Best Practices and Lessons Learned: Developing a Cooperative Agreement Template for Intermunicipal Stormwater Management

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Introduction

As part of its Project Accelerator, WaterNow partnered with Watersheds of South Pittsburgh to develop a framework for multi-municipal cooperation on the restoration of the Saw Mill Run Watershed and the implementation of its Integrated Watershed Management Plan.

A classic example of an urban stream, Saw Mill Run flows through 12 municipalities, including the City of Pittsburgh, encountering densely developed commercial and residential areas along its course. Watersheds of South Pittsburgh, in partnership with the Pittsburgh Water and Sewer Authority and the 11 municipalities within the Saw Mill Run Watershed, developed an Integrated Watershed Management Plan that lays out a roadmap to restoring the watershed and addressing flooding and water quality issues. However, progress had been slowed by the COVID-19 pandemic.

WaterNow collaborated with Watersheds of South Pittsburgh to reinvigorate this initiative and develop the political buy-in needed for cooperation in restoring the watershed. Phase 2 of the project, summarized in this memo, focused on identifying lessons learned and potential models to inform the creation of a Cooperative Agreement Template for the Saw Mill Run municipalities.

Executive Summary and Key Findings

Our desk research identified a wide range of characteristics in stormwater collaborations across Pennsylvania. Collaborations were either voluntary (without a formal agreement) or relied on an Intergovernmental Agreement (IGA) or a Memorandum of Understanding (MOU) to support the structure of their collaboration. Collaborations were generally aimed at outreach and education, regulatory compliance, or mitigating local flooding, and were led by County departments, an NGO, a consultant hired by the collaboration, or a regional Authority. Among these variations, NGO-led groups tended to be voluntary or use IGAs and were more often focused on education and outreach than other collaborations, although several also pursued water quality compliance through joint Pollutant Reduction Plans (PRPs) or Total Maximum Daily Load (TMDL) Plans.

Key takeaways from informational interviews with a selected group of stormwater collaborations included:

- The need for a group's facilitator or coordinator to be flexible, willing to work with participants on a variety of issues, and allow communities to shape the focus of the collaborative's work, as well as acting to organize and direct participants and keep communities engaged. The facilitator or coordinator of a collaboration is a key player in the collaboration's success.
- Regulatory drivers have played a crucial role in establishing or maintaining partnerships, but having goals that go beyond simply meeting requirements is important to establishing long-term partnerships and success.
- The need for contingency planning in agreements, especially for cases in which a new participant wants to join during the period covered by the agreement, or a participant chooses to leave the collaboration during the agreement term.
- Some uncertainty about the best way to coordinate permits across different timelines. There was a sense among interviewees that approaches around this may evolve in response to how the DEP moves forward.
- The importance of both developing a priority list for project implementation, while also being flexible in its implementation, in order to align with grant opportunities, collaborator readiness, and to enable all communities to see benefits directly within their jurisdictions.
- The challenge of paying for projects through member contributions alone; many collaboratives are leveraging these funds as a match for grants, partnering with local non-profits to expand their bandwidth, or starting with projects that feel immediately feasible, as they work up to bigger projects.

Desk Research

In this phase, WaterNow conducted desk research to explore existing approaches to collaboration on stormwater management in Pennsylvania. We reviewed information on 12 inter-municipal stormwater collaborations in the state, in addition to one case study conducted in North Carolina. A summary of the results of the research follows; the full outputs of the research can be found in Appendix B. These collaborations ranged in size from as few as two communities, up to 46 communities at the high end.

The median group had 13 participants, a number close to the 12 communities that make up the Saw Mill Run Watershed. Service populations of collaborations reviewed in this phase ranged from approximately 60,000 to 458,000, with a mean of approximately 237,000. Including the City of Pittsburgh, the total population of all municipalities comprising the Saw Mill Run Watershed is approximately 462,000.

Collaborations operated with a wide range of budgets. Collaboration administration was generally funded by annual contributions from participating communities, which ranged from approximately $500 to $50,000 per participating municipality per year. Projects were typically grant-funded in smaller collaborations and those led by NGOs, while others, especially those collaborations led by County authorities, were able to fund projects out of community contributions.

The collaborations reviewed represented a range of structures, were organized and led by a variety of organizational types, and were driven by a range of outcomes.

Structures for collaboration included:

- Voluntary collaboration (five collaborations)
- Collaborations supported by a Memorandum of Understanding (one collaboration)
- Collaborations supported by an Intergovernmental Agreement (seven collaborations)

Leadership structures included:

- Collaborations led by a consultant hired by the collaboration (two collaborations)
- Collaborations led by a Conservation District or another branch of County government (four collaborations)
- Collaborations led by a regional commission or regional sewer authority (two collaborations)
- Collaborations led by a non-governmental organization (six collaborations).

Key drivers of collaboration included:

- Joint Pollutant Reduction Plans (six collaborations)
- Joint Total Maximum Daily Load Plans (four collaborations)
- General Municipal Separate Storm Sewer System (MS4) compliance (five collaborations)
- Localized flooding mitigation (one collaboration)
- Education and outreach (3 collaborations).

The intersections of these characteristics are displayed in Figure 1. Collaborations concerned with regulatory compliance tended to employ intergovernmental agreements and memoranda of understanding, while those that used voluntary, at-will partnerships were more likely to be engaged in education and outreach or flooding mitigation work.

A shortlist of 4 collaborations best suited for additional research was selected from the group of 12 based on their similarities to the Saw Mill Run Watershed in terms of size, their geographic distribution, and breadth of motivations for participating communities. Three of these collaborations were then

contacted to participate in informational interviews diving deeper into the particulars of their stormwater collaborations.

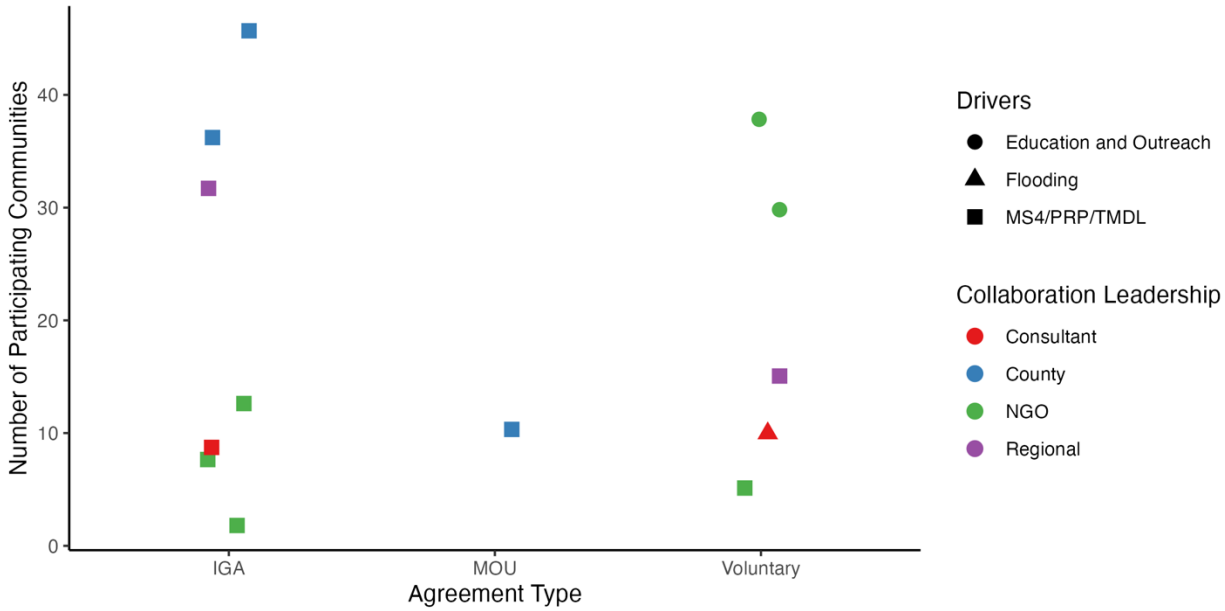

Figure 1. Intersections of Collaboration Leadership Structure, Agreement Type, Drivers, and Size.

Informational Interviews

Informational interviews were carried out with three of the identified collaboratives. Questions focused on the structure, drivers, goals, and outcomes of the collaborations, the experience and approach of the group's facilitator, the particulars of the governing agreement that underpins the group's structure, and the challenges and opportunities inherent in the founding of collaboration for stormwater management (see Appendix A).

Key takeaways from each informational interview are discussed below. Key themes and insights that emerged across these conversations include:

- The need for a group's facilitator or coordinator to be flexible, willing to work with participants on a variety of issues, and allow communities to shape the focus of the collaborative's work, as well as acting to organize and direct participants and keep communities engaged. The facilitator or coordinator of a collaboration is a key player in the collaboration's success.
- Regulatory drivers have played a crucial role in establishing or maintaining partnerships, but having goals that go beyond simply meeting requirements is important to establishing long-term partnerships and success.
- The need for contingency planning in agreements, especially for cases in which a new participant wants to join during the period covered by the agreement, or a participant chooses to leave the collaboration during the agreement term.

- Some uncertainty about the best way to coordinate permits across different timelines. There was a sense among interviewees that approaches around this may evolve in response to how regulatory agencies move forward.
- The importance of both developing a priority list for project implementation, while also being flexible in its implementation, in order to align with grant opportunities, collaborator readiness, and to enable all communities to see benefits directly within their jurisdictions.
- The challenge of paying for projects through member contributions alone; many collaboratives are leveraging these funds as a match for grants, partnering with local non-profits to expand their bandwidth, or starting with projects that feel immediately feasible, as they work up to bigger projects.

Appendix A: Informational Interview Questions

Informational Interview Template:

1. Our sense of the [Collaboration]'s main areas of focus and approach to bringing communities together to address stormwater issues includes [description]. Is this correct? Is there anything we have missed?
2. How did the collaboration form? What initially brought the communities together to address stormwater?
3. What are the key drivers of participation? How does the collaboration keep participant communities engaged?
4. What have been the outputs of the collaboration? Can you share some ways that the group has produced successful outcomes around stormwater in the region?
5. Can you tell us about the structure of the collaborative? Are there regulatory held meetings? How do you approach your role as the coordinator?
6. Can you describe the agreement between the participating communities?
    a. What was the process of developing your IGA/MOU like?
    b. What are some key components to include in a similar agreement?
    c. Is there anything in the agreement that you would consider changing in the next iteration, or that has produced challenges?
7. We're particularly interested in how costs are shared among participating communities and how the [Collaboration] ensures that regulatory credit is received for participating. Could you share what your experience with navigating the process for regulatory credit has been like?
8. Have there been any challenges or pitfalls in the process of developing a multi-municipal collaboration for stormwater? Is there any advice you'd give your past self in coordinating this group over the last few years?
9. Is there anything else you'd like to discuss that we have yet to?

Appendix B: Complete Desk Research Results Table

Organization/Campaign	State	Population	Participants	Partnership Lead(s)	Budget	Agreement Type	Driver(s)	Include in Shortlist?	Summary
Eastern Delaware County Stormwater Collaborative	PA	142,231	9 communities	Consultant Coordinator (Jamie Anderson) hired by the partnership	Per project basis; equal shares for administration	IGA	Joint PRP	Yes	Eastern Delaware County Stormwater Collaborative is a group of 9 municipalities which have signed onto a comprehensive IGA in support of a joint PRP created in 2018. The IGA includes a well-developed cost-share plan according to total sediment loading in each municipality, stipulations for the funding of O&M, and weighted voting along the same lines as the cost-share. No meeting notes have been posted on their website since 2020, but the most recent meeting notes indicate many projects and grants in process. The EDCSC is coordinated by a consultant, Jamie Anderson, and at least one other staff person.
Blair County Intergovernmental Stormwater Committee	PA	211,533	10 communities	Blair County Conservation District	Projects totaling $6.9 million over 4 years	MOU	Joint TMDL and PRP	Yes/Maybe	The partnership was originally formed in 2016 and spent two years developing the Joint PRP, with its initial $200K budget. In 2019, it was renewed for a 5 year term. Little information seems to be available since then - would be curious to hear about how implementation has proceeded, especially with regards to funding projects, a subject glossed over somewhat in the initial PRP available on Antis Township's website. The cost-share uses the same formula for distributing costs, developed by the Maryland EFC, as the Wissahickon Creek partnership below.
Wyomissing Creek Watershed Stormwater Coalition	PA	169,588	8 municipalities	Wyomissing Creek Watershed Stormwater Coalition	$2,000,000	IGA	TMDL	Yes/Maybe	The coalition was formed in 2011 in anticipation of MS4 permitting requirements becoming more costly and stringent. Additionally, the wasteload allocation (WLA) for the TMDL was at the watershed level and not allocated for each municipality, so a joint agreement was the most logical option. For the current cycle (2017-2023), the funds each municipality needed to provide was based off the proportional amount of Urbanized Area they had. Before agreeing on this cost allocation system, each municipality contributed $12,000 with the understanding that all would equally benefit from the initial efforts.
Southwest Butler Stormwater Planning Group	PA	193,763	10 municipalities and Butler County	3rd Party Consultant (Jerry Andree)	$2,000 per municipality/year	No formal agreement	Flood reduction	Maybe/Yes	Example of an informal watershed collaboration implementing MS4 Minimum Control Measures. In 2019, following more significant flooding events in the area, the Butler County commissioners called a meeting of all municipalities to encourage municipalities to work together to address regional stormwater issues. The planning commission is made up of 10 municipalities – Adams, Cranberry, Forward, Jackson, Lancaster and Penn townships, as well as Evans City, Harmony, Seven Fields, and Zelienople – that have been meeting regularly to discuss stormwater and what they could do to mitigate future flooding events. The 10 municipalities, along with Butler County, paid for a stormwater study of the region and identified priority projects in both areas of regulations and future capital projects. Employing a strategic inter-municipal approach, the group has approved the recommendations and begun a process to amend local regulations in each municipality to pursue projects that benefit the region. Despite the lack of a formal agreement, the similarities between this collaboration and the goals of the WoSPgh project may warrant an interview.
Perkiomen Watershed Conservancy	PA	425,000	30 municipalities	Perkiomen Watershed Conservancy	$1,000, 500, or 250 per municipality	Voluntary membership	Education and Outreach	Maybe/No	The Conservancy is a nonprofit watershed group which provides an MS4 Membership package at

									several levels of support. For an annual fee of $250, $500, or $1,000, municipalities gain access to educational resources and statistics about the Conservancy's work which can be used in MS4 grant reporting. At the highest "benefactor" level, municipalities receive MS4 training for staff and the right to submit an application for a BMP installation grant managed by PWC.
York County Stormwater Consortium	PA	458,696	46 communties	York County	$2,466,866 annually	IGA	Joint PRP for MS4 Compliance	Maybe	This Intergovernmental Cooperative Agreement outlines how communities in York County will implement a Regional Plan that identifies and funds BMP Projects for the reduction of pollutants into state waterways so that each community does not have to create their own PRP. The agreement details the responsibilities of each participant, how implementation will occur and who will be responsible for BMP implementation based on the project location, how annual costs will be calculated, and how participants can either withdraw or join during the agreement term. Section 7, Financing (Page 15) and Attachment A (Page 26) explain the formula for calculating annual costs and how much each participant is expected to contribute, including those that have waivers or are non MS4. Including a county in the shortlist may not be ideal, given the differences in scale, centralization of decision-making and authority to "tax". On the other hand, this is a large collaboration with many successful projects and could provide some insights.
Berks County MS4 Steering Committee	PA	429,342	36 communities	Berks County Conservation District & Planning Commission	$500 per municipality/year; overall project budget not available	IGA	Cost-sharing education program for MS4 compliance	Maybe	The education program was designed to meet the education and outreach requirements for the MS4 permit specifically portions of the 6 MCMs related to education. (In more detail: The Steering Committee, member municipalities, along with the educational partners (Berks County Planning Commission, Berks County Conservation District, Berks County Conservancy) provide the Berks County Cooperative Education Program. This program was developed to meet the education and outreach permit requirements for the NPDES program. The cooperative education program focuses on portions of the 6 minimum control measures related to education and outreach.)
Christina Watershed Municipal Partnership	PA	303,940	38 communities	Brandywine Red Clay Alliance (Brian Winslow) The work of the CWMP is coordinated by a team including; Brandywine Red Clay Alliance, Gaadt Perspectives, Chester County Water Resources Authority, Brandywine Conservancy, Chester County Conservation District, David Ross, Ph.D. (Bryn Mawr College), Stroud Water Research Center and White Clay Creek Wild & Scenic Program. This team plans four quarterly meetings for the 38 municipal partners each year and coordinates with regulatory, municipal, academic and funding partners to improve the streams in the Christina Watershed.	$450-950 per municipality/year	No formal agreement	Education and Outreach	Maybe	The Christina Watersheds Municipal Partnership (CWMP) is a long-term partnership of Pennsylvania municipalities, county agencies, and watershed conservation organizations. The mission of CWMP is to facilitate and support engagement and collaboration of Pennsylvania municipalities, landowners, and other stakeholders to restore and protect the water quality of streams in the Brandywine Creek, Red Clay Creek and White Clay Creek watersheds. Since 2003, this Partnership has provided broad based collaborative education and MS4 regulatory planning and coordination efforts to 38 municipalities and private, non-profit, and government partners in the PA portion of the Christina Basin. The CWMP coordination efforts have achieved significant cost savings and improved consistencies for MS4 municipalities through information sharing, tools and templates, and facilitation of collaborative planning, among other services, and assisted them with watershed-based approaches to regulatory compliance. In recent years, CWMP has assisted municipalities in preparing pollutant reduction and TMDL plans, and for the past two years, has also facilitated 3 pilot areas of multi-municipal collaboration planning in the Brandywine Creek and White Clay Creek watersheds.

Wissahickon Clean Water Partnership (known from Sue+Ellen)	PA	255,612	13 municipalities, 4 WWTPs	Wissahickon Clean Water Partnership	$255,000 (for plan preparation)	IGA	TMDL and MS4	Maybe	This partnership is focused on preparing a WQIP for the Watershed to meet the EPA's TMDL requirements. They are doing this through an Alternative TMDL Plan which requires approval from DEP and EPA (Draft is being reviewed by EPA now). The Agreement outlines the roles and costs associated with the preparation of the plan but not how municipalities will pay for plan implementation. The second link is a memo from the Maryland EFC that includes cost sharing example formulas and references some of the formulas used by other partnerships in this list. It seems that this is also the formula Blair County was referring to in their IGA. The example formula other municipalities use: 20% of the total budget is proportional to miles of impaired stream in each municipality, 30% is proportional to population, and 50% is proportional to [total?] impervious surface area. Overall, this reads as similar to the situation in Blair County, albeit a few years later in the schedule.
Paxton Creek Collaborative	PA	124,762	2 municipalities and Capital Region Water	Paxton Creek Collaborative		IGA	PRP	Maybe	The collaborative was started in 2015; the joint PRP and each municipality's individual MS4 permits were approved in 2020. In 2019 the collaborative also partnered with PennDOT for some pollution reduction projects that would expedite the amount of time needed to reach goals and be more cost effective. Costs associated with the PRP are based off the percentage of load reduction each Participant contributed. The age of the partnership is potentially attractive for further research, but the small size may not result in the most fruitful deeper dive.
Skippack Creek TMDL Alliance	PA	60,000	5 municipalities	Skippack Creek Watershed Alliance		Agreement yet to be formalized as of April 2022	PRP/TMDL	Maybe	Skippack Creek is located within the larger Perkiomen Creek watershed in eastern PA. The five municipalities listed in the PRP, out of the 12 in the watershed, are cooperating to meet the sediment reduction requirements of the TMDL for Skippack Creek. Little information is available online besides the PRP about the structure of the Alliance or any formalized agreements, though the minutes of a Towamencin Township council meeting from May 2022 indicate that an IGA was discussed and may have been passed. This could be a fruitful conversation if we were able to track down more info, but appears to be similar to other, better-documented agreements elsewhere.
Dauphin County Water Resource Enhancement Program	PA	80,000	15 municipalities to date	Tri-County Regional Planning Commission	$500 per municipality, projects grant-funded at initial stage	Voluntary	MS4 MCMs	Maybe	A new program as of 2022, the Dauphin County WREP is a partnership of municipalities and county-level entities intended to serve as a clearinghouse and coordinator for municipal collaboration on meeting MS4 requirements. "Project 1", a large stream restoration in Londonderry Township, is accepting buy-in from other municipalities in the Conewago Creek watershed to share the cost in exchange for credit towards MS4 sediment reduction requirements. The voluntary approach is one that could be interesting to discuss, but the newness of the program might limit the depth of insight we could capture here.
Wyoming Valley Sanitary Authority	PA	229,308	32 Municipalities	Wyoming Valley Sanitary Authority (Jeff Colella)	$9 million from fees (Average of $56.40 per ratepayer/year)	Regulatory Authority + IGAs	Joint PRP for MS4 Compliance	No	WVSA expanded its regulatory authority to include stormwater management in 2017, under Pennsylvania Act 68 of 2013. This authority allows it to charge a fee from the municipalities in the Wyoming Valley, similar to the fee it already charges for regionalized sewer service. WVSA has executed IGAs with its constituent municipalities in order to establish itself as the permit administrator for the 32 MS4 permits in its region. This is an interesting situation, but quite different from the type of agreement we envision for Saw Mill Run.