Potomac Basin Comprehensive Water Resources Plan

An Inventory of

Potomac Basin Entities

with a Role in Sustainable Water Resources Management

Rationale

Governmental agencies, water resources related sectors, private and non-profit organizations, academic institutions, and individuals have a role to play in the sustainable management of the Potomac basin's water resources. This pamphlet summarizes those entities and their roles, responsibilities, and areas of authority in the basin.

Interstate Commission on the Potomac River Basin

Introduction

The Potomac Basin Comprehensive Water Resources Plan (2018) outlines a shared vision of sustainable water resource management in the basin. Responding to a Plan recommendation, the Interstate Commission on the Potomac River Basin (ICPRB) created an inventory of organizations with a role in sustainable water resources management in the basin in 2022. The inventory was the product of an iterative process initiated by ICPRB staff with input from the plan's Advisory Committee.

That initial snapshot, captured in a searchable spreadsheet, identified 733 entities across various sectors. During the 2023 updates to the basin-wide comprehensive plan, the Advisory Committee called for a review of the inventory, recognizing the need to re-evaluate organizations over time. As a result, an effort was undertaken in 2025 to update the inventory.

This pamphlet summarizes the contents of the updated spreadsheet inventory - listing entities in the Potomac basin that have a role to play in sustainable water resources management, either directly or indirectly, and also summarizing the roles, responsibilities, and areas of authority of those entities as defined in the basin-wide comprehensive plan.

Ongoing comments are welcome. To obtain a copy of the spreadsheet inventory or to submit comments, email ProgramOperations@icprb.org.

Methods

Existing entries were updated and new entries were identified by obtaining additional data sets and through the use of AI tools.

Entities

Entity types included in the inventory are municipal, county, state, regional, and federal government agencies; non-governmental organizations; drinking water suppliers; and academic institutions. The drinking water supplier component of the inventory was expanded to include all (2,187) community and non-community (transient and non-transient) drinking water suppliers in the basin. In addition, information on 219 unincorporated areas was updated but was not included in the summary results. These entities inform understanding of communities in the basin and include places like Clarksburg, Maryland and Mount Storm, West Virginia; however, they do not have organizational capacity.

Two of the entity categories (county and municipal governments) are subdivided based on size for the purposes of this inventory, as they were in 2022, in recognition of the differences in organizational capacity. Specifically, county and municipal governments are divided based on a population threshold of 400,000 and 100,000 people, respectively. The subdivision designations include two changes:

- Drinking water suppliers are no longer sub-divided by water withdrawal amounts as this grouping is no longer relevant given the new, expanded drinking water supplier data set.
- The county population threshold is now 400,000, down from 500,000, due to the distribution of county populations across the basin.

Table 1 summarizes the entity types, subdivisions, and data sources.

Table 1. Entity types and sources.

Type	Subdivision	Sources, Entity List
Municipal Gov	Large municipalities (> 100,000)	Cities and towns from the National Atlas of the United States; Population updated based on 2023 US Census Data
	Small municipalities (< 100,000)	Cities and towns from the National Atlas of the United States; Population updated based on 2023 US Census Data
County Gov	Large county governments (> 400,000)	Population updated based on 2023 US Census
	Small county governments (< 400,000)	Population updated based on 2023 US Census
State Gov	---	2022 list updated with AI input
Regional Gov	---	2022 list updated with AI input
Federal Water Agencies	---	2022 list updated with AI input
NGOs	---	2022 list updated with AI input
Drinking Water Suppliers	Community and non-community (transient and non-transient) drinking water suppliers having all or part of their operations in the Potomac basin	EPA Region 3
Academic Institutions	---	2022 list updated with AI input

Note that not all "entities" are unique. As examples, some small drinking water suppliers are also small municipal governments, and some counties and states have multiple departments individually listed.

Roles, Responsibilities, and Areas of Authority

Each entity is described in the spreadsheet inventory through the use of 1's and 0's to indicate existence (or not) of pre-determined roles, responsibilities, and areas of authority. These categories, listed below, were used in the 2022 inventory and have not changed since that time. Existing entries' roles, responsibilities, and areas of authority were examined for accuracy through web searches and with AI assistance and new entries were categorized similarly.

Roles
Regulatory and/or
Public Policy
Grant/Project
Management
Community Education
Utility
Science/Technical

Responsibilities
Standard Setting
Planning and/or Zoning
Research
Monitoring
Enforcement
Funding
Reservoir Operation
Water Allocation
Infrastructure Maintenance
Communication/Education

Areas of Authority
Water Use and
Supplies
Water Quality
Land Use
Ecological Health
Cross-Cutting Areas

The percentage of entity types with each role, responsibility, and area of authority were calculated by summing the "1"s, dividing by the total number of entities in each category, and multiplying by one hundred.

Use of Artificial Intelligence (AI)

AI was used to update the entities present in the inventory as well as their identified roles, responsibilities, and areas of authority. Example AI questions and requests are shown in Table 2. This effort resulted in identification of numerous out-of-date entries, such as academic institutions that have closed, and identification of new entries that were not previously included.

Table 2. Example AI questions/requests.

Please review this list of localities and identify which ones do not have municipal governments?	Please provide a list of federal agencies that have a role to play in sustainable water resources management.
Please list NGOs in the Potomac basin that have a role to play in sustainable water resources management.	Please provide a list of state agencies for [state name] that have a role to play in sustainable water resources management.
Please review this list. Which of these academic institutions are permanently closed?	Is [agency] interested in the water-energy nexus?
Does [institution] provide grants?	Are there college-level institutions in the Potomac basin that are not on this list?
Which of these academic institutions do not offer science-related programs?	Which municipalities on this list do not have regulatory authority and/or planning/zoning authority?

Findings

The information contained in the inventory can be used to enhance communication and coordination, inform and integrate future water resource management activities, and foster opportunities for improvement and synergistic success. The revised inventory includes 2,722 entities with a role to play in sustainable water resources management in the Potomac basin, an increase of 271% from the 2022 version of the inventory. The majority of this increase comes from the new drinking water supplier data obtained from EPA Region 3. The water supplier information now includes community and non-community (transient and non-transient) water suppliers that operate wholly or partially in the Potomac basin. While this full data set was obtained for the 2022 inventory, only the community water suppliers were included in the summary of results.

Table 3 provides a summary of the inventory contents. The full inventory workbook is available by contacting ProgramOperations@icprb.org. As entities in the Potomac basin change over time, this product is a snapshot rather than a once-and-done activity.

Table 3. Summary of inventory contents.

	Entity Types	Municipal Gov		County Gov		State Gov n=47	Regional Gov n=18	Federal Gov n=25	NGO n=85	Drinking Water n=2187	Academic n=129
	Subdivisions	Large (>100,000) n=3	Small (<100,000) n=164	Large (>400,000) n=8	Small (<400,000) n=56	--	--	--	--		--
Roles	Regulatory and/or Public Policy	100%	100%	50%	73%	81%	56%	88%	2%	0%	0%
	Grant/Project Mgmt	100%	84%	100%	100%	81%	83%	100%	42%	1%	100%
	Citizen/Community	100%	100%	100%	100%	34%	33%	32%	89%	100%	100%
	Education	100%	100%	100%	100%	77%	72%	100%	35%	44%	100%
	Utility	0%	43%	0%	7%	4%	0%	4%	0%	27%	0%
	Science/Technical	100%	2%	63%	5%	66%	33%	92%	25%	2%	88%
Responsibilities	Standard Setting	100%	84%	50%	61%	62%	33%	80%	0%	0%	0%
	Planning and/or Zoning	100%	84%	100%	73%	32%	67%	68%	8%	0%	0%
	Research	0%	0%	50%	2%	60%	28%	100%	25%	2%	85%
	Monitoring	100%	20%	50%	11%	55%	17%	88%	42%	100%	27%
	Enforcement	100%	100%	50%	34%	55%	6%	64%	0%	0%	0%
	Funding	100%	4%	50%	13%	72%	39%	100%	18%	1%	100%
	Reservoir Operations	0%	0%	0%	4%	0%	6%	20%	0%	0.32%	0%
	Water Allocation	0%	0%	0%	0%	9%	0%	16%	0%	0.05%	0%
	Infrastructure Maintenance	100%	100%	50%	9%	26%	11%	60%	0%	100%	100%
	Communication/Education	100%	100%	100%	100%	91%	83%	96%	82%	100%	100%
Areas of Authority	Water Use and Supplies	100%	100%	88%	23%	32%	28%	64%	5%	100%	55%
	Water Quality	100%	100%	88%	39%	79%	94%	92%	82%	100%	62%
	Land Use	100%	100%	100%	89%	74%	83%	84%	67%	39%	55%
	Ecological Health	100%	7%	50%	0%	43%	28%	80%	56%	5%	58%
	Cross-Cutting	100%	8%	50%	36%	89%	89%	96%	53%	100%	59%

Differences in summary metrics from the 2022 version of the inventory are likely due to enhancements to the inventory contents through additional verification and more robust data sets rather than changes to actual entities and their activities in the basin.

The Table 3 percentages mimic those from the 2022 data set overall. No substantive changes or trends were found. As a result, the summary findings are provided below (slightly adapted from the 2022 version) for each of the three categories: roles, responsibilities, and areas of authority.

Roles

- The regulatory and policy roles in the basin continue to be held by governmental agencies, although a small percentage of NGOs also play a role in public policy.
- As was the case in 2022, grant/project management is common across entities, with government and academia having the largest percentages with this role.
- Citizen and community engagement and education are common across entities. Interestingly, state, regional, and federal government agencies are more focused on education than citizen and community engagement while NGOs and drinking water suppliers are more focused on community engagement.
- The role of drinking water utility is primarily held by large municipal governments and individual drinking water suppliers.
- Large municipal and county governments, drinking water utilities, state, regional, and federal government, and academic institutions all have large scientific and technical roles in the basin.

Responsibilities

- Standards are set by all levels of governmental agencies. While some drinking water suppliers are municipal governments, they were marked as not setting standards in their capacity as a drinking water supplier.
- Zoning occurs at the local (county and municipal) level in the Potomac basin, with additional planning efforts occurring at the larger government agency scale.
- The responsibility of research predominantly falls to academic institutions and the federal government, with a limited percent of state government and other entities reporting research responsibilities.
- Water quality monitoring occurs most consistently in the drinking water supplier and large municipal government categories, but also is performed by large county, state, regional, and federal governments. Twenty-seven percent of academic institutions were found to have water quality monitoring initiatives in the basin. Forty-two percent of non-governmental organizations also conduct water quality monitoring.
- Enforcement primarily occurs within local government entities, but also at other levels of government.
- The largest percent of entities providing funding are government entities while almost all academic institutions have responsibilities managing project funds.
- Reservoir operations are performed by a handful of large drinking water suppliers, the U.S. Army Corps of Engineers, other federal agencies, and ICPRB's Section for Cooperative Water Supply Operations on the Potomac.
- Similarly, water allocation activities are a specialized activity performed by a few government agencies in the basin.

- Municipal governments, drinking water suppliers, and academic institutions were found to be the primary entities responsible for infrastructure maintenance, with a small percentage of large county, state, and federal government agencies also reporting responsibility for infrastructure maintenance.
- Communication and education are a common theme across all entity types.

Areas of Authority

Entities in the basin collectively provide coverage across all eight "areas of authority" in the inventory. Water quality is a focus of most (2,610) of the 2,722 entities investigated, followed by water use and supply (2,485). They are primarily governments and drinking water suppliers. Floods and droughts and source water protection are the two most common cross-cutting areas (2,430 and 2,384, respectively). The least common cross-cutting area is the water-energy nexus (158).

Next Steps

This pamphlet will be made available to the plan's Advisory Committee and the general public. Comments are welcome and will be incorporated into the spreadsheet inventory on a rolling basis. The contents of the inventory will be summarized in a future pamphlet if deemed helpful by the Advisory Committee during the next review of the plan's milestones and measures of success.

To obtain a copy of the spreadsheet inventory or to submit comments, email ProgramOperations@icprb.org.

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Interstate Commission on the Potomac River Basin

401 North Washington Street, Suite 300
Rockville, Maryland 20850

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