

Version: July 16, 2026

*This document provides an initial STRAWMAN list of **Challenges** and **management approaches** for the July 27, 2026 Clean Water Goal Team meeting. The focus for these are the Reducing Excess Nitrogen, Phosphorus and Sediment (RENPS) Outcome. Some management approaches or challenges may be applicable for the other Clean Water Outcomes as well, but for our July meeting we want to gather an initial sense of members' rankings/priorities for these potential management approaches and challenges.*

This lists in this document are not comprehensive or final. We can clarify, remove, or add any of these management approaches or challenges at any time throughout the process. For now, we are sharing this draft list to gather an initial sense of collective interest and priorities. Additional information about the overall process, timeline and templates for Strategic Plan and Management Strategy development is available [here](#).

Prior to the July 27th meeting, Goal Team members were asked to rank the RENPS-associated Challenges [challenges 1-13 listed in Table 1 of this document] and DRAFT management approaches via a SurveyMonkey. More information on the instructions and consideration for that process is at the bottom of this document.

Challenges

Challenges facing the Clean Water goal can be highly nuanced and variable across the watershed. For the Management Strategy we cannot capture every unique challenge identified by partners or workgroups. **This list has been compiled using past discussions and materials to condense and combine key challenges, regardless of the Bay Program partners' ability to influence or address them directly, indirectly, or not all.** Please note that challenges for the Water Quality, Standards Attainment & Monitoring (WQ,SAM) and Toxic & Emerging Contaminants (T&EC) outcomes are adapted from the [worksheets](#) and listed for reference, but are actively in discussion amongst respective outcome leads and therefore likely to change.

Table 1 - Draft list of challenges for Clean Water MS - situational analysis

[Numbered for reference only, not to indicate rank or importance; challenges 1-13 are included in the ranking exercise described above]

	Challenges	RENPS	WQ,SAM	T&EC
1	BMP implementation gaps	X		

2	*Physical constraints (e.g., CEC, landscape characteristics or ownership) or realities (e.g., aging infrastructure, completion of “low-hanging fruit”)	X	X	X
3	Tracking, reporting and verification of implemented BMPs	X		
4	Adaptively managing by revising nitrogen, phosphorus and sediment targets with the latest science and the latest generation of modeling tools (Phase 7)	X		
5	Funding and technical workforce capacity to provide technical assistance, plan, design, implement and accelerate BMP implementation	X		
6	*Funding and technical workforce capacity to maintain installed BMPs now and into the future	X		
7	Administrative, programmatic or regulatory constraints or uncertainties that may slow or impede data-sharing, tracking, reporting, verification, innovation and/or implementation	X	X	
8	*Nutrient mass imbalances and complex systemic changes that impact our ability to meet goals, improve plans, or develop innovative strategies (e.g., fertilizer and agricultural markets; growth of developed footprint in less-regulated non-MS4 areas)	X	X	
9	*Gaps in information and analysis to better understand observed trends and response gaps to management actions and changing environmental conditions	X	X	
10	Understanding and communication of the ability of BMPs or management actions to provide multiple benefits across varying audiences or scales	X		X
11	Communication and coordination (general)	X	X	X
12	Communication and outreach of the lag from reducing pollution loads to WQS attainment (ecosystem response gaps)	X	X	
13	Updating and applying latest science or data into partnership tools and products through partnership review and approval processes	X	X	
14	Funding and capacity to grow or sustain monitoring networks		X	

15	Improved monitoring data use and incorporation within partnership models		X	
16	Communication of monitoring results and difficulties conveying progress across many multiple audiences, timelines, or spatial scales		X	
17	*Seasonal and habitat-specific differences in responses make it difficult to set expectations and interpret progress consistently		X	
18	Communicating clearly a watershed-wide status of toxic contaminants when jurisdictions differ in their data and/or assessment methods.			X
19	Resource constraints, limited capacity within the Chesapeake Bay Program, and minimal funding opportunities for conducting research and developing synthesis products. Relative emphasis on nutrients and sediment limit opportunities focused on toxic contaminants.			X
20	Limited understanding of the occurrence, concentrations, and sources of toxic contaminants in different landscape settings			X
21	Fast pace of change and limited knowledge on emerging contaminant issues.			X
22	Limited connectivity among groups hinders technical information transfer within the partnership and beyond.			X
23	Limited understanding of the effects of legacy and emerging contaminants on both ecological health and human health, through fish consumption.			X
24	Lack of studies from organismal to ecosystem level showing the impacts of plastic pollution on the Bay and watershed.			X
25	Funding and support to conduct research; develop/revise ecological risk assessments; and implement source reduction strategies			X
	<i>Missing or additional challenges may yet be identified; suggestions welcome via email to CWGT leadership or in the SurveyMonkey sent to CWGT members</i>			

* indicates a challenge that is associated with changing environmental conditions

DRAFT management approaches for RENPS (2.1.1 – 2.1.7) and possible Clean Water Goal level (2.0.1-2.0.3)

An example of how the management approaches are formatted is provided below. Please note this document combines basic elements of both the Management Strategy and Workplan templates for improved CWGT reference and input:

EXAMPLE Management Approach 2.1.Ex: Example management approach for the CWGT and RENPS outcome

- **Description:** A basic description of the proposed management approach, which is a “general approach needed to fill existing gaps and identify the partnership’s role in that approach. These are the actions that the program will undertake to address the challenges to goal and outcome attainment described in the Situation Analysis.” When we’ve settled on our management approaches, the corresponding section of the Management Strategy will describe how local governments and other stakeholders will be informed and involved. Each management approach (MA) should be specific enough to be meaningful and provide transparency about the work that partners will collaboratively undertake.
- **Targeted Challenges include:** Each MA should address one or more stated challenge. See the list of draft challenges provided for the July 27 CWGT meeting; these are the challenges matched to the draft MAs in this document. Shorthand is used and doesn’t match the challenges in the later table verbatim.
- **Possible actions include:** This is a short starting list of potential actions that will be considered or expanded on in the outcome-level workplan(s); these are not exhaustive or detailed at this stage and will not appear in the MS document itself.
- **Lead Clean Water group(s):** Many partners are likely to participate in a given MA; this is simply to identify the lead CBP group(s) associated with the draft MA. The Goal Team is listed as the potential lead for many of the draft management approaches; the Goal Team may delegate/assign a leading role to workgroups.
- **Supporting CW Group(s):** Many partners are likely to participate in a given MA; this is simply to identify the CBP group(s) that will also be involved. At this time we are limiting the list to groups within the CWGT though there will be cross-collaboration with other Goal Teams and workgroups as needed.

- **Relevant Outcome/Target:** Tag to the most closely associated outcome-target(s) from the 2025 Agreement.

DRAFT management approaches

Management Approach 2.1.1: Complete the Phase 7 modeling suite

- **Description:** The next generation of the Chesapeake Bay Program’s modeling suite will incorporate new and updated datasets and methodologies that have been agreed to by the partnership. The draft modeling suite will be released by the start of 2027 and will be reviewed by the partnership during that year. The final partnership-approved tools will be available starting in 2028 and are the basis for further approaches to achieve the RENPS outcome, Target 2. Specifically, they will be used to set new planning targets to be achieved through new or amended Watershed Implementation Plans (WIPs).
- **Targeted Challenges include:** accounting for growth; communication of updated modeling tools; improved utilization of applicable local, state, and regional data;
- **Possible actions include:** release of P7 model; partnership and STAC reviews of the tool; approval of updated and final modeling suite by the partnership
- **Lead Clean Water group(s):** CWGT, Modeling WG
- **Supporting CW Group(s):** WTWG; Source Sector workgroups (AgWG, USWG, WWTWG)
- **Relevant Outcome/Target:** RENPS-2

Management Approach 2.1.2: Revise planning targets for 2040 based on the final Phase 7 modeling suite

- **Description:** See also MA 2.1.5, as the methods for setting new targets is dependent or concurrent with exploring the fulfillment of recommendations from CESR to pursue tiered implementation of the Chesapeake Bay TMDL.
- **Targeted Challenges include:** response gaps; communication and outreach of the lag from reducing pollution loads to WQS attainment;
- **Possible actions include:** HSI analysis; 4D interpolator; communication products; setting revised 2040 targets;
- **Lead Clean Water group(s):** CWGT
- **Supporting CW Group(s):** WTWG; Source Sector workgroups (AgWG, USWG, WWTWG); Modeling WG
- **Relevant Outcome/Target:** RENPS-2

Management Approach 2.1.3: Develop new or amended WIPs

- **Description:** The Clean Water Goal Team will work collaboratively to identify how the partnership should adapt Watershed Implementation Plans (WIPs) in response to new science, monitoring results, and management priorities/approaches. The Goal Team and associated workgroups will also support jurisdictions by providing updated tools and information that help partners revise their WIPs and accelerate progress toward water quality goals.
- **Targeted Challenges include:** accounting for growth; communication of updated modeling tools; adaptively managing; communication and outreach;
- **Possible actions include:** develop partnership approved timeline; EPA WIP expectations; etc.
- **Lead Clean Water group(s):** Jurisdictions will lead development of their new or amended WIPs; CWGT will be the lead for partnership discussions and tasks
- **Supporting CW Group(s):** WTWG; Source Sector workgroups (AgWG, USWG, WWTWG)
- **Relevant Outcome/Target:** RENPS-2

Management Approach 2.1.4: Incorporate additional lines of evidence into assessments of progress.

- **Description:** Evaluate and update the existing accountability framework to enhance its overall effectiveness tracking reductions. This approach will move beyond relying solely on modeled planning inputs by incorporating multiple lines of evidence—including monitored water quality data, watershed health metrics, and living resource responses—to evaluate progress. This will seek to strengthen the partnership’s ability to track, synthesize, and clearly communicate progress to “tell the story” of how conditions are changing across the watershed. This approach will focus on improving how information is compiled, visualized, and conveyed to partners and the public, reducing confusion across disparate indicators and creating clearer, more holistic narratives of progress. [See also Clean Water small group recommendations [CW1 and CW3](#)]
- **Targeted Challenges include:** response gaps; communication and outreach of the lag from reducing pollution loads to WQS attainment; connecting Watershed Agreement adaptive management framework to the CB TMDL accountability framework;
- **Possible actions include:** Habitat Suitability Index (HSI) analysis; 4D interpolator; communication products; setting revised 2040 targets; efforts may include developing more intuitive, monitoring-based or blended indicators, enhancing tools that link observed trends with expected outcomes, and improving communication resources so jurisdictions and stakeholders can better understand, interpret, and share progress in managing reductions and restoring ecosystem integrity/water quality.

- **Lead Clean Water group(s):** CWGT
- **Supporting CW Group(s):** DAR; Monitoring; WTWG; Source Sector workgroups (AgWG, USWG, WWTWG)
- **Relevant Outcome/Target:** RENPS-3; WQSAM-1; WQSAM-3; WQSAM-4

Management Approach 2.1.5: Explore a Tiered Implementation Structure for Achieving the Nitrogen, Phosphorus and Sediment Reductions that are needed to meet Water Quality Standards (See CW2)

- **Description:** Establish a tiered implementation strategy that prioritizes nutrient and sediment reductions based on improved modeling and assessment tools. Rather than treating all 92 management segments uniformly, this step-wise approach prioritizes receiving waters with a stronger potential for near-term living resource response and possible earlier attainment of water quality standards in the shallow areas where people and wildlife spend the most time. [See also Clean Water small group recommendations [CW2](#)]
- **Targeted Challenges include:** response gaps; communication and outreach of the lag from reducing pollution loads to WQS attainment;
- **Possible actions include:** HSI analysis; 4D interpolator; communication products; setting revised 2040 targets;
- **Lead Clean Water group(s):** CWGT
- **Supporting CW Group(s):** DAR; Monitoring; Modeling WG; WTWG; Source Sector workgroups (AgWG, USWG, WWTWG)
- **Relevant Outcome/Target:** RENPS-2; RENPS-3; WQSAM-All

Management Approach 2.1.6: Assess Nutrient Mass Imbalances and Advance New or Emerging Nonpoint Source Best Management Practices (BMPs) or Innovations (See CW4)

- **Description:** Identify and assess long-standing systemic nutrient mass imbalances (such as fertilizer surpluses, manure distribution challenges, growth of development outside of regulated MS4 areas) while strengthening coordination between notable programs (e.g., Clean Water Act Section 319(h) nonpoint source programs) and Bay partnership initiatives. A strong emphasis will be placed on scaling up voluntary BMPs by utilizing social science data to understand behavioral motivations, eliminate implementation barriers for landowners and farmers, and optimize the co-benefits of practices that reduce multiple pollutants simultaneously. This can also include efforts to understand and assess the complex impacts of changing environmental conditions have on implementation, maintenance, and progress toward the RENPS outcome.

- **Targeted Challenges include:** response gaps; assessment and incorporation of new or innovative technologies into partnership modeling tools;
- **Possible actions include:** sharing results and lessons from pay for performance/outcomes programs; revising BMP protocol; application of directly-measured BMPs in Phase 7; assessment of nonpoint source sectors' long-term growth under changing conditions and ability of existing approaches to control those loads; incorporating social science to understand barriers to scaling up implementation
- **Lead Clean Water group(s):** CWGT
- **Supporting CW Group(s):** DAR; Monitoring; Modeling WG; WTWG; Source Sector workgroups (AgWG, USWG, WWTWG)
- **Relevant Outcome/Target:** RENPS-1; RENPS-2; RENPS-3; WQSAM-1; WQSAM-3; WQSAM-4

Management Approach 2.1.7: Continue to increase implementation of Phase 3 WIPs through 2030 to achieve interim planning targets and share successful or emerging innovative strategies or opportunities to achieve greater nutrient and sediment reductions.

- **Description:** New or amended WIPs will be developed by the end of 2030, informed by the updated suite of Modeling Tools. Until then, for the period from 2026-2030, jurisdictions and partners will continue to strive for their interim planning targets, as agreed by the PSC in Month Year. Innovative approaches and emerging opportunities to accelerate progress will be a focus during this period. There is also an opportunity to begin including or testing additional lines of evidence for assessments and communications during this period.
- **Targeted Challenges include:** BMP implementation gaps;
- **Possible actions include:** Continued annual progress reports; milestones;
- **Lead Clean Water group(s):** CWGT
- **Supporting CW Group(s):** WTWG; Source sector WGs (AgWG, USWG, WWTWG)
- **Relevant Outcome/Target:** RENPS-1; RENPS-3

Management Approach 2.0.1: Expand Local Capacity and Technical Assistance through Strategic Cross-Partnership Collaboration, particularly the Workforce Outcome

- **Description:** This is inclusive of all sectors engaged throughout the watershed. This seeks to build the sustained operational capacity of local governments, conservation districts, and trusted local organizations that provide technical assistance to select, design, install or maintain BMPs. This approach may include collaborative efforts to assess and generate pathways to train, hire, and retain

workers in conservation, restoration and environmental positions. This can continue proactive outreach by partners to historically underrepresented entities—including Tribal nations and disadvantaged communities—to co-design, implement and maintain local restoration projects that bring jobs and other benefits to communities. [See also Clean Water small group recommendations [CW5](#)]

- **Targeted Challenges include:** Capacity constraints, practice implementation gaps, and retention of skilled/institutional knowledge.
- **Possible actions include:** sharing results and lessons from pay for performance/outcomes programs; revising BMP protocol; application of directly-measured BMPs in Phase 7; assessment of nonpoint source sectors' long-term growth under changing conditions and ability of existing approaches to control those loads; incorporating social science to understand barriers to scaling up implementation
- **Lead Clean Water group(s):** CWGT
- **Supporting CW Group(s):** Source sector WGs (AgWG, USWG, WWTWG)
- **Relevant Outcome/Target:** Goal-level need

Management Approach 2.0.2: Within our means and capacity, continue to improve effectiveness of the CWGT and its workgroups as they mutually coordinate and communicate, foster innovation, improve information exchange, adaptively manage and ultimately achieve Clean Water - and other - goals or outcomes.

- **Description:** Participating partners continue to push the Goal Team to improve its operations and effectiveness, with communications and cross-coordination amongst the most frequently requested areas for improvement. The revised Agreement and CBP structure afford ample opportunities to be creative and innovative in how we operate and work together. This management approach recognizes this timely need for continuous improvement in response to multiple ongoing needs and challenges. In that vein, it also includes efforts that are likely to be cross-goal or cross-outcome in nature, e.g., exploring the role of the Bay Program with respect to understanding and communicating the links or tradeoffs of BMP implementation and maintenance for soil health or similar benefits of audience-specific interest beyond nitrogen, phosphorus and sediment.
- **Targeted Challenges include:** understanding and communicating multiple benefits across varying audiences or scales; all challenges that mention comms or coordination
- **Possible actions include:** Targeted topical meetings, partnering with broader range of CBP groups or additional partners;
- **Lead Clean Water group(s):** CWGT
- **Supporting CW Group(s):** All

- **Relevant Outcome/Target:** Goal level MA

Management Approach 2.0.3: Assess and integrate jurisdictional data sources to improve the accuracy of model predictions

- **Description:** In support of the Agreement’s Science Principles, we will continue ongoing efforts to evaluate new or improved jurisdictional and other data sources for integration into our tools for improved accuracy in modeling and planning. Workgroups – including Agriculture, Urban, Watershed Technical, and others – will be core contributors within the partnership structure to assess and evaluate partners’ data for continued incorporation or application within modeling tools and/or CBP analysis or products.
- **Targeted Challenges include:** Reporting, tracking and verification; updating and applying the latest science and data into tools and products;
- **Possible actions include:** determining model update frequency in between full new versions;
- **Lead Clean Water group(s):** CWGT
- **Supporting CW Group(s):** All, but especially the WTWG, DAR, and Source Sector Workgroups
- **Relevant Outcome/Target:** Goal level

For Reference: Instructions for Ranking Exercise

Prior to the July 27th meeting, Goal Team members were asked to rank the RENPS-associated Challenges [challenges 1-13 listed in Table 1 of this document] and DRAFT management approaches via a SurveyMonkey. More information on the instructions and consideration for that process is below.

Goal Teams are encouraged to consider the following criteria when prioritizing challenges to be addressed by the partnership (**bold** criteria are the ones we’re emphasizing with this first exercise):

1. PSC priorities

- For this exercise we do not ask or expect direct PSC input, but for GT to use their best judgment based on past or ongoing interactions with their PSC representatives alongside the Principles, Goals and Outcomes in the Watershed Agreement. This is a gut check or pulse check exercise based on your best judgment.

2. Workgroup expertise and background materials provided
 - This is not explicitly considered at this time, but you may implicitly bring your knowledge or familiarity with our workgroups into your rankings. The [worksheets provided by workgroup leaders](#) may be of interest.
3. **Whether or not the challenge is within the CBP's ability to influence**
 - We ask for you to rank the challenges according to our collective ability to influence the challenge as a partnership: the top ranked challenges are those that we can directly influence or address; the bottom ranked challenges are those that we have little to no direct or indirect influence over. Ones ranked in the middle are ones we may have some direct or indirect influence or ability address through our collective efforts.
4. **Where a partnership approach to addressing the challenge adds value**
5. **The relative importance and expected impact of addressing each challenge with respect to Outcome attainment**
 - We ask for you to rank the challenges based on a combination of criteria 4 and 5, where those ranked at the top have the greatest VALUE and IMPACT towards our Clean Water Goal and RENPS Outcome if we were to successfully address the challenge collectively.
 - For this question, your ranking should disregard feasibility and capacity and should be independent of your rankings for influence.
 - If the challenge can only be overcome or addressed with collective Bay Program involvement, AND it is a significant hindrance to our Clean Water Goal and RENPS outcome then it would be ranked near the top.
 - Alternatively, if the challenge is something that could be reasonably addressed through other venues or means and it is only a minor hindrance to our Goal and RENPS outcome, then it would be ranked closer to the bottom.
6. The partnership's capacity to pursue initiatives related to challenges within the next six years
 - This is not considered at this time; we will iteratively account for capacity as we develop and enact our Management Strategy and workplans.

After ranking the challenges there is an optional question to share comments or suggest additional challenges for the list.

Then we ask you to similarly rank the ***DRAFT management approaches***. Three of the Management Approaches are not included for this exercise as they have been committed to by the partnership through the Agreement (RENPS Outcome Target 2) and/or PSC decisions. The details of those approaches are certainly still subject to ongoing partnership deliberations, but it will be more insightful to focus on ranking the other potential management approaches relative to each other while omitting those three.

We pose slightly different questions for your ranking of the ***DRAFT management approaches***:

Rank the management approaches based on your perception of their VALUE and IMPACT

- Management approaches are ranked near the top if you feel they will have the greatest relative impact and added value toward achieving the Clean Water Goal and RENPS outcome.
- Management approaches are ranked near the bottom if you feel they will have the least relative impact and added value in achieving the Clean Water Goal and RENPS outcome.

Rank the management approaches based on your sense of the URGENCY for the approach

- Management approaches ranked at the top are the ones that are most critical for the Clean Water Goal or RENPS outcome over the next 6 years, with an emphasis on years 1-3
- Management approaches ranked in the middle may be semi-critical for the Clean Water Goal or RENPS outcome over the next 6 years, but might be less critical within years 1-3
- Management approaches ranked near the bottom are the ones that are least critical for the Clean Water Goal or RENPS outcome within the next 6 years, if ever.

This forced ranking exercise will allow us to organize or categorize challenges and management approaches as we continue developing our Management Strategy. Thank you for your input and participation! Please do not hesitate to reach out with questions or for assistance.