

# BIENNIAL STRATEGY REVIEW SYSTEM

## Chesapeake Bay Program



### Logic and Action Plan: Post-Quarterly Progress Meeting

**Fish Passage –2020-2021** Continually increase access to habitat to support sustainable migratory fish populations in the Chesapeake Bay watershed’s freshwater rivers and streams. By 2025, restore historical fish migration routes by opening an additional 132 miles every two years to fish passage. Restoration success will be 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.

**Long-term Target:** Continually increase access to habitat to support sustainable migratory fish populations in the Chesapeake Bay watershed’s freshwater rivers and streams. By 2025, restore historical fish migration routes by opening an additional 132 miles every two years to fish passage. Restoration success will be 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.

**Two-year Target:** Open an additional 132 miles by 2021

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|--|
| <b>Instructions:</b> Before your quarterly progress meeting, provide the status of individual actions in the table below using this color key. |
| Action has been completed or is moving forward as planned.   |
| Action has encountered minor obstacles.  |
| Action has not been taken or has encountered a serious barrier.  |

Additional instructions for completing or updating your logic and action plan can be found on [ChesapeakeDecisions](#).

| Factor   | Current Efforts   | Gap   | Actions   | Metrics   | Expected Response and Application   | Learn/Adapt   |
|--|---|---|---|---|---|---|
| <i>What is impacting our ability to achieve our outcome?</i> | <i>What current efforts are addressing this factor?</i> | <i>What further efforts or information are needed to fully address this factor?</i> | <i>What actions are essential (to help fill this gap) to achieve our outcome?</i> | <i>What will we measure or observe to determine progress in filling identified gap?</i> | <i>How and when do we expect these actions to address the identified gap? How might that affect our work going forward?</i> | <i>What did we learn from taking this action? How will this lesson impact our work?</i> |
| <b>Local Legislative Engagement:</b>                         | The workgroup has established relationships with        | <i>Additional coordination in MD and VA needs</i>                                   | 1,3   | Improvement in the number of dam safety   | Likely a long-term improvement that will make dam   |   |

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| Policy maker understanding of the ancillary benefits of dam removal                              | state dam safety programs to coordinate dam removal.   | <i>to occur so fish passage experts are working closely with dam safety offices to target potential dam removal projects at high risk dams.</i>  |          | programs that highlight dam removal as an option for end of utility and life cycle planning | removal easier over time but have few immediate benefits. Dam safety programs are largely understaffed and devote the vast majority of their time to critical dam safety inspections.   |  |
| <b>Landowner Engagement:</b><br>Dam owner understanding of the ancillary benefits of dam removal | The workgroup continues conducting outreach to dam owners on the benefits of dam removal through workshops and outreach materials.   | <i>The workgroup lacks outreach professionals. The workgroup would benefit from the assistance of the Bay Program in developing high quality outreach materials to mail to dam owners.</i> | 1.2      | The increased number of dam owners willing to remove their dams                             | In the longer term, more high priority dam removals on public/private land will occur. A “waitlist” of possible dam removal projects could be generated.  |  |
| <b>Landowner Engagement:</b><br>Dam owner willingness to remove dams                             | The Workgroup continues outreach to dam owners on the benefits of dam removal through brochures and workshops. The Workgroup is also investigating various incentive programs for dam removal including possible mitigation banking. | <i>The workgroup lacks outreach professionals. The workgroup would benefit from the assistance of the Bay Program in developing high quality outreach materials to mail to dam owners.</i> | 1.2; 1.3 | The increased number of dam owners willing to remove their dams                             | In the longer term, more high priority dam removals on public/private land will occur. A “waitlist” of possible dam removal projects could be generated. A shift in focus to culvert projects is also expected pending small numbers of viable dam removal projects |  |

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| <p><b>Use Conflict: Limited financial resources:</b> With the average cost of stream barrier removal in Maryland, Pennsylvania, and Virginia hovering around \$200,000, the Fish Passage Workgroup needs increased financial resources to continue to remove dams and improve fish passage at road crossings.</p> | <p>The Workgroup has completed the Chesapeake Bay Fish Passage Prioritization Tool which priorities dam removal projects. The workgroup currently uses the ranking to guide our dam removal efforts and strategically invest public funds. Limited culvert data has been added to this tool; however, the vast majority of road crossings have not been assessed to determine whether or not it represents a fish barrier.</p> | <p><i>Road crossings need to be assessed to determine the severity of each potential barrier and associated fish passage benefits. This assessment will determine the most severe barriers and will allow the workgroup to better align limited financial resources with the best projects to meet the fish passage outcome.</i></p> | <p>3.1, 2.5, 2.6; <b>Fisheries data from 2.1, 2.2, 2.3 and 2.4 can also be utilized in assessing fisheries benefits to potential fish passage projects in the same geographic area.</b></p> | <p>Number of road crossings assessed in the fish passage prioritization tool</p> | <p>Will be an ongoing effort of the workgroup taking place over the next 4-5 years. Culvert rankings will be developed to guide road crossing projects and strategically invest public funding for improved fish passage</p>                          |
| <p><b>Habitat Condition:</b> Populations of targeted fish species- particularly river herring, Shad and American Eel- have declined nationwide</p>  | <p>There are many reasons for declining populations including habitat conditions, water quality, bycatch, climate change including possible changes in migratory patterns and spawning areas, overfishing, and others. The workgroup does</p>  | <p><i>Information related to bycatch and possible changes due to climate changes have not been well documented. The workgroup continues to review data and research produced by climate change professionals to assess any potential impacts</i></p>   | <p>NA</p>   | <p>NA</p>  | <p>Long term effort including hosting workshops and seminars and collaboration with different groups to increase understanding within the workgroup. This will allow workgroup members to better understand the factors affecting target species.</p> |

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|  | not see these factors directly influencing whether the mileage goal outcome is met but instead as factors influencing the overall recovery of the target species. As such, no work plan action has been identified. | <i>to fish distribution in various watersheds.</i> |  |  |  |  |
|--|---|--|--|--|--|--|

| <b>ACTIONS – 2020-2021</b>  |  |   |                                       |                              |                          |
|---|--|---|---------------------------------------|------------------------------|--------------------------|
| <b>Action #</b>   | <b>Description</b>   | <b>Performance Target(s)</b>  | <b>Responsible Party (or Parties)</b> | <b>Geographic Location</b>   | <b>Expected Timeline</b> |
| <b>Management Approach 1: Management Approach 1: During the period 2011-2025, restore historical fish migratory routes by opening 1,000 additional stream miles, with restoration success indicated by the presence of Alewife, Blueback Herring, American Shad, Hickory Shad, American Eel and/or Brook Trout.</b> |  |   |                                       |                              |                          |
| <b>1.1</b>  | Continue dam removal activities in the Chesapeake Bay                | Complete Removal of the Bloede Dam (monitoring phase).<br>Complete a feasibility/design study for Daniels Dam   | MD DNR, NOAA, USFWS, American Rivers  | Ilchester, MD                | May-21                   |
| <b>1.2</b>  | Continue dam removal activities in the Chesapeake Bay                | Various dam removal planning, design and implementation projects - many projects are in a feasibility study phase where there are no immediate milestones during 2020-2021. Continue outreach to dam owners on the benefits of dam removal through brochures and workshops. | Fish Passage Workgroup                | Varies                       | Varies                   |
| <b>1.3</b>  | Coordinate dam removal activities with the state Dam Safety Programs | Establish or continue relationships with state dam safety programs. Have dam safety programs acknowledge dam removal  | Fish Passage Workgroup                | Entire Chesapeake Bay Region | Varies                   |

## ACTIONS – 2020-2021

| Action #   | Description  | Performance Target(s)   | Responsible Party (or Parties)                        | Geographic Location   | Expected Timeline   |
|--|--|---|---|---|---|
|  |  | as an option for end of utility and life cycle planning.  |   |   |   |
| 1.4  | Continue road/stream crossing assessments, project development and project implementation  | Over 165,000 road/stream crossing are present in the Chesapeake Bay watershed. High priority road/stream crossings will be assessed for fish passage and climate resilience. High priority fish passage projects will be implemented using fish friendly designs. | Fish Passage Workgroup                                | Entire Chesapeake Bay Region  | Varies  |
| <b>Management Approach 2: Document return of fish to opened stream reaches by establishing the presence or absence of target species at a select number of projects within the Chesapeake Bay watershed.</b> |  |   |   |   |   |
| 2.1  | Monitor NOAA funded dam removal projects for the presence/absence of target fish species (Tier I monitoring)   | All NOAA funded dam removals will be monitored for Tier I metrics.  | NOAA, funding recipients                              | At dam removal sites  | Ongoing   |
| 2.2  | Conduct Tier II monitoring on select dam removals (Currently, the Patapsco River monitoring is the only river designated as a Tier II site by NOAA). | Conduct Tier II monitoring on the Patapsco River.   | NOAA, American Rivers, MD DNR, UMBC, USGS, MGS, USFWS | Patapsco River near Ellicott City, MD   | Ongoing through 2023  |
| 2.3  | Conduct target species monitoring of select dam removals in VA (+/- and relative abundance)  | Boat electrofishing upstream of Harvell Dam removal on the Appomattox River and Embrey Dam removal on the Rappahannock River.   | VDGIF   | Appomattox River in Petersburg, VA And Rappahannock River near Fredericksburg, VA | Ongoing and continued availability of funding for fish passage technician crew. |
| 2.4  | Conduct target species counts at technical fishways in VA  | Continue Annual American Shad count at Boshers Vertical Slot Fishway.   | VDGIF   | Boshers Dam in Henrico County on  | Ongoing and continued availability of   |

**ACTIONS – 2020-2021**

| <b>Action #</b>  | <b>Description</b>   | <b>Performance Target(s)</b>  | <b>Responsible Party (or Parties)</b>             | <b>Geographic Location</b>  | <b>Expected Timeline</b>  |
|--|--|---|---|---|---|
|  |  | Establishing electronic herring run count at Walkers Dam Denil fishway.   |   | James River near Richmond, VA. Walkers Dam in New Kent Count on Chickahominy River near Lanexa, VA. | funding for fish passage technician crew.   |
| <b>2.5</b>   | Conduct target species monitoring (+/- and relative abundance) at road culverts in VA  | Continue annual backpack electrofishing at Claiborne Run nature-like fishway (herring).   | VDGIF   | Rappahannock tributary: Claiborne Run in Stafford County, VA  | One more of five consecutive years dependent on time availability of limited fish passage crew. |
| <b>2.6</b>   | Continue to develop environmental DNA (eDNA) tool to detect shad. Continue sampling for river herring and apply river herring eDNA analysis to determine priority fish passage projects and develop habitat use models | Develop and test tools for shad. Use river herring tools already developed (completed task in previous fish passage work plan).                           | SERC, UMCES                                       | Frozen samples collected in Patapsco River; if funded, expand to entire Chesapeake Bay              | Ongoing   |
| <b>Management Approach 3: Use the Chesapeake Bay Fish Passage Tool that was completed by the workgroup to implement high priority dam removal and fish passage projects.</b> |  |   |   |   |   |
| <b>3.1</b>   | Continue using the Chesapeake Bay Fish Passage Tool to implement high priority dam   | Continue to conduct culvert and bridge assessments in areas with anadromous species and Brook Trout to determine extent of fish blockages due to road and | USFWS, NOAA, Maryland, Virginia and Pennsylvania, | Entire Chesapeake Bay region  | Ongoing   |

## ACTIONS – 2020-2021

| Action # | Description                                 | Performance Target(s)   | Responsible Party (or Parties) | Geographic Location | Expected Timeline |
|----------|---|---|--------------------------------|---------------------|-------------------|
|          | removal, culvert and fish passage projects. | rail infrastructure. Add information to the Chesapeake Fish Passage Tool. | American Rivers, TNC           |                     |                   |