WQGIT Spring 2024 GIT Funding Requests

Version: April 15, 2024 for CBPO Branch Chiefs
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Overview

WQGIT leadership received and compiled twelve (12) prospective project requests for consideration through the GIT-funding process. As explained to the WQGIT, this funding cycle is following a fully new process that is expected to be defined in subsequent years. Any outstanding projects from previous cycles remain funded and continue to operate under their respective scopes of work. Total available funding for this cycle is not known.

Following the March 25 WQGIT meeting, WQGIT signatory and at-large members received an online poll to rank the twelve projects according to their respective opinion of each proposals merits and value to the partnership. WQGIT Leadership encouraged the members to consider if the projects:

- Accelerate progress towards the 2025 WIP outcome and/or multiple outcomes in the Watershed Agreement
- Are time-sensitive (can this proposal wait until the next funding cycle?)
- Have an existing "user base" for the product/tool/project deliverable
- Inform or address existing gaps for water quality issues
- Advances or ties directly to one or more action items from our 2025 WIP Logic & Action Plan or another outcome's Logic & Action Plan
- Improve the measuring or accounting of progress towards one or more outcomes

WQGIT leadership is providing this document to detail all proposals for the EPA CBPO Branch Chiefs. This document compiles the information provided by workgroup leads.

A summary of the known parameters for this year's GIT-funding cycle:

- Each GIT is expected to rank or prioritize their list. It is "strongly recommended" that each GIT submit their top 2-3 funding requests. The expectation is that the GITs will work with their respective workgroups to prioritize any funding needs.
- Requests will be evaluated based on responses to the following questions (this is the information provided later in this document and separate spreadsheet):
    - Brief description of project, including key tasks
    - Targeted audience / user base
    - GIT priorities that will be addressed through project funding and implementation
    - Identification of (any) cross-GIT application(s) and/or support
    - Intended results
    - Projected budget
    - What other funding sources, if any, have been pursued for the project
- Funding decisions will be made by EPA leadership (ultimately, by the CBPO Director).

Please note: This document is provided for informational purposes for the CBPO Branch Chiefs, combining information provided to the WQGIT for the ranking exercise with the results. It is acknowledged that other GITs and STAR are proceeding based on their respective needs and capacity for this cycle. It is understood, and has been communicated to the WQGIT, that its prioritization or rankings does not guarantee selection or funding through this cycle's process.

Results from WQGIT Member Ranking Exercise

The WQGIT currently has 5 at-large members, one at-large member vacancy, and nine signatory members. Each of the 14 current WQGIT members was asked to rank the projects 1-12, where 1 is the highest and 12 is the lowest priority. Rankings were submitted by 12 of the 14 WQGIT members. Therefore, the minimum and maximum scores are 12 and 144: a sum of 12 is the possible score if all members ranked it as their top priority, and 144 is the theoretical score if every member ranked it as their lowest priority. The EPA member did not submit a ranking on behalf of federal agencies acknowledging that federal partners would have competing preferences of their own and there was insufficient time to sort through that for this WQGIT-level exercise. Responses were not received by one member by the deadline. This table reflects the sum of the 12 received responses. Each title is linked for convenience.

Proposed project title (linked to details later in document)	**Shortname**	**SUM**	**Rank**
Beyond Bean Counting: Assessment of BMP Tracking and Accounting Procedures for More Wholistic Restoration Goals	USWG1	29	**1**
Advancing conservation of riparian forest buffers and urban tree canopy	FWG2	48	**2**
Assessment of BMPs as heaters and coolers for local waters	Temps	58	**3**
Improving communication of high-resolution land cover/use data	LULC1	64	4
Developing a trees & climate resilience strategy guide for local governments	FWG3	67	5
Estimating the pollutant loads from "mixed open" lands	LULC2	77	6
Improving projections of timber harvest land use trajectories	FWG1	80	7
Guidance on Selecting PFAS Analytical Approaches	PFAS1	89	8
Investigating the Presence of 6PPD/Q in Brook Trout Habitat	Toxics-BT	96	9
Determining PFAS Background Concentrations	PFAS2	98	10
Enhance PFAS Communication Tools	Toxics-Ed2	98	11
PFAS-Modified Fish Consumption Advisory Infographic	Toxics-Ed1	117	12

As recommended previously, we are highlighting the top 3 priorities based on the WQGIT members' input:

1. Beyond Bean Counting: Assessment of BMP Tracking and Accounting Procedures for More Wholistic Restoration Goals
2. Advancing conservation of riparian forest buffers and urban tree canopy
3. Assessment of BMPs as heaters and coolers for local waters

WQGIT Leadership would also like to note that although it did not place in the top 3, the Toxic Contaminants Workgroup (TCW) proposal on "Guidance on Selecting PFAS Analytical Approaches" merits additional consideration, due to the current relevance of PFAS research, interest expressed by jurisdictions, its status as the TCW's highest priority of their five proposals, and given the separate Toxic Contaminants Goal in the 2014 Agreement.

List of potential requests (Overview Table - NOT LISTED in WQGIT PRIORITY)

A version with additional columns is posted separately on the March 25 WQGIT calendar page. This version only includes select columns to summarize points of contact and current projected budget or range.

The proposed projects are not listed in any particular order, except that they are grouped based on the workgroup or contact that provided the information.

Main contact(s)	Shorthand ID for WQGIT reference	Project title	Projected budget (or range)	What other funding sources have been pursued for the project (if applicable)
Emily Majcher & Greg Allen	PFAS1	Guidance of Selecting PFAS Analytical Approaches	Approx. $40k	TCW not aware of any other organization currently working on this need.
Emily Majcher & Greg Allen	PFAS2	Determining PFAS Background Concentrations	Approx. $40k	TCW not aware of any other organization currently working on this need.
Emily Majcher & Greg Allen	Toxics-Ed1	PFAS-Modified Fish Consumption Advisory Infographic	Approx. $40k	TCW is not aware of any other organization currently working on this need.
Emily Majcher & Greg Allen	Toxics-Ed2	Enhance PFAS Communication Tools	Approx. $25k	TCW not aware of any other organization currently working on this need.
Emily Majcher & Greg Allen	Toxics-BT	Investigating the Presence of 6PPD/Q in Brook Trout Habitat	Approx. $125k	TCW leadership is actively engaged with other federal agencies working on this topic in other watersheds. Some opportunity for collaboration or leveraging may result if awarded.
Jeremy Hanson & Katie Brownson	Temps	Assessment of BMPs as heaters and coolers for local waters	Costs would vary depending on whether funds were going into an existing cooperative agreement or to an outside contractor (who would need to come up the learning curve). To support USGS, we estimate this would take $200k-$300K. To support an outside contractor, we estimate this would take $300k-$400K.	N/A. This would build on prior STAC workshop and the expert elicitation is beyond capacity of what a STAC workshop budget could offer.

Sarah McDonald & Katie Brownson	FWG1	Improving projections of timber harvest land use trajectories	$80k, 1 year	None, but the project would leverage previous CBP funding for the land use change data and investments in the land use change model and the watershed model. USFS and USGS are also providing staff time to convene the Timber Harvest Task Force.
Lorenzo Cinalli, Julie Mawhorter & Katie Brownson	FWG2	Advancing conservation of riparian forest buffers and urban tree canopy	$100k, over 1.5 years	None, the Forest Service does not have discretionary budget for supporting projects of this nature.
Lorenzo Cinalli, Julie Mawhorter & Katie Brownson	FWG3	Developing a trees & climate resilience strategy guide for local governments	$80k, 1 year	None, the Forest Service does not have discretionary budget for supporting projects of this nature.
David Wood, Norm Goulet & KC Filippino	USWG1	Beyond Bean Counting: Assessment of BMP Tracking and Accounting Procedures for More Wholistic Restoration Goals	$75k-100k	Funding has not been pursued from other sources. However, USWG considered the topic for a STAC Workshop before determining a third-party evaluation would be more beneficial.
Peter Claggett & Sarah McDonald	LULC1	Improving communication of high-resolution land cover/use data	$90k	USGS intern hired in spring 2024 to explore content for these fact sheets.
Peter Claggett & Sarah McDonald	LULC2	Estimating the pollutant loads from "mixed open" lands.	$60k	None to date.

More detailed information on proposed projects

***[Memo from Toxic Contaminants Workgroup Co-Chairs** copied below, edited to include project titles as headers; includes information for five prospective requests. Text from other workgroups follows in same order as the table above]*

TO: Suzanne Trevena (EPA), WQ GIT Chair

FROM: Emily Majcher (USGS) and Greg Allen (EPA), Co-Chairs Toxic Contaminant Workgroup

DATE: 7 March 2024

SUBJECT: Toxic Contaminant Workgroup Project Funding Needs

[Link back to results]

Numerous science and other needs exist for the two outcomes (Policy and Prevention, and Research) associated with the Toxic Contaminant Goal. At the February 2024 meeting of the Toxic Contaminant Workgroup (TCW), the group discussed, provided feedback, and prioritized possible topics for GIT funding opportunities.

Of the topics discussed, participants prioritized the Per- and polyfluoroalkyl substances (PFAS) and fish contaminant Education and Outreach general topic areas (with the emerging issue of 6-PPD/quinone also generating interest). These topic areas support the Research Outcome strategy gaps and elements of the Policy and Prevention Outcome management strategy. Within these topic areas, the following ideas are provided for your consideration (order of tasks under each heading suggestive of priority order):

PFAS

Guidance on Selecting PFAS Analytical Approaches

1. ***Guidance on Selecting PFAS Analytical Approaches***
   Brief description of project, including key tasks: In the absence of regulatory guidance, perform a literature review of approved and draft EPA methods, and develop a decision tree to assist with selecting PFAS analytical approaches to match study objectives while considering Chesapeake Bay specific conditions (e.g., changing salinity, effects on key watershed species). The deliverable resource would emphasize non-drinking water investigations and studies to include analyte lists, and document benefits and limitations of screening tools methods (e.g., total organofluorine, total oxidizable precursors). Where available, average costs will be provided. This resource would aid jurisdictions in designing and executing consistent studies of the PFAS footprint within their boundaries, while maximizing opportunities for leverage and coordination, and cross-boundary interpretation. Where available, current approaches of ongoing studies will be included and considered along with anticipated regulatory thresholds.

   Targeted audience/user base: Primarily Chesapeake Bay watershed (CB) jurisdictions and workgroup members; however, the resource could be useful to any organization investigating PFAS occurrence.

   GIT priorities that will be addressed through project funding and implementation: This effort directly supports the management strategies for the toxic contaminant goal. PFAS has been a part of the TCW Research strategy since 2018 as an emerging issue. In the 2022 SRS process, PFAS were integrated into 3 additional management approaches with emphasis on human fish and shellfish consumption, fish and wildlife health effects, and sources, occurrence and transport. In addition, in response to requests from the workgroup members, the TCW has convened quarterly meetings on prioritized topics to facilitate knowledge transfer, maximize leveraging and collaboration, and to promote unified approaches across the watershed.

Identification of (any) cross-GIT application(s): Sustainable fisheries, Habitat (stream health) Healthy fish, healthy people

Intended results: A valuable resource that will help PFAS investigators better match PFAS analytical methods with their data objectives and quality assurance project plans.

Projected budget: ~ $40K

What other funding sources have been pursued for the project? TCW is not aware of any other organization currently working on this need.

Determining PFAS Background Concentrations

2. ***Determining PFAS Background Concentrations***
Brief description of project, including key tasks: Literature review of establishment of background concentrations in different media, including a summary of published background values and scale of effort (e.g., site, watershed, etc.). Project would include determination of the unique considerations for the design of a background study for PFAS in Chesapeake Bay (to include data gaps such as precipitation, stormwater, etc.). Review would include ongoing efforts by jurisdictions within their own boundaries to promote consistency and maximize leverage and coordination.

Targeted audience/user base: State and federal investigators; academics advancing PFAS environmental fate model development

GIT priorities that will be addressed through project funding and implementation: The TCW endeavors to find common needs across the Partners that the workgroup can provide an efficient means of addressing thereby saving Partner resources across individual agencies. This knowledge gap has been identified by CB jurisdictions.

Identification of (any) cross-GIT application(s): Addresses improved performance of PFAS strategies in the water quality goal area and, as a result, leads to improved quality of fisheries and reduced risk to humans from PFAS bioaccumulation in fish.

Intended results: A summary report that synthesizes published approaches and values of establishing background concentrations for various media. Outlines recommendations and evaluates whether data is available and/or any efforts currently underway to establish PFAS background estimates and makes recommendations for design elements to include in future PFAS background studies.

Projected budget: $40K

What other funding sources have been pursued for the project? TCW is not aware of any other organization currently working on this need.

Education and Outreach

[Link back to results]

PFAS-Modified Fish Consumption Advisory Infographic

1. ***PFAS-Modified Fish Consumption Advisory Infographic***
Brief description of project, including key tasks: Development of an infographic for PFAS in fish highlighting differences in fish preparation techniques required compared to more hydrophobic contaminants such as PCBs. Would include review and incorporating of references to any existing jurisdictional information on the topic (e.g., links to current fish advisories for PFAS).

Targeted audience/user base: Jurisdiction fish consumption-program managers, Health and nutrition advisors to watershed residents, watershed environmental organizations.

GIT priorities that will be addressed through project funding and implementation: Follows a priority work item in the Policy and Prevention Outcome management strategy and action plan related to raising awareness on the presence of PCBs and PFAS in the system and taking the next step following the successful first generation of infographics developed by TCW using GIT Funding resources.

Identification of (any) cross-GIT application(s): WQGIT in its mission to meet water quality standards and designated uses including fishability; Stewardship in the context of the CBP vision of a healthy watershed; Healthy People in the Beyond 2025 context

Intended results: Greater awareness by all stakeholders, beginning with women of childbearing age and children (the focus of the previous infographic) but also to include leaders and managers across the watershed who might join the effort to reduce inputs of PCB's and other bioaccumulative contaminants as a result of greater awareness.

Projected budget: ~ $40k

What other funding sources have been pursued for the project? TCW is not aware of any other organization currently working on this need.

[Link back to results]

Enhance PFAS Communication Tools

2. ***Enhance PFAS Communication Tools***

Brief description of project, including key tasks: Develop a compendium of communication tools on PFAS in Chesapeake Bay and the watershed. Deliverables would include a set of summary communications pieces based on data review and incorporating existing jurisdiction communication of PFAS in the environment.

Targeted audience/user base: jurisdiction agencies, federal partners, EPA region 3, management groups in CBP including Management Board, PSC, EC.

GIT priorities that will be addressed through project funding and implementation: An improved understanding of the occurrence of PFAS in the system has created an urgency in federal state and local government response. The information has accumulated so quickly it is difficult for partners to assimilate into a summary of what is known. This compendium would provide a highly efficient means of briefing Chesapeake Bay stakeholders.

Identification of (any) cross-GIT application(s): WQGIT in its mission to meet water quality standards and designated uses including fishability; Healthy People, Healthy fish, Healthy Ecosystem

Intended results: Continuing the Chesapeake Bay Program's leadership in communicating the state of the science and knowledge of occurrence, sources, concentrations, and effects of PFAS in the environment. This began with a recent STAC workshop on PFAS, which made a unique contribution by assessing the occurrence of PFAS in ecosystem compartments beyond drinking water. This project would provide a visible resource that could be referenced across the Bay watershed.

Projected budget: ~$25k

What other funding sources have been pursued for the project? TCW is not aware of any other organization currently working on this need.

Investigating the Presence of 6PPD/Q in Brook Trout Habitat

Emerging Issue

1. ***Investigating the Presence of 6PPD/Q in Brook Trout Habitat***

   Brief description of project, including key tasks: Assess the potential for 6PPD/Q presence and risks posed in critical Brook Trout habitat using land use assessment tools that might indicate overlap of risk factors (e.g., impervious surface, traffic density, bridge crossings, etc.) with critical habitat areas. New studies suggest Brook trout are highly sensitive to the tire-related pollutant 6PPD/Q (add ref); however, an understanding of presence in the Chesapeake Bay waterways in unknown and a full watershed assessment is cost prohibitive. The project would include a literature review and development of recommendations for an environmental monitoring study design that is considerate of implications for other Chesapeake Bay species. A minimum of one pilot study area for sample collection and analysis would be covered by project funds; however, it is expected that other partners will contribute to the project and, all-together, the study can include sampling and analysis in more than one high priority brook trout habitat area.

   Targeted audience/user base: Brook Trout Workgroup, public agencies involved in environmental monitoring. Substantial interest has been expressed by leaders of the brook trout and other fish health researchers.

   GIT priorities that will be addressed through project funding and implementation: 6PPD/Q is an emerging contaminant that TCW is making space for following recent publication of effects thresholds that indicate brook trout are among the most sensitive species for this pollutant.

   Identification of (any) cross-GIT application(s): Brook trout abundance outcome

   Intended results: Synthesize literature and conduct land use assessment to identify overlapping areas of the watershed at highest risk to 6PPD/Q effects and critical habitats, such as Brook Trout. This land use analysis would identify areas of highest sampling priority, considering Brook Trout and other critical species and potential effects. Static maps could be generated and used to summarize the priority areas and outline appropriate sampling and analysis approaches to assess presence of 6PPD/Q in surface water and fish. Consideration will be taken to determine any ongoing fish studies or sampling ongoing in these areas to facilitate leveraging. Reliable data that will indicate whether this pollutant is a stressor that may be limiting the abundance of brook trout and may be a factor influencing achieving the brook trout goal.

   Projected budget: ~$125k

   What other funding sources have been pursued for the project? TCW leadership is actively engaged with other federal agencies working on this topic in other watersheds. Some opportunity for collaboration or leveraging may result if awarded.

[Link back to results]

Assessment of BMPs as heaters and coolers for local waters

[Link back to results]

Brief description the project, including key tasks

The STAC Rising Water Temperatures report identified a need to better consider the impacts of water quality BMPs on water temperature. As rising water temperatures are having negative ecological impacts on stream ecosystems and sensitive species like brook trout, it is important to better understand the temperature impacts of BMPs to inform BMP selection, particularly in sensitive coldwater watersheds. The STAC report was able to use existing research to identify some BMPs that are "heaters" and others that are "coolers", and confirmed that watershed-wide, we are implementing far more heater BMPs than cooler BMPs. However, there are several BMPs where we did not have sufficient information to draw conclusions regarding temperature implications.

This project would use an expert elicitation process to more systematically evaluate the effects of BMPs on water temperature throughout the watershed. This project would support convening an expert elicitation workshop, analyzing the data from the workshop and synthesizing findings into a communications product for managers regarding the temperature impacts of BMPs. This project would build on current USGS research efforts to evaluate the co-benefits of BMPs for stream health, including water temperature impacts, by improving and expanding out an expert elicitation process currently being conducted in smaller watersheds.

Targeted audience/user base

The primary audience would be managers selecting BMPs for implementation. However, the Bay Program could also use these results to consider whether there are opportunities to further incentivize the implementation of cooling BMPs through crediting or grant guidance.

GIT priorities that will be addressed through project funding and implementation

Warming water temperatures will make it more difficult to reach our 2025 TMDL water quality goals, as well as multiple Watershed Agreement outcomes. The STAC report recommends that moving beyond 2025, the Bay Program should consider how to incorporate water temperature more explicitly into the goals, outcomes and management strategies of the partnership to better achieve water quality goals. This project would fill a critical information gap, providing the WQ GIT with information needed to help managers prioritize the implementation of "cooler" BMPs. This would help ensure our water quality restoration work isn't further exacerbating the impacts of climate and land use change on aquatic ecosystems by further heating waterways, particularly in sensitive watersheds.

Identification of any cross-GIT application(s)

- Habitat GIT: By providing the information needed to improve the selection of BMPs to minimize adverse water temperature impacts, this project would benefits the brook trout and stream health outcomes
- STAR: Given the clear linkages of this project with climate change, this project would also engage the climate resiliency workgroup.

Intended results

Through the expert elicitation workshop, the project would provide a comprehensive set of information on the water temperature impacts of BMPs. The project would also result in a communications product for managers to help them better understand the water temperature and ecological implications of their BMP selection. Ultimately the project would aim to increase implementation of cooler BMPs over heater BMPs.

Projected budget

Costs would vary depending on whether funds were going into an existing cooperative agreement with USGS (who is already fully embedded in this work) or to an outside contractor (who would need to come up the learning curve). To support USGS, we estimate this would take $200-$300K. To support an outside contractor, we estimate this would take $300-$400K.

What other funding sources have been pursued for this project

N/A, this would build on prior STAC workshop and the expert elicitation is beyond capacity of what a STAC workshop budget could offer. However, the project would leverage past funding in the STAC Rising Water Temperatures workshop and current funding on related projects. USGS is currently completing a project that is evaluating statistically whether BMP implementation is leading to co-benefits for bugs and fish and in the process, are also looking at effects of BMP implementation on other in-stream metrics, including water temperature. USGS is beginning a broader project that is at the entire Chesapeake Bay watershed scale that builds on the Maryland project (completion date expected end of FY25), which we can leverage for this project.

Improving projections of timber harvest land use trajectories

[Link back to results]

Brief description of project, including key tasks

The Timber Harvest Task Force has been meeting to develop recommendations to improve mapping and modeling of timber harvest in the land use data and in Phase 7 of the watershed model. In the most recent round of land use data, across the watershed, the largest changes observed were those associated with timber harvest. It is therefore important to better evaluate how quickly the land will recover after timber harvest, which lands are likely to stay in timber rotation (as opposed to being converted to development or other land uses post-harvest) to better forecast post-harvest trajectories and understand potential water quality and habitat implications.

This project would pull in multiple data sources, including geospatial data on timber harvest compiled by USGS, forest markets data, FIA trends, protected lands, and other landscape data to inform the development of more accurate forecasting of post-harvest land use/land cover trajectories. Based on these trajectories, the project would identify places most vulnerable to permanent conversion of forest lands out of harvesting in need of additional regulation or incentives to help keep forests as forests.

Targeted audience/ user base

The audience/user base for this project would initially be the Timber Harvest Task Force, which is comprised of members of the Forestry Workgroup and Land Use Workgroup. The Timber Harvest Task Force would use the results of inform recommended improvements to the Land Use Change Model and the future versions of the watershed model (ideally Phase 7), benefiting the larger Bay Program partnership. More targeted communications products would also be developed targeting local and state agencies so they can have a better understanding of where working forest lands are particularly vulnerable to land use conversion and potential regulatory or incentive-based approaches that could be used to reduce conversions.

GIT priorities that will be addressed through project funding and implementation

Informing improvements to the Phase 7 watershed model is a current priority for the Water Quality GIT. The most recent two-year workplan for 2023-2024 highlights the need to incorporate new science and data into CAST and other models and decision support tools.

Identification of (any) cross-GIT applications(s)

This project would benefit multiple outcomes within the Water Quality GIT (including Land Use Methods and Metrics, Land Use Options Evaluation, and the WIP2025). It would also benefit the Protected Lands outcome by identifying

forested lands in greatest need of conservation in the near-term, and the Healthy Watersheds GIT by helping prevent the conversion of forests in healthy watersheds to other land uses that would negatively impact watershed health.

Intended results

- More accurate forecasts of post-timber harvest land use trajectories in the Land Use Change Model and associated improvements in the accuracy of water quality modeling in CAST
- Maps (and associated geospatial data) showing where working forests are most vulnerable to conversion to other land uses

Projected budget

$80K for a 1-year project

What other funding sources have been pursued for this project

None, but the project would leverage previous CBP funding for the land use change data and investments in the land use change model and the watershed model. USFS and USGS are also providing staff time to convene the Timber Harvest Task Force.

Advancing Conservation of Riparian Forest Buffers and Urban Tree Canopy

[Link back to results]

Brief description the project, including key tasks

Despite recent increases in planting rates for riparian forest buffers and urban trees, the high-resolution land use change data has demonstrated we are experiencing significant net reductions in tree cover. Between 2013/14 and 2017/18, over 106,000 acres of tree cover was lost to development and draft data suggests that over 21,000 acres of riparian forest was lost watershed wide. An increased focus on riparian forest buffer and community tree canopy conservation is urgently needed. This project would research conservation policies and incentive programs used in the Chesapeake Bay and other states/localities to reduce forest buffer and tree canopy loss. It would also identify best practices and model policies and easement programs that could be replicated. These models and best practices would address approaches for reducing tree cover loss both to more traditional development as well as emerging challenges, including the rapid growth of utility-scale solar installations and data warehouses. For forest buffers, the project would further evaluate the potential to develop a Bay-wide Buffer Easement Program.

Targeted audience/user base

The target audience/user base for this project would be state and local government planners, policy-makers and decision-makers. We would work with the Local Government Advisory Committee, the Local Leadership Workgroup and the Strategic Engagement Team to get input from a broader suite of people to help determine the best format for the final deliverables. We want to deliver information on incentive-based and regulatory approaches to protect riparian forest buffers and urban tree canopy in a format that would be readily usable. This may require developing more tailored products for particular states that reflect different policy contexts.

GIT priorities that will be addressed through project funding and implementation

The work would address multiple priorities for the Forestry Workgroup, which is one of the many workgroups under the WQ GIT. For Forest Buffers, it would directly address priorities in the current workplan to expand availability of buffer conservation easement programs and to strengthen regulations to reduce forest buffer loss. For Tree Canopy, it would address a recommendation that emerged from the 2023 Tree Canopy Funding and Policy Roundtable to “share models and best practices for effective incentive-based and regulatory approaches to protect urban tree canopy”. Both Forest

Buffers and Tree Canopy have been identified as priority outcomes for the partnership, as outcomes that are lagging in attainability but critical for meeting water quality, living resource, and climate resilience goals. As such, in the WIP2025 workplan, the WQ GIT identified a need to assist partnership attainability efforts for these outcomes and consider jurisdictions' associated action plans.

Identification of any cross-GIT application(s)

Maintaining our existing Tree Canopy and Riparian Forest Buffers is foundational to meeting multiple other goals and outcomes for the Water Quality Goal Team (including Land Use Methods and Metrics, Land Use Options Evaluation, WIP2025) and multiple other goal teams:

- Habitat GIT: By slowing the rate of tree cover loss in riparian areas and communities, this project would benefit multiple outcomes including Brook Trout and Stream Health.
- Healthy Watersheds: By working to reduce the loss of tree cover in healthy watersheds, the project would support the maintenance of watershed health.
- Stewardship: By identifying opportunities to increase conservation, the project would benefit the Protected Lands outcome.
- Enhance Partnering, Leadership and Management: By working with local leaders to develop products that will be readily usable, the project would support the local leadership outcome.

Intended results

Although both forestry outcomes would be addressed, separate deliverables would likely be developed based on input from LGAC/LLWG on the most effective format for dissemination. The goal would be for this project to result in the development and implementation of additional policies and incentives to reduce tree cover loss, and ultimately to reduce the rate of tree cover loss in the watershed.

Projected budget

$100K, over 1.5 years

What other funding sources have been pursued for this project

None, the Forest Service does not have discretionary budget for supporting projects of this nature.

Developing a trees & climate resilience strategy guide for local governments

[Link back to results]

Brief description the project, including key tasks

The Tree Canopy Funding & Policy Roundtable identified a need to provide guidance for local governments on how to integrate trees for climate resilience into comprehensive plans (and other local plans) with specific goals, and how to include climate resilience strategies in urban forest plans and projects. At the same time, the Rising Water Temperatures STAC report highlighted the critical role forest buffers play in moderating rising water temperatures and increasing climate resilience for aquatic ecosystems. This project would therefore take a comprehensive approach, identifying approaches for integrating both urban tree canopy and riparian forest buffers for climate resilience into comprehensive plans and other local plans. It would leverage multiple recent or ongoing efforts in this area, including a current GIT funding project on optimizing RFB implementation for climate adaptation and resilience. Key tasks would include pulling together the latest tools from the Northern Institute for Applied Climate Science (NIACS) and other partners, as well as

other resources and real-world examples of localities that have integrated trees for climate resilience into local plans. These materials would be packaged together into a “trees for climate resilience” guide for local governments.

Targeted audience/user base

The target audience/user base for this project would be local planners and policy-makers. We would work with the Local Government Advisory Committee, the Local Leadership Workgroup and the Strategic Engagement Team to get input from a broader suite of people to help determine the best format for the final deliverables. We want to deliver information on approaches for integrating urban tree canopy and riparian forest buffers for climate resilience into local planning documents in a format that would be readily usable. This may require developing more tailored products for particular states that reflect different policy contexts.

GIT priorities that will be addressed through project funding and implementation

The work would address multiple priorities for the Forestry Workgroup, which is one of the many workgroups under the WQ GIT. For Forest Buffers, it would directly address priorities in the current workplan to increase awareness of how forest buffers can help with climate adaptation and resilience and advance opportunities to improve forest buffer design and siting to maximize climate benefits. For Tree Canopy, it would address a recommendation that emerged from the 2023 Tree Canopy Funding and Policy Roundtable to “Integrate trees for climate resilience into comprehensive plans (and other local plans) with specific goals; include climate resilience strategies in urban forest plans and projects”. Both Forest Buffers and Tree Canopy have been identified as priority outcomes for the partnership, as outcomes that are lagging in attainability but critical for meeting water quality, living resource, and climate resilience goals. As such, in the WIP2025 workplan, the WQ GIT identified a need to assist partnership attainability efforts for these outcomes and consider jurisdictions’ associated action plans.

Identification of any cross-GIT application(s)

Tree Canopy and Riparian Forest Buffers are foundational to meeting multiple other goals and outcomes for the Water Quality Goal Team (including Land Use Methods and Metrics, Land Use Options Evaluation, WIP2025) and multiple other goal teams:

- Habitat GIT: By promoting the importance of trees for climate resilience in local plans, the project would highlight the important role trees play in ensuring the resilience of other living resources to climate change, including brook trout and overall stream health.
- STAR: Given the clear linkages of this project with climate change, this project would also engage the climate resiliency workgroup.
- Enhance Partnering, Leadership and Management: By working with local leaders to develop products that will be readily usable, the project would support the local leadership outcome.

Intended results

Although both forestry outcomes would be addressed, separate deliverables would likely be developed based on input from LGAC/LLWG on the most effective format for dissemination. The goal would be for this project to result in the integration of trees for climate resilience into local planning documents and ultimately increase the pace and impact of tree canopy restoration and conservation in the watershed.

Projected budget

$80K, over 1 year

What other funding sources have been pursued for this project

None, the Forest Service does not have discretionary budget for supporting projects of this nature.

Beyond Bean Counting: Assessment of BMP Tracking and Accounting Procedures for More Wholistic Restoration Goals

[Link back to results]

Brief description of project, including key tasks:

Coming out of the Beyond 2025 efforts, the Clean Water Subgroup will be advancing several recommendations focused on the Accountability Framework. The overall aims are to allow partners the flexibility to innovate, while addressing key information/knowledge gaps and re-structuring how state and local water quality efforts can be better integrated with objectives around living resources, human well-being, and climate resilience. This project would support a detailed, third-party evaluation of BMP tracking and reporting under the Chesapeake Bay TMDL framework. The evaluation would identify opportunities to reduce process inefficiencies, strive to better integrate multiple outcomes into progress assessments, and seek ways to improve engagement with external partners and stakeholders to ensure the Bay Program is working with the best available information. The project would be limited in scope to the stormwater sector, but could serve as a pilot that would be replicable in other sectors.

The project would involve the following tasks:

- CBP Stakeholder Interviews – At a minimum, this task would involve a series of interview with each jurisdiction, the Chesapeake Bay Program CAST team, EPA, MS4 program staff (Phase 1 & Phase 2), large scale implementation funders (NFWF, CBT), and community-based organizations/NGO implementers.
- Review of existing QAPPs for BMP reporting and verification
- Review of existing tracking and reporting tools outside of the WQGIT (e.g. Healthy Watersheds Assessment 2.0, Habitat Tracker, etc.)
- Evaluation of a subset of asset management systems and internal data management processes
- Identification of barriers to more wholistic progress accounting – available datasets, capacity for outreach to planners/implementation partners, etc.
- Presentation to the USWG and WQGIT and Healthy Watersheds GIT and/or Habitat GIT on interview and evaluation findings
- Development of final report and recommendations

Targeted audience / user base

The most direct audience would be jurisdictional partners involved in the collection of BMP implementation data, implementation partners responsible for collecting and reporting implementation data, and CBP staff responsible for the assessment of progress toward TMDL outcomes. However, this assessment could ultimately benefit a wide range of other partners if the findings result in an accountability framework that allows for better accounting of non-nutrient and sediment outcomes.

GIT priorities that will be addressed through project funding and implementation

One of the core functions of the WQGIT is to promote consistent, uniform, and transparent processes to model, track, report, and verify water quality restoration efforts.

The following Factors and Actions were identified in the WQGIT's 2023-24 Logic and Action Plan that would be addressed through this project:

- Reduce burdens to implementing, tracking, reporting, and verifying practices; collective conversations to enhance cost-effectiveness and reduce administrative hurdles
- After the BMPVAHAT's efforts, it may be necessary for the partnership to seek an independent 3rd party assessment of the verification framework's strengths and weaknesses
- Increase and encourage implementation by aligning benefits for multiple outcomes beyond water quality: characterization of benefits beyond water quality improvements associated with existing BMPs to expand funding opportunities and increase implementation

The following actions are identified in the Healthy Watersheds Logic and Action plan that would be addressed through this efforts:

- Continue to work with the Chesapeake Bay Program and partners to quantify and incorporate conservation practices into the Chesapeake watershed modeling efforts and to explore how land use protections might be used to quantify future pollutant load reduction incentives for land conservation
- Cross-management strategy coordination, alignment for multiple benefits, analysis and data products at a Watershed-wide scale, and access to/connection to federal agencies

The following actions are identified in the Climate Resilience Logic and Action plan that would be addressed through this efforts:

- Support efforts in identifying strategies to track progress in enhancing resiliency of the Bay and aquatic ecosystems from climate change impacts and support discussions on setting goals for Chesapeake Bay beyond 2025.

Identification of (any) cross-GIT application(s)

The direct outcomes of the project would benefit the WQGIT by providing the ability to better account for aligning the benefits of multiple outcomes, allowing for cross-GIT collaboration with the Habitat and Healthy Watersheds GITs. STAR and the Climate Resilience Workgroups would also be potential beneficiaries.

Intended results

The ultimate goal for this work would be to help provide a bridge to a better framework for more wholistic accounting of the benefits of different resource allocation strategies and management actions, including links to living resource, climate resilience, and human-focused outcomes. Simultaneously, the project could help to provide more confidence in water quality monitoring and modeling outcomes and provide ideas for enhancing the cost-effectiveness and reducing administrative hurdles associated with BMP data tracking and reporting.

Projected budget

$75,000 - $100,000

What other funding sources have been pursued for the project

Funding has not been pursued from other sources. However, USWG considered the topic for a STAC Workshop before determining a third-party evaluation would be more beneficial.

Improving communication of high-resolution land cover/use data

[Link back to results]

Brief description of project, including key tasks: Improve communication of high-resolution land use and land cover data by developing county-wide fact sheets displaying impervious surface cover (similar to the Tree Canopy fact sheets

developed in 2021) based on stakeholder feedback to communicate information on the impervious surface characteristics, extent, and patterns and how they relate to stormwater runoff, water quality, and stream health.

Targeted audience/user base: Local organizations involved in stormwater management, watershed protection, and stream restoration.

GIT priorities that will be addressed through project funding and implementation: Maintain Healthy Watersheds

Identification of (any) cross-GIT application(s): Land Use Methods and Metrics, Land Use Options Evaluation, and WIP2025.

Intended results: Increased awareness of the environmental implications of impervious surfaces and urban development.

Projected budget: $90k

What other funding sources have been pursued for the project? USGS intern hired in spring 2024 to explore content for these fact sheets.

Estimating the pollutant loads from "mixed open" lands

[Link back to results]

Brief description of project, including key tasks: The "Mixed Open" class in the Phase 6 model is considered to load slightly more than forests and represents a catch-all for herbaceous lands that don't qualify as turf grass, cropland, pasture, or wetlands. This is concerning because a diverse array of land use classes are encompassed in the "mixed open" category, many of which probably load much higher than forests. In the latest 62-class high-res land use data, mixed open is composed of construction, timber harvests, solar pervious lands, natural succession, and suspended succession (e.g., road and utility right-of-ways, landfills, reclaimed mines, junkyards, etc.). Of these classes, only natural succession loads similar to forests. All other component classes are either somewhat compacted or require BMPs to not yield loads significantly higher than forests. This project would come up with an expert-based process to determine the loading rates for the major component classes of mixed open as recommendations to the WQGIT for consideration in Phase 7.

Targeted audience/user base: CAST users

GIT priorities that will be addressed through project funding and implementation: Phase 7 Model Development

Identification of (any) cross-GIT application(s): Land Use Methods and Metrics, Land Use Options Evaluation, and WIP2025.

Intended results: Improve the accuracy of the Phase 7 model

Projected budget: $60k

What other funding sources have been pursued for the project? None to date.