

CHESAPEAKE BAY WATERSHED ACTION PLAN



Credit: Ben Longstaff, Integration and Application Network, University of Maryland Center for Environmental Science

Summary

NRCS assists agricultural producers and others with improving the health of our Nation's natural resources while sustaining and enhancing the productivity of American agriculture. NRCS provides leadership for addressing natural resource issues on agricultural lands and through science-based, data-driven, and customer-focused support for farmers, ranchers, and forest managers across the nation. We provide voluntary assistance through strong partnerships with private landowners, managers and communities to conserve, protect, restore and enhance the lands and waters upon which people and the environment depend.

This plan describes priorities and goals the agency will pursue across the multi-state watershed of the Chesapeake Bay. It does not describe all NRCS programs and services available in the bay region, but captures the consensus recommendations from state and regional leaders.

NRCS State Conservationists in each state will address these overarching priorities with the advice of the State Technical Committee and Local Working Groups to address the unique resource concerns and opportunities within each state, county or local watershed.

This plan covers a three-year period of fiscal years 2018 through 2020.

NRCS will incorporate any new provisions from the 2018 Farm Bill into this plan.



INTRODUCTION AND BACKGROUND

The Chesapeake Bay Watershed is one of the most extraordinary places in America!

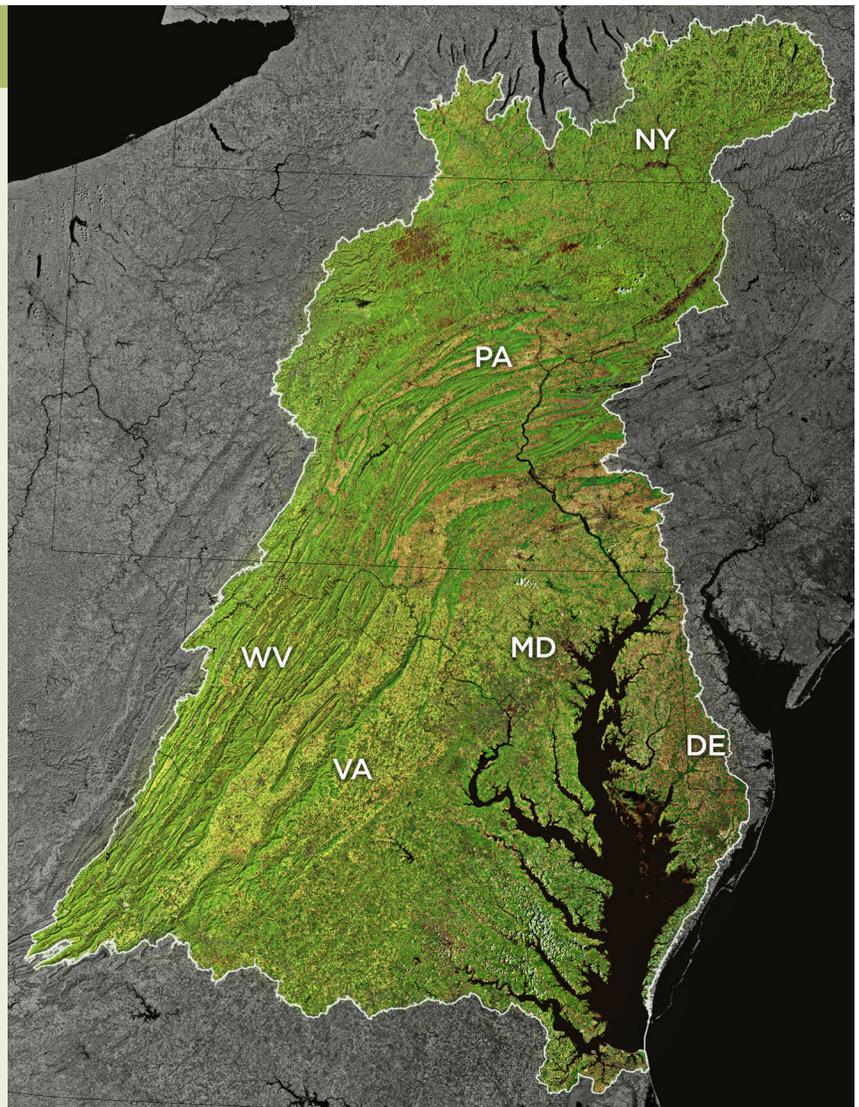
The nation's largest estuary and its network of streams, creeks and rivers hold tremendous ecological, cultural, economic, historic and recreational value for the region and its citizens. The watershed is about 64,000 square miles and is home to more than 18 million people in portions of six states and the District of Columbia. However, urban and suburban development, industry and agricultural activities have contributed to the degradation of water quality and other natural resources in the watershed.

The Chesapeake Bay has been the focus of efforts to improve water quality and associated fish and wildlife habitat for at least 35 years. The original Chesapeake Bay Agreement was signed in 1983 to establish a framework for restoration of the Bay. In 2010 a Total Maximum Daily Load (TMDL) water quality goal was established under the Clean Water Act. The 2014 Chesapeake Bay Strategy identified 10 goals and 31 environmental outcomes for a variety of resource concerns and public participation objectives.

CHESAPEAKE BAY WATERSHED

The Chesapeake Bay Watershed is comprised of the District of Columbia and six states:

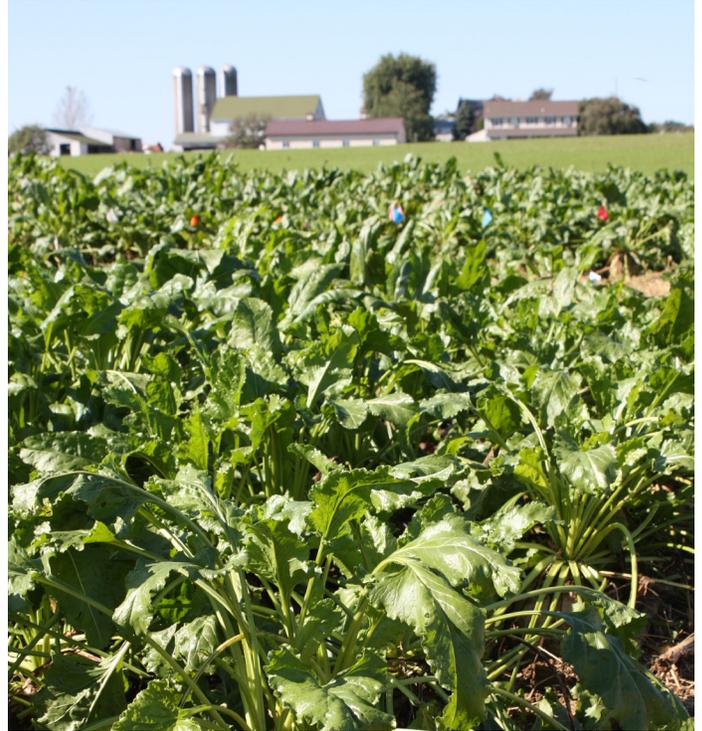
- Delaware
- Maryland
- New York
- Pennsylvania
- Virginia
- West Virginia



INTRODUCTION AND BACKGROUND

Agricultural land comprises nearly 30 percent of the watershed, and the region has more than 83,000 farms responsible for more than \$10 billion of agricultural production each year. After forestland, agriculture is the largest land use in the watershed.

Some agricultural practices — such as over-tilling soil and over-applying fertilizers and pesticides — can contribute pollution into the Bay and its local waterways. According to 2015 estimates from the Chesapeake Bay Program, agriculture is the single largest source of nutrient and sediment pollution entering the Chesapeake Bay, and contributes 42 percent of the nitrogen, 55 percent of the phosphorous and 60 percent of the sediment. But a vibrant and healthy agricultural sector is critical to restoring and maintaining the long term health of the Chesapeake Bay and Chesapeake Bay watershed.



Well-managed agricultural lands provide a number of benefits and services: sustained crop yields, restored rivers and streams, and valuable insect, bird and animal habitat. When effective agricultural land cover occurs year-round, these systems can store carbon, minimize soil erosion and reduce the watershed's vulnerability to flooding and the effects of climate change.



NRCS AND THE CHESAPEAKE BAY

NRCS has worked with local partners, such as conservation districts in the Chesapeake Bay Watershed since the 1940s to help farmers and landowners develop and implement conservation plans. Since 2009, NRCS has worked with thousands of farmers and forest landowners to plan and implement conservation systems on over 3.6 million acres in the watershed. In response to a 2009 Executive Order calling for coordinated federal action to restore the Chesapeake Bay, NRCS identified approximately 940 small watersheds as priority areas for partnering with farmers to install additional conservation.

USDA has been working to evaluate the effectiveness of these conservation actions. In March 2011, NRCS released its first Conservation Effects Analysis Project (CEAP) on the Chesapeake Bay, assessing effects of conservation practices on cropland in the watershed from 2003 – 2006. In December 2013, NRCS released an updated CEAP-Cropland report. The two reports demonstrated that during the time between the two surveys, agricultural producers significantly increased their use of an array of conservation measures to improve and protect water

and soil quality in the Chesapeake Bay region. The study showed that the use of additional conservation practices using a systems approach on critical cropland acres with high potential benefits significantly reduced losses due to runoff.

NRCS will continue to use a science-based approach using the most currently available data to target programs and services to priority locations and customers. An adaptive management process will be used based on the cycle of: setting goals, planning actions, implementing, monitoring, evaluating and adjusting.

NRCS works with local, state, and regional partners to develop and implement effective conservation programs that address priority natural resource concerns and opportunities. NRCS will continue to maintain and build technical capacity of NRCS, partner and private sector through ongoing education and training. As state jurisdictions develop their own plans to address Chesapeake Bay priorities within their borders, NRCS is ready to provide technical and program information to help the jurisdictions achieve their bay goals.



NRCS AND THE CHESAPEAKE BAY

NRCS Conservation Programs and Services in the Chesapeake Bay

Every conservation practice implemented with NRCS financial or technical assistance begins with a conservation plan. Through Conservation Technical Assistance, NRCS provides conservation planning support to help farmers and landowners identify natural resource problems or opportunities, and practices and conservation systems to address those issues. Conservation Technical Assistance also supports NRCS' soils, engineering, agronomy and biological sciences activities that provide the technical background and support for on-farm planning work.

Conservation planning results in positive changes only if the plan is implemented. Farm Bill conservation programs are NRCS' primary source of financial assistance to help landowners implement conservation practices, activities and easements. Farm Bill conservation programs also provide critical additional technical assistance to help program participants implement activities in their contracts and easement agreements.

NRCS' primary financial assistance program in the Chesapeake Bay region is the Environmental Quality Incentives Program (EQIP). Landowners also make great use of the Agricultural Conservation Easement Program (ACEP), which protects farmland or restores wetlands, the Agricultural Management Assistance (AMA) program and Conservation Stewardship Program (CSP).

The 2014 Farm Bill authorized the Regional Conservation Partnership Program (RCPP). RCPP supports locally led conservation efforts in the bay by providing partners with a means to propose targeted conservation projects using NRCS conservation program funding. The Chesapeake Bay Watershed was designated by USDA as one of the eight Critical Conservation Areas (CCA) that qualify for additional RCPP funding. RCPP provides new resources for collaborative projects that help farmers and landowners develop conservation plans and implement conservation practices and protect land with conservation easements.

Delaware, Maryland, New York, Pennsylvania, Virginia and West Virginia have Conservation Reserve Enhancement Programs (CREP) targeting the Chesapeake Bay. CREP is administered by USDA Farm Service Agency with technical assistance to help landowners plan and implement practices provided by NRCS and partners.

NRCS offers the Conservation Innovation Grants (CIG) program as a way to develop and disseminate innovative new conservation practices and procedures. These grants are enabling partners to create a demonstration farm to showcase practices that dairy producers can use as well as to develop a variety of mapping and decision support tools.

There are many stakeholders for Chesapeake Bay restoration and many overlapping and complementary strategies that rely upon or can be supported by NRCS financial and technical assistance. These strategies may have federal, state, or other drivers. In order to best complement the varied strategies in the bay NRCS has established a set of broad priorities and strategies that may be consistently applied across the bay watershed, but that are flexible enough to meet local conditions.



NRCS PRIORITIES IN THE CHESAPEAKE BAY

NRCS NATURAL RESOURCE PRIORITIES ARE:

- **Improve water quality**
- **Improve soil health**
- **Restore and improve fish and wildlife habitat**

NRCS OUTREACH AND ENGAGEMENT PRIORITIES ARE:

- **Training of conservation professionals**
- **Public engagement**
- **Client outreach**

NRCS SCIENCE, TECHNOLOGY AND PARTNERSHIP PRIORITIES ARE:

- **Science, Technology and Data Guides Watershed and Farm Planning**
- **Use Partnerships to Increase Capacity and Effectiveness to Improve Natural Resources**
- **Planning with Customers, Not for Customers**

CONSERVATION ACTION: IMPROVE WATER QUALITY

Purpose and Need:

Clean water is precious to communities and people throughout the region and is essential for healthy habitats, wildlife and fish, from the most remote streams in the watershed to the depths of the Chesapeake Bay. It is vital to have water that is not polluted, has enough oxygen to support fish, crabs and other aquatic life, and is clear enough for sunlight to reach underwater grasses.

Objective:

NRCS will work with customers to plan and implement practices that improve water quality, focusing on high priority private agricultural and forest lands.

NRCS will establish practices based on factors such as existing water quality impairment, soil vulnerability to nutrient and sediment loss, and practice effectiveness when it prioritizes applications for funding assistance.

NRCS will work with its Science and Technology team and Resource Assessment Division, and with partners to apply best available science and resource data to its programs and services and to target assistance.

Funding Sources:

Conservation Technical Assistance, Environmental Quality Incentives Program, Conservation Stewardship Program and Regional Conservation Partnership Program.

Milestones:

NRCS will work with farmers and landowners to implement conservation practices that improve water

quality on 920,000 acres by 2020. Key indicator practices include Waste Storage Facility, Heavy Use Area Protection, Nutrient Management, Residue and Tillage Management (No-till or Reduced Till), Cover Crop, Grassed Waterway, Prescribed Grazing, Riparian Herbaceous Cover and Riparian Forest Buffer.

The Chesapeake Bay CEAP report recommended targeting comprehensive conservation treatment to highly vulnerable and under treated acres as the most effective way to achieve water quality results. This is a more focused approach than the Chesapeake Bay Executive Order Strategy goal to apply new conservation practices on four million acres of agricultural land in high-priority watersheds. NRCS and partners helped farmers and landowners install practices on 2 million new acres in priority areas by 2017 — about 50 percent of the 2025 goal. NRCS will monitor progress towards this milestone, while using the most recent science such as the CEAP report and water quality and practice effectiveness data to adaptively target programs and services to locations and customers to achieve the greatest benefits.

WATER QUALITY

Fiscal Year	2018	2019	2020	Total
Acres Improved	316,000	307,000	297,000	920,000



CONSERVATION ACTION: IMPROVE SOIL HEALTH

Purpose and Need:

Healthy functioning soil is the basis for economically and environmentally sustainable agricultural and forest operations. Healthy soil has less runoff and reduced delivery of nutrients and sediment to surface waters. Healthy soil has better moisture retention and improved root growth and therefore produces better crops with equal or reduced inputs.

Objective:

NRCS will work with farmers and landowners to plan and implement practices and enhancements that improve soil health. The focus will be on cropland but will include other land uses such as grazing lands.

NRCS will work with its Soil Health Division and with partners to better target assistance and outreach.

Funding Sources:

Conservation Technical Assistance, Environmental Quality Incentives Program, Conservation Stewardship Program and Regional Conservation Partnership Program.

Milestones:

By 2020, NRCS has a goal to work with farmers and landowners to implement conservation practices that improve soil health on an additional 700,000 acres of cropland. Key indicator practices include Conservation Crop Rotation, Cover Crop and Residue Management-No Till.

The milestone targets cropland. It does not include pasture or forestland. Progress towards implementation of practices that improve soil health on pasture and forestland will be included in reports but goals will not be established.



SOIL HEALTH

Fiscal Year	2018	2019	2020	Total
Acres Improved	234,000	234,000	232,000	700,000



CONSERVATION ACTION: IMPROVE FISH AND WILDLIFE HABITAT

Purpose and Need:

The Chesapeake Bay Watershed’s forests, marshes and water bodies are home to several thousand species of plants, fish and wildlife. Wetlands play a crucial role in mitigating storm surges, containing floodwaters before they cause damage downstream and act as filters to reduce pollution. They are also home to many different species of plants and animals, and serve as resting places for migratory wildlife. Healthy streams and forests also provide an important habitat for the area’s wildlife.

Objective:

NRCS will work with farmers and landowners to restore, manage and protect wildlife habitat, forests, streams and wetlands throughout the watershed. Priority species include black duck, brook trout, bog turtle, golden-winged warbler and northern bobwhite quail. Priority habitat includes young forest, grasslands and wetlands.

Funding Sources:

Conservation Technical Assistance, Environmental Quality Incentives Program, Conservation Stewardship Program, Regional Conservation Partnership Program and Agricultural Conservation Easement Program-

Wetland Reserve Easements.

Milestones:

By 2020, NRCS has a goal to work with farmers and landowners to implement conservation practices that improve fish and wildlife habitat on an additional 120,000 acres.

Key Indicator Practices include: Stream Habitat Improvement and Management, Early Successional Habitat, Upland Wildlife Habitat Management, Wetland Wildlife Habitat Management and Wetland Restoration.



FISH AND WILDLIFE HABITAT

Fiscal Year	2018	2019	2020	Total
Acres Improved	41,000	40,000	39,000	120,000



OUTREACH AND ENGAGEMENT - TRAINING CONSERVATION PROFESSIONALS

Purpose and Need:

NRCS provides leadership in developing conservation technical expertise, conservation planning, and conservation practice development, implementation and maintenance. Training conservation professionals, including NRCS staff, partners and others in the private sector builds capacity and expands conservation results. Some training may also be beneficial to citizen volunteers such as NRCS Earth Team volunteers, who use knowledge and skills to enhance the health of their local watersheds.

NRCS’ technology transfer activities directly support and are incorporated into training objectives. The NRCS Field Office Technical Guide (FOTG), widely used nationwide by NRCS and a wide range of governmental and private partners, and private consultants, includes the Soil Survey, providing detailed soils information down to the site level; Conservation Practice standards, which are customized to the state level; and other natural resource planning and management tools. NRCS transfers resource data on various geographic scales, from site-specific to nationwide inventories to the state and local level.

Milestones:

By 2020, NRCS has a goal to train 4,700 public and private conservation professionals to plan and implement conservation practices that improve water quality, soil

health or fish and wildlife habitat.

This will include training on the NRCS National Planning Procedures Handbook, Field Office Technical Guide including soils, resource assessment and practices, and use



TRAINING OF CONSERVATION PROFESSIONALS

Fiscal Year	2018	2019	2020	Total
Participants in Training Activities	1,650	1,550	1,500	4,700



OUTREACH AND ENGAGEMENT - PARTNER AND PUBLIC ENGAGEMENT

Purpose and Need:

Fostering greater engagement with the public helps to build understanding about the impact of private lands conservation on water and air quality, and soil and wildlife health in the Chesapeake Bay Watershed. It improves farmers', forestland owners' and others to adoption and management of conservation practices on land they own or operate.

Milestones:

NRCS has a goal to engage 27,700 public and private partners and citizens in NRCS public meetings and committees by 2020 to provide input on NRCS programs and services to address critical resource concerns in the Chesapeake Bay Watershed.

This will include input on NRCS programs and services, such as at State Technical Committee and Local Work

Group meetings. It will also include participating in progress delivery through partners in STET cooperative agreements and RCPP projects. Topics include technical and financial assistance programs, recommendations for science & technology innovations, resource assessments, and proposals for Conservation Innovation Grants (CIG) and Regional Conservation Partnership Program (RCPP) projects.



ENGAGING THE PUBLIC

Fiscal Year	2018	2019	2020	Total
Participants in Engagement Activities	9,600	9,200	8,900	27,700



OUTREACH AND ENGAGEMENT - CLIENT OUTREACH

Purpose and Need:

Outreach to new or underserved customers is key to expanding adoption of conservation practices across the watershed. Outreach efforts enable NRCS to improve upon current conservation efforts on private lands as well as reach new customers. NRCS will work with partners to target outreach to both underserved communities and to producers in priority areas for conservation implementation, such as locations with high priority for increased adoption of practices to improve water quality.

Milestones:

NRCS has a goal to reach 15,900 new, underserved or priority customers by 2020 about NRCS programs and services that address critical resource concerns in the Chesapeake Bay Watershed.

Outreach will include information about how to get a conservation plan developed for their land and farm or forest operation, and information about NRCS conservation programs that provide financial assistance to implement conservation measures, or to place a voluntary conservation easement on their property.



CUSTOMER OUTREACH

Fiscal Year	2018	2019	2020	Total
New customers reached	5,550	5,300	5,050	15,900



NRCS SCIENCE, TECHNOLOGY AND PARTNERSHIP PRIORITIES

Science, Technology and Data Guides Watershed and Farm Planning

Long-term vitality of agricultural and forest land relies upon access at the watershed, state and local level, and at the farm level, to up-to-date information that is objective and science-based. NRCS develops and provides science-based technical information to help customers make more informed decisions about lands they manage.

NRCS' Conservation Effects Assessment Project (CEAP) evaluates the effects of conservation practices and systems at the watershed or ecosystem level for cropland, grazing

lands, wetlands and wildlife habitat. NRCS' Conservation Innovative Grants (CIG) program funds partnership projects to field test or disseminate innovative new conservation practices and approaches.

Remote sensing projects are identifying legacy conservation practices that are functioning on the land but had not been recognized in practice databases. This data informs decisions about locations to prioritize for additional practices.



BEFORE



AFTER

After livestock access to the stream was eliminated and riparian forest buffers were planted along the edge of a streambank, erosion was reduced, improving water quality and fish habitat.



BEFORE



AFTER

Streambank fencing and a stream crossing restrict cattle access to stream.

NRCS SCIENCE, TECHNOLOGY AND PARTNERSHIP PRIORITIES

Partnerships Increase Capacity and Effectiveness to Improve Results

NRCS works with federal, state and local government and private organizations to achieve mutual conservation priorities and increases service to farmers and landowners in the Chesapeake Bay Watershed. These partnerships provide additional on-the-ground technical assistance

directly to customers. The Regional Conservation Partnership Program offers a unique opportunity to provide both technical and financial assistance through partnerships in targeted resource protection and improvement projects.

Planning with Customers, Not for Customers

NRCS is the lead agency in the United States Department of Agriculture for providing conservation technical assistance to private landowners, conservation districts, Tribes and other organizations to help them voluntarily conserve, maintain and improve natural resources.

NRCS walks the land with customers to inventory natural resource problems and opportunities. NRCS and the customer develop one or more alternatives to address those issues, and the customer decides which issues to address and what practices and activities will be used

to address them. When the customer is ready, NRCS provides information about financial assistance programs available to offset costs to implement practices.

Conservation planning and decision-making does not end when a plan is created. NRCS works with customers using an adaptive management approach to implement practices, monitor results and changes, and adjust the plan as needed, incorporating new or different technology as available to further improve the farm operation and natural resources.



NRCS NATURAL RESOURCE AND OUTREACH MONITORING

Natural Resource or Outreach Engagement Areas that NRCS will Monitor and Track

NRCS has identified and is committed to the conservation activities identified below on a state-by-state basis. NRCS will monitor and track these activities; however, there will be no specific bay-wide goals established for the following:

Protecting Land with Conservation Easements

The 2014 Chesapeake Bay Agreement identified goals and outcomes for land conservation, with a Protected Lands Outcome by 2025 to protect an additional two million acres of lands throughout the watershed — currently identified as high conservation priorities at the federal, state or local level — including 225,000 acres of wetlands and 695,000 acres of forest land of highest value for maintaining water quality. (2010 baseline year.)



Sustaining Healthy Watersheds

The 2014 Chesapeake Bay agreement also identified the partnership's goal of sustaining healthy waters and watersheds recognized for their high quality and/or high ecological value.

Healthy forests and grazing lands have improved water retention and help to contain sediments and nutrients from entering the waterways. Farmers and forest managers, with assistance from NRCS, will institute practices to better manage forests and grazing lands throughout the watershed.



Applying Conservation to Improve Environmental Quality

NRCS provides conservation assistance to help farmers and landowners address multiple resource concerns and land uses using a wide range of practices and enhancements. NRCS works with federal and state partners to report on the extent of conservation practices implemented with NRCS assistance. Beginning with FY2018 this will include accounting for the benefits of CSP enhancements. Documenting practices and enhancements implemented with NRCS technical assistance helps bay jurisdictions meet their individual Watershed Implementation Plan and TMDL goals.





NATURAL RESOURCES CONSERVATION SERVICE
[NRCS.USDA.GOV/CHESAPEAKE](https://www.nrcs.usda.gov/chesapeake)