**Biennial Strategy Review System: Logic Table and Work Plan**

**Instructions:** The following Logic Table should be used to articulate, document, and examine the reasoning behind your work toward an Outcome. Your reasoning—or logic—should be based on the Partnership’s adaptive management [decision framework](http://www.chesapeakebay.net/what/adaptive_management). This table allows you to indicate the status of your management actions and denote which actions have or will play the biggest role in making progress.

Some Management Strategies and Work Plans will not immediately or easily fit into this analytical format. However, **all GITs should complete columns one through four** to bring consistency to and heighten the utility of these guiding documents. The remaining columns are recommended for those who are able to complete them. If you have any questions as you are completing this table, please contact SRS Team Coordinator Laura Free ([free.laura@epa.gov](mailto:free.laura@epa.gov)).

The instructions below should be used to complete the table. An example table is available on the [GIT 6 webpage](http://www.chesapeakebay.net/who/group/enhancing_partnering_leadership_and_management_goal_implementation_team) under “Projects and Resources”.

1. For the first round of strategic review (2017-2018): Use your existing Work Plan actions to complete the **Work Plan Actions** section first. Make sure to number each of the actions under a high-level Management Approach, as these numbers will provide a link between the work plan and the logic table above it. Use color to indicate the status of your actions: a green row indicates an action has been completed or is moving forward as planned; a yellow row indicates an action has encountered minor obstacles; and a red row indicates an action has not been taken or has encountered a serious barrier.
2. **Required:** In the column labeled **Factor**, list the significant factors (both positive and negative) that will or could affect your progress toward an Outcome. The most effective method to ensure logic flow is to list all your factors and then complete each row for each factor. Consult our Guide to Influencing Factors (Appendix B of the Quarterly Progress Meeting Guide on the [GIT 6 webpage](http://www.chesapeakebay.net/who/group/enhancing_partnering_leadership_and_management_goal_implementation_team) under “Projects and Resources”) to ensure your list is reasonably comprehensive and has considered human and natural systems. Include any factors that were not mentioned in your original Management Strategy or Work Plan but should be addressed in any revised course of action. If an unmanageable factor significantly impacts your outcome (e.g., climate change), you might choose to list it here and describe how you are tracking (but not managing) that factor.
3. **Required:** In the column labeled **Current Efforts**, use keywords to describe existing programs or current efforts that other organizations are taking that happen to support your work to manage an influencing factor but would take place even without the influence or coordination of the Chesapeake Bay Program. You may also include current efforts by the Chesapeake Bay Program. Many of these current efforts may already be identified in your Management Strategy; you may choose to link the keywords used in this table to your Management Strategy document for additional context. You may also choose to include some of these efforts as actions in your work plan; if you do, please include the action’s number and hyperlink.
4. **Required:** In the column labeled **Gap**, list any existing gap(s) left by those programs that may already be in place to address an influencing factor. These gaps should help determine the actions that should be taken by the Chesapeake Bay Program through the collective efforts of Goal Implementation Teams, Workgroups, and internal support teams like STAR, or the actions that should be taken by individual partners to support our collective work (e.g., a presentation of scientific findings by a federal agency to a Chesapeake Bay Program workgroup). These gaps may already be listed in your Management Strategy.
5. **Required:** In the column labeled **Actions**, list the number that corresponds to the action(s) you are taking to fill identified gaps in managing influencing factors. Include on a separate line those approaches and/or actions that may not be linked to an influencing factor. To help identify the action number, you may also include a few key words. Emphasize critical actions in **bold**.
6. **Optional:** In the column labeled **Metric**, describe any metric(s) or observation(s) that will be used to determine whether your management actions have achieved the intended result.
7. **Optional:** In the column labeled **Expected Response and Application**, briefly describe the expected effects and future application of your management actions. Include the timing and magnitude of any expected changes, whether these changes have occurred, and how these changes will influence your next steps
8. **Optional:** In the column labeled **Learn/Adapt**, describe what you learned from taking an action and how this lesson will impact your work plan or Management Strategy going forward.

**Fish Passage Logic Table and Work Plan**

**Primary Users:** Goal Implementation Teams, Workgroups, and Management Board | Secondary Audience: Interested Internal or External Parties

**Primary Purpose:** To assist partners in thinking through the relationships between their actions and specific factors, existing programs and gaps (either new or identified in their Management Strategies) and to help workgroups and Goal Implementation Teams prepare to present significant findings related to these actions and/or factors, existing programs and gaps to the Management Board. | Secondary Purpose: To enable those who are not familiar with a workgroup to understand and trace the logic driving its actions.

**Outcome:** Continually increase 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 1,000 additional stream miles 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:** open an additional 1000 miles by 2025

**Two-year Target:** open an additional 132 miles by 2020

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| KEY: Use the following colors to indicate whether a Metric and Expected Response have been identified. | |
| Metric | Specific metrics have not been identified |
| Metrics have been identified |
| Expected Response | No timeline for progress for this action has been specified |
| Timeline has been specified |

| Factor | Current Efforts | Gap | Actions (critical in bold) | Metrics | Expected Response and Application | Learn/Adapt |
| --- | --- | --- | --- | --- | --- | --- |
| *What is impacting our ability to achieve our outcome?* | *What current efforts are addressing this factor?* | *What further efforts or information are needed to fully address this factor?* | *What actions are essential to achieve our outcome?* | *Optional: Do we have a measure of progress? How do we know if we have achieved the intended result?* | *Optional: What effects do we expect to see as a result of this action, when, and what is the anticipated application of these changes?* | *Optional: What did we learn from taking this action? How will this lesson impact our work?* |
| Local Legislative Engagement: Policy maker understanding of the ancillary benefits of dam removal | **WP Action (1.3):** Establish or continue relationships with state dam safety programs to coordinate dam removal | *No specifically identified gap(s) correspond(s) to this Factor* | 1.3 |  |  |  |
| Landowner Engagement: Dam owner understanding of the ancillary benefits of dam removal | **WP Action (1.2):**Continue outreach to dam owners on the benefits of dam removal through brochures and workshops. | *No specifically identified gap(s) correspond(s) to this Factor* | 1.2 |  |  |  |
| Landowner Engagement: Dam owner permission to remove dams | **WP Action (1.2):**Continue outreach to dam owners on the benefits of dam removal through brochures and workshops. | *No specifically identified gap(s) correspond(s) to this Factor* | **1.2** |  |  |  |
| Use Conflict: Limited financial resources: With the average cost of stream barrier removal in Maryland, Pennsylvania, and Virginia hovering around $200,000, the Fish Passage Workgroup will need more than $20 million in project implementation funds in order to have a chance of meeting this Outcome. | **WP Action (3.1):** Prioritize culvert replacement projects to ensure strategic investment of public funds; Continue using the Chesapeake Bay Fish Passage Tool to target high priority dam removals. | *Culvert information on possibility is needed to assist in the prioritization* | **3.1** |  |  |  |
| Habitat Condition: Populations of targeted fish species-particularly river herring, shad and American eel-have declined nationwide | 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 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. | *Information related to bycatch and possible changes due to climate changes have not been well documented.* |  |  |  |  |
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|  | WORK PLAN ACTIONS | | | | |
| Green - action has been completed or is moving forward as planned Yellow - action has encountered minor obstacles Red - action has not been taken or has encountered a serious barrier | | | | | |
| Action # | **Description** | **Performance Target(s)** | **Responsible Party (or Parties)** | **Geographic Location** | **Expected Timeline** |
| 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. | | | | | |
| 1.1 | Continue dam removal activities in the Chesapeake Bay | Complete Removal of the Bloede Dam. | MD DNR, NOAA, USFWS, American Rivers | Ilchester, MD | May-19 |
| 1.2 | 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 2018-2019. Continue outreach to dam owners on the benefits of dam removal through brochures and workshops. Fewer and Fewer of remaining dam owners are willing to remove their dam. | Fish Passage Workgroup | Varies | Varies |
| 1.3 | Coordinate dam removal activities with the state Dam Safety Programs | Establish or continue relationships with state dam safety programs. | Fish Passage Workgroup | Entire Chesapeake Bay Region | Varies |
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| 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. | | | | | |
| 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. | 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. Establishing electronic herring run count at Walkers Dam Denil fishway. | VDGIF | Boshers Dam in Henrico County on James River near Richmond, VA. Walkers Dam in New Kent Count on Chickahominy River near Lanexa, VA. | Ongoing and continued availability of funding for fish passage technician crew. |
| 2.5 | 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 | Two more of five consecutive years |
| 2.6 | 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 |
| 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. | | | | | |
| 3.1 | Continue using the Chesapeake Bay Fish Passage Tool to implement high priority dam removal and fish passage projects. Complete Tool updates to include culvert assessment information | Conduct culvert and bridge assessments in areas with anadromous species and brook trout to determine extent of fish blockages due to road and rail infrastructure. Add information to the Chesapeake Fish Passage Tool. | USFWS, NOAA, Maryland, Virginia and Pennsylvania, American Rivers, TNC | Entire Chesapeake Bay region | Ongoing |
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