Wetlands

OUTCOME

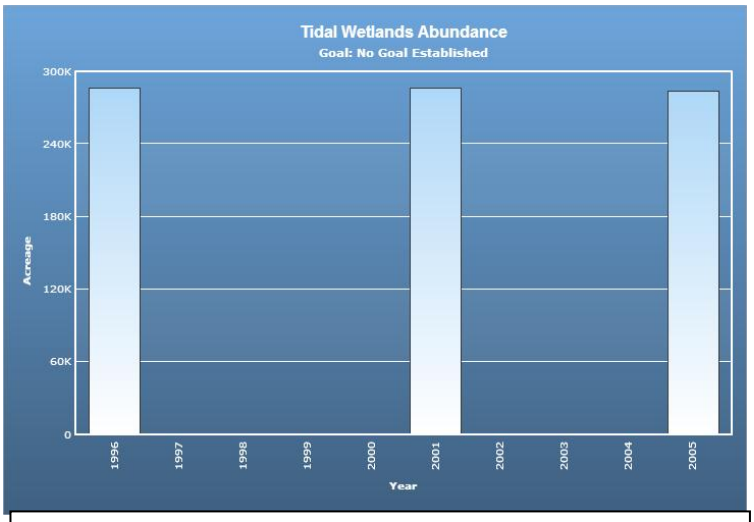
Continually increase the capacity of wetlands to provide water quality and habitat benefits throughout the watershed. Create or re-establish 85,000 acres of tidal and non-tidal wetlands and enhance function of an additional 150,000 acres of degraded wetlands by 2025. These activities may occur in any land use (including urban), but primarily occur in agricultural or natural landscapes.

Why is this outcome important?

Wetlands absorb nutrient and sediment pollution before it enters the Chesapeake Bay, acting as natural filters. They provide spawning habitat for commercially important fish species, rearing habitat for juvenile crabs and stopover habitat for birds migrating along the Atlantic Flyway. Wetlands also stabilize shorelines, control erosion and buffer inland and coastal properties from the costly damage associated with floods and storm surge. Lastly, marshland provide world-class hunting, kayaking and bird-watching opportunities, and as such are important to the regional economy.

Current Conditions:

An estimated 1 million acres of tidal and non-tidal wetlands are available in the watershed for restoration or enhancement.



See how wetlands are doing at chesapeakebay.net

How was the outcome derived?
Who came up with it?

This outcome was derived with collaboration between federal, state and non-profit partners. It is based on an understanding that past and current performance would not be able to meet the wetland restoration targets outlined in state Watershed Implementation Plans (WIPs). The option exists to revisit the outcome in 2017 as these WIPs are updated.

What was the basis or baseline?

This outcome is linked to the targets of the Phase II Watershed Implementation Plans (WIPs). It may be necessary to revisit the acreage goal in 2017 during the development of Phase III WIPs. This outcome is also linked to the National Wetlands Inventory estimate that one million acres of tidal and non-tidal wetlands are available in the Bay watershed for restoration or enhancement.

For More:

http://www.chesapeakebay.net/issues/issue/wetlands
http://www.chesapeakebay.net/S=0/fieldguide/categories/category/marshes_wetlands
http://www.chesapeakebay.net/indicators/indicator/restoring_wetlands
http://www.chesapeakebay.net/indicators/indicator/tidal_wetlands_abundance

Black Duck

OUTCOME

By 2025, restore, enhance and preserve wetland habitats that support a wintering population of 100,000 black ducks, a species representative of the health of tidal marshes across the watershed. Refine population targets through 2025 based on best available science.

Why is this outcome important?

The American black duck has been called the "gold standard" of eastern waterfowl. Historically, the black duck was the most abundant dabbling duck in eastern North America and comprised the largest portion of the region's waterfowl harvest. Despite its importance to hunters and outdoor enthusiasts, the black duck population declined by more than 50 percent between the 1950s and 80s. The mid-Atlantic region, which includes the Chesapeake Bay watershed, supports the largest portion of eastern North America's wintering black duck population and preserving habitat here is critical to the long-term sustainability of the species.

Current Conditions:

Between 2007 and 2009, mid-winter aerial surveys conducted by the Atlantic Coast and Appalachian Joint Ventures counted 37,158 black ducks in the watershed. Between 2009 and 2011, these surveys counted 47,269 black ducks in the watershed.

How was the outcome derived? Who came up with it?

Black duck numbers in the watershed are estimated annually as part of the mid-winter waterfowl surveys conducted by the Atlantic Coast and Appalachian Joint Ventures. The number of wintering ducks depends on the availability of food—like vegetation, tubers and bivalves—that supports them. This means that protecting, restoring and improving wetland habitats will be part of achieving the black duck outcome.

What was the basis or baseline?

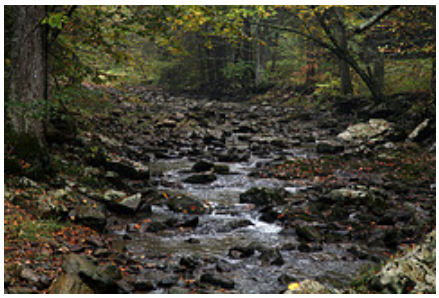
The target is based on a continental breeding population goal from the North American Waterfowl Management Plan (NAWMP), based on 1990 population estimates and revised in 2004, of 640,000 black ducks. Because the core of the wintering black duck population resides in the mid-Atlantic, biologists believe that having 100,000 wintering black ducks in the Chesapeake region will help meet the larger continental goal and remove black ducks from the Birds of Management Concern (BMC) list.

For More:

http://www.chesapeakebay.net/fieldguide/critter/american_black_duck
http://www.chesapeakebay.net/channel_files/21281/blackduckmodeling_writtenupdate2014.pdf

Stream Health

OUTCOME

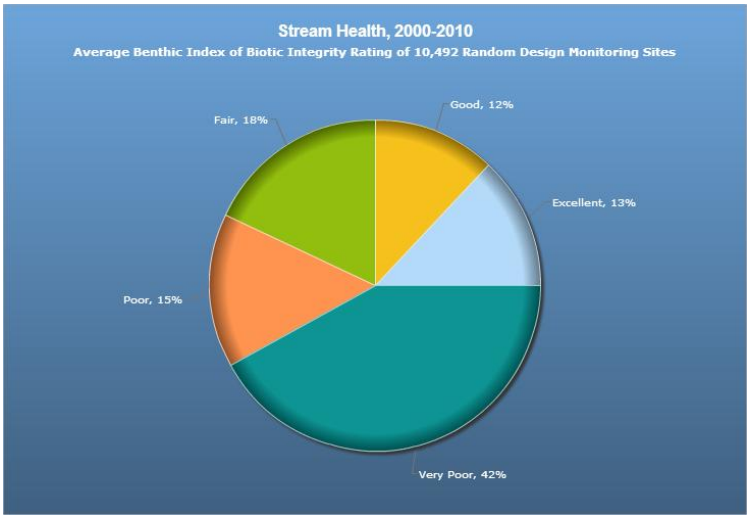


*Continually improve stream health and function throughout the watershed. Improve health and function of 10% of stream miles above the 2008 baseline for the watershed.**

**Note: A 2008 baseline will be established by 2015.*

Why is this outcome important?
Restoring water quality in local rivers and streams is a necessary step toward meeting water quality standards in the Chesapeake Bay. Similarly, large-scale pollution-reducing actions meant to improve water quality across the Bay will improve the health of local streams. Restoring streams also benefits the fish, wildlife and people using them.

Current Conditions:
Between 2000 and 2010, more than 14,000 stream sites were sampled and rated for biological integrity. Forty-three percent were in fair, good, or excellent condition. Fifty-seven percent were in very poor or poor condition.



See how stream health is doing at chesapeakebay.net

How was the outcome derived? Who came up with it?
This outcome was derived using an existing Chesapeake Bay Program indicator that uses an index to measure stream quality. Data are collected and assessed based on methodology agreed to by the Bay Program's Nontidal Monitoring Workgroup.

What was the basis or baseline?
As practices are implemented in the watershed to reduce nutrients, sediment and other pollutants, we will see improvements in the quality of streams. The current target is closely tied to the Bay-wide target of meeting water quality standards for dissolved oxygen, water clarity and chlorophyll-a in 60 percent of Bay segments by 2025.

For More:
http://www.chesapeakebay.net/issues/issue/rivers_and_streams
http://www.chesapeakebay.net/indicators/indicator/health_of_freshwater_streams_in_the_chesapeake_bay_watershed

Brook Trout

OUTCOME

Restore and sustain naturally reproducing brook trout populations in Chesapeake headwater streams with an 8% increase in occupied habitat by 2025.

Why is this outcome important?
Brook trout are an essential part of the headwater stream ecosystem, an important part of the upper watershed's natural heritage and a valuable recreational resource. Land trusts in West Virginia, New York and Virginia have found that the possibility of restoring brook trout to local streams can act as a motivator for private landowners to take conservation actions, whether it is installing a fence that will exclude livestock from a waterway or putting their land under a conservation easement. A century of declining brook trout populations has led to lost economic revenue and recreational fishing opportunities in the Bay's headwaters. Unless action is taken to reverse these trends, fishery managers agree that within 20 years, brook trout could exist as a relic fishery with little economic value and within 30 to 40 years, the species could be at risk of becoming regionally threatened.

Current Conditions:
In 2011, it was estimated that there were 4,719 catchments occupied by brook trout populations in the Chesapeake Bay watershed, with 868 occupied patches.

What was the basis or baseline?
In 2011, there were an estimated 2.69 million acres of available brook trout habitat in the Chesapeake Bay watershed. Based on this estimate, an 8 percent increase would require an additional 215,200 acres of habitat to be occupied by brook trout by 2025.

For More:
http://www.chesapeakebay.net/fieldguide/critter/brook_trout
http://www.chesapeakebay.net/blog/post/tagged_brook_trout_reveal_the_pristine_health_of_marylands_savage_river
http://www.chesapeakebay.net/blog/post/from_the_field_linking_land_and_water_in_brook_trout_conservation

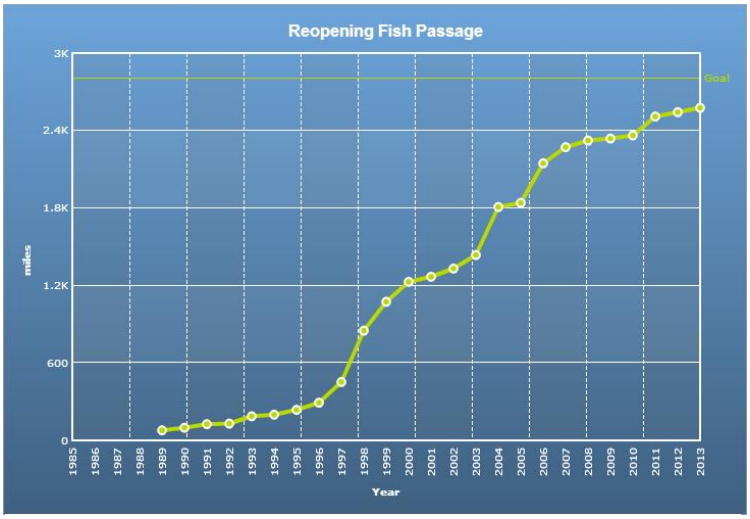
Fish Passage

OUTCOME

Continually increase available habitat to support sustainable migratory fish populations in freshwater rivers and streams. By 2025, restore historical fish migratory routes by opening 1,000 additional stream miles, with restoration success indicated by the consistent presence of alewife, blueback herring, American shad, hickory shad, American eel and brook trout to be monitored in accordance with available agency resources and collaboratively developed methods.

Why is this outcome important?
Physical structures that block or impede fish migrations to historic upstream spawning habitats are one of the most important factors in the decline of migratory and resident fish populations. Projects that remove dams or install fish lifts, ladders and other passageways allow migratory fish like American shad, hickory shad, American eel and brook trout to return to their upstream spawning and nursery grounds and allow resident fish to move freely throughout streams.

Current Conditions:
Between 1989 and 2013, approximately 2,576 miles of fish passage were restored in the Chesapeake Bay watershed. Future restoration projects are currently being ranked and prioritized through a collaborative federal and state process.



See how fish passage is doing at chesapeakebay.net

How was the outcome derived? Who came up with it?
The outcome was developed by the Chesapeake Bay Program's Fish Passage Workgroup during conference calls on December 17, 2009, and January 28, 2010.

What was the basis or baseline?
The Chesapeake Bay Program's Fish Passage Workgroup believes this outcome is measureable and attainable under current working conditions because there are significantly more than 1,000 miles of fish passage to be re-opened in the watershed. The Fish Passage Workgroup limited the target to 1,000 miles opened by 2025 in light of a decrease in available funding and the complicated nature of the remaining projects.

For More:
http://www.chesapeakebay.net/issues/issue/rivers_and_streams
http://www.chesapeakebay.net/indicators/indicator/reopening_fish_passage

Submerged Aquatic Vegetation (SAV)

OUTCOME

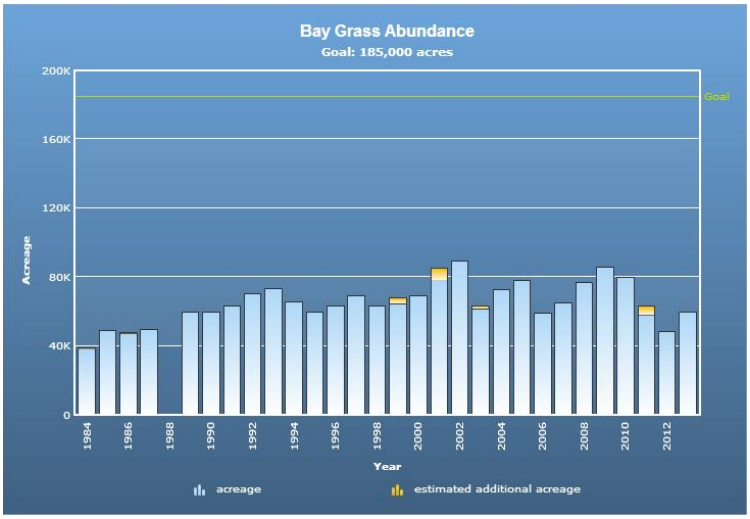
Sustain and increase the habitat benefits of submerged aquatic vegetation (SAV) in the Chesapeake Bay. Achieve and sustain the ultimate outcome of 185,000 acres of SAV Bay-wide necessary for a restored Bay. Progress toward this ultimate outcome will be measured against a target of 90,000 acres by 2017 and 130,000 acres by 2025.

Why is this outcome important?

Underwater grasses provide significant benefits to aquatic life and serve critical functions in the Chesapeake Bay ecosystem. Underwater grasses add oxygen to the water; improve water clarity by helping suspended sediment settle to the bottom; provide shelter for young striped bass, blue crabs and other species; and reduce shoreline erosion. Increasing the abundance of grasses in the Bay and its rivers will dramatically improve the entire Bay ecosystem.

Current Conditions:

In 2013, there were an estimated 59,927 acres of underwater grasses in the Chesapeake Bay, achieving 32 percent of the 185,000-acre goal.



See how bay grasses are doing at chesapeakebay.net

How was the outcome derived?
Who came up with it?

This outcome was derived from the Chesapeake Bay Program's Submerged Aquatic Vegetation (SAV) Workgroup and is based on the acreage recorded in certain regions during certain high-growth years.

What was the basis or baseline?

The baseline was generated from historical SAV abundance in the Chesapeake Bay.

For More:

http://www.chesapeakebay.net/issues/issue/bay_grasses
http://www.chesapeakebay.net/S=0/fieldguide/categories/category/bay_grasses_sav
http://www.chesapeakebay.net/indicators/indicator/bay_grass_abundance_baywide
http://www.chesapeakebay.net/videos/clip/chesapeake_unscripted_baltimore_md

Forest Buffer

OUTCOME

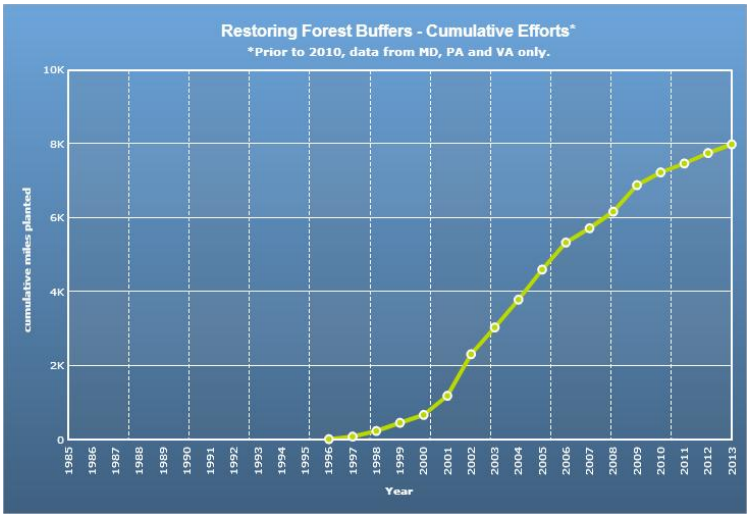
Continually increase the capacity of forest buffers to provide water quality and habitat benefits throughout the watershed. Restore 900 miles per year of riparian forest buffer and conserve buffers until at least 70% of riparian areas throughout the watershed are forested.

Why is this outcome important?

Forest buffers, or the trees, shrubs and other plants that grow next to rivers and streams, are critical to the health of the Chesapeake Bay. Forest buffers prevent pollution from entering waterways, stabilize stream banks, provide food and habitat to wildlife and keep streams cool during hot weather.

Current Conditions:

Between July 2012 and June 2013, 284 miles of forest buffers were planted along the Bay' watershed's rivers and streams. A total of 7,994 miles have been planted watershed-wide since 1996.



See how forest buffers are doing at chesapeakebay.net

How was the outcome derived? Who came up with it?

In the 2007 Forest Conservation Directive, the watershed jurisdictions agreed to restore 900 miles of forest buffers per year watershed-wide. Seventy percent forest coverage is the low threshold for a healthy watershed in our region.

What was the basis or baseline?

The 900 mile per year goal is a reach goal that the Chesapeake Bay Program decided was both possible and necessary to restore water quality. The Bay Program's Forestry Workgroup has closely tracked this goal for 17 years.

For More:

http://www.chesapeakebay.net/issues/issue/forest_buffers
http://www.chesapeakebay.net/indicators/indicator/planting_forest_buffers
http://www.chesapeakebay.net/content/publications/cbp_13019.pdf

Tree Canopy

OUTCOME

Continually increase urban tree canopy to provide air quality, water quality and habitat benefits throughout the watershed. Expand urban tree canopy by 2,400 acres by 2025.

Why is this outcome important?
Increasing the tree cover in communities is one of the most sustainable and cost-effective practices to improve both society and the environment. These benefits include, but are not limited to enhancing: water quality, public health, air quality, energy savings and community reinvestment.

Current Conditions:

- Number of communities with goals set (2004-2013): 45
- Number of communities with canopy assessments complete: 78

How was the outcome derived? Who came up with it?
In the **2007 Forest Conservation Directive**, the states agreed to have 120 communities increase their tree canopy by 2020. This new outcome will track acres of expansion that better reflect changes on the ground that are most beneficial to the Bay.

To learn more about tree canopies, visit chesapeakebay.net

What was the basis or baseline?
The states agreed that 2,400 acres by 2025 represented a reasonable goal compared to previous goals that were considered.

For More:
http://www.chesapeakebay.net/issues/issue/forests