The Chesapeake Bay Program Outcome Attainability

November 18, 2021

Sean Corson, NOAA
Carin Bisland, EPA

Outcome Attainability Team (OAT)

- For those Outcomes that have a target and a timeline:
  - What do we know about the status?
  - Which are on track, which are significantly off track?
  - What don't we know?
- For those Outcomes that have either no target or timeline:
  - How do we define success?
- Based on the answers to the questions above, where do we focus our time and attention?

Watershed Agreement Outcomes

Sustainable Fisheries

- Blue Crab Abundance & Management
- Oyster Restoration
- Fish Habitat
- Forage fish

Vital Habitats

- Fish Passage
- Forest Buffers
- Stream Health
  - Brook Trout
- SAV
- Tree Canopy
- Wetlands
  - Black Duck

Clean Water

- Watershed Implementation Plans - 2017 & 2025
- Water Quality Standards Attainment & Monitoring
- Toxic Contaminants Research
- Toxic Contaminants Policy and Prevention
- Healthy Watersheds

Conserved Lands

- Protected Lands
- Land Use Options Evaluation
- Land Use Methods & Metrics

Engaged Communities

- Diversity
- Public Access
- Citizen Stewardship
- Local Leadership
- Sustainable Schools
- Environmental Literacy Planning
- Student MWEEs

Climate Change

- Climate Monitoring and Assessment
- Climate Adaptation

Watershed Agreement Outcomes with Targets and Timelines

Sustainable Fisheries

- Blue Crab Abundance & Management
- Oyster Restoration
- Fish Habitat
- Forage fish

Vital Habitat

- Fish Passage
- Forest Buffers
- Stream Health
  - Brook Trout
- SAV
- Tree Canopy
- Wetlands
  - Black Duck

Clean Water

- Watershed Implementation Plans - 2017 & 2025
- Water Quality Standards Attainment & Monitoring
- Toxic Contaminants Research
- Toxic Contaminants Policy and Prevention
- Healthy Watersheds

Conserved Lands

- Protected Lands
- Land Use Options Evaluation
- Land Use Methods & Metrics

Engaged Communities

- Diversity*
- Public Access
- Citizen Stewardship
- Local Leadership
- Sustainable Schools
- Environmental Literacy Planning
- Student MWEEs

Climate Change

- Climate Monitoring and Assessment
- Climate Adaptation

*Target and date set by CBP. Not in original Outcome language

Watershed Agreement Outcomes with Targets and Timelines

Sustainable Fisheries

- **Blue Crab Abundance & Management**
- **Oyster Restoration**
- Fish Habitat
- Forage fish

Vital Habitat

- **Fish Passage**
- Forest Buffers
- Stream Health
  - Brook Trout
- SAV
- Tree Canopy
- Wetlands
  - Black Duck

Clean Water

- Watershed Implementation Plans - 2017 & 2025
- Water Quality Standards Attainment & Monitoring
- Toxic Contaminants Research
- Toxic Contaminants Policy and Prevention
- Healthy Watersheds

Conserved Lands

- **Protected Lands**
- Land Use Options Evaluation
- Land Use Methods & Metrics

Engaged Communities

- Diversity*
- **Public Access**
- Citizen Stewardship
- Local Leadership
- Sustainable Schools
- Environmental Literacy Planning
- Student MWEEs

Climate Change

- Climate Monitoring and Assessment
- Climate Adaptation

*Target and date set by CBP. Not in original Outcome language

Watershed Agreement Outcomes with Targets and Timelines

Sustainable Fisheries

- **Blue Crab Abundance & Management**
- **Oyster Restoration**
- Fish Habitat
- Forage fish

Vital Habitat

- **Fish Passage**
- **Forest Buffers**
- Stream Health
  - ***Brook Trout***
- SAV
- Tree Canopy
- **Wetlands**
  - ***Black Duck***

Clean Water

- **Watershed Implementation Plans - 2017 & 2025**
- Water Quality Standards Attainment & Monitoring
- Toxic Contaminants Research
- Toxic Contaminants Policy and Prevention
- Healthy Watersheds

Conserved Lands

- **Protected Lands**
- Land Use Options Evaluation
- Land Use Methods & Metrics

Engaged Communities

- **Diversity***
- **Public Access**
- Citizen Stewardship
- Local Leadership
- Sustainable Schools
- Environmental Literacy Planning
- Student MWEEs

Climate Change

- Climate Monitoring and Assessment
- Climate Adaptation

*Target and date set by CBP. Not in original Outcome language

Watershed Agreement Outcomes with Targets and Timelines

Sustainable Fisheries

- **Blue Crab Abundance & Management**
- **Oyster Restoration**
- Fish Habitat
- Forage fish

Vital Habitat

- **Fish Passage**
- **Forest Buffers**
- **Stream Health**
  - **Brook Trout**
- **SAV**
- **Tree Canopy**
- **Wetlands**
  - **Black Duck**

Clean Water

- **Watershed Implementation Plans - 2017 & 2025**
- Water Quality Standards Attainment & Monitoring
- Toxic Contaminants Research
- Toxic Contaminants Policy and Prevention
- Healthy Watersheds

Conserved Lands

- **Protected Lands**
- Land Use Options Evaluation
- Land Use Methods & Metrics

Engaged Communities

- **Diversity***
- **Public Access**
- Citizen Stewardship
- Local Leadership
- Sustainable Schools
- Environmental Literacy Planning
- Student MWEEs

Climate Change

- Climate Monitoring and Assessment
- Climate Adaptation

*Target and date set by CBP. Not in original Outcome language

Watershed Agreement Outcomes With No Target And/Or Timeline

Sustainable Fisheries

- Blue Crab Abundance & Management
- Oyster Restoration
- Fish Habitat
- Forage Fish

Vital Habitats

- Black Duck
- Brook Trout
- Fish Passage
- Forest Buffers
- Stream Health
- SAV
- Tree Canopy
- Wetlands

Clean Water

- Watershed Implementation Plans - 2017 & 2025
- Water Quality Standards Attainment & Monitoring
- Toxic Contaminants Research
- Toxic Contaminants Policy and Prevention
- Healthy Watersheds

Conserved Lands

- Protected Lands
- Land Use Options Evaluation
- Land Use Methods & Metrics

Engaged Communities

- Diversity
- Public Access
- Citizen Stewardship
- Local Leadership
- Sustainable Schools
- Environmental Literacy Planning
- Student MWEEs

Climate Change

- Climate Monitoring and Assessment
- Climate Adaptation

Proposal: Workshops

What: Three One-day facilitated workshops hosted by the Wetlands and Forestry Workgroups

- Tidal Wetlands
- Non-Tidal Wetlands
- Forest Buffers

Who: Workgroup members, appropriate program managers identified by the workgroups, the Management Board, and others.

Outcomes:

- Options and recommendations to accelerate implementation.
- Recommendation for determining reasonableness of the target set in 2014.

Proposal: Progress Report

What

- Report to summarize status of each outcome, including the qualitative outcomes

Who

- Goal Implementation Teams, Coordinators, Staffers (input)
- Communications Team (coordination, standardize)

Outcomes

- Apply material from this analysis to the State of the Program Report delivered to the EC in December.
- Developed by the Communications Team and Bay Program Staff

Outcome Dashboard

To Accompany the Progress Report

Summary (31 original outcomes, 29 remaining)

- On Course: 11
- Off Course: 10
- Uncertain: 8

Strengths

- Quick Program snapshot
- Can be used to galvanize action
- Can be used to prioritize where collective effort is spent

Challenges

- May need a bit of reformatting

Goal	Outcome *	Status
Sustainable Fisheries	Blue Crab Abundance & Mgmt *Maintain crab population at 215 million adult females. Refine targets through 2025 based on best science.*	 2025 PROGRESS **ON COURSE**
	Oyster Restoration *Restore native habitat and populations in 10 tributaries by 2025.*	 2025 PROGRESS **ON COURSE**
Vital Habitats	Brook Trout *Restore and sustain brook trout populations with 8% increase in occupied habitat by 2025.*	 2025 PROGRESS **OFF COURSE**
	Fish Passage *By 2025 open an additional 132 miles every two years to fish passage.*	 2025 PROGRESS **ON COURSE**
	Forest Buffers *Restore 900 miles of riparian forest buffers per year and conserve existing buffers until at least 70% of riparian areas are forested*	 2025 PROGRESS **OFF COURSE**
	Stream Health *Improve health and function of 10% of stream miles above the 2008 baseline.*	 2025 PROGRESS **UNCERTAIN**
	SAV *90,000 acres by 2017; 130,000 acres by 2025; ultimate goal of 185,000 acres*	 2025 PROGRESS **UNCERTAIN**
	Tree Canopy *Expand urban tree canopy by 2,400 acres by 2025.*	 2025 PROGRESS **UNCERTAIN**
	Wetlands *Create or reestablish 85,000 acres of tidal and non-tidal wetlands and enhance function of an additional 150,000 acres of degraded wetlands by 2025.*	 2025 PROGRESS **OFF COURSE**
	Black Duck *By 2025, restore, enhance, and preserve wetland habitats that support a wintering population of 100,000 black ducks. Refine population targets through 2025 based on best available science.*	 2025 PROGRESS **OFF COURSE**

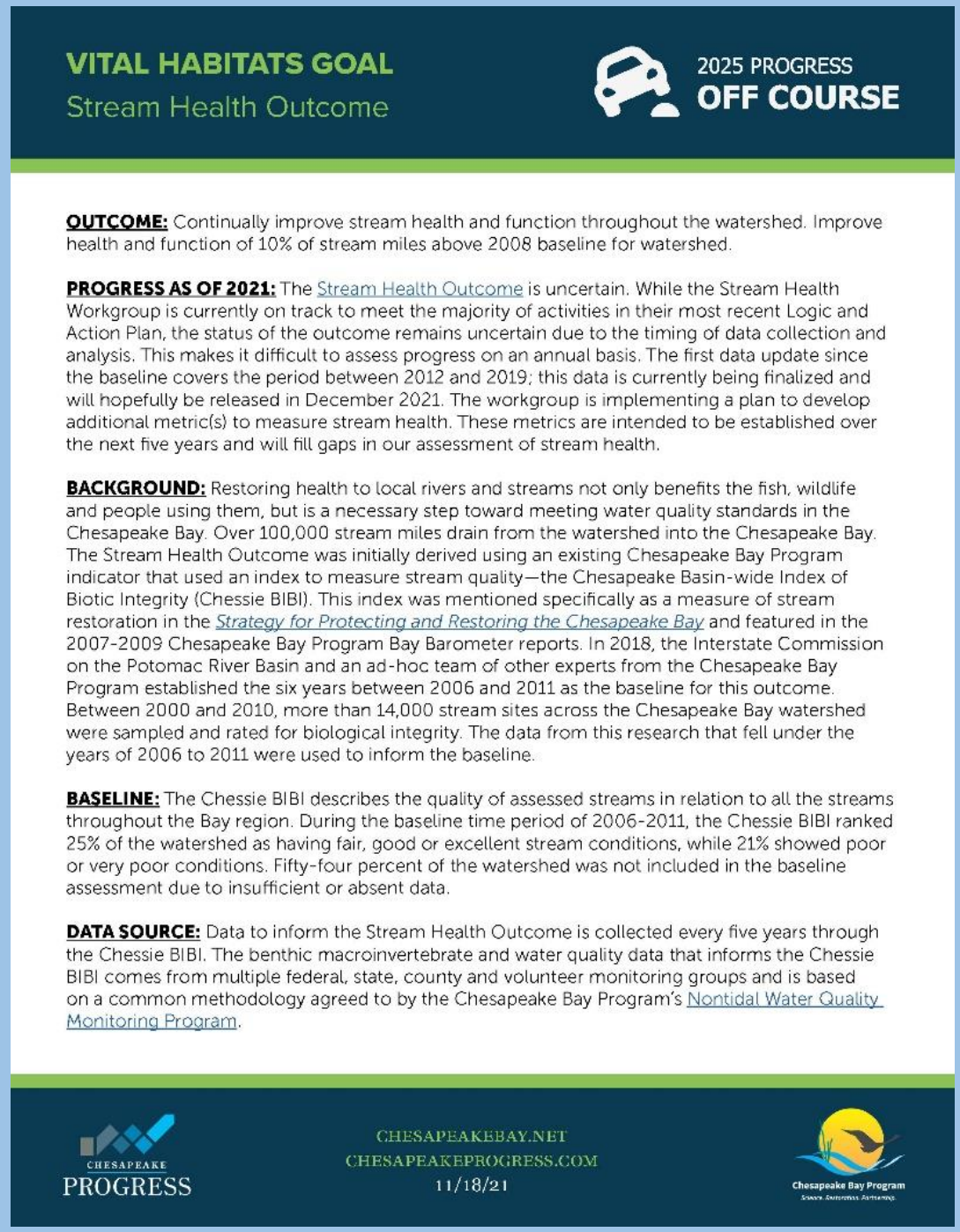
Detailed Outcome Summaries

Strengths

- Provides more detail than dashboard
- Easy access for staff briefings
- Opportunity to identify known impediments
- Opportunity to identify path forward
- Characterize quantitative and qualitative outcomes

Challenges

- May want to consider integrating with Chesapeake Progress
- May need something more condensed for State of the Program



VITAL HABITATS GOAL

Stream Health Outcome

2025 PROGRESS
OFF COURSE

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

PROGRESS AS OF 2021: The Stream Health Outcome is uncertain. While the Stream Health Workgroup is currently on track to meet the majority of activities in their most recent Logic and Action Plan, the status of the outcome remains uncertain due to the timing of data collection and analysis. This makes it difficult to assess progress on an annual basis. The first data update since the baseline covers the period between 2012 and 2019; this data is currently being finalized and will hopefully be released in December 2021. The workgroup is implementing a plan to develop additional metric(s) to measure stream health. These metrics are intended to be established over the next five years and will fill gaps in our assessment of stream health.

BACKGROUND: Restoring health to local rivers and streams not only benefits the fish, wildlife and people using them, but is a necessary step toward meeting water quality standards in the Chesapeake Bay. Over 100,000 stream miles drain from the watershed into the Chesapeake Bay. The Stream Health Outcome was initially derived using an existing Chesapeake Bay Program indicator that used an index to measure stream quality—the Chesapeake Basin-wide Index of Biotic Integrity (Chessie BIBI). This index was mentioned specifically as a measure of stream restoration in the *Strategy for Protecting and Restoring the Chesapeake Bay* and featured in the 2007-2009 Chesapeake Bay Program Bay Barometer reports. In 2018, the Interstate Commission on the Potomac River Basin and an ad-hoc team of other experts from the Chesapeake Bay Program established the six years between 2006 and 2011 as the baseline for this outcome. Between 2000 and 2010, more than 14,000 stream sites across the Chesapeake Bay watershed were sampled and rated for biological integrity. The data from this research that fell under the years of 2006 to 2011 were used to inform the baseline.

BASELINE: The Chessie BIBI describes the quality of assessed streams in relation to all the streams throughout the Bay region. During the baseline time period of 2006-2011, the Chessie BIBI ranked 25% of the watershed as having fair, good or excellent stream conditions, while 21% showed poor or very poor conditions. Fifty-four percent of the watershed was not included in the baseline assessment due to insufficient or absent data.

DATA SOURCE: Data to inform the Stream Health Outcome is collected every five years through the Chessie BIBI. The benthic macroinvertebrate and water quality data that informs the Chessie BIBI comes from multiple federal, state, county and volunteer monitoring groups and is based on a common methodology agreed to by the Chesapeake Bay Program's Nontidal Water Quality Monitoring Program.

CHESAPEAKE PROGRESS

CHESAPEAKEBAY.NET
CHESAPEAKEPROGRESS.COM
11/18/21

Chesapeake Bay Program

Take Home Message

Bottom-line upfront

- We’re doing great on 11 outcomes, lets celebrate and keep working to achieve them.
- We have several challenges with some outcomes, we understand these and are continuing to work on resolving them at the Management Board.
- Focus on water quality and rapidly accelerate progress on wetland and forest buffers. These will help improve multiple outcomes such as brook trout, black duck, climate, fish habitat, and water quality.

* Consider how to address recently identified “off track” outcomes

Next Steps

Principals' Staff Committee Meeting, November 23

- Update the PSC on outcome status (per their request)
- Recommend we use the dashboard
  - Consider modest adjustments to the colors and icons
- Recommend we use the one pagers for more detailed background
  - Ensure consistency across CBP reporting tools
  - Evaluate the length of the one pager for the State of the Program Report
  - Recommend a path forward for outcomes recently identified as off track as well as outcomes identified as uncertain in one pagers