,000
4	DEQ	Funds used to leverage the Eastern Shore Septic Pumpout Program for qualifying low-moderate income property owners and to amend the Town of Painter Zoning and Subdivision Ordinances to comply with the Chesapeake Bay Preservation Act.	\$17,000
5	Accomack & Northampton Counties	Funds used to leverage an annual Household Hazardous Waste Collection.	\$14,000
6	Accomack County	Funds used to leverage the Eastern Shore GreenWorks Committee to oversee litter reduction strategies.	\$6,000
7	VCZMP/DMME/BOEM	Funding to coordinate a local stakeholder engagement process for establishing best management practices to reduce use conflicts with commercial and recreational users within the Virginia Wind Energy Area during construction and operation of offshore wind turbines.	\$22,400
8	VA Dept. of Historic Resources	Funds used to leverage a survey of 500 historic properties vulnerable to flooding and sea level rise on the Eastern Shore.	\$100,000
9	ESVA Climate Adaptation Working Group	A-NPDC staff coordinated a regional group focused on developing adaptation and outreach strategies for improving the Eastern Shore's ability to prepare and manage climate change and sea level rise.	\$8,000 in-kind hours
10	Coastal Resiliency	The U.S. Department of Interior awarded \$1.96 million from the Hurricane Sandy Coastal Resiliency Fund to The Nature Conservancy and Climate Adaptation Working Group partners to equip coastal communities with the tools and information urgently needed to reduce the risks posed by climate-related hazards and enhance the area's natural resilience.	\$980,000
11	VIMS – Mid-Atlantic Sea Grant	Christopher Hein PhD with VIMS leading the project titled <i>Managing for biodiversity and blue carbon in the face of sea level rise and barrier island migration</i> .	\$211,000
12	NFWF – RAFT	The Resilience Adaptation Feasibility Tool, led by UVA-IEN, VCPC, UVA, W&M, ODU, VT, for the A-NPDC, MPPDC, and City of VAB communities.	\$49,995.22
13	VCZMP	Two A-NPDC staff served on the advisory committee for the development of the report: <i>Socio-economic Impacts of Conserved Land on Virginia's Eastern Shore</i> . Contractors from George Mason University and Urban Analytics are completing the report.	\$108,000
Total Leveraged Funds FY2015: \$1,633,061.22			

Historical Searches

Four historical searches were performed by A-NPDC staff during FY2015. Historically, the A-NPDC has provided this service to numerous agencies and without local availability of DSS, local agencies on the Eastern Shore would be required to pay \$100 to \$150 per search. Each environmental review corresponds with a historical search. **Table 4** summarizes the historical searches.

Table 4: FY2015 Historical Searches

Agency	Search Description	Outcomes
Eastern Shore of Virginia Housing Authority	Four searches were completed for the IP/R Program.	No historic properties were affected by the proposed projects and clearance was granted.

Information Requests

The A-NPDC responded to more than 25 information requests from private, local, state, and federal organizations and private citizens during FY2015. Most of these requests are summarized in **Table 5**.

Table 5: FY2015 Information Requests

ID	Date	Agency/Group	Contact	Request Description
1	12/3/2015	VDEQ	Hank Ghittino	Poultry industry groundwater use query.
2	1/19/2016	VCCS Honor Society	Robin Rich-Coates	Coastal flooding and impact of SLR on the Shore.
3	1/21/2016	Accomack County Resident	Anne Godwin	GW Questions
4	1/27/2016	Tangier Vision Plan	Renee Tyler	Consult about Vision Plan feasibility and funding.
5	2/28/2016	Citizen	John Schneider	Groundwater and Poultry information and ppt presentation PDFs

ID	Date	Agency/Group	Contact	Request Description
6	3/21/2016	Citizens	Several participants and individuals unable to attend	SLR App Training follow-up and CR manual and info
7	3/31/2016	Master Naturalist	Jan Andrejco	Coastal resilience, SLR App, and ESLT information.
8	3/31/2016	ESRCDC	Josephine Mooney	Shore Big Tree, expert consultation in Exmore
9	4/13/2016	Ground water	Spyridon Papadopoulos	Request Britt McMillon's contact information
10	6/13/2016	CAWG	Marcia Berman	ADAPTVA Portal feedback
11	7/6/2016	Citizen, Tourism Operator, Angler	Meriwether Payne	New poultry farm concerns, primarily in the Folly Creek watershed
12	Aug-16	DEQ	Allan Brockenbrough	Discussion about NCE program responsibility for Tangier Island WWTP
13	8/3/2016	Accomack County Resident, Captains Cove, Accomack County Wetlands Board	Tim A. Getek	Coastal Resilience, SLR App; Print 100 copies of 2 page TNC CR fact sheet & 2 copies of the Training Manual
14	8/9/2016	Town of Tangier	Renee Tyler	Nutrient Trading Program questions/concerns
15	8/24/2016	Sen. Lewis	Jessie Williams	Fast Track Regulatory Change (shallow well registration legislation)
16	8/24/2016	Sen. Lewis	Jessie Williams	Request of regional Virginia Outdoor Plan meeting notes
17	8/31/2016	VDOT	Eric Stringfield	TIVVA report; CR Tool Manual & Project Summary Information
18	8/31/2016	Augusta County Service Extension	Ken Fanfoni	Discussion about NCE program responsibility for Tangier Island WWTP
19	8/31/2016	Citizen	Judy Peterson	Request information about the VDGIF Boating Access Study
20	9/1/2016	Accomack County/ CAWG	Tom Brockenbrough	Request info about Wetlands Watch SLR app

ID	Date	Agency/Group	Contact	Request Description
21	9/6/2016	Wachapreague Town Council	Robert Hodgson	Request info about re-establishing the berm in Wachapreague, supplied him with Hank Badger and regional DEQ contact info and discussed other local issues
22	-	Northampton Board of Supervisors	Granville Hogg	Ground water, surface water, FEMA projects, dredging issues, etc.
23	9/8/2016	Environmental Finance Center	Brenton McCloskey	Resilience financial planning
24	9/15/2016	Citizen	Eddie Calvin	Groundwater Permitting and Poultry
25	9/16/2016	VDH	Gavin Bruno	Ground Water Committee meeting information & Fact sheets (10 copies of each) & the DEQ GW Permit fact sheet (10 copies)
26	9/21/2016	Citizen	Mary Jane Dodson	TMDL Nassawadox Creek; Presentations and DEQ contact info
27	9/21/2016	Citizen	Charles Spangler	Groundwater use report

Ground Water Committee

The A-NPDC staffed the Eastern Shore of Virginia Ground Water Committee and managed the Ground Water Committee's consulting hydrogeologist during FY2015. Committee Officers elected for FY 2015 were Mr. Granville Hogg as Chairman and Mr. Paul Muhly as Vice Chairman.

In January 2016, Mr. Paul Muhly replaced Ms. Wanda Thornton and Mr. Robert Meyers replaced Mr. Richard Hubbard as committee members Accomack and Northampton Counties, respectively. In August 2016, Mr. Gene Hampton was reappointed to the committee.

Summary of Accomplishments

A-NPDC staff coordinated ground water permit reviews with DEQ and local aspects of the ground water model update developed by USGS. A-NPDC staff also maintained and updated the Ground Water Committee web site and conducted educational programs including one public workshops and several presentations to local government boards. During FY2015, the Ground Water Committee held 9 meetings, awarded the 2015 Eastern Shore Ground Water Award, commented on multiple regulatory actions, reviewed 12 ground water withdrawal permits, maintained the *Eastern Shore of Virginia Ground Water Supply Protection and Management Plan*, conducted a Household Hazardous Waste Collection (please visit the [web](#)

[page](#) for historic summary information and Spanish and English versions of the FY15 flyer), and reviewed multiple environmental reviews and regulatory items.

Additional specific notable accomplishments of the Ground Water Committee in FY2015 are summarized in **Table 6**.

Table 6: FY2015 Ground Water Committee Accomplishments

Staff Research Documentation		
ID	Topic	Month
1	Presented results of discussions with Dr. Mark Reiter of Virginia Tech concerning Mass Balance Research.	Nov/Mar
2	Presented information about HB1400 which requires DEQ to form advisory group concerning cleanup of petroleum releases.	Nov
3	Presented information about the VA Pollutant Discharge Elimination System and Pollution Abatement Programs.	Feb
4	Presented information about Dr. Kelsey Piper of Virginia Tech research on waterborne lead in private water systems.	Feb/Mar
5	Reviewed the Virginia State Water Resources Plan.	Feb
6	Reviewed and presented the Accomack County Planning Commission Report on Poultry Related Matters, relevant portions of the Accomack County Comprehensive Plan, and the 2011 Model Standard Plan for Maryland's Eastern Shore.	Mar
7	Presented status of HB558.	Mar/Apr
8	Reviewed and presented the EPA's 2014 Virginia Toxics Release Inventory Report	Apr/May/June
9	Reviewed petroleum tank data from DEQ.	May
10	Reviewed and presented information about DEQ's General Discharge Permit and the Nutrient Trading Permits. Included review of 2007, 2013, 2014, & 2015 N & P discharge data.	May/Aug
11	Reviewed and presented NASA WFF groundwater contaminants and their health impacts (PCE).	Jun
12	Reviewed and presented the Sole Source Aquifer Review Process, with particular interest in triggers for a review and Federal Consistency Determinations.	Aug
Technical Documentation		
ID	Activity	Month
1	Presented draft Annual Groundwater Use report for calendar year 2014. The report presented seasonal and annual use trends as well as groundwater use by type (agricultural, public water, industrial/commercial).	Aug
2	As part of the Sunripe Camp Groundwater Withdrawal Application, presented an analysis of the geophysical logs collected for the wells, comparing them to information in the Eastern Shore Model as well as information known for the Exmore Paleochannel. The geophysical logs demonstrated how the paleochannel may influence local groundwater flow.	Aug

3	Draft Potential for Saltwater Intrusion on the Eastern Shore of Virginia: Provides a brief overview of information related saltwater intrusion on the Eastern Shore. The information discussed is related to the recent proposed USGS monitoring for the Coastal Plain of Virginia (USGS SIR 2015-5118). The overview provides background and technical justification to include the Eastern Shore in any Coastal Plain wide saltwater intrusion monitoring program. (Available online)	Apr
4	Draft Paleochannels and Groundwater Resources on the Eastern Shore of Virginia. Provided an overview of information related to paleochannels on the Eastern Shore. The document presents 1) location and known characteristics of paleochannels on the Shore; 2) potential influence of the paleochannels on the groundwater resources; 3) data gaps including a) additional paleochannels; b) hydraulic characteristics; c) interconnection between aquifers; and d) impact on maintaining a sustainable supply; and 4) recommendations for future research and incorporation in the Eastern Shore model. (Available online)	Jun

Groundwater Permit Review

Applicant	Permit Status	Month	Annual Amount (Gal)
Sunripe Camp	Application	673,134	1,581,362
Machipongo Farm	Application	18,066,00	65,162,755
Christian Ames Complex	Application	34,798,00	102,983,000
Highway Farm	Draft Permit	18,950,00	49,390,000
Home-Fitchett Farm	Draft Permit	17,779,00	42,140,000
Jones 2 Farm	Draft Permit	8,490,000	10,600,000
Newman Farm	Draft Permit	52,200,00	120,000,000
Outen Farm	Draft Permit	22,623,00	42,455,000
Seaford Farm	Draft Permit	10,730,00	30,180,000
Town of Eastville	Draft Permit	3,050,000	18,000,000
Edgewater Farm	Draft Permit	6,600,000	13,300,000
Duer Home Farm	Application	7,720,000	9,740,000
Town of Cape Charles	Draft Permit	7,900,000	63,200,000
Town of Parksley	Draft Permit	4,190,000	29,220,000
Commonwealth Chesapeake	Draft Permit	10,800,00	61,400,000

Implement Committee Work Plan

Activity	Month(s)	Outcome
Review formation and mandate for the Eastern Virginia Groundwater Management Advisory Committee, established by the General Assembly in 2015. The goal is to create a clear, consistent and understandable framework for the management of the groundwater resource. The intent is to manage the resource so that it is	Aug	Groundwater Committee will continue to track progress and provide comments as appropriate to the Committee.

<p>productive and available to meet the human, industrial and environmental needs of the EVGMAC. Chairman Thornton has been selected to serve on the EVGMAC.</p>		
<p>Review draft Annual Use Report. The Annual Use Report is a one page (2-sided) report summarizing groundwater use on the Shore for calendar year 2014. The report considers overall seasonal and annual trends in addition to trends by use (agricultural, public water, and industrial/commercial).</p>	<p>Aug</p>	<p>Consider adding additional 2-page reports to address important issues on the Shore, such as status of the Paleochannels, CAFOs on the Shore, and similar topics.</p>
<p>Review proposed FY2016 Work Plan. The routine components of the proposed Work Plan includes 1) promote methods to increase use of the Columbia aquifer and surface water irrigation ponds; 2) Monitor and review Federal and State activities related to groundwater on the Shore; 3) Coordinate and/or track independent research on the Shore; 4) update annual groundwater use; 4) represent the GW committee on State or Federal Committees; 5) Participate in two public meetings/workshops.</p> <p>Special studies are: 1) use the Eastern Shore Groundwater Model to evaluate groundwater availability on the Shore, and 2) support saltwater intrusion monitoring by the USGS.</p>	<p>Aug</p>	<p>Overall Work Plan was supported by the Groundwater Committee. The special study to evaluate groundwater availability was approved by the Groundwater Committee. A summary, similar to the Annual Groundwater Use summary will be prepared presenting results of the groundwater availability evaluation.</p>
<p>The EVGMAC completed their first meeting on August 18, 2015. Focus of the Committee will be on 1) Alternative Sources; 2) Alternative Management Structures; 3) Future Permitting Criteria; 4) Data needs; and 5) Funding. Each of these focus areas will form separate Subcommittees. The first two (Alternative Sources and Alternative Management Structures) will meet in September and October 2015. The remaining Subcommittees</p>	<p>Sep</p>	<p>Eastern Shore of Virginia Groundwater Committee will continue to support the EVGMAC through representatives on the Committee and subcommittees.</p>

will meet in 2016. Potential implications of the Committee outcomes in the Eastern Shore Groundwater Management Area will be discussed.		
Reviewed and provided recommendations six draft groundwater withdrawal permits. Some of the proposed permits are in areas susceptible to saltwater intrusion. Proposed monitoring requirements in the permits were limited in ability to measure saltwater intrusion if it occurred.	Feb	Recommended that DEQ, as part of the overall saltwater intrusion study for the Coastal Plain of Virginia, include this area and similar areas in the monitoring network.
Summarized the recent <i>USGS Scientific Investigations Report 2015-5117: A Conceptual Framework and Monitoring Strategy for Movement of Saltwater in the Coastal Plain Aquifer System of Virginia</i> .	March	Discussed USGS findings. USGS monitoring program includes the Yorktown-Eastover aquifer on the mainland, but does not include the Yorktown-Eastover aquifer on the Eastern Shore of Virginia. Discussed the need for monitoring on the Eastern Shore of Virginia.
Presented the document: Draft Potential for Saltwater Intrusion on the Eastern Shore of Virginia.	April	Provided an overview of information related saltwater intrusion on the Eastern Shore. The information discussed is related to the recent proposed USGS monitoring for the Coastal Plain of Virginia (USGS SIR 2015-5118). The overview provides background and technical justification to include the Eastern Shore in any Coastal Plain wide saltwater intrusion monitoring program.
Presented information packet: Draft Paleochannels and Groundwater Resources on the Eastern Shore of Virginia.	June	Provided an overview of information related to paleochannels on the Eastern Shore. The document presents 1) location and known characteristics of paleochannels on the Shore; 2) potential influence of the paleochannels on the groundwater resources; 3) data gaps including a) additional paleochannels; b) hydraulic characteristics; c) interconnection between aquifers; and d) impact on maintaining a sustainable supply; and 4) recommendations for future research and incorporation in the Eastern Shore model
Request for funding from the General Assembly	June	Submitted draft request for General Assembly funding for 1) saltwater intrusion research; 2) paleochannel research; and 3) updating the Eastern Shore model. The request presented the technical need; similar funding by the General Assembly for research on the Coastal Plain to the west; and benefit to citizens of the Commonwealth from this funding.

The Ground Water Committee Report implements Executive Order 35, Goals 1, 2, 8, 9, and 10.

Packets and Minutes for the Monthly Meetings

The minutes present activities related statutory, regulatory, and permit tracking/review; research and investigation; and implementation of ground water protection. Minutes for the Committee meetings can be found on the [Ground Water Committee page](#) of the [A-NPDC web site](#). Many additional resources can be found on the site as well. The committee met on the third Tuesday of each month, with the exceptions of December 2015, January 2016, and July 2016. The October meeting was held in the form of the Ground Water Summit.

Regional Dredging Needs Assessment

The A-NPDC worked closely with the Eastern Shore Regional Navigable Waterways Committee and the Norfolk District of the United States Corps of Engineers (USACE) to develop the *Regional Dredging Needs Assessment*. The assessment provides a comprehensive evaluation of existing conditions in channels and identifies where navigation has become restricted to the point where dredging is needed. Further the assessment provides local stakeholders and planners, as well as the USACE, baseline data for moving forward with a plan to address long-term dredging needs on the Eastern Shore. Emphasis was made on the decreases in available resources to accomplish these projects and the high importance water access holds economically and culturally. The full report is found on the A-NPDC web site on both the [transportation](#) and [ocean planning pages](#). A direct link to the PDF can be found [here](#), but the PDF must be downloaded to navigate more easily using the bookmarks bar.

Benefits Accrued from Prior VCZMP Grants

Below is a table naming and describing A-NPDC projects funded by VCZMP in previous years. The table highlights the projects that have produced measurable benefits in subsequent years and/or have served as a foundation for additional projects.

Table 7: VCZMP Benefits Accrued

<u>VCZM Grant #</u>	<u>NOAA Grant #</u>	<u>Project Title</u>	<u>Description of Benefits Accrued</u>
FY2002, Task 12.09	NA17OZ2355-01	Seaside Heritage Program: Ecotourism Access Improvements	Two floating docks were constructed in Chincoteague and Wachapreague resulting in enhanced access for paddlers. This infrastructure has been critical for the Seaside Water Trail and Camping Accommodation Implementation Plan
FY2003, Task 12.11	NA03NOS4190104	Seaside Heritage Program: Ecotourism Access Improvements	One floating dock was constructed in Willis Wharf resulting in enhance access for paddlers. The infrastructure has been critical for the Seaside Water Trail and Camping Accommodation Implementation Plan
FY2004, Task 11.10	NA04NOS4190060	Seaside Heritage Program: Ecotourism Access Improvements	Supplies purchased for the Willis Wharf Observation Deck led to construction using VCZM funds in FY05. The project also funded the construction of a floating dock in Quinby resulting in enhanced access for paddlers. This infrastructure has been critical for the Seaside Water Trail and Camping Accommodation Implementation Plan
FY2004, Task 83.06	NA04NOS4190060	Chesapeake Bay Buffer Land Classification Project	Project outcomes were built upon during FY06 TA Grant. Is regularly used for land use decisions by localities and available on Coastal GEMS
FY2004, Task 41	NA04NOS4190060	A-NPDC Technical Assistance Program	The ES Ground Water Committee leveraged work from this year's grant to complete additional and ongoing tasks during the subsequent year's grant.
FY2005, Task 41	NA05NOS4191180	A-NPDC Technical Assistance Program	The ES Ground Water Committee leveraged work from this year's grant to complete additional and ongoing tasks during the subsequent year's grant.
FY2006, Task 41	NA06NOS4190241	A-NPDC Technical Assistance Program	The ES Ground Water Committee leveraged work from this year's grant to complete additional and ongoing tasks during the subsequent year's grant.
FY2007, Task 41	NA07NOS4190178	A-NPDC Technical Assistance Program	The Seaside Water Trail Historic Resources Project has leveraged additional VCZM Grants associated with the trail.

<u>VCZM Grant #</u>	<u>NOAA Grant #</u>	<u>Project Title</u>	<u>Description of Benefits Accrued</u>
FY2008, Task 14	NA08NOS4190466	Wachapreague Seaside Park Plant ES Natives Demonstration Garden	A sub-program for Plant ES Natives, called Shore Big Trees, was established and a native tree was leveraged in the Wachapreague.
FY2008, Task 41	NA08NOS4190466	A-NPDC Technical Assistance Program	The Chincoteague Tour Training Guide was leveraged into additional work during TA Program grants in subsequent years. The ES Ground Water Committee leveraged work from this year's grant to complete additional and ongoing tasks during the subsequent year's grant.
FY2009, Task 41	NA08NOS4190163	A-NPDC Technical Assistance Program	The ES Ground Water Committee leveraged work from this year's grant to complete additional and ongoing tasks during the subsequent year's grant.
FY2010, Task 41	NA10NOS4190205	A-NPDC Technical Assistance Program	The ES Ground Water Committee leveraged work from this year's grant to complete additional and ongoing tasks during the subsequent year's grant.
FY2010, Task 41	NA10NOS4190205	A-NPDC Technical Assistance Program	The ES Ground Water Committee leveraged work from this year's grant to complete additional and ongoing tasks during the subsequent year's grant.
FY2010, Task 96.01	NA10NOS4190205	Seaside SAMP Phase 3 Technical Assistance	This project led to additional VCZM grants related to assessing Recreational & Commercial uses on the Seaside to enhance coastal management. The work also led to VCZM funding for the establishment of restoration goals for SAV on the Seaside.
FY2011, Task 41	NA11NOS4190122	A-NPDC Technical Assistance Program	The Boating and Marina Needs Enhancement Assessment was leveraged into subsequent VCZM grants related to Working Waterfronts
FY2011, Task 96	NA11NOS4190122	Seaside SAMP Recreational Use Assessment and SAV Restoration Goals	This work was leveraged into subsequent VCZM funding for an assessment of commercial use and exploration of state-policy for establishment of SAV restoration set-aside areas for Seaside.
FY2012, Task 41	NA12NOS4190168	A-NPDC Technical Assistance Program	The ES Ground Water Committee leveraged work from this year's grant to complete additional and ongoing tasks during the subsequent year's grant.

<u>VCZM Grant #</u>	<u>NOAA Grant #</u>	<u>Project Title</u>	<u>Description of Benefits Accrued</u>
FY2012, Task 96	NA12NOS4190168	Seaside SAMP Recreational & Commercial Use Assessment and SAV Restoration Goals	The Commercial Fishing Use Assessment was leveraged into additional planning work funded by BOEM and VDMME regarding commercial and recreational fishing activities within the Virginia Wind Energy Area
FY2012, Task 51	NA12NOS4190168	Eastern Shore Water Trails Association Development & Seaside Water Trail Camping Accommodation Implementation Plan	No work leveraged from grant to date.
FY2013, Task 41	NA13NOS4190135	A-NPDC Technical Assistance Program	The Proceedings of the Eastern Shore Land Protection Working Group Report identified additional economic impact studies needed in the region. The work has been leveraged for FY15 through a VCZMP grant. The ES Ground Water Committee leveraged work from this year's grant to complete additional and ongoing tasks during the subsequent year's grant.
FY2013, Task 53	NA13NOS4190135	Eastern Shore Transportation Infrastructure Inundation Vulnerability Assessment	The report has been regularly utilized to leverage and enhance federal and state transportation funding applications. The report is being used in the Coastal Resilience Tool.
FY2014, Task 41	NA14NOS4190141	A-NPDC Technical Assistance Program	The special project, Shore Big Trees Implementation Plan, has led to native tree plantings in local communities. The ES Ground Water Committee leveraged work from this year's grant to complete additional and ongoing tasks during the subsequent year's grant.
FY2015, Task 41	NA15NOS4190164	A-NPDC Technical Assistance Program	The Coastal Resilience collaboration is serving as a major data resource for the EFC resilience finance strategy and planning development project.

<u>VCZM Grant #</u>	<u>NOAA Grant #</u>	<u>Project Title</u>	<u>Description of Benefits Accrued</u>
FY2015, Task 41	NA15NOS4190164	A-NPDC Technical Assistance Program	The special project, Regional Dredging Needs Assessment, is leading to a Section 22 initiative with the U.S. Army Corps of Engineers, in collaboration with the Eastern Shore Regional Navigable Waterways Committee.