Executive Order 13508

Draft Strategy for Protecting and Restoring the Chesapeake Bay

November 9, 2009

Developed by the Federal Leadership Committee for the Chesapeake Bay

Part 1

Executive Summary

Promise and Challenges of the Chesapeake

A National Treasure

The effort to restore the Chesapeake Bay has garnered widespread public interest and captured national attention for several decades. It was one of the first attempts in the United States to restore a large body of water and led to similar efforts in other coastal areas. It is the unique nature of the Chesapeake and its special importance to millions of people, however, that have made the cleanup so critical.

The Chesapeake Bay is the nation's largest estuary—a place where freshwater and saltwater mix—and the third largest in the world. The vast watershed covers 64,000 square miles of the East Coast, stretching from upstate New York to southern Virginia, from the West Virginia panhandle to the Delmarva Peninsula. In the heart of the Chesapeake region are America's first permanent European settlement at Jamestown, Virginia, and the nation's capital city of Washington, D.C.

The Bay is a world-class ecological treasure that is home to more than 3,600 species of plants and animals, such as the blue crab and the bald eagle. The region is steeped in history that is treasured by residents, including the legacy of American Indian societies, the arrival of Europeans in the New World, the inspiration of American Revolution, and the tragedy of the Civil War. Across the watershed are spectacular landscapes, like the Shenandoah Mountains, the Susquehanna River Valley, and Smith Island. The Bay's waters represent a rich cultural heritage that includes world-renowned waterfowl hunting, trophy sport fishing opportunities, and the tradition of watermen who work for fish, crabs, and oysters. Seafood, tourism, and marine transportation

Chesapeake Bay Program

make the Chesapeake Bay a multibillion dollar economic driver for the mid-Atlantic.

The Bay and its watershed are also a recreational resource. Millions of people enjoy the waterways and landscapes for fishing, boating, hiking, picnicking, bird-watching, and relaxation. This close connection between people and nature reinforces the need for protection and restoration of the Chesapeake Bay and watershed. About 17 million people live in the region, and tens of thousands of streams, creeks, and rivers flow past their homes and through their neighborhoods. These local waterways are resources for communities throughout six states and the District of Columbia. The lives and livelihoods of many citizens are intertwined with the water and the land.

An Ecosystem in Trouble

Unfortunately, the Chesapeake Bay and many of its tributaries remain in poor health. The water continues to be polluted, populations of oysters are at an all-time low, and habitats such as underwater grass beds and wetlands are degraded. The problems facing the Chesapeake Bay stem from human activity that has transformed the natural landscape, the impacts of which have accelerated due to rapid growth and development. The population in the watershed has doubled since 1950, and the resulting development has destroyed forests and wetlands that previously filtered pollution and provided wildlife habitat. Farms have been converted to subdivisions, and suburban sprawl has led to a proliferation of roads, parking lots, and rooftops, as well as increased numbers of vehicles on the roads. Historic overharvest of fish and shellfish has contributed to the decline of key species in the Bay. Water is polluted primarily by nitrogen and phosphorus from agricultural land, cities and towns, wastewater plants, and airborne contaminants. The impact of these forces is magnified because the Bay is shallow and has the largest land-to-water ratio of any coastal body of water in the world.

Now the restoration and protection effort must adapt for climate change, which is projected to raise sea levels, warm the water and air, and affect the frequency and intensity of storms. Although the Chesapeake Bay effort already benefits from some of the world's best science, there is a need to improve research and monitoring, and foster the development of innovative technologies. A vital need also exists for expanded public education and citizen stewardship, so residents fully understand their impact on the environment and are engaged in making a difference.

A New Era of Federal Leadership

As the Chesapeake Bay restoration effort enters a new era, the country and world are watching. Protecting the environment is the defining challenge of the 21st century, and cleaning up the Bay is this region's responsibility—an obligation to the residents of today and generations of tomorrow. The solutions to create cleaner water, healthy communities, thriving farms, protected habitats and abundant fish and wildlife in the Chesapeake Bay and its watershed can serve as a national model. America must show that it can restore its largest estuary, which is fed by water flowing by the nation's capitol in the Potomac River.

Executive Order on Chesapeake Bay Protection and Restoration

A Historic Opportunity

May 12, 2009, was a historic day for the Chesapeake Bay. On that date, President Barack Obama issued Executive Order 13508 on Chesapeake Bay Protection and Restoration. It is the first-ever presidential directive on the Chesapeake Bay and the first Executive Order of the Obama administration related to the environment.

In the Executive Order, President Obama calls the Chesapeake Bay a "national treasure" and ushers in a new era of federal leadership, action, and accountability. The purpose of the Executive Order is "to protect and restore the health, heritage, natural resources, and social and economic value of the nation's largest estuarine ecosystem and the natural sustainability of its watershed."

The Executive Order recognizes that the efforts of the past 25 years were not making sufficient progress in restoring the Chesapeake Bay and its watershed, and that success would require responsible government agencies to make dramatic policy changes and initiate bold new actions.

To bring the full weight of the federal government to address the Chesapeake's challenges, the Executive Order establishes the Federal Leadership Committee for the Chesapeake Bay (FLC), which is chaired by the Administrator of the U.S. Environmental Protection Agency and includes the secretaries of the departments of Agriculture, Commerce, Defense, Homeland Security, Interior, and Transportation.

The federal agencies were charged with developing recommendations on how to improve seven important areas for the Chesapeake Bay: water quality, targeting of resources, storm water management on federal land, climate change, land conservation and public access, scientific tools and monitoring, and protection of habitat, fish, and wildlife. Draft reports containing the initial recommendations were completed in September 2009 and released to the public to ensure transparency in the process of renewing the effort to protect and restore the Bay.

The initiatives in the seven reports form the core of a new strategy for restoring the Chesapeake Bay and its watershed. The strategy also outlines federal coordination with state activities, identifies goals for the environment, creates a process for reporting on progress, and explains how efforts will be adapted based on science and resources.

A Collective Effort

The Executive Order acknowledges that although the federal government should assume a strong leadership role in the restoration of the Bay, success depends on a collaborative effort involving state and local governments, the private sector, nonprofit organizations and the region's residents.

Pursuant to the Executive Order, representatives of the FLC agencies have worked extensively with the six Bay watershed states (Delaware, Maryland, New York, Pennsylvania, Virginia, and West Virginia), the District of Columbia, and the Chesapeake Bay Commission. The federal government has also reached out to key stakeholders in the private sector and created a website to promote government transparency and public engagement. This information has shaped the recommendations and overall strategy, the further development and refinement of which will continue during a 60-day public comment period beginning November 9, 2009.

The final strategy for protecting and restoring the Chesapeake Bay is to be completed and released within one year of President Obama's Executive Order, by May 12, 2010.

Focus of Strategy

The draft strategy contains a comprehensive suite of federal initiatives to address the challenges facing the Chesapeake Bay and its watershed. Collectively, the initiatives support three actions:

- **Restore Clean Water**
- **Conserve Treasured Places and Restore Habitats, Fish, and Wildlife**
- **Adapt to the Impacts of Climate Change**

These actions are to be achieved through three primary means:

- **Empower Local Efforts**
- **Decision-Making Through Science**
- **New Era of Federal Leadership**

Restore Clean Water

Why?

Clean water is a precious resource to communities and people throughout the region and is essential for healthy habitats, wildlife and fish. The health of all water bodies in the watershed, from the most remote streams to the largest rivers, has an impact on the quality of the water in the Chesapeake Bay itself.

How?

Regulatory authority will be expanded to increase accountability for pollution and strengthen permits for animal agriculture, urban/suburban stormwater and new sources. The Environmental Protection Agency (EPA) is setting pollutant limits for nitrogen, phosphorus and sediment through the Chesapeake Bay Total Maximum Daily Load (TMDL). To meet these limits, states and the District of Columbia will develop detailed plans for reducing pollution and measuring progress every two years. EPA will impose consequences for missed targets. EPA will also initiate rulemaking to increase coverage and raise standards for Concentrated Animal Feeding Operations (CAFOs), municipal stormwater, and new dischargers of pollution. However, if the Chesapeake Bay states and D.C. strengthen their pollution control programs to achieve the reductions in nutrient and sediment pollution needed to meet Bay water quality standards, EPA does not expect that it would promulgate new Chesapeake Bay-specific regulations. New regulations of air sources will substantially reduce air deposition of nitrogen to the Bay watershed. A Chesapeake Bay compliance and enforcement strategy will ensure that CAFOs, stormwater, wastewater facilities, and air pollution sources meet legal requirements. EPA will also take action to reduce discharge of nutrients from municipal and industrial wastewater treatment plants, develop and promote a model program for managing onsite disposal systems, and reduce discharges of toxics to the Bay and its watershed. In coordination with EPA and other federal and state partners, DOI will lead studies on emerging contaminants in the Chesapeake Bay

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watershed and their possible impacts on priority fish and wildlife and their habitats.

Voluntary conservation incentives will be intensively targeted at high priority areas. The Department of Agriculture (USDA) will launch an aggressive, voluntary partnership effort to accelerate the adoption of conservation practices on the region's farms and forests. This will involve focusing resources on watersheds in critical need of action, targeting financial incentives for putting practices in place, and better coordinating programs with federal, state and local partners, including the private sector. To emphasize accountability, USDA's approach will also include a system for tracking progress and using science to adapt as necessary.

EPA and USDA will partner on a *Healthy Waters, Thriving Agriculture* Initiative. Through this initiative, EPA and USDA will work together to align resources to accelerate the adoption of conservation practices in priority watersheds and develop the next generation of conservation planning tools.

Federal lands and facilities will lead by example by improving stormwater management. The federal government is one of the largest landowners in the Chesapeake Bay watershed, so there is a tremendous opportunity to establish a common federal approach to reduce polluted runoff from existing facilities, new construction, and roads. Federal agencies will continue to promote environmentally friendly site selection, planning, and design and expand the use of land conservation easements. As funding permits, agencies will look to install innovative retrofits to manage stormwater from urbanized areas and paved roads and explore methods to prevent erosion from unpaved roads. This effort will begin with projects in high priority watersheds for protection of high-quality streams and restoration of degraded waterways.

Roads will be planned and designed to reduce polluted runoff and opportunities will be sought to retrofit existing transportation facilities. The Department of Transportation (DOT) will lead an effort to develop and promote methods and opportunities for controlling polluted runoff from transportation facilities that have impacts on the watershed. Federally assisted roads will continue to be planned and designed to mitigate the impacts of stormwater runoff. DOT will identify opportunities for retrofits to existing transportation facilities to reduce polluted runoff. DOT and EPA will work with cities and states to strengthen the opportunities and methods available for projects to mitigate and/or retrofit for stormwater impacts from existing infrastructure and explore innovative methods, processes, and technologies to further this effort.

What's Different?

These efforts include a focus on expanded regulation of pollution sources, as well as an emphasis on ensuring that current regulations are met. The strategy also focuses voluntary conservation efforts at those areas where they can have the most environmental impact. New emphasis is placed on improving practices on federal land and reducing polluted runoff from transportation infrastructure. These efforts, in combination with those of state and local governments and citizens, are expected to result in implementation by 2025 of the pollution control measures needed to restore water quality in the Bay.

Conserve Treasured Places and Restore Habitats, Fish and Wildlife

Why?

The special natural landscapes and waterways of the region are irreplaceable. Not only are they vital to environmental health, but people treasure these places for recreation and for their crucial links to history and culture. The wildlife and fish of the region are an inherent part of the Chesapeake's identity and

ecosystem. There is no more cost-effective strategy for retaining environmental and economic health and cultural heritage than conserving existing farms, forests, natural areas, habitat, and other vital resources.

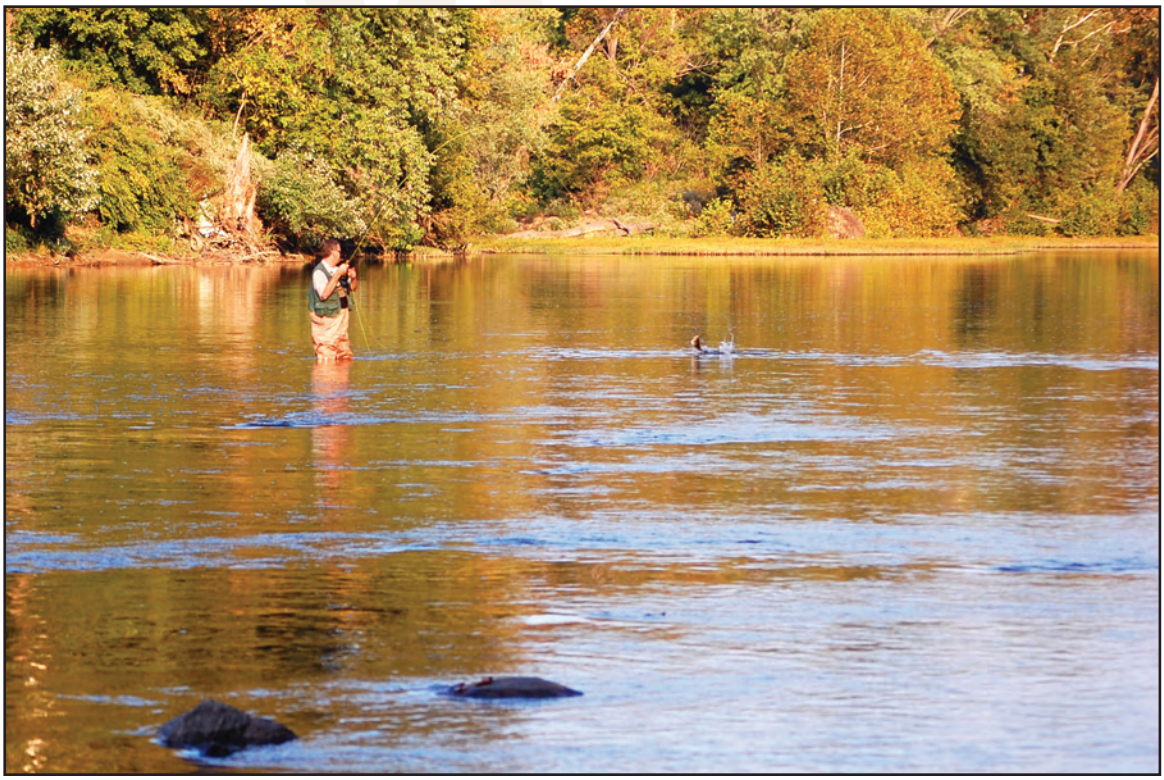
How?

The Chesapeake Treasured Landscapes Initiative is needed to leverage federal programs, assistance and resources to conserve valuable landscapes and increase public access.

The Department of the Interior (DOI), in collaboration with other agencies, will pursue development of a Chesapeake Treasured Landscapes Initiative to protect the environmental, historic, cultural, and recreational value of the region's forests, wetlands, river corridors, and open spaces. The federal government will focus funding to support state and local efforts to conserve landscapes and provide public access through purchases of land and conservation easements. To conserve landscapes, DOI may use, expand, or explore creation of new units of the National Park System, National Wildlife Refuges and National Historic Trails. National Trails and the Chesapeake Bay Gateways and Watertrails Network will seek to improve public access in concert with state and local governments and non-governmental partners, if appropriate. The National Oceanic and Atmospheric Administration (NOAA) will explore the viability of establishing marine protected areas within the Chesapeake Bay, while DOI may explore options for designating a river as part of the National Wild and Scenic Rivers system. To maximize private stewardship and conservation actions by all levels of government, key federal incentives and assistance will be targeted.

Restoration and protection efforts will be initiated on a watershed basis.

The Fish and Wildlife Service (USFWS) and NOAA will initiate a comprehensive campaign to restore aquatic and upland habitats and manage fish and wildlife. For habitat, this will involve protection of high-value wetlands and stream systems, prioritizing and targeting resources to pursue restoration projects on a larger scale in selected tributaries, and providing technical assistance and funding for states to address



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critical waterways. As part of this effort, the U.S. Army Corps of Engineers (USACE) is prepared to use its extensive ecosystem restoration experience in the Bay to help implement large scale restoration. As part of a shift to ecosystem-based management, NOAA will also coordinate an inter-jurisdictional, Bay-wide effort to ensure sustainable fisheries in the Chesapeake Bay. USFWS and NOAA, in coordination with other agencies, will also examine mechanisms to strengthen permit reviews and consultation authorities under existing mechanisms such as the Clean Water Act, Fish and Wildlife Coordination Act, Coastal Zone Management Act, Atlantic Coastal Fisheries Cooperative Management Act, Endangered Species Act, and Magnuson Stevens Fishery Conservation and Management Act.

Oyster restoration and blue crab management will be bolstered by a multi-jurisdictional effort. NOAA, USACE, and other federal agencies will coordinate with Maryland, Virginia, and the Potomac River Fisheries Commission with a goal to recover oyster reefs and establish self-sustaining oyster reef sanctuaries in key tributaries by 2020. The federal government must capitalize on the recent, multi-agency decision to restore native oysters to the Bay in the Chesapeake Bay Oyster Restoration Programmatic Environmental Impact Statement. Focused efforts in specific areas are resulting in marked increases in oyster abundance. Greater federal and state commitments to support oyster sanctuaries could further accelerate these efforts.

NOAA will help facilitate inter-jurisdictional Bay-wide strategies to ensure sustainable crab populations and harvest management aimed at achieving a sustainable population of 200 million adult blue crabs. Through continued cooperation with Virginia and Maryland, NOAA will present the best available science and provide the jurisdictions with advice necessary to ensure a sustainable annual harvest and informed management decisions.

What's Different?

These recommendations represent a significant effort to focus federal resources on conserving valuable Chesapeake landscapes and waterways, increasing public access and restoring areas that have been degraded. Community involvement will be a key component of this effort. These actions also include a new commitment to expand oyster sanctuaries and continue to ensure sustainable management of the blue crab population. These actions are a tangible example of a shift to ecosystem-based management that is important to the restoration of the Chesapeake Bay.

Chesapeake Bay Program

Adapt to the Impacts of Climate Change

Why?

One of the most significant challenges to successful restoration and protection of the Chesapeake Bay is climate change. Scientists project that climate change will have a variety of impacts on the Chesapeake Bay and its watershed in the decades ahead, including rising sea levels, warmer water and air temperatures, and stronger storms. Because much of the region's infrastructure is tightly interwoven, regional climate adaptation planning to protect, upgrade, and adapt the region's infrastructure is essential. Ultimately, climate change considerations must be incorporated into each of the initiatives described in this strategy.

How?

Undertake a concerted effort to coordinate climate change science and adaptation throughout the watershed. NOAA and the U.S. Geological Survey (USGS) will work closely with federal and state partners to coordinate existing state programs and regional climate programs to provide the science and assistance to adapt to potential impacts of climate change on the Bay and its watershed. The coordinated effort will allow for collaboration among all levels of government, universities, and nonprofit and private organizations, and would be undertaken with consideration of an emerging national network of regional climate services.

Each federal agency with restoration and protection responsibilities in the Bay region will consider climate changes as they implement responsibilities, including programs, funding, and land management activities. Federal programs will focus on protecting communities and critical habitats and species from the impacts of climate change by targeting resources, launching pilot projects for adaptation, and developing incentives for conservation of priority areas.

What's Different?

Bringing federal and state efforts together is important for developing and communicating information vital to address the impacts of climate on water quality and increase resiliency of communities and valuable habitats to the impacts of a changing climate. These efforts will result in the development of the predictive tools for addressing adaptation action in the near-term and provide projections needed for planning management for the long-term

Empower Local Efforts

Why?

The condition of the environment has a critical impact on neighborhoods and communities, from cities to suburbs to rural areas. Local governments, watershed organizations, and residents have a great interest and ability to make a difference in the environment. Providing assistance and resources can empower these groups to implement needed changes. Awareness of opportunities and education can motivate the type of widespread behavioral change that is needed to improve the state of the Chesapeake Bay watershed.

How?

Technical assistance and resources to landowners, local governments, and watershed organizations will be expanded to help restore streams, creeks, and rivers in communities. EPA, USDA, and DOI, in collaboration with state and local partners, will provide more technical assistance and resources, as well as set restoration goals, on a more local watershed and community-based level. EPA will launch a new grant program for stream restoration in targeted areas and help guide the efforts of local governments to reduce water pollution. USDA will encourage the adoption of conservation practices on farms and forests through

Alex Indigo, Creative Commons

incentives and technical assistance, simplifying participation in programs, and strengthening partnerships with local governments, watershed groups, and communities. USDA will also expand support to local governments and watershed organizations across the watershed to enhance their tree cover in order to meet increasing demands for buffering temperature extremes and flooding. DOI will expand citizen stewardship efforts by engaging local community, tribal, and other organizations to improve local land and water resources through technical assistance and public education.

Federal agencies will support the development of innovative technologies and economic markets for ecosystem services.
Innovative technologies hold much promise for reducing water pollution, improving conservation practices and increasing revenue for working lands. EPA, USDA, and DOT will expand public-private research partnerships and focus federal funding on this aim. Additionally, economic markets for ecosystem services are emerging as an innovative way to provide landowners with an incentive to practice sustainable agriculture and forestry. Essentially, entities such as urban water utilities, industrial polluters, and land developers who must mitigate negative impacts to the watershed will pay for the implementation of conservation practices that offset those impacts. USDA will lead a collaborative federal effort to develop ecosystem markets in the Chesapeake Bay watershed.

Federal agencies will increase citizen stewardship, with an emphasis on engaging young people.
The restoration effort can be invigorated by the actions of the watershed's 17 million residents. To create opportunities for citizens to become directly engaged in on-the-ground and in-the-water restoration activities, DOI and other Federal agencies will explore development of a Chesapeake Conservation Corps (CCC). This new CCC would be developed in collaboration with non-governmental partners such as the Student Conservation Association and AmeriCorps to support putting young people to work on projects and equipping them with green job skills for the future.

Public education will be emphasized and an ongoing social marketing campaign will encourage residents to change habits to improve the health of the environment.
Public education through place-based interpretation, recreational experiences, and curriculum-based education will be supported through National Park Service (NPS), USFWS, and NOAA programs. NPS will increase the Chesapeake Bay Gateways and Watertrails Network and National Trails programs that provide visitors and residents opportunities to experience the natural and cultural heritage of the Bay region. USFWS will continue to offer public access and interpretation to visitors of the National Wildlife Refuges around the watershed. NOAA's long-standing role as a supporter of environmental education will continue. Federal agencies will also partner with nongovernmental organizations to launch an ongoing, watershed-wide social marketing campaign to educate residents about the impact of their actions on streams, creeks, rivers, and the Chesapeake Bay.

Livable, sustainable communities will be supported through the promotion of smart growth planning and alternative transportation options.
Because land use has a direct impact on the environment, federal agencies will promote sustainable development and smart growth through assistance and tools to local governments. DOT, EPA, and the Department of Housing and Urban Development (HUD) will convene a series of forums and partner with local governments to conduct integrated transportation, land use, housing, and water infrastructure planning in a sustainable and environmentally sensitive manner. DOT will

promote use of public transportation, bicycling, and walking, and partner with the Department of Energy (DOE) on a pilot project to support increased use of electric cars.

What's Different?

Historically, the Chesapeake Bay restoration effort has used a top-down approach. Empowering local communities will give greater momentum to the grassroots and build healthier, sustainable communities. Promoting innovation in technology, techniques and the marketplace is a new area of emphasis and will not only support restoration, but also bolster local economies.

Decision-Making Through Science

Why?

Science underpins the Chesapeake Bay restoration effort. Government must also be accountable for its restoration responsibilities and commitments, and scientific measures can be an accurate barometer of progress and drive action at all levels. While there are significant and robust information and data systems already in place, some gaps remain. Ensuring the Chesapeake Bay watershed population is informed of the scientific basis and results of actions is an important element in encouraging broad participation in restoring the Bay.

How?

ChesapeakeStat will serve as a comprehensive accountability tool for all restoration activities, including projects, funding, and progress, and be publicly accessible.

The Chesapeake Bay Program (CBP) will launch ChesapeakeStat, an accountability and decision-making tool modeled after the State of Maryland's BayStat program. ChesapeakeStat will be a web-based system that provides information about partner restoration activities, funding levels and progress toward goals. The website will also link to tools that use scientific information to drive decision-making on targeting of water quality actions on agricultural and urban lands; conserving lands with important ecological, economic and cultural value; identifying coastal areas vulnerable to sea-level rise and storm surge; and improving land-use planning.

Establish an Interagency Decision-Support Hub to strategically target and assess effectiveness of restoration and conservation practices.

USGS and NOAA will work with federal partners to integrate decision-support tools and supporting information. This will improve targeting of actions to restore water quality, preparing spatial plans to target habitats, and conserving important areas in the Bay and its watershed. Specifically, the Chesapeake Online Adaptive Support Toolkit (COAST) will have applications to improve targeting and assessment of water quality and habitat management practices and provide access to other tools such as NOAA's

Chesapeake Bay Program

Digital Coast and DOT's Eco-Logical. The Hub will utilize decision-support specialists to translate science outcomes into management implications and interact with partners to improve decision-making to achieve environmental goals.

A Chesapeake Monitoring and Observing System will use partnerships to improve the monitoring of environmental conditions beyond water quality and into the watershed.
Because monitoring provides essential information on the health of the environment and effectiveness of restoration activities, monitoring needs to be expanded from a focus on water quality to include more information on fish and wildlife, habitats, land use, climate change, socioeconomic factors, and management actions. Monitoring information from the streams, creeks, and rivers throughout the watershed is also needed. USGS and NOAA will lead efforts for a Chesapeake Monitoring and Observing System by coordinating with national monitoring networks and forming new alliances with federal and state programs and local watershed groups to address gaps in current monitoring.

What's Different?

ChesapeakeStat will be the first one-stop tool to improve accountability for all partners in the restoration effort. The Decision-Support Hub will integrate federal tools and activities for more efficient and strategic decision making. Science will be used to focus more precisely on the local level and adapt restoration efforts based on results.

A New Era of Federal Leadership

Why?

Though partners have achieved measurable reductions in pollution and implemented a variety of restoration measures during the past 25 years, the Chesapeake Bay and many tributaries remain degraded. In his Executive Order, President Obama directed the federal government to take a stronger leadership role and to lead by example. The federal agencies are uniquely positioned in terms of authority and expertise to usher in a new era of restoration. The initiatives in the strategy are consistent with federal policy, including Executive Order 13514 on Federal Leadership in Environmental, Energy and Economic Performance; the Obama Administration's climate change policies; and the findings of the Interagency Ocean Policy Task Force.

How?

The federal government will lead a collaborative process with the watershed states and the District of Columbia to create a comprehensive, coordinated strategy for the Chesapeake Bay and watershed.
Protecting and restoring the Chesapeake Bay and its watershed, with the wide spectrum of serious environmental challenges throughout the region, will require an unprecedented effort. To be successful, the federal government, the six watershed states, the District of Columbia, and the Chesapeake Bay Commission (CBC) must commit to historic levels of coordination and to fully integrating activities and programs. The Executive Order directs the federal government to lead the collaborative process.

Developing and using a coordinated strategy is a multi-step process that includes extensive collaboration to shape the strategy, selecting environmental goals, reporting progress, and adapting restoration actions as appropriate.

The Federal Leadership Committee for the Chesapeake Bay is evaluating the most effective and efficient processes for collaborating with states in developing and implementing a new strategy. The CBP partnership is under consideration as the forum for collaboration because it already has the core design and mechanisms necessary to integrate and coordinate federal and state activities. Senior officials and restoration experts from all levels of government regularly participate in various CBP committees, including the Chesapeake Executive Council (CEC), which includes key federal agency heads, state governors and the mayor of the District of Columbia.

The FLC can work closely with the CEC to embark on a new era of coordination and commitment.

Federal agencies will establish two-year milestones for implementing protection and restoration measures related to all aspects of watershed health and set programmatic goals to have practices in place no later than 2025.
The six states in the watershed and the District of Columbia have committed to meeting goals—called milestones—every two years for implementing measures to improve water quality. By meeting these milestones, all practices needed for restored water quality will be in place no later than 2025. The federal agencies will join the states in this commitment to establishing two-year milestones for measures that restore water quality, habitats, wildlife, and fish and shellfish, and conserve land and improve science. The federal two-year milestones will be established in May 2011, and necessary measures will be planned for implementation no later than 2025. Federal efforts will also be designed to directly support the states and District of Columbia in meeting their milestones.

As part of the development and implementation of a coordinated federal-state strategy, an interagency process, including states, will be established to develop clear environmental goals for restoring the Bay, including program performance indicators, target dates, and interim milestones. These will be released for public review and comment in early 2010 to inform the final strategy.

Transparency of the restoration effort will be increased through several public reporting tools and an independent evaluation that will analyze the water quality program.

Reporting on Progress

ChesapeakeStat will provide a public, ongoing system for tracking restoration activities, spending and progress. The Executive Order also requires the publication of an annual Action Plan that describes how federal funding will be used during each fiscal year. To the extent possible, the Action Plan will incorporate the spending of Bay watershed states to provide a comprehensive accounting of the resources dedicated to restoration.

Additionally, the Executive Order requires an annual Progress Report reviewing environmental conditions in the Chesapeake Bay and watershed, assessing implementation of the Action Plan during the preceding fiscal year and recommending steps to improve these efforts. This reporting may be included in an enhanced version of Chesapeake Bay Program's annual health and restoration report, the *Bay Barometer*, beginning in 2011.

Independent Evaluation

The National Academies of Science (NAS) is currently being utilized to provide a fully independent review of the Chesapeake Bay Program's water quality activities to improve strategic and specific efforts. Federal agencies will build on the lessons from the NAS study to establish an ongoing independent evaluation process that covers all aspects of the Executive Order directives.

Adaptive Management

Under the new strategy, federal agencies and state partners will increase the practice of adaptive management. Managers will use extensive feedback from monitoring and tracking tools to understand the effectiveness of restoration activities, identify ways to adapt the efforts, and put the new approaches into practice.

What's Different?

Despite federal and state cooperation in the past, the effort to protect and restore the Chesapeake Bay and its watershed lacked a truly unified strategy. Previous goals for restoration were set a decade or more in the future. Short-term milestones will accelerate progress, increase accountability, and allow for adaptive management to ensure government is moving toward meeting goals for the Bay and watershed.

Conclusion

The past 400 years of human activity in the Chesapeake Bay watershed has left this national treasure in poor shape. Restoring and protecting the Chesapeake Bay and its watershed will not be easy, as the last several decades have shown. The wide spectrum of serious environmental problems and the incredibly diverse network of stakeholders in the region, combined with the sheer size of the Bay and its 64-million-acre watershed, magnify the challenge.

But the health of the Bay and its watershed should steadily improve as significant progress in restoration is made and tracked through the two-year milestones. The first signs of improvement should be in the freshwater streams and rivers that flow into the Bay. The Chesapeake, however, is a vast and complex ecosystem, and it takes time for nature to heal.

Scientists are unsure of exactly how quickly the Bay will respond to restoration efforts because cleanup of such a large estuary is unprecedented. But scientists widely agree if restoration measures are put in place and natural areas are protected, the health of the ecosystem will improve accordingly, although there could be a delay as pollutants are decreased and water quality, habitats and aquatic life are reestablished.

The federal focus on restoring clean water, conserving treasured landscapes and restoring fish and wildlife, and adapting for climate change will require a tremendous amount of work and resources to be implemented properly. It will be necessary to empower local efforts and make decisions based on science. The ultimate key to success—seamless, coordinated federal-state-local action—will also require a renewed dedication, along with persistence and patience.

Federal officials are keenly aware of the economic realities facing the restoration effort and the need to efficiently and effectively spend financial resources. But investment in the Chesapeake Bay and the thousands of streams, creeks and rivers of the region will yield a priceless return for the environment, for local and regional economies, for the cultural and historic heritage, and, most importantly, for communities in cities, suburbs and rural areas.

The timing for a renewed commitment to restoration is ideal. The pieces for success are in place around the watershed in the form of leadership, science and public interest. All stakeholders must capitalize on the historic opportunity presented by the Executive Order. Meeting the objectives of President Obama's declaration is a federal obligation. Restoring clean water and protecting nature throughout the region is a duty to the millions of people who call this place home. The generations that come after us will point to this time as a defining moment for reviving the integrity and splendor of the Chesapeake Bay and its watershed.