

Formulating the Problem

Whatever the locus of action, from national government down to precinct, whether in an executive body or a legislative committee, some participants are almost sure to start with favorite, long-developed schemes. Their inclination will be to ignore whatever seems not to fit and to define the problem as one calling for solutions they have handy.

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At this point in time, the Town knows it must comply with state and federal regulations...but it is unclear what specific actions will be required.

Staff, Town of Bel Air, Maryland, 2013

Must you comply with a MS4 regulation? Do you have unresolved flooding issues? Are there water quality concerns in your jurisdiction? Some problems are common across local governments, while others will be unique to your community. Improving stormwater finance in your jurisdiction means developing a deep understanding of the problem you face.

Benefits of a Clear Formulation

A clear identification of the stormwater management problem is important for many reasons. It will:

1. Allow your advisory committee the opportunity to agree on how to respond;
2. Help decision makers become convinced they should authorize solutions; and
3. Build political support across a community for the program you will eventually propose.

Defining the problem carefully will also help you assess stakeholder groups, so as to understand their attitudes, identify differences among them, and provide criteria for measuring the degree to which program options would satisfy their interests. If, during this phase, conflict begins to emerge among stakeholders in your advisory committee, you can focus the discussion constructively by framing the problem as a question in the form of: “How can we (accomplish the interest of Stakeholder A) while at the same time (accomplishing the interest of Stakeholder B)?”⁵

A Checklist of Questions⁶

This phase of the policy process should focus on problems, not on solutions. To assess your stormwater problem, in collaboration with staff members of your jurisdiction, private consultants, state and federal agencies, university experts, and others, as needed, begin by asking a series of questions:

⁵ This manner of problem framing was essential in developing a program to satisfy the interests of farmers and local governments, on one side, and environmental groups on the other over pollution being carried by public drainage ditches on Maryland’s Eastern Shore. See Bell and Favero (2000).

⁶ The Environmental Finance Center at the University of Maryland offers assistance about stormwater finance to local jurisdictions in Chesapeake Bay States. In this manual, the technical methods for formulating the problem and creating a solution draw on processes developed by the Center.

1. **What type of permit does our community have?** You may be a Phase I, a Phase II, or an unpermitted jurisdiction. Permitted communities, either Phase I or Phase II, must comply with certain federal and state regulations. Unpermitted communities may also have local stormwater problems, such as flooding and environmental degradation, and decide to address their problems in a fiscally sound manner.
2. **What is our state's structure for local government stormwater management?** Each state has different stormwater regulations and different methods of enforcing EPA mandates. Also, governing structures differ among states. For example, in Maryland, counties have broad authority for stormwater management, but municipalities, like countries have Home Rule – meaning local jurisdictions have the power to enact any legislation not prohibited by the state. In Pennsylvania, many small municipalities have stormwater authority, and Virginia is a Dillon Rule State – meaning a municipal government has the authority to act only when:
 - a. Power is granted in the express words of a statute or the charter creating the municipality;
 - b. The power is necessarily or fairly implied in, or incident to the powers expressly granted; or,
 - c. The power is implied as essential to the declared purposes of the municipality.

Structural differences among states have stormwater finance implications:

- a. Home Rule States have the greatest leeway in implementing and funding stormwater programs, and where strong counties exist, smaller jurisdictions may find it advantageous to partner with counties in their stormwater programs;
 - b. Where local governance is significantly decentralized, such as in Pennsylvania, small jurisdictions are challenged to coordinate across jurisdictional boundaries, with potential efficiencies and watershed interdependencies in mind, to achieve economies of stormwater program size; and,
 - c. In Dillon Rule States establishing funding mechanisms can be more problematic.
3. **What is the dominant use of land in our jurisdiction?** The degree of urbanization in your jurisdiction will determine the nature of your stormwater program. As the portion of land devoted to roads, roofs, and parking lots increases in a community, the risks of flash flooding and runoff pollution also increase, and the space available for detention and infiltration declines.
4. **What is driving change in our stormwater services?** Common drivers are:
 - a. EPA/State NPDES mandates to achieve a minimum level of compliance;
 - b. Public preferences regarding, for example, flooding, tourism, natural resource protection, and environmental stewardship; and,
 - c. Government initiatives to relate stormwater management to achieving various public goals such as historic preservation, flood prevention, and environmental enhancements.

5. **What program or set of services does our jurisdiction currently have?** If you work in a jurisdiction that has established a single stormwater program, it may be relatively easy to learn who is in charge, how the program works, where records are kept, and what is included in regulatory documents such as an MS4 Agreement or a WIP requirement. If a single program has not been established, stormwater services are likely being provided in a piecemeal fashion, and to determine what set of services relate to stormwater management you will need to gain access to departmental budgets and capital improvement programs, and to interview colleagues in your jurisdiction who provide the pieces of a program; in so doing, you will want to get a general idea of how much your jurisdiction spends on stormwater services and how costs are broken down by department or activity. In determining what program or set of services you have, you will gather data from within your jurisdiction and from contractors you have hired previously; the data should include all relevant written information such as permits, memos, annual reports, existing policies and procedures, and budget materials dating back at least five years, where possible.
6. **How well are we performing?** Once you know what stormwater program or set of services you have, you can evaluate its structure, current capacity, and trends in funding levels by gathering information from staff and contractors. Your interviews will be with engineers, GIS personnel, planners, water resource managers, etc. Standards and expectations provide the metrics for evaluation, and they may be:
 - a. Imposed by your EPA/State permit;
 - b. Advocated by your citizens; or
 - c. Set by your government.

You will want to ask questions such as: How cost effective is our program: i.e., where can we streamline stormwater services? If we have a Phase II Permit, how are we doing on each MCM? Are there local groups or organizations that could help manage stormwater? And, are we utilizing those organizations? Answers to “How well are we performing?” should be written into a level of service document and include the following categories:

- a. Operations and maintenance;
 - b. Stormwater quality;
 - c. Water quality/quantity management;
 - d. Green infrastructure;
 - e. Program leadership;
 - f. Design;
 - g. Engineering;
 - h. Enforcement; and
 - i. Capital improvements.
7. **Looking forward, what targets do we need to set?** The EPA/State permit, if you have one, and/or expectations of your citizens, and/or your government’s goals explicitly state, or imply, a set of program targets. To clearly express and document for your

records your jurisdiction's targets, you will want to ask what your jurisdiction needs its stormwater program to accomplish.

8. **What are the gaps between the stormwater program our jurisdiction currently has and the targets it needs to reach?** You will want to ask: Are we doing everything required of our permit (if ours is a permitted community) or our WIP? What is the gap in program (if a Phase II community) for each of the six MCMs? How do our efforts compare (if an unpermitted community) to an "ideal" program – that is, if we had an unlimited budget to accomplish what we want to achieve?
9. **With what program could we close the gaps?** As you assess your problem, you will begin to formulate a plan to close the gaps. You will want to ask what actions you need to take on each MCM (if you are a Phase II Community), and what actions you need to take to achieve community goals (if you are an unpermitted community). In sum, you will want to develop a preliminary vision for a preferred program and a preliminary estimate of capital improvements, operations and maintenance, and personnel costs.
10. **How will we pay for that program?** Here we come to the nub of the issue for most jurisdictions. There are traditional funding mechanisms: real property taxes; grants; and fees to recover program costs such as to pay for inspections. You may well find, however, that traditional mechanisms are insufficient to pay for the program you have envisioned, and that you must employ a non-traditional mechanism. Many local jurisdictions are in this situation and are turning to a stormwater utility option, which allows them to impose fees on all or most all properties in their community.

As a means to communicate your answers to the ten questions, you will find it useful, likely, to prepare a document that articulates your understanding of the problem. A clearly written statement will help your advisory committee understand why a solution is needed and coalesce to support it. Such a document can become the focus for discussions among your jurisdiction's staff, the advisory committee, other stakeholders, state and federal authorities, technical experts, and your elected decision makers. Those discussions will be necessary as you move forward to create a solution.

Lessons Learned

- Water Department officials were able to impress on Stormwater Advisory Committee members the need for new thinking about: the funding shortfall that would be created by the MS4 Permit requirement; and the opportunities that increased funding would provide to solve environmental issues. In this way they helped the committee members envision a path, via a stormwater utility, to a better future. **City of Lynchburg, Virginia**
- In Pennsylvania, the Chesapeake Bay is commonly viewed as being "downstream" and, therefore, not of concern. Thus in defining the problem, it is important to focus on local benefits of stormwater management. **Borough and Township Officials, Lancaster County, Pennsylvania**
- Be sure this phase emphasizes problems or needs, not solutions. **Bryson and Crosby**

- There can be a problem with the term “problem.” Some people find the word offsetting or discouraging. It may be useful to talk in terms of “challenges” or “opportunities.” Likewise, you may want to initiate discussion by talking about “assets” before talking about problems. Whatever terms you decide to use, aim for articulations of the situation that are inclusive, motivating, and not directed, prematurely, to particular solutions. **Bryson and Crosby**
- Frame problems with words such as, “How can we...” so that they can be solved. **Bryson and Crosby**
- Prepare and distribute a final report that outlines the problem to be addressed. **Bryson and Crosby**
- Do not promise stakeholders that all of their problems will be solved. **Bryson and Crosby**