ICPRB
potomacriver.org

2024 Annual Report

Interstate Commission on the Potomac River Basin

Mission

The Mission of the ICPRB is to protect and enhance the waters and related resources of the Potomac River basin through science, regional cooperation, and education for the benefit of all residents of, and visitors to, the Potomac River watershed.

Vision

The Comprehensive Plan provides a roadmap to achieving our shared vision that the Potomac River basin will serve as a national model for water resources management that fulfills human and ecological needs for current and future generations. The Plan focuses on sustainable water resources management that provides the water quantity and quality needed for the protection and enhancement of public health, the environment, all sectors of the economy, and quality of life in the basin. The Plan is based on the best available science and data. The Interstate Commission on the Potomac River Basin will serve as the catalyst for the Plan's implementation through an adaptive process in collaboration with partner agencies, institutions, organizations, and the public.

Values

The values of ICPRB are as follows:

- Maximizing the environmental sustainability of the entire Potomac River Basin, for the benefit of all residents, including marginalized and vulnerable communities that have historically been excluded from the advantages of programs in the watershed.
- Working with integrity and in conformity with the highest ethical principles.
- Building and strengthening ecosystem and organizational resilience.
- Increasing outreach through a broad range of public and private sector partnerships.
- Cultivating and fostering a talented and diverse workforce to encourage professionalism, innovation, productivity, teamwork, and leadership.
- Embracing open and transparent communications in all our relationships.
- Focusing on scientific research through rigorous and unbiased analysis.
- Educating policymakers, scientists, and the general public through the free dissemination of data and information.

Overarching Goals

The overarching goals of ICPRB are:

- To be recognized as a leader in the coordination of interstate and regional efforts by governments and other partners
- To be a provider of services to better meet the needs of our stakeholders
- A more informed and active public
- Decision-making and actions supported by science

A Note from the Executive Director

The Interstate Commission on the Potomac River Basin (ICPRB) was established by a Congressionally approved Compact among the five jurisdictions that share the 14,670 square mile Potomac River watershed. Maryland, Virginia, West Virginia, Pennsylvania, and the District of Columbia work together with the Federal government, to protect and enhance recreational waters, drinking water sources, and related resources within the Potomac River watershed.

While private entities use their annual reports to tell their shareholders their Return on Investment (ROI), governmental entities, such as ICPRB, generally do not do so. But, borrowing the slogan for the U.S. Army Corps of Engineers, "Essayons!" *French for "Let Us Try!"*

So, how do you quantify the recreational value of clean water? For 2023, the U.S. Bureau of Economic Analysis calculated the value of outdoor recreation in our five jurisdictions (much of it related to the waters of the Potomac River basin) as $45 billion. *That's billion with a B.*

Additionally, what would be the economic impact of the loss of clean drinking water? According to a 2024 study authored by Drs. Thornton & Clower, within the first month, the D.C. region could see a loss of almost $15 billion in gross regional product and hundreds of millions in tax losses. *That's billion with a B.*

While ICPRB's many partners help support ICPRB's important mission, ICPRB's key role as a catalyst in generating this economic activity should not be underestimated. And all on a budget of just over $3 million per year. *That's million with an M.*

Not a bad ROI for a small government entity!

Highlights

New Office

Staff at the Interstate Commission on the Potomac River Basin successfully made the move to a new office. The new address is 400 N. Washington St, Suite, 300, Rockville, MD, 20850. In accordance with ICPRB's mission, the new office has a smaller footprint and is close to public transportation.

Events

- Land Use Webinars
- Partnering for the Potomac
- Potomac River Conference: Reeling in the Challenge of Aquatic Invasive Species
- Press Conference for ICPRB Report Which Exposes Alarming Economic Impacts on DC Region if Faced with Water Supply Disruption
- Walk in the Woods Series of Hikes

Reports

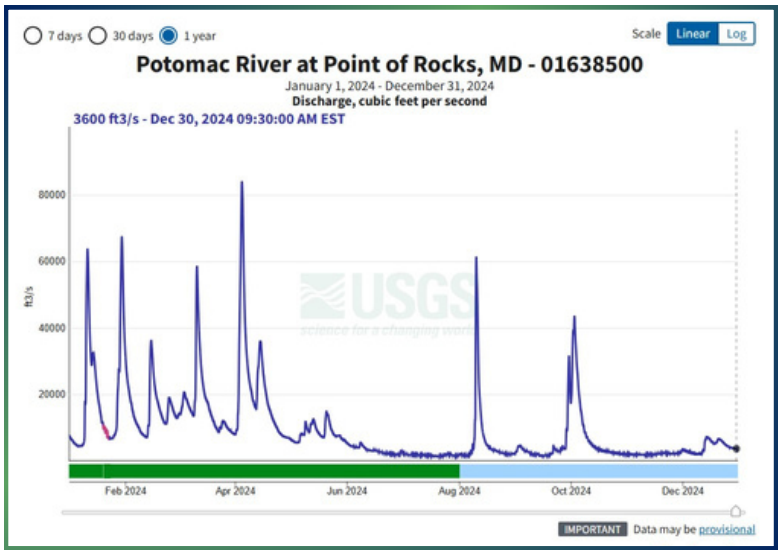
- 2023 Comprehensive Plan Updates
- Potomac Basin Trends in Water Use
- Evaluation of reported and unreported water uses in various sectors of the Potomac basin for the year 2017
- 2024-2026 Strategic Plan

2024 River Report

Rain came in like a lion, out like a lamb

The year started out strong with above-average precipitation across the basin. A few big storms showcased the Potomac's characteristic flow flashiness (quick high and low flows).

Towards the end of June, dry weather and high heat led to lower flows and a flash drought. Maryland, Virginia, West Virginia, and Pennsylvania experienced their warmest year on record.

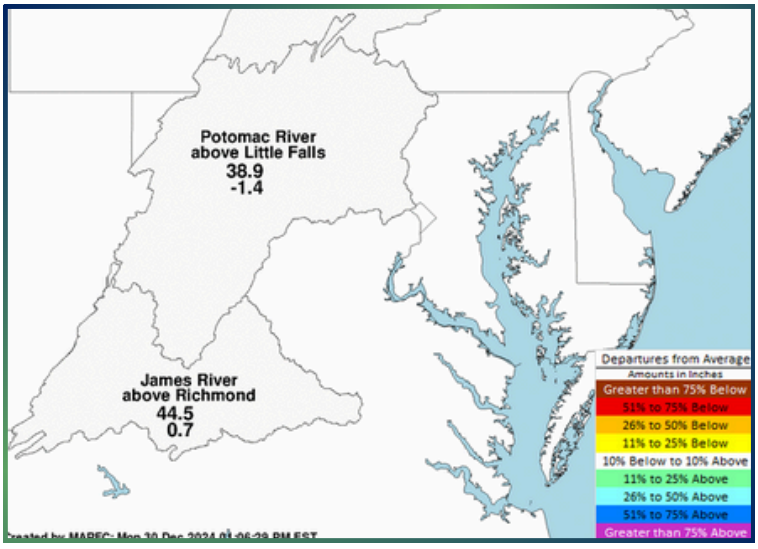


Flow at USGS Point of Rocks, MD gage. (Credit: USGS)

The Metropolitan Washington Council of Governments declared a Drought Watch on July 29, which remained in effect into the following calendar year.

Records were broken. The D.C. region experienced its longest dry streak of 38 days without significant rain. According to NOAA, October was one of the warmest and driest on record for the entire United States. The Potomac basin upstream of Washington, D.C. received only 0.8 inches of rain during that month, which is 2.2 inches below normal.

According to NOAA/MARFC, the year ended with rain 1.4 inches below normal. The majority of the rain was received in the first 6 months of the year.



2024 Observed Precipitation and Departures from Average (Credit: NOAA MARFC)

Drought Response

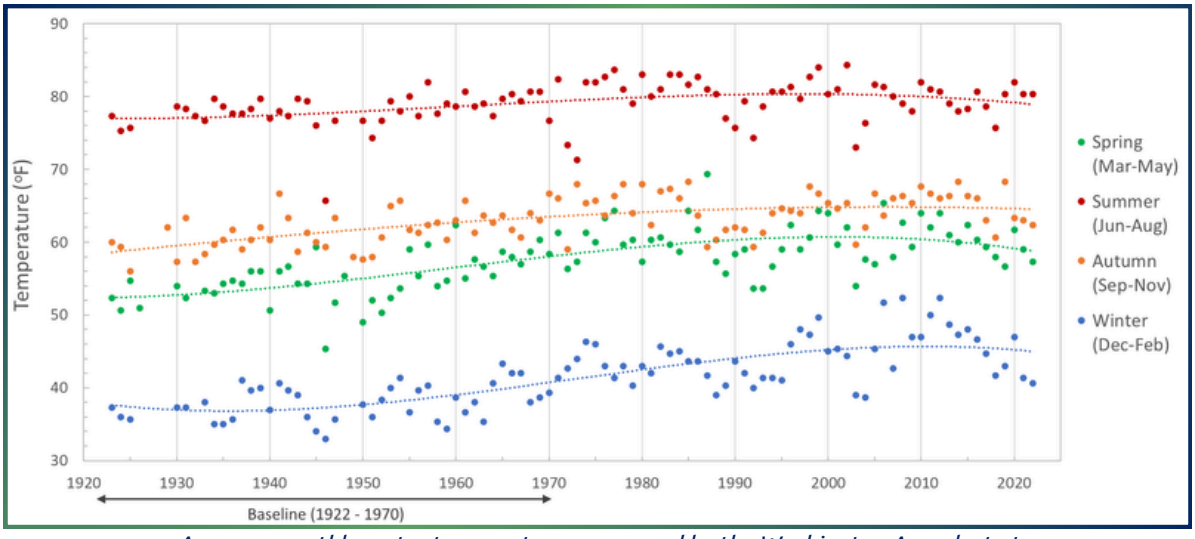
When the river flow dips below 2,000 cubic feet per second (cfs) at the USGS Point of Rocks Gage, staff in ICPRB's Section for Cooperative Water Supply Operations on the Potomac (CO-OP) begins Drought Monitoring, which includes a daily email to stakeholders about the flow, water withdrawals, and other conditions. When the river's flow dips lower, the team begins the next level of monitoring, Drought Operations. At this level, the team evaluates the need for upstream reservoir releases to augment the flow downstream.

During 2024, the river was below 2,000 cfs for 67 days. CO-OP staff initiated Drought Monitoring or Drought Operations four separate times. Due to the unusually dry conditions into late fall, CO-OP staff extended the publication period of the Water Supply Outlook into November, even though the series of monthly reports typically ends in October.

Temperatures Rising

Scientists are seeing a trend in increasing average temperatures year after year. Heat-induced moisture loss could lead to longer, more widespread, drought conditions.

These increases are not limited to the ambient (air) temperature. Recent data analysis by ICPRB has seen an increase in water temperatures over the past century. Average water temperatures are increasing across all seasons with winter months seeing the fastest climb.



Average monthly water temperatures measured by the Washington Aqueduct at Great Falls in the Potomac River from 1920 to recent years. (Credit: ICPRB)

Planning for the future

At no point during this unusually dry year with record-breaking weather patterns did the Washington metropolitan area require water conservation measures owing to decades of planning and collaboration on carefully designed drought-contingency plans.

Drinking Water & Water Resources

- Potomac River Conference: Reeling in the Challenge of Invasive Species (October 17)
- Comprehensive Plan Land Use Webinar Series:
  - Integrating Climate Resiliency with Equity
  - Water Resources Impacts of Data Centers and Solar Fields and Tools to Mitigate Impacts
- Completed two Water Resources Internships
- Moderated the Potomac spill listserv to quickly share information about spills in the river with government agencies and water suppliers
- Developed and improved Comprehensive Plan StoryMaps: A Plan at Work, Winter Salt Smart, Tracking Environmental Progress, Impervious Cover, Water Quality Reports by ICPRB
- Initiated a project with VA DEQ to identify the most probable pollutant(s) associated with benthic impairments in the Broad Run watershed.
- Developed R functions to highlight the flexibility of the hierarchical linear model previously applied to the Withdrawal and Consumptive Use (WCU) database.

Water Quality

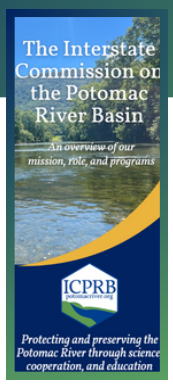
- Initiated a project to understand the factors that affect PFAS variability in the Potomac River Basin.
- Continued work characterizing the Shenandoah watershed and exploring the environmental factors that cause the harmful algal blooms.
- Initiated watershed modeling to develop a watershed plan for harmful algal blooms in the upper Lake Anna watershed, Virginia.
- Completed the sampling and analysis of the West Virginia Ground Water Study mapping groundwater flows through dye tracing.
- Provided TMDL support to Maryland.
- Maintained and improved the water quality data inventory.
- Completed all field collection of data investigating drivers of harmful algal blooms in the Shenandoah River.

  This project is in partnership with the USGS, George Mason University, and Virginia Commonwealth University.

Aquatic Life

- Won a 2024 Chesapeake Watershed Investments for Landscape Defense (WILD) grant to restore access of the American eel to its historic habitat in the western Potomac River watershed.
- Provided a series of literature reviews and qualitative analyses to MDE to provide a foundation for future analysis related to Biological Stressor Identification improvements.
- Deployed temperature loggers in the lower North Branch tailwater to support the considered change in MD use class to tier III cold water.
- Assisted in installation of a continuous temp station near Keyser, WV, to support U.S. Army Corps of Engineers tailwater operations and Maryland Department of Natural Resources management.

Communication and Education



ICPRB Brochure (2024)

Events

- Walk in the Woods: Potomac Marble (March 30)
- Walk in the Woods: Frederick Municipal Forest (April 28 and October 5)
- Walk in the Woods: Mussels with Anacostia Watershed (June 29)
- Shenandoah Riverkeeper Snorkel Trip with the Potomac Riverkeeper Network (July 12)
- Walk in the Woods: Let's be Smart About Winter Salt (October 12)
- Walk in the Woods: Strawberry Hill Preserve (October 19)

Press releases, articles, and blogs:

- ICPRB Wins $419,300 Grant to Increase Eel Habitat in the Potomac River
- New Report Exposes Alarming Economic Impacts on DC Region if Faced with Water Supply Disruption
- A Regional Approach to Watershed Management
- ICPRB Joins Regional Partners in Drought Watch Declaration
- A Fresh Path Forward for the Potomac River
- Federal Funding to Protect and Preserve the Potomac River

Interactive Maps:

- Winter Salt Smart
- One Basin, One Future (updated)
- Tracking Environmental Progress (updated)
- Impervious Cover
- Water Quality Reports by ICPRB

Cooperative Water Supply Operations on the Potomac (CO-OP)

- Worked with USGS to collect bathymetric LiDAR data in the Potomac River North Branch. The data will be used to conduct habitat assessments and to construct computer models to improve spill response and support reservoir operations.
- Organized the Fall 2024 North Branch Advisory Committee meeting.
- Conducted drought operations under the Washington metropolitan area's Water Supply Coordination Agreement.
- Facilitated the Supplemental Storage Work Group and outreach to Congress for funding of a USACE feasibility study for secondary storage for the Washington metro area.
- Oversaw completion of two projects to assist CO-OP in seasonal drought forecasting: a SWAT+ coupled watershed runoff/groundwater streamflow model by Penn State University and updated Water Supply Outlook tools.
- Completed and verified new CO-OP planning model, New PRRISM (Potomac Reservoir and River Simulation Model).
- Oversaw completion of two briefing papers on the economic impacts of loss of the Potomac River as a water supply source by researchers at George Mason University.
- Published monthly Water Supply Outlooks from April through November.
- Transformed the Emergency River Spill Model to an online version using R scripting.
- Transmitted a proposed Modification of the Low Flow Allocation Agreement of 1978 to the signatories for their review and signature.

Potomac River Basin Drinking Water Source Protection Partnership (DWSPP)

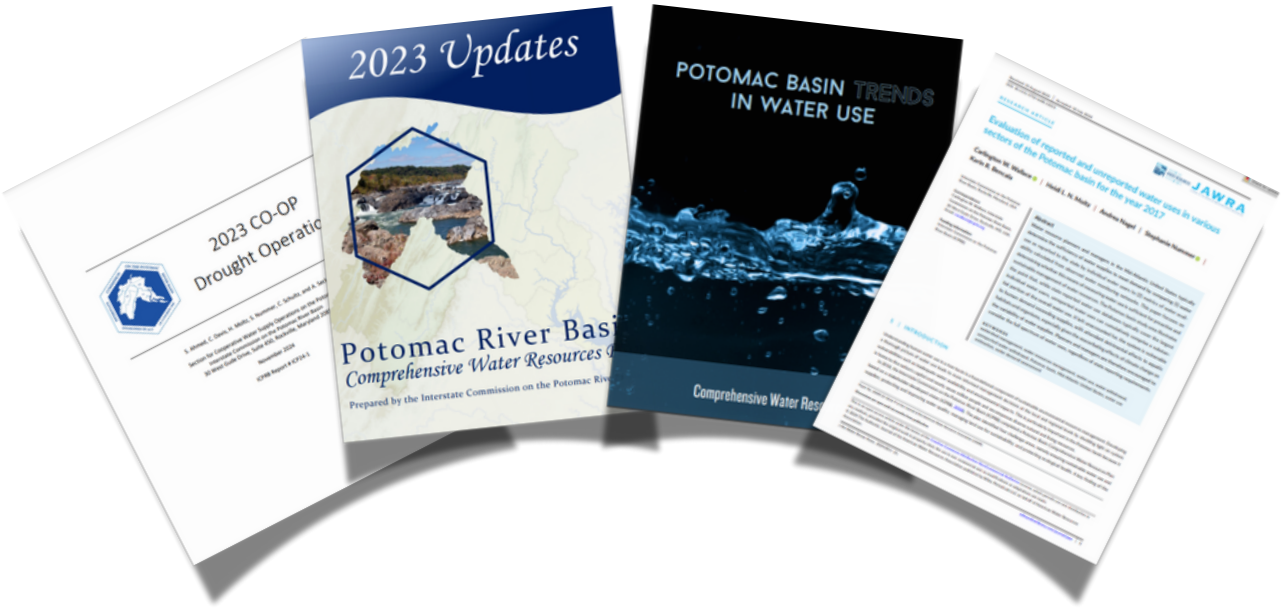
- Held quarterly meetings with a focus on creating resilience, spill response, harmful algal blooms, and more, with videos available online
- Biweekly newsletter focused on news items about protecting drinking water in the Potomac basin and beyond
- Held a Small Water Systems Roundtable in Virginia (May 21)
- Created an annual report which highlights DWSPP work
- Attended the Cybersecurity and Infrastructure Security Agency: National Capital Region Water Supply Exercise (March 21)
- Workshops were held and sampling began on a multi-year project to better understand the variability of PFAS in the Potomac River Basin.

Information Management

- Updated the Living Resources section of the Data Upload and Evaluation Tool (DUET) to allow for the upload of Tidal Benthic, Tidal Plankton, and Nontidal Benthic datasets into the Chesapeake Environmental Data Repository (CEDR).
- Updated the schema of Living Resources data published at the DataHub.
- Published (re-processed and uploaded) 2013-2021 Tidal Plankton datasets to CEDR using DUET.
- Published (uploaded) 2014-2016 Tidal Benthic datasets to CEDR using DUET.
- Published (uploaded) Water Quality datasets to CEDR using DUET.
- Completed compiling the non-tidal network water quality dataset and delivered it to the USGS loads and trends team for analysis.
- Continued to organize and streamline ICPRB's extensive library of books, publications, and other historical documents.
- Maintained and implemented the quality assurance practices required by the federal government.

Publications

- 2023 CO-OP Drought Operations (S. Ahmed, C. Davis, H. Moltz, S. Nummer, C. Schultz, and A. Seck)
- Evaluation of reported and unreported water uses in various sectors of the Potomac basin for the year 2017 (Carlington W. Wallace, Heidi L. N. Moltz, Andrea Nagel, Stephanie Nummer, Karin R. Bencala)
- Potomac Basin Trends in Water Use (H. Moltz, A. Nagel, and S. Nummer-Fantozz)
- 2023 Updates to the Potomac River Basin Comprehensive Water Resources Plan



Staff and Commissioners

New team members:

- L. Bedwell, Administrative Assistant
- R. Masters, General Counsel
- R. Thompson, Water Resources Planner
- E. Young, Habitat and Living Resources Data Manager

Interns:

- A. Villaruel, CO-OP
- N. Noor, Water Resources
- R. Fish, Water Resources

Commissioners:

- Chair for FY23: S. Weaver (PA)
- Joined: B. Kjellerup (MD), K. Tran (VA), C. Kimple (PA)
- Stepped down: M. Rolband (VA); S. Weaver (PA)

Interstate Commission on the Potomac River Basin

Resolution of Appreciation for Service of Susan Weaver

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Staff Highlights:

- H. Moltz completed a one-year term as Chair of the Interstate Council on Water Policy.
- G. M. Selckmann served as President for the Assoc. of Mid-Atlantic Aquatic Biologists.
- CO-OP staff presented at the American Geophysical Union's annual meeting: Use of Real-Time Drinking Water Withdrawal Forecasts in Drought Operations Support Tool.
- C. Davis gave a presentation about the Potomac River Basin Drinking Water Source Protection Partnership at the Mid-Atlantic Utility Conference.
- A. Villaruel and N. Noor presented a poster at the American Geophysical Union's annual meeting: Evaluating Time-lagged Relationships between Groundwater Storage and River Discharge: Case Study of the Potomac River Basin and Drought Trends in the Potomac Basin: Are They Becoming More Severe, Frequent, or Flashy?, respectively.
- C. Davis was accepted into the 2024 cohort of the Water Environment Federation's Water Leadership Institute.
- R. Bourassa was a 2024 Water Environment Federation Communications Scholar.
- S. Moncion participated as a mentor in the Young Professionals of Color mentorship program of the Choose Clean Water Coalition.
- S. Moncion participated in the "Careers for Change" Panel at the Reservoir Center for Water Solutions.
- R. Bourassa presented at the WSSC Water Salt Summit and the Alliance for the Chesapeake Bay Watershed Forum on ICPRB's work reducing winter salt use.
- C. Wallace presented at the American Water Resources Association National Capital Region Section Symposium.
- E. Young delivered a presentation to the Chesapeake Community Research Symposium about the latest Chessie BIBI developments and findings.
- H. Moltz presented at Statewide Water Resources and Potomac Regional Committee meetings as part of the Pennsylvania State Water Plan process.

Planning for 2025

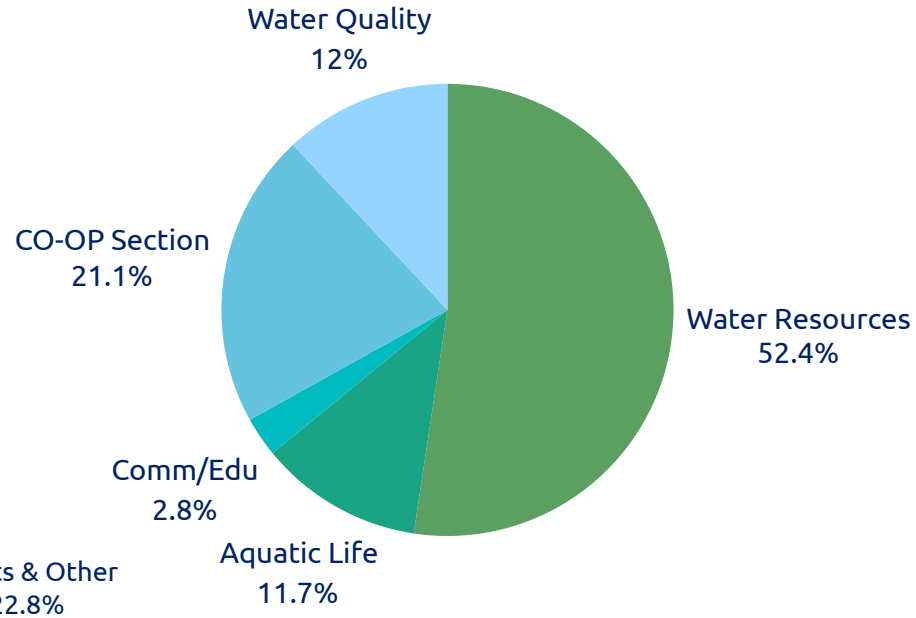
- Complete the 2025 Washington Metropolitan Area water demand and availability forecast.
- Complete decision support system for drought planning and operations.
- Support seasonal forecast projects to inform operational decisions related to drought.
- Hold the 4th Annual Potomac River Conference.
- Update the Land Prioritization Project.
- Updated spreadsheet inventory of roles, responsibilities, and areas of authority.
- Organize events/campaigns promoting smart salting practices.
- Hold more Walk in the Woods and other outreach events.
- Continue Water Resources Internship program.
- Track PFAS levels in the Potomac River.
- Continue bi-annual webinars on timely topics for land use decisionmakers and other interested stakeholders.
- Prepare a scope of work to update ICPRB's withdrawal and consumptive use database.
- Continued efforts to highlight the North Branch Potomac River as a region of ecological opportunity. Host at least two North Branch advisory meetings in FY25.

Photo credits

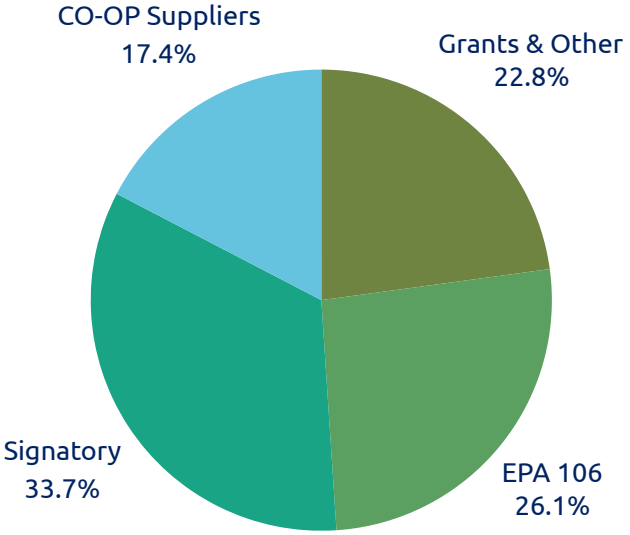
- Cover (clockwise): Press Conference - I. Rushing (Toy Box Productions), Child holding stonefly - R. Bourassa (ICPRB), Federal Partners Event - R. Bourassa (ICPRB), Water monitoring - R. Thompson (ICPRB), Point of Rocks bridge - R. Thompson (ICPRB)
- Page 3: ICPRB Executive Director Michael Nardolilli - credit unknown, ICPRB staff tour of the 11th St. Bridge Project - R. Bourassa (ICPRB), Walk in the Woods: Frederick Watershed - R. Bourassa (ICPRB)
- Page 4 (clockwise from top): Federal Partners Event - R. Bourassa (ICPRB), Water monitoring - M. Selckmann (ICPRB), Walk in the Woods - S. Moncion (ICPRB), Press Conference - I. Rushing (Toy Box Productions), Potomac Conference - R. Bourassa (ICPRB)
- Page 5: Baker Park in Frederick, MD - R. Bourassa (ICPRB)
- Page 6: North Fork Shenandoah - C. Brown (EPAR3)
- Page 7: Water monitoring - R. Thompson (ICPRB), Mussels - S. Moncion (ICPRB)
- Page 8: Tabling at George Washington's Birthplace National Monument - M. Nardolilli (ICPRB), Children at benthic macroinvertebrate display - R. Bourassa (ICPRB)
- Page 9: DWSPP meeting - credit unknown
- Page 11: Federal Partners Event - R. Bourassa (ICPRB)
- Page 12: Water Supply Exercise - credit unknown, Presentation at Watershed Forum - credit unknown

FY24 Financials

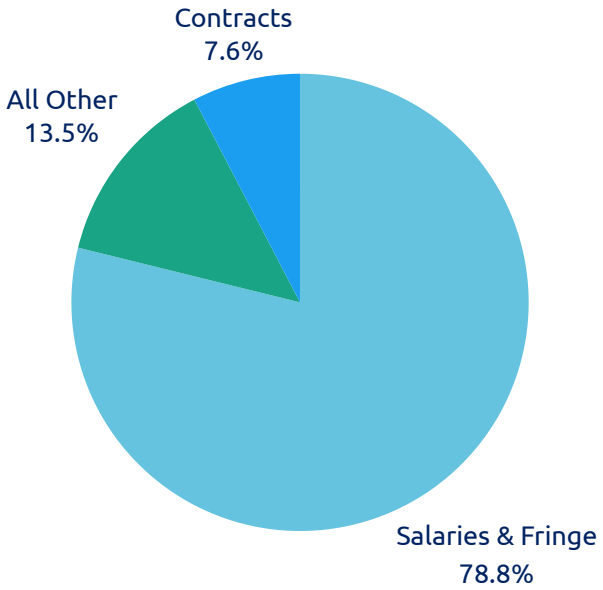
Allocation of Expenses



Revenue ~ $3.4M*



Expenses ~ $3.4M



Interstate Commission on the Potomac River Basin

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This report is based on calendar year 2024 activities except where ICPRB's fiscal year (October 1 to September 30) is indicated.