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## SUMMARY OF THE STREAM HEALTH WORKGROUP'S STREAM RESTORATION PERMITTING SURVEY

May – June 2023

**PURPOSE OF SURVEY:** The Chesapeake Bay Program's [Stream Health Workgroup \(SHWG\)](#) conducted a survey in 2015 for stream restoration permit reviewers and applicants to help identify issues and challenges related to the issuance of stream restoration permits to meet nutrient and sediment load reductions as part of the Chesapeake Bay TMDL. Since the survey was completed, local governments have implemented many projects with lessons learned and modifications to the permitting process. In 2023, the workgroup's Stream Restoration Permitting Committee created a follow-up survey to track and report progress and identify remaining and/or new issues on permitting stream restoration projects. **This survey was distributed to the workgroup on April 21, 2023, with the deadline of May 19, 2023. This submission deadline was later extended to June 23, 2023,** and workgroup members and interested parties were encouraged to forward the survey to folks outside the CBP with permitting experience. These results will be used by the Committee and shared with the SHWG, who will initiate discussions with its membership and other Bay Program Partners to acknowledge progress and address identified issues. **Based on how survey responders self-identified (stream restoration practitioner/applicant, permit or other environmental reviewer, or both), they were prompted to answer a series of questions.** This survey was not anonymous and contact information (including name, jurisdiction/affiliation, and email address) were collected.

Overall, comments pointed to a greater need to understand the full breadth of ecosystem benefits and impacts from stream restoration projects. This includes more detailed monitoring of pre- and post-restoration conditions including nutrient loads, and an assessment of the trade-offs between the existing and proposed stream corridor. Respondents also noted that the efficient review of applications has been hampered by low capacity; the process would be improved by additional knowledgeable staff.

This document summarizes the survey results, and responses have been edited for clarity.

**KEY:** [SECTION](#), [QUESTION/TOPIC](#), [IMPORTANT NOTE](#)

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### [SURVEY RESPONDEE GENERAL INFORMATION](#)

**GENERAL INFORMATION:** *names and other identifying information of responders have been withheld from this summary.*

- Received 9 responses



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- **FEDERAL EMPLOYEES = 1** (USACE – Baltimore District)
- **NGOs = 4** Chesapeake Bay Foundation, BioHabitats, American Rivers, Ecosystem Restoration)
- **STATE = 4** (VA, NY, DC, MD)
- Average number of years working in stream restoration = 21 years
- **SELF IDENTIFICATION:**
  - **PERMITTING APPLICANT = 4** people
  - **PERMITTING REVIEWER = 3** people
  - **BOTH APPLICANT AND REVIEWER = 2** people
- Survey responders have applied for, or reviewed stream restoration permits in the following jurisdictions:
  - **DE = 0** of 9 people
  - **DC = 3** of 9 people
  - **MD = 6** of 9 people
  - **NY = 1** of 9 people
  - **PA = 2** of 9 people
  - **VA = 2** of 9 people
  - **WV = 1** of 9 people
  - **FEDERAL APPLICATION POOL = 0** of 9 people
  - **USACE Baltimore = 5** of 9 people
  - **USACE – Norfolk = 2** of 9 people
  - **USACE Philadelphia = 2** of 9 people

## **GENERAL COMMENTS/QUESTIONS:** *Comments in italics.*

- *“Stream restoration projects that claim nutrient reduction benefits must demonstrate them with baseline monitoring of that stream reach’s current nutrient load reduction capacity as well as baseline temperature regime. Standard definitions of ecological uplift such as IBI need to be adopted into the regulatory system rather than just accepting claims by the applicant. The project review domain needs to include upstream watershed conditions that would either support or detract from the restoration response as well as at least conceptual models of projected future hydrology based on changes to forest cover, impervious surface, or precipitation intensity upstream.”*
- *“Dam removals and stream restoration projects are not the same thing. Dam removals can have a greater long-term benefit than some stream restoration projects, yet they are not considered BMPs in the TMDL crediting scheme, even if sediment/nutrients are removed from the river/floodplain. We need more open forum discussions on how to improve all projects and ensure the projects being done are worthwhile and not just checking some TMDL permit box. That might mean that we need to spend more time working together to improve the system.”*
- *“Could use more guidance on resource tradeoffs.”*
- *“Permits should be reviewed at the ecosystem scale. Trade-offs will exist in every project. For example, creation of wetlands is known to benefit the bay and local ecosystems, including fisheries, despite wetlands themselves not being ideal fish habitat due to lower DO than streams. However, watersheds with wetlands are healthier and support better fish populations*



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downstream. We must view these systems holistically in both time and space. Short-term disturbances that benefit local and downstream ecosystems in time should be approvable. In other words, we need to recognize and accept that to make an omelet, you have to break some eggs.”

- *“I think society is mature enough on the nutrient loading topic to deal with the bioavailability topic. Principal concern - TN of bank sediments contain substantial (primarily) N in forms that aren’t bioavailable. Preventing erosion of bank sediments thus generally does little in reducing bioavailable N forms that harm water quality. Societal confusion also affects bay shoreline management and Conowingo Dam sediment management. I think society is mature enough on environmental topics to deal with stressors. Stream geomorphic restoration in settings where other stressors (typically degraded water quality, altered flows, etc.) are more important are unlikely to benefit aquatic life.”*

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### GENERAL PERMITTING QUESTIONS:

#### **IS THERE A TIME FRAME ALLOTTED FOR THE REVIEW AND PERMIT AGENCY DECISION ON A STREAM RESTORATION PERMIT APPLICATION?**

There was unanimous confirmation on the existence of a time frame that is allocated for the review and permit agency decision on a stream restoration application. These timelines ranged from 30 to 60 days for first response but varied by jurisdiction and scope of project. However, multiple people mentioned these timelines being more of “goals” and that typical timelines are closer to 120-180 days of review time.

#### **WHAT RECOMMENDATIONS WOULD YOU MAKE TO IMPROVE BOTH THE PERMIT PROCESS AND STREAM ECOSYSTEM OUTCOMES?** *Comments in italics.*

- *“Provide education to engineers and consultants regarding a wide variety of stream restoration techniques and the appropriate environmental conditions for each and instruction on how to fill out a permit application completely the first time.”*
- *“Better acknowledgement of current and likely future impervious cover upstream of a project’s location as well as likely future changes in hydrology due to increased rainfall intensity as a result of climate change.”*
- *“My jurisdiction has received several ACE permits, and the monitoring requirements are not consistent over time, so each project has a different set of monitoring requirements. It would be better to have more consistency. While there is a 45-day review period it seems to never end, even when minor comments are made on the 44<sup>th</sup> day of reviews then the period starts over again. Some local governments have a ‘transparency portal’ for plans being reviewed, this is possibly something that the Corps could adopt as well. “*
- *“More thoughtful pre-restoration assessment, and post restoration monitoring requirements with stated success metrics-this will help everyone to understand the relationship between varied stream restoration practice elements and uplift.”*
- *“The permitting process for dam removal in MD needs to be streamlined. There should be one point of contact at MDE through whom flows all correspondence. They should reconcile comments from the various reviewers at MDE and provide to permittee. It is hard to follow the process as it stands. Comments come from different people that are similar, but not quite the same. MDE should be providing one set of comments that have been reconciled internally before they go to*



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*the applicant. I would also recommend that the Bay Program consider allowing credit for dam removal projects that proactively remove and/or permanently stabilize sediment that will readily mobilize following a dam removal or dam failure.”*

- *“The MDE Wetlands and Waterways Protection Program (WWPP) has assigned a dedicated team that reviews only nontidal wetlands and waterways restoration projects. The purpose is to focus the team on that specific permit review type and often will result in an expedited review that meets the 90-day permit turnaround time goal on complete applications. MDE also encourages all applicants for any project to request and conduct a pre-application meeting with WWPP staff and we have several ways that can be accomplished, including an online request form.”*
  - *“One item that is recommended for an applicant to include is a robust justification and rationale for their chosen design when applying for any restorative project. This design report should include a complete analysis of the project’s anticipated improvement or uplift and considerations for avoidance and minimization in the selected design to all the resources impacted.”*
  - *“Better define environmental parameters of importance to reduce the number of judgement calls that are made on each project - be sure that these definitions are based in current science and holistic ecosystem perspective. Potentially, separate permits for restoration projects from development projects to remove the need to evaluate environmentally unfriendly alternatives.”*
  - *“Permit review process determined by volume of incoming permits being evaluated of all project types, not just stream restoration. Funding provided to permitting agency is determined nationally which limits staff number and consequent review capability when there is a high permit workload. Regulatory historically had flat funding for extended periods of time. Improvement on this anticipated with more staff brought on and sharing of permitting staff between districts.”*
  - *“Stream ecosystem outcomes with respect to aquatic life/ecosystem health in many cases are controlled by stressors outside the realm of restoration work being permitted by USACE (and others). To improve stream ecosystem health, society would ideally focus efforts on principal stressors, which are infrequently degraded geomorphic conditions. Projects other than stream geomorphic restoration are generally needed (sanitary sewer, stormwater management, etc.). Stream/floodplain reconnection stream restoration projects can/do improve stream water quality (and thus Bay water quality) and can restore wetlands. Revised TMDL crediting protocols from ~2020 onward, I think, more fairly capture water quality improvement functions of streams and have incentivized these projects. Initially after Bay TMDL started (~2010) crediting protocols for nutrient loads did not adequately consider nutrient concentrations in different materials (geologic materials, soil) nor bioavailability of nutrient forms. Unfortunately, stream restoration projects were probably given excess credit for nutrient removal, which likely disincentivized other watershed efforts that could have actually reduced bioavailable nutrient loads. (So, society lost out!) Additionally, widespread belief that stream geomorphic projects are inherently beneficial to aquatic life because they can reduce conditions of excess sedimentation and increase habitat diversity was erroneous. Other stressors (degraded water quality, altered flows, etc) are what actually needs to be targeted for stream health improvement.”*
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## QUESTIONS FOR PERMITTING APPLICANTS

### **OF THE 9 PEOPLE THAT RESPONDED TO THE STREAM RESTORATION PERMITTING SURVEY, 6 PEOPLE IDENTIFIED AS “PERMITTING APPLICANTS”:**

- Of the 6 permitting applicants, 2 people identified as both permitting reviewer and applicant.

### **WHAT TYPE OF DESIGN APPROACHES ARE USED FOR STREAM RESTORATION PROJECTS?**

- **NATURAL CHANNEL DESIGN** = 5 of 6 people agreed to using this approach
- **LEGACY SEDIMENT REMOVAL** = 5 of 6 people agreed to using this approach
- **REGENERATIVE STREAM CONVEYANCE** = 4 of 6 people agreed to using this approach
- **ADDITIONAL COMMENTS:**
  - **PROCESS-BASED RESTORATION** = 1 person mentioned Process-Based Restoration as another design approach

### **DOES THE PRE-APPLICATION MEETING PROVIDE CONSTRUCTIVE AND/OR SUBSTANTIC INPUT TO THE APPLICATION? IF NO, WHAT TYPE OF INPUT OR FEEDBACK WOULD BE CONSTRUCTIVE?** *Comments in italics.*

- 2 people responded “**YES**”
- 1 person responded “**NO**”
  - *“USACE normally doesn’t seem to respond to our pre-app meeting requests.”*
  - *“It would be helpful if all of the people who will be reviewing the project attend the pre-application meeting, so they gain an understanding of the site and relevant considerations before they see it on paper. Then if they can note any considerations they think will need to be incorporated into the design, including any modeling, that is most helpful.”*
- 3 people responded “**SOMETIMES BUT NOT ALWAYS**”

### **WHAT ISSUES/CONCERNS PROVIDED BY PERMIT REVIEWERS REGARDING THE PROPOSED PROJECT MAY PREVENT PERMIT AUTHORIZATION?** *Comments in italics.*

- **Incomplete application** = 5 of 6 people agreed
- **Lack of clarity on an application** = 2 of 6 people agreed
- **Expertise of applicant** = 1 of 6 people agreed
- **Flooding of adjacent property** = 4 of 6 people agreed
  - *“Removing a dam in a flood control project which is broken and no longer needed is particularly problematic with both ACOE and NYS DEC Flood Control.”*
- **Adverse impacts to other resource(s)** = 5 of 6 people agreed
  - *“Concerns have been expressed about resource conversion (turning wetlands into streams or vice versa) or shortening the length of a stream that was longer due to severe meander bends being straightened.”*
- **Access through property not owned by applicant** = 3 of 6 people agreed
- **Other:**



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- *“Typically, the comment letter says the application is incomplete regardless of the content of the comments. Comments range from identifying missing or missed information, such as neighboring landowner signoffs, or questions regarded to design choices in specific areas - typically when resource impact is concerned.”*
- *“If you want an ideal review, you need to provide all required information, make sure the reviewer understands your project, and make sure your project doesn't harm adjacent properties or valuable resources.”*

## **HAVE YOU BEEN ASKED TO PROVIDE ADDITIONAL OR CORRECTED INFORMATION TO COMPLETE YOUR APPLICATION? IF YES, DESCRIBE THE ADDITIONAL INFORMATION REQUESTED.** *Comments in italics.*

- 5 of 6 people responded **“YES”**
  - *“Operation and maintenance program for the dam we are removing.”*
  - *“We have to revise our plans to show we were not converting resources nor straightening the length of streams.”*
  - *“Information about access, water management, etc.”*
  - *“Changes to plans/design report, additional modeling, outreach to various parties.”*
- 1 person responded **“NO”**

## **HAVE YOU EXPERIENCED A DELAY IN OBTAINING STATE 401 WQC OR OTHER STATE APPROVALS WITHIN THE TIMEFRAME ALLOTTED FOR REVIEW AND ISSUANCE?**

- All 6 people responded **“NO”**

## **HAVE YOU EXPERIENCED A DELAY ON OBTAINING THE ARMY CORPS 404 PERMIT WITHIN THE TIMEFRAME ALLOTTED FOR REVIEW AND ISSUANCE?** *Comments in italics.*

- 3 of 6 people responded with **“YES”**
  - *“Expertise of consultant hired to prepare the application was not adequate.”*
  - *“Unclear application guidance and instruction; adverse impacts to other resources.”*
  - *“Inconsistent review process and comments complexity of permit requirements; expertise of reviewers.”*
- 3 of 6 people responded with **“NO”**

## **HAVE YOU REDESIGNED A PROJECT IN ORDER TO RECEIVE AUTHORIZATION? IF YES, DESCRIBE WHAT CHANGES WERE MADE.** *Comments in italics.*

- 2 of 6 people responded with **“YES”**
  - *“Removed toe wood, instream log vanes, changed floodplain bench elevations.”*
  - *“Preserved the existing stream length.”*
- 4 of 6 people responded with **“NO”**
  - *“Small tweaks, yes – but not a complete redesign”*



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- *“Some reviews result in suggestions for impact minimization, e.g., smaller LOD, but most of these minimizations should have been incorporated before the application gets to the reviewer.”*

### **HAS IT BEEN YOUR EXPERIENCE THAT THE STREAM RESTORATION PERMITTING PROCESS HAS IMPROVED? (e.g., PROJECT CATEGORIZATION, TIMELINE, AGENCY COORDINATION, ETC.) OVER THE PAST 5 YEARS? PROVIDE A SPECIFIC EXAMPLE.** *Comments in italics.*

- 4 of 6 people responded **“YES”**
  - *“My agency has a better understanding of these projects and what they entail and can provide substantive constructive feedback to applicants.”*
  - *“Typically, a lack of technical understanding slows the review process. Reviewers have a better understanding now than 5 years ago and delays due to their uncertainty have been reduced.”*
  - *“Smaller projects that can be permitted under general or regional programmatic permits have become easier to permit - but the same progress has not been made for large scale permits that require independent permits. Therefore, the trend in the industry has shifted towards smaller, less impactful (good and bad connotations) projects.”*
- 2 of 6 people responded **“NO”**
  - *“Permitting remains the same. In general, it seems like there are too few Corps staff to review all the applications before them, causing delays in review times.”*
  - *“It depends on the state. In PA, permitting has gotten more complicated as sediment loads associated with dam removal are now creating a whiplash effect where in the past, perhaps there was not enough consideration, and now they are trying to force projects to keep dams in place to avoid any sediment releases at all. It is very concerning. We need a balanced approach to these things. Dams are not designed to stay in place forever.”*

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### **QUESTIONS FOR PERMITTING REVIEWERS**

#### **OF THE 9 PEOPLE THAT RESPONDED TO THE STREAM RESTORATION PERMITTING SURVEY, 5 PEOPLE IDENTIFIED AS “PERMITTING REVIEWERS”**

- Of the 5 permitting reviewers, 2 people identified as both permitting reviewer and applicant.
- Of these 5 responders, they have reviewed stream restoration permits in **Maryland, New York, Virginia, and District of Columbia.**

#### **WHAT ARE THE TYPICAL CONCERNS/ISSUES ENCOUNTERED IN YOUR REVIEW OF STREAM RESTORATION PERMIT APPLICATIONS?** *Comments in italics.*

- **Lack of time or resources to review applications** = 2 of 5 people agreed
  - *“Lack of time/resources to review applications is the major issue encountered while reviewing permitting applications, and this is largely due to workload.”*
- **Incomplete applications** = 2 of 5 people agreed



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- *“Incomplete applications are also a concern, but minor compared to workload management. Making applications ‘complete’ occurs via coordination with applicant. This would be minimal problem if adequately staffed. It’s frequently challenging to figure out appropriate permit type.”*
- **Lack of clarity of applications** = 0 people agreed
- **Expertise of Applicant** = 2 of 5 people agreed
- **Expertise/training of reviewer** = 0 people agreed
- **Ecological value of project unclear** = 1 of 5 people agreed
- **Inappropriate design approach** = 3 of 5 people agreed
  - *“Riprap and extensive use of rock where not warranted by conditions and at the expense of hydraulic connections between streams and the surrounding landscape.”*
- **Adverse impacts to adjacent property (i.e., flooding, etc.)** = 2 of 5 people agreed
- **Access through property not owned by applicant** = 0 of 5 people agreed
- **Adverse impacts to other resource(s)** = 2 of 5 people agreed
  - *“Lack of detailed analysis regarding resource tradeoffs.”*
- **Other:**
  - *“Destruction of mature trees and curtailment of public access. Project too narrowly focused on restoration project reach, not watershed.”*
  - *“Specifically, ‘regenerative stormwater conveyances’ in perennial stream channels and ‘floodplain reconnection projects’ where mature riparian forests already exist.”*
  - *“Complexity of permit types and associated varying information requirements and procedures. MDSPGP, NWP, Bay TMDL RGP, SP (IP).”*

### **HAVE YOU REQUESTED APPLICANTS TO PROVIDE ADDITIONAL OR CORRECTED INFORMATION TO COMPLETE THE APPLICATION?** *Comments in italics.*

- All 5 reviewers responded with “YES”.
- Examples of additional information requested:
  - *“Longitudinal profile, revised drawings, maps, MHW indications on plans.”*
  - *“Any assurances that upstream impervious levels will not increase causing failure of the design or identification and retention of mature trees. Connections to nutrient removal claims rely on regulatory allowances, not baseline data of actual nutrient removal in an “unrestored” condition. Claims of ‘ecological uplift’ with no standard definitions. Double impact when stream ‘restoration’ becomes part of a mitigation bank allowing additional offsite impacts in an overly large service area.”*
  - *“The MD Department of Environment typically needs to ask applicants for additional information/justification, which takes all parties time to prepare and review. Most projects require a detailed hydraulic analysis, which when performed can indicate an increased flooding risk to other properties. An increased flood risk to other property requires acceptance, in various ways defined in regulation, from the affected property owner before an authorization from MDE can be issued in MD and depending on the*





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*resolution may take considerable time. We have seen restorations are being proposed in (at times) less degraded systems and areas historically used by nearby residents. This requires more thoughtful consideration of existing resources, such as trees, existing wetlands, or historic public use. Balancing and considering all these parameters has been a challenge.”*

### **HAVE YOU EXPERIENCED DELAYS IN ISSUING/APPROVING STATE 401 PERMITS WITHIN THE TIMEFRAME ALLOTTED FOR REVIEW AND ISSUANCE?**

- All 5 reviewers responded with “NO”.

### **IN GENERAL, HAVE YOU HAD ANY CONCERNS/ISSUES ABOUT A PROPOSED PROJECT THAT MAY PREVENT AUTHORIZATION?** *Comments in italics.*

- All 5 reviewers responded with “YES”.
- Examples of concerns:
  - *“Incorrect design approach for valley type.”*
  - *“Encroachment on stream or floodplain are the most common, vertical concrete walls, excessive rock.”*
  - *“None of our concerns usually result in preventing authorization which is the problem. No mechanism for denying bad projects.”*
  - *“Other than the concerns noted above, a recent issue the Maryland Department of Environment had to manage is temperature concerns in cold water/high quality resource areas. This has been specific to the selected design method which attenuates flow in the stream reach, while balancing other resource tradeoffs (preserving riparian buffer), that may have an impact on temperature and other water quality parameters. MDE required a robust monitoring and adaptive management plan in the permit for this project.”*
  - *“Over uncertainty of net effects of trade-offs (stream vs wetland vs riparian forest).”*

### **HAVE YOU REQUIRED THAT A PROJECT BE RE-DESIGNED IN ORDER FOR IT TO MEET REQUIREMENTS FOR PERMIT ISSUANCE?** *Comments in italics.*

- **YES** = 3 of 5 people agreed
  - *“Corrections to plan and profile to fit valley type.”*
  - *“Several have been redesigned without the encroachment, shallower slopes, less rock etc.”*
  - *“Our comments resulted in one denial for excess forest loss, but not because of any Corps or 401 review, but because of violations to local forest retention regulations. 401 review narrowly focused on impacts within the jurisdictional wetlands and stream channel but ignored the forested watershed just upstream.”*
- **NO** = 2 of 5 people agreed



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**HAS IT BEEN YOUR EXPERIENCE THAT THE STREAM RESTORATION PROCESS HAS IMPROVED (E.G., PROJECT CATEGORIZATION, TIMELINE, AGENCY COORDINATION, ETC.) OVER THE PAST 5 YEARS?**

*Comments in italics.*

- **YES** = 3 of 5 people agreed
  - *“Better data and science to help in design.”*
  - *“Through pre-application meetings we are often able to point landowners to resources available in the community to assist with project design and implementation. This leads to better projects when identified early in the design process.”*
  - *“Yes, MDE has updated our checklists and released improved guidance which has assisted in getting quicker complete applications. Increased pre-application meeting requests and early coordination with applicants through various standing meetings with all resource agencies and with applicants has also helped. Public outreach and awareness, including early coordination within the project community, can continue to aid in the process. Additionally, the availability of scientific literature has increased which aids in the application submittal and review process.”*
- **NO** = 2 of 5 people agreed