VIRGINIA'S MEMBERSHIP IN ICPRB
RETURNS APPROXIMATELY 350% MORE THAN IT COSTS

ICPRB Projects in Direct Support of Virginia

1. **Tidal Potomac PCB TMDL Project addressing impairments in 28 water bodies in VA, MD, and DC**
   - ICPRB received $500,000 from EPA in 2008-2009 for sample collection and model development to support PCB TMDLs for the District of Columbia, Maryland, and Virginia in the tidal Potomac River, of which $146,500 was sub-contracted to Virginia Department of Environmental Quality (VA DEQ) for part of the sample collection task.
     - ICPRB contributed, out of its own funds, approximately $190,000 additional to the project.
     - ICPRB coordinated the VA, DC, MD, and EPA project management team.
     - This innovative TMDL saved the jurisdictions time and money, and was noted as a success by EPA.

Over the three-year period for this project, ICPRB spent $690,000, with $146,500 contracted to Va. DEQ for laboratory services. An estimated annual cost of $80,000 was spent for Va.

2. **Recent bacteria TMDLs ICPRB prepared for VA DEQ: Four Mile Run, Holmes Run, Cameron Run, and Hunting Creek.**
   - ICPRB received $160,000 in 2008-2010 from VA DEQ, of which $71,000 was expended by ICPRB and $89,000 subcontracted to Virginia Institute for Marine Sciences (VIMS).
   - ICPRB contributed an additional $145,000 from its EPA Section 106 grant, plus $75,000 in uncompensated staff time. In total, less than one-quarter of ICPRB's costs for these TMDLs were paid by VA DEQ.

Over the two year period for this project, ICPRB spent $220,000, plus $160,000 from Va., of which $89,000 was contracted to Va. Institute for Marine Sciences for support work. An estimated annual cost of $110,000 was spent for Va.

3. **ICPRB Coordinated American Shad Restoration Program**
   - The cooperative, interstate program has helped make the Potomac the only Chesapeake Bay tributary with a shad stock that has returned to health.
   - Potomac shad fry are being used to restore Rappahannock River stocks and are used in education programs in Virginia public schools.
   - Virginia Department of Game and Inland Fisheries (VA G&IF) contributed $8,000 in 2011 for ICPRB to hire two Virginia watermen to work with ICPRB staff to catch shad and provide the fry for VA G&IF staff to stock the Rappahannock.
   - The total project cost for the effort on an annual basis is about $167,000, of which $115,000 is expended by VA G&IF for staff and hatchery operations and $35,000 by ICPRB and partners in conducting and monitoring the restoration effort.
   - This work is supplemented with an additional $8,300 from the Virginia Division of Legislative Services Chesapeake Bay Restoration Fund to have school groups raise shad fry in classroom tanks and conduct various science, math and history classes. In 2011, 54 metro area schools participated, including 24 classrooms in 17 Virginia middle and elementary schools.

Annually, this project ICPRB spends a total of about $62,000, of which $46,000 is from funds not attributed to Va. An estimated annual cost of $16,000 was spent for Va.

4. **ICPRB Participation as a member of the Department of Environmental Quality James River Study Advisory group**
   - In 2011, an ICPRB staff member was invited to be a member of the James River Study advisory group. That has involved, so far, two full-day meetings in Virginia and reviews of proposed work plans and documents for a total of five work days of staff time. Virginia pays travel expenses, but not the salary costs of the work days.

In it's first year of involvement, ICPRB invested $,4000 of its funds for this effort.

ICPRB Interstate Projects Providing Benefits to Virginia

1. Tidal Potomac continuous monitoring data analysis

- Using its EPA Section 106 grant resources, ICPRB staff analyzed tidal Potomac continuous monitoring data collected in both Virginia and Maryland to determine the relative importance to embayment water quality of local watershed inputs versus main stem Potomac inputs (ICPRB report 09-03). Attainment of criteria and management screening thresholds for dissolved oxygen, pH, turbidity, and chlorophyll were assessed.
- At request of VA DEQ, Occoquan Bay data were specifically examined and results provided showed that the pH impairment in Occoquan Bay was due to historical factors, eliminating the need (and cost) of a TMDL.

This effort has been funded with non-Virginia funds at an estimated total investment of $42,000.

2. ICPRB Expends More Than $250,000 Per Year for Chesapeake Bay Restoration Efforts

- Two ICPRB staff working on Chesapeake Bay Program issues manage the water quality and living resources monitoring data sets collected and shared by multiple jurisdictions and organizations in the Chesapeake Bay watershed. The staff assemble, provide quality assurance, and make available the authoritative databases used by the CBP partnership for coordination, analysis, interpretation, and decision-making activities. This long-running project is funded by a EPA Chesapeake Bay Program grant that requires cost-sharing by ICPRB. Approximately 25-30 percent of the staff efforts are estimated to be undertaken for Virginia issues–data collection, response to inquiries, and data management activities.
- ICPRB staff also have led several efforts to create and implement indexes of biotic integrity (IBIs) for biological communities in tidal and non-tidal waters to provide results that are comparable between states. These indices overcome the previous "apples-to-oranges" comparisons across jurisdictional boundaries, and facilitate better management of and accountability for shared resources. These efforts were funded by grants from EPA to ICPRB.
- In 2010 and 2011, ICPRB staff participated in an interagency/interstate team that tested the Chesapeake Bay Water Quality modeling that indicated the measurable dissolved oxygen (DO) criteria (30-day mean) could serve as umbrella criteria protective of all the shorter-term DO criteria within a designated use. ICPRB expenses have been paid through several EPA grants.
- Analysis performed by the team and reviewed in a subsequent Science and Technical Advisory Committee workshop showed the umbrella criteria premise was true in some tidal waters, but not all. The team demonstrated the importance of monitoring buoys to accurately characterize shallow water DO. They developed statistical and modeling tools for measuring shorter-term DO criteria attainment. This evaluation will inform Virginia's Watershed Implementation Plans required for Chesapeake Bay restoration.

ICPRB's efforts for Virginia are estimated as a total annual investment of $62,500.

3. ICPRB Assists with Watershed Implementation Plan Modeling

- The ICPRB is producing tools to help the basin states to efficiently assess and produce Watershed Implementation Plans required for bay restoration. For Virginia, ICPRB produced the Virginia Assessment Scenario Tool (VAST), at very little cost to Virginia by modifying a computer model funded by other jurisdictions. Tool development and training were needed by Virginia's Department of Conservation and Recreation.

If ICPRB had not had separate funds for development of the basic information, this effort would have cost Va. DEQ at least $200,000. Because Maryland and the EPA provided funding, ICPRB was able to only charge Virginia $27,300 for the adaption of this tool.

As shown by these project and funding highlights, Virginia's participation in ICPRB provides tangible environmental and economic benefits to the Commonwealth of at least 350% beyond its annual membership appropriation by the General Assembly.