

Healthy Waters Program and the VNEMO in the Coastal Zone
FY13 Task 9
Final Report, Grant Period October 1, 2013 to September 30, 2014
Grant# NA13NOS4190135
Compiled by Todd Janeski, VCU, Department of Life Sciences
Virginia Department of Conservation and Recreation,
Division of Natural Heritage

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Overview

The VCU Environmental Scientist/Analyst, as retained by the Virginia Department of Conservation and Recreation (DCR) Division of Natural Heritage, served as the Program Manager of the Virginia Healthy Waters Program, the Virginia Coastal Nonpoint Source Pollution Control Program (CNP), and Virginia Network of Education of Municipal Officials Program (VNEMO) at the Virginia Department of Conservation and Recreation. The VCU Environmental Analyst/ Program Manager focused these efforts to expand the implementation of the programs and directs workshops and educational opportunities to local decision makers. Through the VNEMO Program, the Program Manager also directs research and education on innovative stormwater management technologies at the Science Museum of Virginia.

Due to the lack of dedicated NOAA Section 310 funding to support the 56 Management Measures as outlined in the 6217 Guidance, the merger of the water quality programs of the VA DCR, specifically the Nonpoint Source Programs, and increasing responsibilities between multiple grants, the Coastal NPS Program administration was moved to the VA Department of Environmental Quality (VDEQ). Increasing responsibilities also lessened the attention from the Program Manager to the Virginia Network for Education of Municipal Officials Program (VNEMO), aside from a few distinct areas of program assistance to the Science Museum of Virginia.

Program Administration and Management

The Healthy Waters Program, while technically being part of the Natural Heritage Division at VDCR, formally moved in the Division office space immediately prior to the beginning of the reporting period. This integration with the Division permitted direct programmatic changes by the Program Manager to develop and grow the Healthy Waters Program. Programmatically, the assessment of program resources and needs was conducted through an internal staff analysis that included discussions of staff resources, data collection and increased internal staff capacity. Data gaps and data integration were the two focal areas of the analysis with immediate needs to integrate existing INSTAR data into the NHD data explorer and the creation of new EOs and Stream Conservation Units (SCUs). Additionally, the data gap was identified to be focused in the resources outside of the Chesapeake Bay except for the recent USEPA Section 319 funding to support the collection of data in the Chowan basin to develop a Criteria for Ecologically Healthy Watershed Conservation following the Section 319 A-I criteria for watershed restoration. Discussions included the improvement in program capacity by adding two field staff to the Program through a focused training in the 2014 sampling season. This improved capacity will permit the collection of data by additional field personnel aside from specific grant related activities. The collection of data will be in the raw form still requiring the development of models to interpret such information to make relevant to the Program as a whole. The

development of an INSTAR model is typically done on a basin scale to provide for comparable results within a defined area. The collection of raw data will permit an additional cataloging of resources to further inform the development of an INSTAR model when resources are present for the specific region or basin. This increased capacity in the program is a critical advancement in the program and further solidifies the relationship of the Program to that with the Division of Natural Heritage. The Program Manager began working directly with the data management team of DNH to update and integrate the Healthy Water Program Web presence to be fully represented by the DNH.

To address the capacity gap and Program growth, the Program Manager oversaw a CBIG funded project to conduct re-sampling in Coastal plain streams in the Commonwealth of data older than ten years. These sites, initially supported with VA CZM funding, included the two above mentioned Natural Heritage personnel. These sites, given the date of initial acquisition, were likely to have significantly changed over time. This analysis was conducted to determine if and how streams have maintained their designation as Healthy. Streams were sampled in Fairfax County, Richmond County, Goochland and Prince William Counties. An analysis and integration of the data will be completed in the upcoming months with a discussion on the possible changes in their designation. These data will be included in the Natural Heritage Data Explorer and update if their status changes.



Goochland County



Prince William County



Pumpkinseed (*Lepomis gibbosus*)



Warmouth (*Lepomis gulosus*)



Banded Sunfish (*Enneacanthus obesus*) and
Bluespotted Sunfish (*Enneacanthus gloriosus*)



Redfin Pickerel (*Esox americanus*)

The Healthy Waters Program Manager continued to oversee the development of the Chowan Basin study. While outside the Coastal Zone and funded through EPA 319 Region 3, this project has created a draft A-I Criteria for watershed protection based on an aquatic community analysis as opposed to a water quality based approach that will have state-wide applicability. Typically, the A-I Criteria is used as part of a watershed restoration strategy identifying the following points:

- A. Identify and quantify causes and sources of impairments
- B. Estimate expected load reductions
- C. ID BMPs and critical areas to achieve load reductions
- D. Estimate needed technical and financial resources
- E. Provide info, education and public participation component
- F. Include schedule for implementing NPS management measures
- G. ID interim measurable milestones for implementation
- H. Establish criteria to determine if load reductions are achieved
- I. Provide a monitoring component to evaluate effectiveness

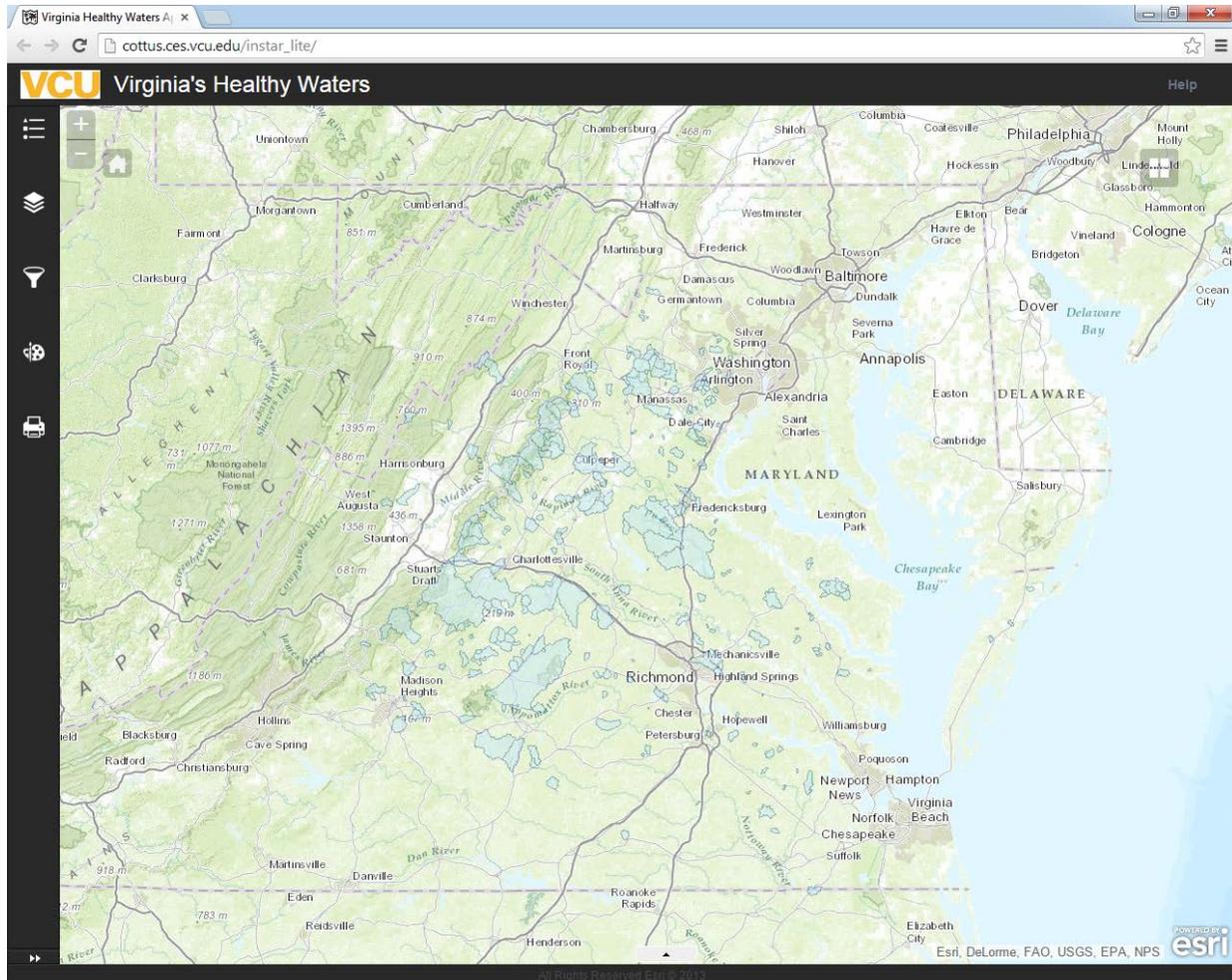
The Criteria for watershed protection, being referred to as, the *Criteria for Ecologically Healthy Watershed Conservation* is under review with the VA DEQ Waters Division. However, significant progress was made between the Natural Heritage Division and the VA DEQ Waters

Division to reach a consensus on the language. The Criteria will be vetted with EPA Region 3 and EPA HQ in the upcoming months. Once approved, this new criteria will be used as a National model for watershed protection. The DRAFT Criteria for Ecologically Healthy Watershed Conservation is proposed as follows:

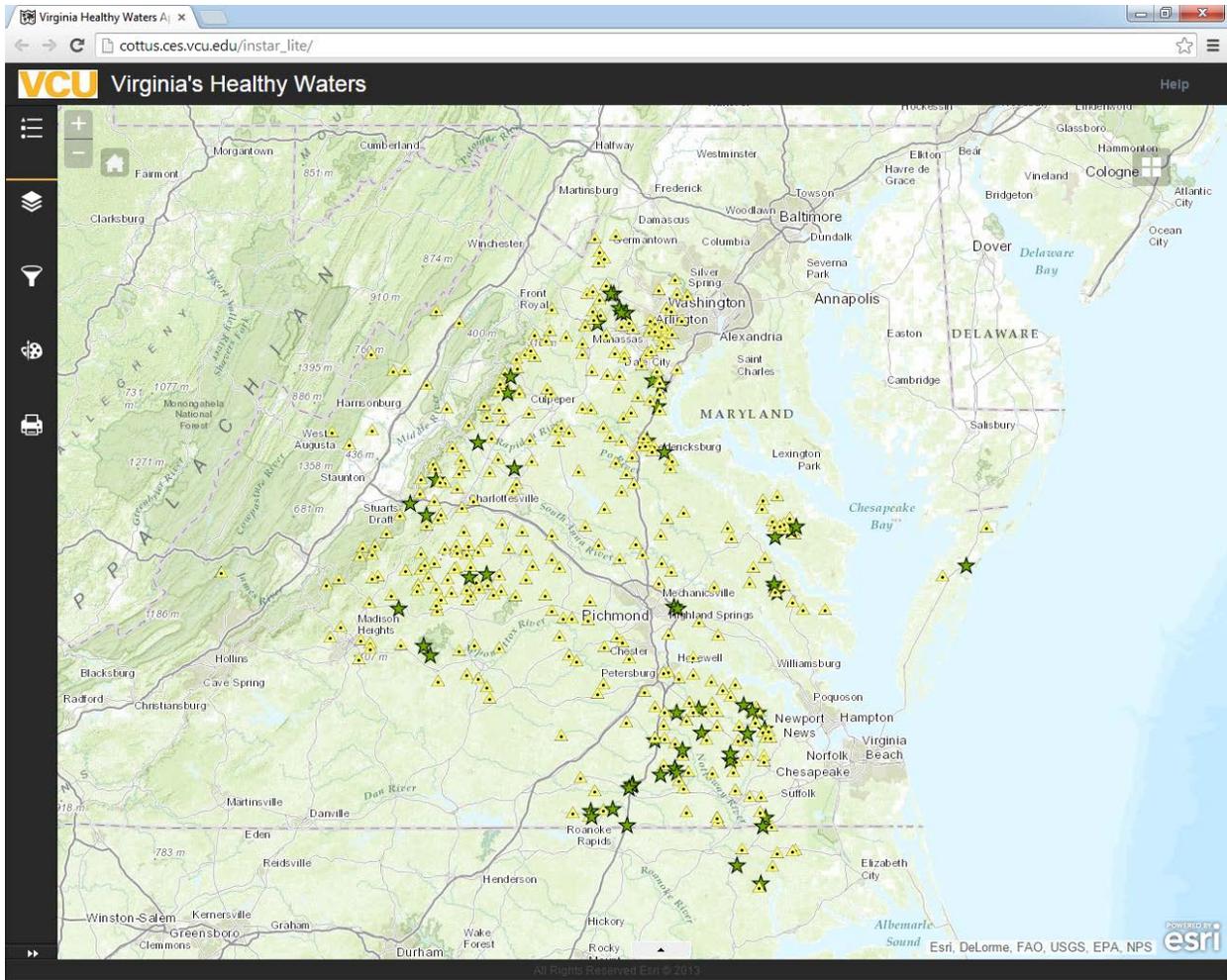
- A. Quantify and verify the empirical basis for aquatic communities identified with high ecological integrity
- B. Identify conditions needed to maintain existing ecological integrity (e.g., sediment loadings)
- C. Identify best management practices and other preventative actions to achieve and maintain the system with high ecological integrity
- D. Estimate needed technical and financial resources
- E. Provide info, education and public participation component
- F. Include schedule for implementing NPS management measures
- G. ID interim measurable milestones for implementation
- H. Establish criteria to determine high ecological integrity is maintained (eg. land cover as related to sediment)
- I. Provide a monitoring component to evaluate effectiveness

Through funding from EPA 319, further demonstrating the integration of VA CZM monies with other monies dedicated to resource protection, the Program Manager oversaw the initiation of revisions to the means by which watersheds and waterbodies are identified as Healthy and how the Program communicates outward. The Watershed Integrity Layer, used and developed by the Natural Heritage Division and VCU, is planned to be updated to streamline the process for identification. Discussions between VCU and DCR NHD staffs included utilizing the latest data available due to programmatic updates to the Healthy Waters Program. Additionally, the development of a statewide Healthy Watersheds discussion and process was initiated, to provide an analysis of those data mined from the VDGIF and VDEQ Probabilistic Monitoring Program to create rankings where INSTAR data is lacking. This task was originally set to be funded directly by the EPA Healthy Watersheds Program at EPA HQ, but failed to follow through on commitments to support the activity. Additionally, language to revise the identification of Healthy Catchments was initiated. Healthy Catchments are those subwatersheds that drain to a Healthy Waters INSTAR site. Only where the Healthy Waters Program has an identified INSTAR site will this designation be utilized. During this discussion, the language by which the Healthy Waters Program identifies the highest ranking water bodies was changed from *Exceptional* to *Outstanding* so as not to conflict with any regulatory language associated with water quality. This language is also consistent with the Natural Heritage Division ranking of highest quality. Also during the reporting period, the Healthy Waters Program Manager worked

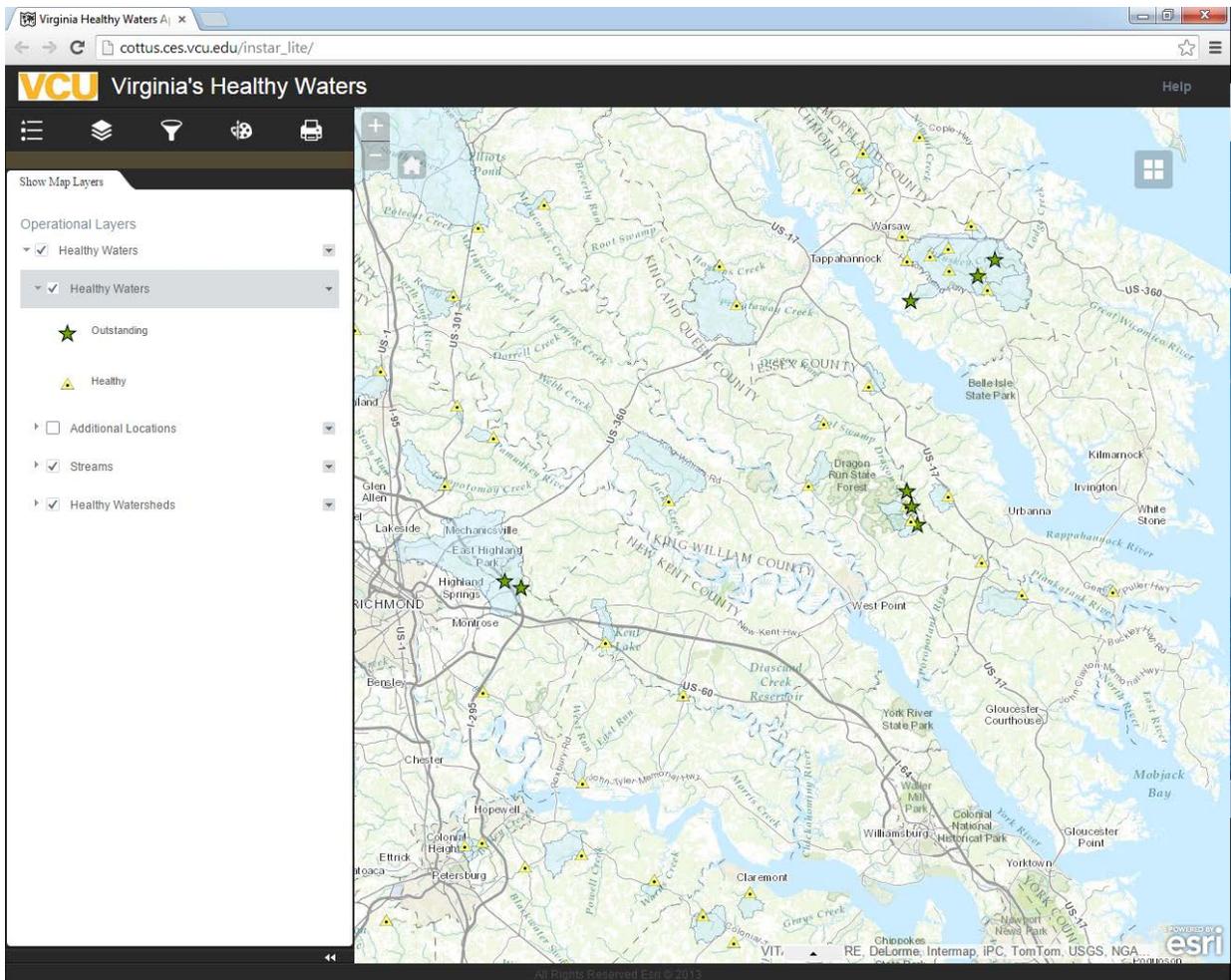
toward the updating of the Healthy Waters Web page in both content and location. The Healthy Waters Program Web was located under the Soil and Water Division page and was moved to the Natural Heritage Division site. The site is still under construction and revision. Additionally, revisions and updates to the INSTAR web were initiated including discussions about the need for a more stable platform due to changing Web browsers. This process to maintain the INSTAR site has proved to be a challenge for both staff and resources, as in most web pages. The conclusion was to launch a temporary INSTAR-lite application based on the ESRI platforms. The new INSTAR-lite provides the user with the ability to view the Healthy Waters data but limits their ability to query for specific details on a specific site.



Draft INSTAR-lite displaying Healthy Watersheds



Draft INSTAR-lite displaying Healthy Waters sites



Draft INSTAR-lite with Layers open and detailed view of Healthy Waters Sites and Watersheds

The Program Manager continued to coordinate directly with the VA Department of Environmental Quality, the USEPA, NOAA, Nature Conservancy and other partners to advance the Program. Specifically, the Program Manager participated in the VADEQ Nonpoint Source Prioritization Planning process, discussions and public meetings. VDEQ continued to recognize the Program residence at the NHD as a means to advance their program needs to achieve aquatic resource identification and protection efforts. While water quality conclusions can be made from these data and the Program, it continues to function as a component to supplement the land conservation and resource identification efforts in the Commonwealth through DNH based on the collection of aquatic community data. The Healthy Waters Program has clearly identified in the Virginia Chesapeake Bay Goals and NPS Planning Processes as critical tools for Virginia.

During the reporting cycle, the Program Manager participated in the Chesapeake Bay Program Goal Implementation Team 4 (GIT 4) Healthy Watersheds as the Virginia representative and Program Manager. The HW Program Manager participated in the Tracking Subcommittee of the GIT to advance how the GIT might approach long-term monitoring of the various state's successes. Additionally, the HW Program Manager is staffing the development of the GIT 4 Healthy Watersheds Management Strategy development, representing Virginia.

The VNEMO Program Manager participated in the Chesapeake Bay Program Goal Implementation Team Four (GIT4) Healthy Watersheds. This working group has brought together the various state Healthy Waters programs and developed communication materials illustrating the location of identified health resources. In addition, the GIT4 worked to develop a set of goals and strategies to inform the development of the 2014 Chesapeake Bay Watershed Agreement. The GIT 4 concluded Healthy Watersheds are defined as: *Many small watersheds in the Bay region are currently healthy but also at risk of degradation as the demand for local lands and resources increased. Promoting the long-term conservation and protection of healthy watershed systems through stakeholder engagement, collaboration and education is critical to the health of the larger ecosystem.* An outcome of the GIT4 was the goal for the Chesapeake Bay Agreement: *One-hundred percent of state-identified currently healthy waters and watersheds remain healthy.* The Program Manager was recommended to the Governor to be the lead of the Goal Team for Virginia with the task of advancing Management Strategies to meet the Agreement.

At the end of the grant project period unspent monies remained and were extended to Sept 30, 2015. Refocusing of the funds were to directly support the VA Oyster Shell Recycling Program through the development and acquisition of communication materials and supplies.

Outreach materials for the Program were developed to improve the visibility and branding. These materials included the development of two more banners that replicates the bumper sticker, “Don’t Shuck That Chuck” but to be used in the front of tables or hung during events. Additional logo decals and stickers were produced as the overall supply had diminished and were affixed to newly acquired five gallon, food-grade buckets to be supplied to restaurants and businesses. Signage to be posted at the intermediary storage location was finalized and produced. Finally a vertical screen-banner describing the Program and function was developed.

During the Project period, the following new businesses were added to the Program: Sam Rust Seafood of Hampton VA, Tuckahoe Seafood of Henrico VA, Shooting Point Oyster Company, Southbound Restaurant of Bon Air VA, Savory Grain restaurant of Richmond VA, York River Oyster Co Restaurant of Gloucester VA. Plans to initiate collection in Hampton, Newport News and the Northern Neck commenced concluding with the identification and installation of two new intermediary storage bin locations in Hampton and the Northern Neck. Partnerships were forged with the Virginia Oyster Trail, Tidewater Oyster Growers Association, Kilmarnock and Lancaster County VA.



Hauling of Shell to Gloucester Point, VA



Construction and installation of bin in Hampton, VA



Construction and installation of public receiving bin in Kilmarnock, VA

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