



The Cacapon Institute leads a volunteer-driven tree planting at Deerfield Village outside of Shepherdstown, W.Va. Volunteers planted 28 trees as part of the Carla Hardy West Virginia Project CommuniTree. (Photo by Will Parson/Chesapeake Bay Program)

I. Introduction

The long-term success and sustainability of the Chesapeake Bay restoration effort will ultimately depend on the actions and support of the 18 million residents who call the watershed home. The cumulative impact of these individuals and their daily actions can both positively and negatively affect the health of the watershed. Hundreds of local conservation and watershed organizations and a growing number of community associations, religious institutions and others are leading efforts to engage and empower individuals to restore local streams, reduce pollution, protect the environment, and improve their communities. The efforts of these groups and of community leaders also result in an ever-increasing number of individuals adopting behaviors and taking actions that ultimately reduce our collective impact on the Bay. A growing ecosystem of local volunteers - who donate their time, talent, and resources to our shared goals - will build a larger, broader, and more diverse constituency of stewards to support many of the Goals and Outcomes outlined in the *Watershed Agreement*.

II. Goal, Outcome and Baseline

This management strategy identifies approaches for achieving the following goal and outcome:



Stewardship Goal

Increase the number and the diversity of local stewards and local governments that actively support and carry out the conservation and restoration activities that achieve healthy local streams, rivers and a vibrant Chesapeake Bay.

Stewardship Outcome

Increase the number and diversity of trained and mobilized volunteers with the knowledge and skills needed to enhance the health of their local watersheds.

For the purposes of this strategy, the following definition of diversity is being used: “Expanding the diversity of the workforce and participants in restoration and conservation activities means to include a wide range of people of all races, income levels, faiths, gender, age, sexual orientation and disabilities, along with other diverse groups. For this effort to be successful it will require us to honor the culture, history and social concerns of local populations and communities.”

Baseline and Current Condition

Meeting the water quality, restoration and conservation goals of the *Watershed Agreement* depends on an engaged public who supports stewardship in their larger communities and who takes personal action to carry it out. Commitments for increasing local action and stewardship have always been a part of the Chesapeake Bay Program. A commitment to fostering individual responsibility and stewardship of the Bay’s resources was first included in the 1987 Agreement. Chesapeake 2000 reaffirmed that commitment with a stewardship and community engagement goal to “Promote individual stewardship and assist individuals, community-based organizations, businesses, local governments and schools to undertake initiatives to achieve the goals and commitments of this agreement.” In the 2010 “Strategy for Protecting and Restoring the Chesapeake Bay Watershed,” a goal to “Foster a dramatic increase in the number of stewards of every age who support and carryout local conservation and restoration” was committed to by the Chesapeake Bay Federal Leadership Committee.

The commitment of nonprofit entities and federal, state, and local governments to increase local stewardship has been significant. It is less clear how these commitments have been translated into action and what those actions have accomplished. While tracking and evaluation for individual programs exists, there has not yet been a watershed-wide attempt to measure the progress or results of our collective stewardship efforts.

III. Participating Partners

The following partners have participated in the development of this strategy. A work plan to accompany this management strategy has been completed as well. Work plans are developed every two years, whereas Management Strategies are intended to be longer term. Work plans identify specific partner commitments for implementing the strategy, and the Stewardship Workgroup will form small teams to tackle specific actions.

Chesapeake Bay Watershed Agreement Signatories

- The State of Delaware
- The State of Maryland
- The State of West Virginia
- The Commonwealth of Virginia
- The Commonwealth of Pennsylvania
- The District of Columbia
- Chesapeake Bay Commission
- Federal government partners (National Park Service, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration)

Other Key Participants

- The Stewardship Goal Implementation Team worked with the Stewardship Workgroup – a group of stakeholders from nonprofit organizations and state and federal governments – to assist in the development of this strategy and the accompanying work plan. The feedback from this workgroup provided the foundation of this strategy.

Local Engagement

Nonprofit organizations play a key role in engaging stakeholders and ensuring the successful implementation of the Stewardship Outcome. These groups bring interested individuals together around common goals, and organize events like stream clean ups, trainings, monitoring programs, etc. Local governments also play a key role in watershed protection through planning activities and implementing regulations, permits, zoning, and land use policies. Local stewards play an active role in both nonprofit and local government efforts in watershed management. Increasing the number and diversity of stewards will require leadership on behalf of both nonprofit organizations and local governments.

IV. Factors Influencing Success

There are a wide variety of factors that influence the ability to make progress on this Outcome. Capacity factors include the internal limitations, barriers and challenges that prevent the development and ability to scale up highly effective stewardship programs. External factors include many of the pre-existing public opinions, perceptions, politics, and market forces that create challenges to effectively increase the number and diversity of stewards in the watershed. These types of factors are very much related in that many programs lack the capacity to effectively address or overcome the external factors that prevent the scaled-up adoption of stewardship behaviors and actions across a broad geographic region. The Bay Program is well positioned as a large partnership to address capacity factors over time, thus enabling partner agencies and organizations to better address external factors and implement high impact stewardship programs.

Challenges and Conditions Affecting Stewardship Programs & Scaling Up

1. Many existing programs are not designed for maximum impact.

Many organizations believe that the reason the number or diversity of stewards isn't increasing is because the word isn't getting out about Bay clean-up efforts to enough people to make a difference. Further, there is a general misconception that building awareness and appealing to economic self-interests in isolation or together are the key drivers of behavior change. While these are factors in what drives behaviors, social science research suggests that programs that rely heavily on these approaches will not always be successful.

Focus should be placed on learning the social, economic, and environmental priorities identified by local leaders. Compare them to existing priorities and examine where there are common interests. Those common interests should be considered the basis for partnership and coalition building with local leaders. For example, if abandoned housing, education, food access, job creation, redevelopment and illegal dumping are priorities in diverse communities, then programs should be designed with those in mind. This type of adaptive program design seems to situate programs to be more attractive to broader communities.

2. It is very challenging to accurately and adequately measure and track the impacts and progress of stewardship programs across the entire watershed.

While public engagement has always been part of restoration strategy, its impact on resource related goals – or some consistent measure of the extent to which the public is engaged – has not been adequately quantified or developed. As a result, information about the relative impact of specific actions, the extent to which those actions are already being or could be taken, and an analysis of the cumulative impact of said actions on water quality restoration goals is not widely available to agencies and organizations implementing these programs. This makes any attempt to target the limited resources available for watershed stewardship programs challenging.

3. Stewardship organizations throughout the watershed need additional capacity to recruit and train volunteers and leaders.

There are hundreds of organizations recruiting and engaging volunteers from communities throughout the region in Bay clean-up and community science activities, many of which are run by volunteers themselves and operating on private donations and (if fortunate) small grants. To convert volunteerism into lifelong stewardship, in some communities, particularly underserved communities, students must be engaged in volunteerism, internships and job skills training such as Youth Corps Programs that connect with education, community, environment, and economic success. Sustained funding through public-private partnerships, organizational capacity building and the promotion and replication of successful volunteer, community science and leadership development programs is needed for significant progress to be made toward this Outcome.

4. Local and smaller scale stewardship programs are not strategically coordinating amongst each other sufficiently to achieve maximum impact. There is a need for region-wide stewardship programs or coordination of programs toward collective, larger-scale impact, to help build a more robust and diverse movement for clean water.

An impressive number of programs engage the public throughout the region, but there is not enough synergy and intentional coordination among them. Local governments are shouldered with outreach requirements but often lack that capacity, while NGOs struggle to scale up their effective outreach

programs. Grant-funded projects implemented by different groups often result in the duplication of program development efforts and lack a strategic targeting of audiences and actions, and many programs do not have a leadership development pipeline that links public outreach activities with volunteer opportunities in order to cultivate community leaders. While this may seem daunting, there are promising examples of organizations that are doing this well and of how partnerships and the effective coordination of existing efforts can significantly increase the impact of watershed stewardship programs.

Great progress has been made in recent years to broaden and diversify the individuals and groups engaged in Bay cleanup activities but there is more work to be done. As the number and diversity of citizens participating in stewardship activities increases, grassroots organizations as well as various government agencies need to build their capacity to harness and maintain the engagement of those individuals in order to build a large movement that can be mobilized to support important decisions about clean water policy at the local, state and federal level. Developing and strengthening partnerships toward this end can be done through the network of networks across the watershed.

5. Public opinions, perceptions, and attitudes about Bay clean up vary by jurisdiction, and pose both challenges and opportunities to achieving the Outcome.

While clean water and a healthy Bay often rank among the top environmental priorities of individuals in the region, the environment in general does not always rank as highly among the many other issues impacting people's lives. Efforts to engage the public in Bay cleanup activities are challenged by the fact that within each community, county or region there are a number of important and pressing needs that may compete directly with actions needed for clean water. A better understanding of public opinion will offer opportunities to align those interests and issues to advance them together, rather than in competition. Most opinion polls show people highly value the health of their local water resources and support many of the programs protecting them. However, opinions of specific programs and policies can vary greatly and can be influenced by competing narratives, messaging campaigns, and cross-currents in public opinion such as tax aversion or mistrust of the public sector. Despite these challenges, opinion research shows that Bay residents are aware of water quality problems locally and want to be engaged in solving them. Given this complex environment of public opinion, it is important that facts about public attitudes and perceptions be considered as watershed stewardship programs are developed and implemented.

6. There is a lack of social norms across the watershed that would encourage adoption of helpful individual actions and behaviors.

For a variety of reasons many of the actions targeted by outreach programs are not considered the social norm and, as a result, face a number of barriers to implementation. The public display of a behavior change by a growing percentage of a population can accelerate the adoption of these behaviors by others. Shifts in smoking habits may be the best example of this in recent times. Successful stewardship initiatives should be widely publicized to encourage an acceleration of increased participation in desired actions by the public.

7. Existing markets are the major drivers of consumer choices and often create disincentives for stewardship actions.

The Bay community lacks comprehensive strategies to address consumer markets that shape stewardship actions. Just as policy can help drive action, individual actions can be recognized as a

key driver of informed, practical, and workable policy and regulation that is needed to facilitate on-the-ground action. Efforts to change products and services through regulation (e.g., lawn fertilizer application) and to ensure regulations governing consumer choices (e.g., HOA ordinances) exist and have had considerable influence on consumer choices; however, these are often done in isolation and not as part of a comprehensive strategy that links regulatory or policy efforts with effective consumer outreach focused on behavior change and continued engagement.

8. There is an insufficient amount of financial and regulatory incentives for effective stewardship programs.

The number and scale of stewardship programs continue to increase, driven in part by the pressing need to engage private landowners in the voluntary adoption of best management practices and the ongoing effort to build a base of public support for watershed protection and restoration. These programs are fueled by a combination of public and private funding, increasingly supported by local governments as a component of their Municipal Separate Storm Sewer System (MS4) stormwater management programs. Currently, many of the funding sources and regulatory programs lack adequate guidance or incentives to ensure outreach programs are designed after best practices or informed by successful models.

9. Stewardship programs and practitioners have not fully tapped into the newly added and increased funding sources that can be utilized for stewardship efforts across the watershed.

The Biden Administration's Infrastructure Investment and Jobs Act is presenting an almost overwhelming number of possibilities to combine infrastructure improvements with environmental needs, such as including best practices for green infrastructure in transportation or housing related projects, to address flooding and climate resiliency, and integrate recreational opportunities to benefit health. Any or all of these efforts can manifest in increased workforce opportunities as well as associated training programs. Stewardship efforts planned now should have strong ties to workforce development.

U.S. Fish & Wildlife Service's Chesapeake WILD program will provide funding for habitat conservation/ enhancement and includes engaging people, communities, education, and recreation. The Small Watershed Grants administered by the National Fish & Wildlife Foundation with EPA funding also prioritize community-based efforts that benefit water quality, providing support for additional stewardship and community engagement opportunities. The Federal Land and Water Conservation Fund State and Local Assistance Program and the associated Outdoor Recreation Legacy Partnership (ORLP) Program (administered through NPS) provides significant grants for large urban areas that can fund parks and amenities for recreation which can increase opportunities to engage community members in stewardship activities.

Thanks to recent Executive Orders, the emphasis on diversity, equity, inclusion and justice comes with provisions to focus 40% of funding on underserved communities. Several global, federal and state efforts in place or emerging are focused on planting trees as a climate solution and to address environmental justice and equity in communities, and include programs and funding. In Maryland, the Tree Solutions Now Act of 2021 established a state goal of planting 5 million trees within the next decade, with at least 500,000 (10%) of those planted in targeted urban, underserved areas. Implementing the Act includes a number of statewide programs to administer funding (e.g., Urban Trees Grant Program), provide technical support, and address concerns such as supply of trees,

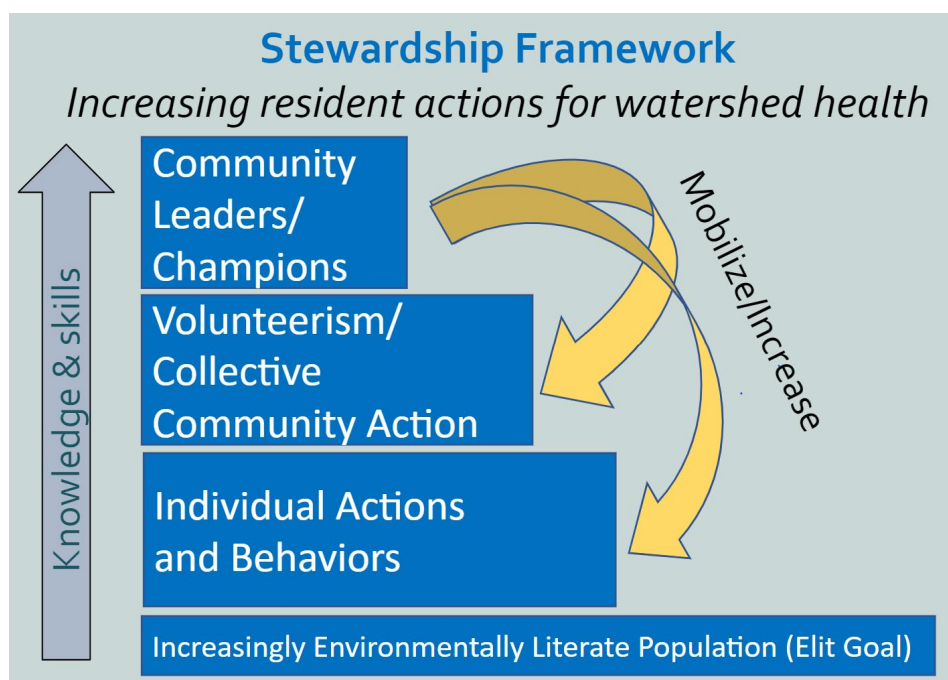
maintenance, etc., and associated job opportunities. These are just a few examples of programmatic and funding enhancements that have opened numerous avenues to engage and benefit watershed residents and increase interest and participation in caring for the local environment. In the coming two years, the Workgroup could coordinate with others in the CBP to make sure that these opportunities are well-known and that assistance is available for those wanting to apply.

V. Current Efforts and Gaps

Current Efforts

Individuals, community leaders, nongovernmental organizations, state and local governments, schools and others play an invaluable role in inspiring, persuading, educating and motivating millions of watershed residents to volunteer and work to benefit the Chesapeake Bay and its watershed, thus advancing Bay Program goals and outcomes. There is a stewardship continuum and one can enter at any level. On-going progress towards increasing the number and diversity of trained and mobilized individuals restoring and protecting their local watersheds requires the recognition of successful actions at each level along this continuum. These levels are:

- **Individual Action:** Adoption of individual actions and behaviors (can be broken down by action type such as landscape practices, transportation choices, energy use, waste reduction and reuse, water use, etc.).
- **Volunteerism/Collective Community Action:** Engagement in volunteerism/collective community efforts that initiate and maintain engagement in stewardship actions (stream clean ups, tree plantings, sojourns, conservation corps, monitoring programs, etc.).
- **Leadership:** Emergence of local champions/leaders who catalyze, organize, and lead individual and collective action (water keepers, stewards academy graduates, faith-based and community leaders, advocates, nongovernmental organizations, etc.).



There are many diverse and effective programs that address the broader goal of increasing the number and diversity of watershed stewards who actively support conservation and restoration activities to achieve healthy streams, rivers and a vibrant Chesapeake Bay.

At the level of **individual actions and behaviors**: Individuals can volunteer to clean up litter, participate in many different community science data collection opportunities, participate in rebate and mini grant programs to implement changes to their private properties or daily activities that benefit the watershed, and much more. For example, homeowners can install rain barrels or rain gardens, replace impervious surfaces with pervious alternatives, and plant native plants in gardens; people can pick up litter or their pet’s waste, be careful with what goes down their sink drains, etc.

At the level of **volunteerism/collective community action**: There are many groups organized by large and small nonprofits, faith-based institutions, neighborhood associations, district-wide programs, and more who come together to dedicate their time, energy, money, and expertise towards specific stewardship goals. Volunteers can dedicate their time to these groups to pursue environmental and community goals as a collective. For example, groups throughout the watershed participate in educating communities, holding clean up events, conducting watershed and water quality assessment, conducting longer term restoration projects, and much more. Groups can also fund opportunities by applying to grants or by finding resources to create their own grants and mini grants for community actions.

At the **leadership level**: Local champions, leaders, and advocates come together to inspire individual and community stewardship actions. Leaders conduct outreach, organize groups, and share opportunities related to many conservation and restoration subjects such as stormwater runoff reduction, conserving wetlands, protecting pollinators, fertilizer use reduction, plastic policies, and more.

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Significant progress has been made on several activities including collecting stewardship behavior data in 2023 and comparing it to the 2017 baseline data, and finalizing a partnership social science assessment. Both of these accomplishments have increased our ability to understand the state of residential stewardship as well as opportunities to incorporate social science more purposefully within the partnership structure and function.

Progress toward the Stewardship Outcome is change that takes a long time, and can be complicated, as many factors are at play. Although measuring progress may not show tremendous change from one year to the next, there are achievements among the stewardship community that contribute to progress continually. There are many partners working across the watershed to increase and support stewardship in innumerable ways, and they are making a difference, from building awareness to installing projects in communities to facilitating active support for practices and decisions that benefit environmental health. Progress toward the Stewardship Outcome takes a combination of these myriad programs and actions of individuals and groups across the watershed, along with collective action of the partners through the CBP and its Outcome groups, including but not limited to the Stewardship Workgroup.

Following tenets of social science, individual action is a first step on the “ladder of engagement,” which leads to more complex, collective community actions. While we have been tracking/measuring stewardship actions taken by and attitudes of individuals, that is only one aspect of stewardship. Resources are needed to prioritize programmatic efforts and build desired behaviors toward more community-scale actions for greatest impact.

Accessibility of participation in stewardship is a factor that influences our effectiveness to involve more



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people. We need to expand how we define stewardship to ensure that what we are promoting is available to everyone, no matter whether they live in rural, suburban or urban settings. We also need to better understand our audiences and what motivates them to act, both individually and as collective groups such as communities. Reliance on volunteerism is also problematic, as there are many residents who don't have the capacity to volunteer their time. We need to explore and promote innovative programs that offer funding and technical assistance to communities and groups to be able to implement stewardship actions that specifically benefit local needs – such as local field liaisons or technical assistance providers that are being considered among multiple CBP groups to support traditionally underserved community partners.

## Current Gaps

The factors above represent high level challenges to stewardship across the watershed. These gaps represent specific recommended areas of focus identified by studies conducted in the watershed, and offer some social science-based guidance to inform future actions.

### **Chesapeake Bay Program Science and Technical Advisory Committee (STAC): Achieving Water Quality Goals in the Chesapeake Bay: A Comprehensive Evaluation of System Response (CESR Report)**

The CESR Report (2023) summarizes the STAC evaluation of why progress toward meeting the TMDL and water quality standards has been slower than expected and offers options for how progress can be accelerated. The three broad conclusions are:

- Achieving pollutant reduction and water quality improvements is proving more challenging than expected.
- The Bay system faces permanent and ongoing changes in land use, climate change, population growth, and economic development that will challenge notions of restoration based on recreating historical conditions.
- Opportunities to meet these challenges exist but efforts require changes and new approaches to implementation, planning, and decision-making.

### **CBP Stewardship Indicator Survey –**

The Chesapeake Bay Stewardship Index survey reveals insights into the knowledge, attitudes, and practices of residents in the Chesapeake Bay watershed. Social, political, and environmental conditions have changed significantly since the first survey was administered in 2017. The ongoing impacts of these changes—to our climate, public health, and civic life—have likely played a role in the trends we see here. Advocates' public outreach and behavior change efforts have also contributed to the trends shown in the data. There are positive trends shown, and we also see where there is more room for growth and attention in conducting stewardship programming. The most critical gap that needs to be addressed to accelerate progress toward stewardship is the lack of ability to fully utilize the survey data collected (2017 and 2023) to guide investments to increase stewardship among watershed residents. There is a need for more analysis of the data and what it tells us about the willingness of residents to take action or the barriers to stewardship. Although expertise has been retained to help with careful construction of the survey questions, new consideration is being given to further improving the survey instrument and its inclusiveness of all audiences, to get a more complete picture of watershed residents' attitudes and abilities. A broad summary of trends is included below:

- High-impact behaviors (e.g., installing rain barrels, picking up dog waste) have increased between 2017 and 2023.
- People are ready to make positive change. Some actions that residents are highly likely to embrace in their lives are: reducing use of disposable plastic bags and bottles, redirecting downspouts away from hard surfaces towards planted areas, fertilizing grass lawns less often, picking up after their dogs when off their property.
- Assistance and education can significantly impact residents' adoption of positive behaviors.
- The public is optimistic and engaged around water pollution and environmental protection – but there's room for improvement.
- Civic engagement on environmental issues has the potential to grow.
- Most residents believe strong government action is needed to clean up the Bay.
- Some communities are especially likely to adopt positive behaviors.

**University of Maryland Center for Environmental Science (UMCES): Enhancing Chesapeake Bay Partnership Activities by Integrating Social Science –**

The purpose of this study, finalized in 2023, was to identify the state of social science integration within the Chesapeake Bay Partnership and opportunities for the integration of social science to help advance Watershed Agreement goals. The main findings were as follows:

- Many CBP members, across all levels of the organization, are interested in seeing social science research applied to forward the goals of the Watershed Agreement. However, their understanding of how social science can do so is incomplete. The report recommends building social science capacity to address this challenge by educating existing personnel and adding social scientists as employees and program advisors.
- Researchers and practitioners can enhance CBP's past investments in behavior change interventions by building more directly on the evidence base and by better measuring the performance of those efforts.
- Social science appears to be underused in aspects of adaptive management, where it could be beneficial for improving efficacy.
- Social scientists and managers were concerned that social science was not being applied where it could have the greatest overall impact; resources for social science were spread too thinly across goals and not being adequately concentrated on fundamental, difficult challenges. Additionally, there is often insufficient time or experienced personnel to apply social science in a useful way such as conducting intensive place-based work to increase understanding of communities' needs and collaborative solutions. The report recommends creating a detailed strategic plan for social science funding and resource allocation to address this challenge.
- The CBP can enhance its social science integration by increasing opportunities to learn about social science, building social science capacity, and enhancing the use of existing science and expertise.

**Chesapeake Bay Program Science and Technical Advisory Committee (STAC): Exploring Applications of Behavioral Economics Research to Environmental Policy-making in the Chesapeake Bay Watershed –**

Greater understanding of the drivers of individual choices holds promise for developing more effective policy decision-making to restore the Chesapeake Bay. The goal of this workshop was to increase the

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depth of STAC's and other social scientists' knowledge about behavioral economics and explore potential applications in the Bay watershed. The presentations and discussions led to suggestions for research that would contribute to knowledge about behavior that would help the Bay restoration goals be met in a more effective way. The suggestions included:

- Research human behavior before developing more outreach and other engagement programs. In general, human decision-making was perceived by workshop participants as often being so complex as to make it necessary to better understand the audience before conducting an educational/outreach campaign (i.e. "thinking before doing"), or there could be unintended consequences.
- Research the efficacy of informing homeowners about their links to the Bay. A current strategy is the placement of signs on storm sewers to make homeowners who are thinking about dumping motor oil feel "guilty."
- Research ways to recognize best management practice implementation by homeowners (such as a sign or list in the newspaper). This area is largely unexplored, and there may be opportunities.
- Research how stewardship and water quality improvements can be embedded into farmers' social identity, including considerations of geographical location, sense of place and ownership.
- Research effective visual communication techniques that encourage behavioral change among various communities.
- Develop methods that can be used to cultivate peer pressure related to stewardship to encourage change. One example that is gaining traction with the U.S. Department of Agriculture is "community conservation," where groups of landowners are encouraged to work together to solve a water quality problem through an incentive based on a joint outcome.

### **Encouraging Sustainable Behavior: A Guide for National Fish and Wildlife Grantees to Implement Social Marketing Campaigns –**

Typical measures of success with regard to outreach and education efforts include indicators such as number of brochures printed and distributed, workshops held, or persons "reached" via print or other media advertisements or as part of an education initiative. In 2007, the Small Watersheds Grant Program began evolving "away from typical environmental education and outreach towards a more strategic focus on social marketing" and "actively seeking projects that propose to use social marketing to achieve behavior changes."

This report was conducted for the National Fish and Wildlife Foundation (NFWFW) in order to develop metrics and indicators of progress for small watershed organizations so they can improve their campaign design in order to achieve long-term behavior change. This report also provided a framework to evaluate social marketing campaigns and measure changes in behavior.

Two recommendations from this guide that are particularly relevant include:

- Develop a template to help grantees plan for measurable success in the use of Community Based Social Marketing (CBSM) to facilitate behavior change. By organizing campaigns steps in similar ways, and using standard language to document methods, successes, and lessons learned, it will be feasible to share stories and benefit from one another's experiences, specifically dealing with water quality in the Chesapeake Bay and its tributaries.

- Develop a crowd-sourced behavior and target audience database. It is suggested that there is great demand for a crowd-sourced CBSM case study database, as many organizations are working to promote similar behaviors to similar target audiences. The entire Chesapeake Bay watershed community will benefit from sharing knowledge, tools, and lessons learned with each other. With the creation and use of the database (entering active or completed campaigns, and use of information entered by others), it is believed that implementing CBSM will become less challenging, and more attractive, thus spurring even more organizations to implement CBSM for increased adoption of behaviors beneficial to water quality. The database will also enable better accounting of campaigns and their cumulative impacts across the watershed.

#### **Actions, Tools and Support to Empower Local Government and Others –**

There are a number of efforts underway to increase the capacity of effective stewardship programs at the local level. This management strategy and work plan will identify those efforts and outline additional strategies to empower stewardship programs regionally. This strategy will also highlight the close relationship of stewardship with the Local Leadership, Environmental Literacy and Diversity Outcomes.

## **VI. Management Approaches**

The Chesapeake Bay Program partnership will work together to carry out the following approaches to achieve the Stewardship Goal. This long term, comprehensive list of approaches seek to address the factors affecting our ability to meet the goal and the gaps identified above. The work plan to follow will contain specific actions that jurisdictions and partners will take by approach. A proper balance that adequately reflects the need of a community while also weighing impact on local environmental condition will be taken when prioritizing and targeting specific actions.

The long-term success of the *Watershed Agreement* depends on the support and action that arises from locals and conservation groups. Local government leaders must have the capacity and tools to address watershed issues and the public support to implement watershed restoration policies and incentives. State and federal agencies rely on partnerships with local leaders and conservation groups to achieve their goals and government funding is critical for catalyzing and leveraging private action. The base of the environmental movement and its leadership must be more diverse and inclusive.

Actions and approaches that the Bay Program can undertake to address the factors affecting the Stewardship Goal and Outcome include the following:

#### **Management Approach 1:**

**Build, grow, and advance a strong stewardship network and professional community in the Chesapeake Bay watershed. Develop stewardship networks to increase novel and long-term partnerships and promote collective, emergent thinking and action.**

The Stewardship Workgroup is well positioned to increase and strengthen connections from the Chesapeake Bay Program to additional partners as well as connections between stewardship practitioners throughout the watershed. Increasing connections and collaboration across people and organizations that work to increase the number and diversity of stewards and stewardship opportunities in the watershed will help us achieve the Stewardship Outcome and Goal. That is why we have identified network development as a valuable long term management approach. We aim to support a strong, robust, collaborative network of stewardship practitioners working together to achieve a collective impact on stewardship greater than the sum of their parts.

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While the network of stewardship practitioners and programs works to engage more individual stewards, there is also a long term intent to **recruit, train, and support more community leaders and local champions** for additional effectiveness at encouraging stewardship actions, especially on a local scale. While thousands of people volunteer for projects that plant trees, clean up streams, or collect water quality data, only a limited number emerge as community leaders for projects or programs that protect or restore their watershed. A limited number of programs currently exist that aim to empower local residents to take the lead in improving the quality of their watershed and their community. By providing more stewards with knowledge and expertise, training in assessment tools, and hands-on experience with best management practices or behavior change projects, a larger consortium of community leaders can help develop solutions to local problems, organize other stewards, and restore and advocate for the health of local waterways and communities.

### **Management Approach 2:**

**Increase individual and community-scale stewardship by tracking existing actions, building a resource hub for practitioners to easily access stewardship tools and guidance, and promoting the use of resources through trainings and sharing practitioner success stories.**

#### **Establish and improve mechanisms to measure impact and track progress of stewardship programs –**

The commitment over time to increasing local stewardship action by federal, state and local governments, as well as nonprofit entities has been significant. In order to advance the public awareness and understanding of issues facing the Chesapeake, cultivate the broad-scale adoption of behaviors and practices that benefit the Bay watershed, and build the social and institutional structure needed to support public engagement, foster stewardship action, and advance goals, we must have a means to measure the progress and results of individual and collective stewardship efforts in all communities across the watershed. Data collected through this process will assist in prioritizing and targeting future actions. To first address this need, the Stewardship Index Survey was developed and it was distributed to watershed residents in 2017 and 2023. The data collected through the survey is analyzed and used to determine the Stewardship Index, a measure of stewardship actions and attitudes in the Chesapeake Bay watershed at the individual level. To score a 100 on the Stewardship Index, everyone in the region would need to do everything they could in their daily lives to improve water quality and environmental health, from personal actions to volunteering and advocating for the environment. However, after reflecting on progress, it has been determined that revisions to the Index or development of additional measuring and tracking methods must be made, encompassing an expanded definition of stewardship, in order to be more inclusive of more audiences. Some audiences' stewardship actions are not fully captured by the Index, for example, an individual likely cannot install a rain barrel if they aren't the homeowner, but they could pick up litter or clean up their pet's waste, or reduce air pollution by carpooling to work or taking public transportation. Revisions to better incorporate different audiences' stewardship efforts and interests are necessary to encourage and acknowledge the value of a broader array of actions.

#### **Provide guidance to help develop and implement programs for maximum stewardship impact –**

Substantial resources have been invested by all Bay Program partners in defining the technical design and merits of numerous best management practices. However, methods for the successful delivery of this information to local residents or land managers have not always proven successful in changing behavior or motivating adoption. This is especially true of those BMPs that require lasting changes in individual behaviors by a large percentage of the public. These voluntary actions taken by land managers, residential, commercial, agricultural or other, represent an important component of Watershed Implementation Plans.



### **Management Approach 3:**

**Explore opportunities to innovate the Workgroup’s structure and methods to facilitate strategic collaboration and support larger scale stewardship efforts across the watershed.**

The Stewardship Workgroup has received repeated feedback that the workgroup structure needs to be revamped in a way that increases efficacy towards achieving the Outcome and Goal. Additionally, multiple workgroup members have indicated an interest in identifying opportunities for catalytic innovation to much more significantly impact stewardship throughout the watershed. We must intentionally think about innovative collaborative methods and efforts to better share information, scale up stewardship programs, identify and replicate successful programs, and amplify stewardship work across the watershed.

### **Management Approach 4:**

**Prioritize equity and create a more inclusive, welcoming approach to building stewardship by tending to terminology/language, practices, and systems that can help to remove barriers to participation and result in more effective means to engage a more significant portion of the watershed’s population in appropriate, meaningful ways.**

If we are to increase the number and diversity of local stewards that support and carry out conservation and restoration activities that benefit the Bay, we must be inclusive and equitable in our approaches and practices. Equity work relevant to the Stewardship Workgroup includes, but is not limited to: having a means of measuring stewardship that is more inclusive towards recognizing the different types of stewardship actions taken by the diverse residents of the watershed (e.g., people who do not own homes cannot install rain barrels but could, for example, pick up after their pets or take steps to reduce air pollution such as by carpooling or using public transportation); and improving our understanding of our diverse audiences throughout the watershed to know what motivates them and what kind of support will help them to be able to practice stewardship.

## **Approaches Targeted to Local Participation**

The majority of the management approaches in the previous section are intended to ultimately facilitate greater individual and community-scale participation, with increased emphasis on including underserved and underrepresented communities as a way to engage more diverse participation in achieving the Stewardship Outcome. These efforts rely in large part on connections with local champions, local government entities, or locally-serving, trusted organizations.

## **Cross-Outcome Collaboration and Multiple Benefits**

All four management approaches in the previous section influence other outcomes as the conservation and restoration actions that stewards undertake at the local level impact local conditions. The partners responsible for implementing the Stewardship Outcome strategy will collaborate with Goal Implementation Teams and Outcomes/ Workgroups including, but not limited to:

- Stewardship – Environmental Literacy, Public Access, Diversity
- Healthy Watersheds
- Water Quality
- Habitat – Wetlands, Stream Health, Forest Buffers, Tree Canopy, etc.
- Local Leadership

## VII. Monitoring Progress

The Stewardship Goal Implementation Team developed a stewardship index that provided much needed baseline metric(s) for the Stewardship Outcome with particular attention paid to better understanding the diversity of individuals engaged in stewardship activities. Data collected for the index from a large-scale survey will continue to build upon existing efforts to measure the penetration rate of homeowner best management practices (e.g., rain gardens, rain barrels, etc.) and assess the extent of community engagement by local nongovernmental organizations through volunteer and leadership development activities. The intent is for this effort to identify key data gaps and fill them as needed, using the data as a guide. The analysis of data collected in the survey generated the initial stewardship index which includes a measure of individual behaviors and potential for change that helps quantify the extent to which stewardship programs advance local restoration goals. The Stewardship Index serves as a valuable baseline from which to measure future progress. Data collected in 2023 and subsequent surveys will be compared to the baseline to show change over time.

This metric will contribute to an increased awareness of attitudes of and actions by members of the public that contribute to Chesapeake Bay issues and strategies. It will also provide insight into the effectiveness of programs and approaches, predict/quantify the value of public actions, and increase or maintain support for investments in local outreach and engagement.

## VIII. Assessing Progress

Progress data will be collected and assessed every 3-5 years in a way that is consistent with the baseline data collected in 2017. Biennial evaluation will be conducted to ensure that adequate progress is being made.

## IX. Adaptively Manage

The Stewardship Goal Implementation Team will convene throughout the year to discuss goals and achievements in meeting the Stewardship Outcome. A biennial evaluation will be conducted on the Management Strategy and work plan to ensure that adequate progress is being made. This evaluation will allow for opportunities to re-assess where the group is in achieving the Stewardship Outcome and adjust strategies as appropriate.

## X. Biennial Work Plan

Biennial work plans for each management strategy will be developed. It will include the following information:

- Each key action
- Timeline for the action
- Expected outcome
- Partners responsible for each action
- Estimated resources

## Lessons Learned

As a result of going through the adaptive management process, the Stewardship Workgroup refined its Management Approaches and key actions toward meeting the 2025 Stewardship Goal and Outcome.

A refined set of actions will better enable the workgroup to strengthen its organizational capacity, including establishing a stronger connections among the network of stewardship professionals and the workgroup members, that will aid in regular management of action items and build toward more collective action on a larger scale.

The recent development of the Stewardship Index and ongoing development of the online tool have been groundbreaking monitoring efforts to accelerate adoption of the behaviors needed to enhance the health of local watersheds, streams, and rivers. Expanding on the definition of stewardship to encompass a wider selection of behaviors that contribute will help to bring about a more inclusive approach for more diverse participation.

Strong leadership from the workgroup will be crucial to deliver trainings to practitioners who can implement the index and best practices in their work, especially with communities.