ORSANCO

fifty years of improving water quality in the Ohio River Valley

Ohio River 2000 Conference

July 1998
Within the Compact, each of the signatory states pledged:

"faithful cooperation in the control of future pollution in and abatement of existing pollution from the rivers, streams and water in the Ohio River Basin which flow through, into or border upon any of such signatory states, and in order to effect such object, agrees to enact any necessary legislation to enable each such state to place and maintain the waters of said basin in a satisfactory condition, available for safe and satisfactory use as public and industrial water supplies after reasonable treatment, suitable for recreational usage, capable of maintaining fish and other aquatic life, free from unsightly or malodorous nuisances due to floating solids or sludge deposits, and adaptable to such other uses as may be legitimate."

"Fifty years ago the residents of the Ohio River Valley came together with a shared sense of responsibility for cleaning up the Ohio River and its tributaries. They recognized that the River was a sorry monument to the excesses of their activities, practically a sewer—the ditching place for the effluents of affluence. If there were any hope for the Ohio Valley to prosper and develop, pollution entering Basin waterways would have to be controlled. Because the River was a resource shared by the people of the Basin, it was also their shared responsibility to improve its health.

In that context, the Governors of the states of Illinois, Indiana, Kentucky, New York, Ohio, Pennsylvania, Virginia, and West Virginia signed the Ohio River Valley Water Sanitation Compact and Ohio River Valley Water Sanitation Commission (ORSANCO) was born as a regulatory agency for the Valley. The Compact outlined an agreement among the signatory states to clean up the River and protect it from further abuse. The Compact also created ORSANCO to coordinate activities among the states, with regulatory powers to carry out water pollution control efforts.

The Commission is composed of three members from each of the states, who are appointed by their respective governors, and three federal representatives, who are appointed by the President of the United States. Appointment of representatives is determined by each state’s enabling legislation; in most states one of the Commissioners is head of the environmental regulatory agency. Commissioners serve without compensation other than reimbursement of expenses. The Commission meets regularly, usually three times a year. A small staff (currently 25 members) in Cincinnati, carries out ORSANCO programs."

With Special thanks to the 50th Anniversary Steering Committee whose efforts resulted in a memorable celebration of the Commission’s first 50 years.

50th Anniversary Steering Committee
Melvin Hook, Chairman
Pittsburgh, PA
Carolyn McClintock
Evansville, IN
Richard Miller
Cincinnati, OH
Dave Peters
Cincinnati, OH
Dave Clement
Cincinnati, OH
Joseph Harrison, Sr.
Evansville, IN
Thomas Erlandson
Jamestown, NY
James Stieritz
Cincinnati, OH
William Klein
Cincinnati, OH
William Kudaroski
Washington, PA
Jeanne Ison
ORSANCO Staff
On July 15-16, 1998, the Ohio River Valley Water Sanitation Commission observed its 50th Anniversary by hosting a two-day conference entitled Ohio River 2000. The conference included a 50th Anniversary banquet, which was held in the Hall of Mirrors at the Omni Netherland in Cincinnati, Ohio—the same location where the signing of the Compact took place in 1948.

As part of the festivities, visioning sessions were coordinated by seven groups, each of which represented a specific river-based interest: drinking water, transportation, municipal waste water, general industry, chemical manufacturers, power generators, and public/recreational users.

The proceedings and subsequent results of these sessions are contained in this report.

As the Commission heads toward its centennial, we would like to express our thanks to all, who over the past 50 years, have supported our mission to provide cleaner streams in the Ohio River Valley.

Staff*
Donna M. Beatsch
L. Dane Bogg
Isabel E. Caputa
Samuel A. Dinkins
Tracey A. Edmonds
Geoffrey M. Edwards
Erich B. Emery
Karel M. Fraser
James P. Gibson, Jr.
Joseph T. Gilligan
Jason P. Heath
Barbara A. Horton
Jeanne J. Ison
Marilyn P. Kavanaugh
John C. McManus
Jonathan A. McSayles
Robert L. Ovies
Deborah M. Olszowka
William H. Riddle
James T. Satzger
Jerry G. Schulte
Peter A. Tennant, PE.
Alan H. Vicory, Jr., PE., DEE

* as of July 1, 1998
COMMON THEMES FROM VISIONING SESSIONS

Seven groups, representing drinking water, transportation, municipal waste water, general industry, chemical manufacturers, power generators, and public/recreational users, met for two days to discuss Ohio River-related issues. Each group was asked to identify, from their particular perspective, the most important features/assets of the Ohio River, major threats to their use of the River, how to address those threats, specific programs ORSANCO should undertake, and additional interest groups that should be brought into the discussions. While the groups came up with answers specific to their particular perspectives, several common themes emerged, including those listed below:

Ohio River Assets
Ohio River features identified most frequently as assets were quantity of flow and water quality. Several groups identified the importance of commercial navigation, while recognizing the potential for spills.

Threats to River Use
Nonpoint sources, including urban and agricultural runoff, were the most frequently identified threats to Ohio River water quality. Lack of knowledge was also mentioned frequently—lack of technical knowledge about specific types of pollutants, and lack of public knowledge about the true state of the river (i.e., the general perception is that the Ohio is a dirty river). Exotic species, such as zebra mussels, were seen as threats to several uses. Congestion by river traffic was also seen as a threat by several groups.

What Should ORSANCO Do?
While many recommendations emerged for needed actions, three themes were mentioned by most groups: increased education, increased dissemination of water quality information, and increased monitoring of water quality. Education efforts were recommended, not only toward the public-at-large, but also to decision makers at the local, state, and national levels. It was the consensus of the groups that ORSANCO should expand its use of tools, such as its Geographic Information System, to make Ohio River water quality data more readily available and more easily understood.

Reaching Out to New Partners
Groups identified a number of interest groups that should be included in the Commission’s advisory committee structure, such as agriculture, resource extraction, transportation, and education. Some advocated geographic or watershed-based advisory committees with multiple interests represented on each.

Conclusion
Ohio River 2000 Conference produced a number of recommendations for future direction of ORSANCO. The Commission’s Technical Committee has recommended that results of the conference should be used as the basis for review and reconsideration of the Commission’s Strategic Plan.
This session was designed to facilitate discussion regarding the chemical industry's use of the Ohio River. Discussion resulted in several recommendations to the Commission.

The following recommendations were developed during this visioning session:

- Expand ORSANCO's perspectives to include other interests in the Basin, ultimately having a long-term impact on the River and water quality, including those pertaining to watershed management issues/economic development/land use approvals.

- Input should be provided to communities, state and federal governments on these basin-wide issues—a one-stop shopping on the Ohio River.

- Assess the contribution of off-site pollution to the River.

- Assess and identify Brownfield sites along the Ohio River corridor—identify/assess pollution abatement opportunities and develop plan to redevelop these sites.

- Develop a public education program designed to identify current water quality problems/sources/potential solutions to improve River’s quality.

- Develop a forum for advisory and subcommittees to interact and discuss cross-cutting issues.

- Sponsor a meeting for chemical industries to exchange waste minimization ideas and develop a public document to present chemical industry’s pollution reduction achievements.

- Study impact(s) of dredging to understand long-term impact on the River and develop mitigative strategies if necessary.

- Establish an educational advisory committee to increase public awareness of River’s environmental quality.
Drinking Water Supply Visioning Session

Discussion in this session was generated by representatives of public utilities using the Ohio River as a source for drinking water and individuals interested in water quality issues as they relate to drinking water.

Session Leader: John Huber, Louisville Water Company
ORSANCO Staff: Jason Heath, Jonathan McSoyes

Attendees:
Barbara Crow - Louisville Water Co.
Brent Gregory - Illinois-American Water Co.
Phil Kowalski - Wheeling Water Dept.
Susan Kammann - Northern KY Water Service Dist.
Steve Hubbs - Louisville Water Co.
Cindy Hurley - Paducah Water Works
Don Parnes - Madison, IN Utilities
Katie Attwood - US EPA Region 3, Water Division
Jane Wittke - OKI, Regional Council of Governments
Stanley States - Pittsburgh Water Authority
Jack Wilson - KY Division of Water
Walt Stewart - DuPont (Retired)
Dick Miller - Cincinnati Water Works (Retired)
Michael Marks - USDA Natural Resources Cons. Service
Jack Wang - Louisville Water Co.
Jeff Robinson - Indiana-American Water Co.
Chris Green - University of Cincinnati
Nicole Crocker - University of Cincinnati
Herb Freiburger - US Geological Survey
Henry Connor - KY Wesleyan College
Mike Griffin - US Geological Survey - KY
Jim Goodrich - US EPA
Jeff Swertfeger - Cincinnati Water Works
Marlay Price - Price Brothers CO/AWWA-Dayton, OH
Pat Scarpino - University of Cincinnati
Joseph Dinkel - West View Municipal Water Authority

Most Important Ohio River Attributes

◆ Quality
  - Pathogens/use for pathogen disposal
  - Pesticides/Dioxin
  - Quality of aquifers/wells adjacent to River
  - Algae blooms
  - Fish advisories—public perception of water quality
  - Preservation of habitat/wildlife
◆ Quantity
◆ Land use planning
◆ Control
  - CSOs
  - Upstream sources/tributary watersheds
  - New industrial technologies
  - Stream standards tied to MCLs
  - Aquatic life support
◆ Treatability of River
◆ Organics Detection System
◆ History
◆ Aesthetics/public perception/awareness
◆ Political awareness of threats/support
◆ Safe recreational use of water
◆ Compatibility of uses
◆ Restoration of River to its natural state
◆ Wastewater discharges and treatment

Biggest Threats to the Ohio River

◆ Agricultural runoff (chemical/biological)
◆ Non-enforcement of laws regarding water quality/public health
◆ Spills/breaks of underground pipelines
◆ Bypasses and routine discharges from POTWs
◆ Urban runoff (chemical/biological)
◆ Public health not being paramount in emergency response
◆ Re-industrialization of the Basin
◆ Lack of public awareness/concern-water quality
◆ Pharmaceuticals
◆ Zebra mussels (foreign biological species)
◆ Lack of surveillance/early warning monitoring
◆ Global warming/climate changes
◆ Riverbed quarrying of sand/gravel
◆ Emerging Pathogens/Endocrine disrupters
◆ Railroads/spills along floodplain
◆ Transportation industry
◆ Atmospheric deposition (dioxin)
◆ Coal mining
◆ Drought/flow control
◆ Shoreline erosion downstream of dams
◆ Use incompatibilities
◆ Impact of licensed/permitted discharges to River (including road salt)
How to Address Threats
- Improved partnerships with agriculture/industry
- Improved knowledge of microbial loads/threats
- Real-time (early warning) monitoring
- Pollution prevention (i.e. land use practices)
- Public involvement/education
- CSO impacts on drinking water quality disputed by POTWs—must be addressed/resolved, particularly with regard to future resources
- Improved water quality monitoring
- Establishment/creation of stream bank buffer zones
- Assessment of existing data
- TMDLs
- Effective implementation of current (CWA) regulations
- Partnership with other industries/pollution sources

What ORSANCO Can Do
- Increase monitoring/data assessment
  - Early warning systems
  - Routine monitoring
  - Microbial monitoring
- Improve partnerships with federal/state agencies
  - for pathogen source ID
  - for sediment source ID
  - for flow measurement
  - for industry partnerships
- Enhance involvement in states’ permitting programs
  - focus on pollution prevention/reduction of discharges (as opposed to treatment of discharges).
  - What role ORSANCO can play in changing societal practices—reduce waste generation and improved treatment of discharges
- More River Sweep-type programs to promote public involvement
- Improve programs to assess pathogen sources
- Develop GIS capabilities/data sets
- Bring tributary stream standards in line with mainstem
- Enhance interaction between committees
- Establish monitoring programs for:
  - Algae
  - Sediment
  - Floatables (inadvertent discharge from dams)
- Continue to actively seek grants
- Promote creation of stream bank buffer zones
- Coordinate youth education programs
- Address ground water/source water interactions
- Spill prediction/modeling capability
- Program to create awareness of River by legislators
- Program to enhance the image of the Ohio River
- Coordinate use of source water assessments
- Re-constitution of ORSANCO committee structure
- Provide focus/priorities for future resource commitments—public works program funding for water quality improvements over the next 50 years
General Industry Visioning Session

This session was designed to bring together members of the industrial community to discuss issues pertinent to their use of the Ohio River.

Most Important River Attributes

- Water Quantity—for processing/navigation/treated waste disposal
- Quality—industrial needs/treatment at reasonable costs
- Consistency—quality/quantity (dramatic changes require additional treatment/costs for industries)
- Aesthetics—Pleasing water color/odor provide general economic development through tourism

Biggest Threats to the Ohio River

- Tighter regulatory controls on industry—additional costs at small benefit to environment (some major pollution sources not regulated)
- Development of TMDLs—implementation would create additional regulatory burdens (need to be based on sound science)
- Lack of public understanding/awareness about environmental issues; many misconceptions exist
- Zebra mussels/Asian clams—clog water intakes; require additional treatment for industry

What ORSANCO Can Do

- Coordinate with state regulators to acquire portion of penalty money from industrial violations to fund activities
- Integrate advisory groups periodically as needed to facilitate coordination among river users; addresses common concerns
- Continued coordination with states through work groups (i.e., TMDLs)
- Emphasize more resources on public information/education to facilitate effective action
- Serve as informational resource to legislators who are developing national/state environmental legislation
- Conduct studies on existing exotic species problems (zebra mussels/Asian clams)—maintain awareness/dissemination of information on newly introduced exotic species

How to Address Threats

- Provide realistic time tables for industries to develop compliance programs for new regulatory initiatives
- Address problems on watershed basis; include tributaries
- Support/promote pollution prevention through public education
- Focus on localized approach to address problems—involve all stakeholders (government, legislature, agencies, industry)

Advisory Committees Needed

- Agriculture
- Mineral Extraction
- Identify if interest exists in forming general industry committee
- Integrate General Industry with Chemical Industry Committee
This session brought together representatives of the power industry and others interested in this industry's use of the Ohio River.

Most Important River Attributes
- Transportation—economical transportation of goods necessary for power industry
- Non-contact cooling—huge volume of water required for cooling
- Hydropower—means of generating hydroelectric power

Biggest Threats to Ohio River
- Anti-degradation law
  - definition is vague, leads to different interpretations
  - states need to be consistent in definition
  - states must recognize that change in water chemistry does not necessarily indicate degradation (change may have no significant effects on the biota)
- Total Maximum Daily Loads (TMDL)
  - place significant restrictions on industries (not always based on good science)
  - states do not have enough time to produce scientifically sound TMDLs
  - states need to be consistent placing streams on 303 (d) list
- Nonpoint source pollution—industries must over-compensate due to inability to control nonpoint source pollution
- Zebra mussels—currently, build-up on water intakes can be controlled, future problems may be ahead
- Temperature criteria—outdated, should be revised using current available data
- 316 (b) issue
  - definition of adverse impact needs to be clearly stated/scientifically valid
  - site-specific nature of this issue (i.e. estuary vs. river) needs recognition

What ORSANCO Can Do
- Work to resolve inconsistencies among states regarding definition of anti-degradation laws/listing of streams on 303 (d) list
- Continue to develop biocriteria (could be used in the development of TMDLs/anti-degradation laws)
- Initiate effort to increase public awareness of impacts of nonpoint source pollution, take an aggressive role in developing/implementing solutions to NPS pollution problems
- Revise temperature criteria based on more current data
- Consider use of WARMF water quality model for use in development of TMDLs
Recreational/General Public Visioning Session

This session was designed to bring together representatives of industry, municipalities, and others using the Ohio River for recreation purposes to discuss current problems and propose possible solutions for future use of the River for such activities.

<table>
<thead>
<tr>
<th>Session Leader:</th>
<th>Rita Zettelmayer, PA DEP</th>
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<tbody>
<tr>
<td>ORSANCO Staff:</td>
<td>Karel Fraser, Isabel Caputo</td>
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</tbody>
</table>

**Attendees:**
- David Okerbloom
- Betsey Vonderheide
- Eric Fitch
- Jay Abercrombie
- Dick Thomas
- Charles Duritsa
- John Mores
- Ben Pedigo
- Reed Coen
- Irene Brooks
- Melvin Hook
- Robin Corathers
- Rita Zettelmayer, PA DEP
- Karel Fraser, Isabel Caputo
- Ohio EPA
- City of Madison, IN
- Marietta College, Marietta, OH
- Davey Resource Group
- City of Belpre, OH
- PA DEP
- GAI Consultants, Pittsburgh, PA
- Rumpke Recycling, Cincinnati, OH
- Frisbie Engine & Machine, Cincinnati, OH
- PA DEP
- R&D Engineering, Pittsburgh, PA
- Mill Creek Restoration

**Most Important River Attributes**
- Natural resource
  - Visual beauty/ecosystems/habitat/climate
  - Dynamic—source of danger/adventure
- Recreational resource
  - Boating/swimming/festivals/riverboats/fishing
- Cultural resource
  - Unifier—provides community identity
  - History of region
- Water supply/industrial resource
  - Agricultural source of irrigation
  - Drinking water source
  - Transportation—relatively predictable flow
  - Avenue for commerce/transportation of goods
  - Modern Ohio River—engineered, channeled
  - Local access—gets us things we need
  - Floating landfill—use as a waste dump
  - Industries/gambling casinos/businesses

**Biggest Threats to the Ohio River**
- Pollution
  - Point source/nonpoint source
  - Fish kills
  - CSOs - human health risk
  - Sight and smell can affect public perception
- Air pollution - smog alerts, deposition
- Weather
- Commercial traffic - congestion
- Adjacent land use
- TV/news media – mold public perception
- Lack of access for public use
- Hydro/physical modifications
- Land transportation—highway improvements take people away from River
- Lack of funding for agencies—for lock & dam maintenance, etc.
What ORSANCO Can Do

- Develop overall public relations plan/set goals—to have ORSANCO perceived as organization that improved Ohio River water quality
- Increase Public Involvement/Education Programs
  - identify/educate the public
  - get people interested/intimately involved in Commission programs
  - issue personal invitations to organizations/individuals to attend Commission Meetings
  - use ORSANCO mailing lists to seek out volunteers for advocacy
  - promote Adopt-a-River Segment
  - convince people not to pollute
  - promote storm drain stenciling
  - identify what public reads
  - encourage volunteer monitoring (possibly with senior citizens)
  - increase publications for general public—target boaters/others using Ohio River
  - improve ability for communication with public in consistent manner
  - show economic benefit of clean Ohio River
  - go online with information—review existing web site
  - educate public that pollution control is not a threat to property rights/ownership
  - concentrate efforts on children
  - get national media exposure/use public TV systems—positive/negative issues
- Find new partners/stakeholders
  - find a Washington, DC champion
  - use other resources/organizations—team up with environmental movement
  - senators/mayors/local interests—focus on one/several specific issues
  - match issues to congressional representatives
- Expand on What’s A River Worth? study

- Establish Ohio River biological criteria
- Protect habitat
- Prioritize where/amount of money spent
- Encourage secondary use of sewage before its released to River
- Take watershed approach on Ohio River pollution
- Strengthen enforcement/develop programs for nonpoint source pollution
- Update infrastructure—CSOs
- Renew/re-establish laws (Clean Water Act)
- More pollution prevention (P2)
- EPA needs to expedite CSO/CAFOS
- Take advantage of ORSANCO committees—their knowledge/connections
- Identify progress with benchmarks
- Use “scare tactics” with politicians
- Establish “true cost” of water
- Work for consistent regulations (work with advocacy groups and others)
- Encourage land use/growth planning
- Organize congressional briefings (NE/Midwest Research Institute)
- Get riverine areas listed as priorities
- Increase ORSANCO funding/re-invigorate funding agencies
- Broaden authority of ORSANCO—make it a water resource agency

River Sweep Poster Contest Winners

One of the most successful ORSANCO public outreach programs is River Sweep, a nationally awarded river bank cleanup for the Ohio River and many of its tributaries. Since 1989 more than 225,000 volunteers have joined forces to pick up trash along the shorelines, and for the last four years, thousands of students in Ohio River Valley schools have participated in the River Sweep Poster Contest. At right are the grand prize winning posters for 1995 through 1998.
Participants in this session represented various agencies and industries related to towing/barge transportation on the Ohio River. Discussions focused on problems facing this industry and possible actions to address these issues.

Most Important Ohio River Attributes
- Global market—truly a global market
- Continued growth—future growth
- Cost-effective—cost-effective/safest/least-polluting method of transporting commodities
- Self regulatory—inspections/training/standards as approved/monitored by USCG/USDOT

Biggest Threats to Ohio River
- Increased commercial traffic/recreational usage—interaction between commercial/industrial users will increase
- Lack of knowledge of River—all users need to understand basic concepts of navigation/dynamics of River
- Infrastructure
- Locks & dams—how/when to deal with the older systems
- Ship design—how will ship design change over the next decades/how will this affect the industry
- Zebra mussels—what long-term effect will these have
- New Madrid Fault—have consequences of a major earthquake on Ohio River transportation network been adequately addressed
- Emergency response—does industry have an effective emergency response system
- No common identification of commodities
- Are there enough monitoring stations
- Lack of MSDS information for large spills (most address smaller quantities)

What Can ORSANCO Do
- Area Contingency Planning
- Maintain comprehensive databases for emergency response
- Partnership with towing industry
- Riverwide cargo IDs
- Public/government education about Ohio River
- Support interstate efforts to achieve higher degree of public education concerning responsible recreational use of Ohio River (watercraft/marina spills)
- Additional public outreach/education (especially elementary students)
- Public service announcements—Ohio River Water Quality is Improving!
- Devise and support an eight-state caucus focusing on Ohio River issues
Wastewater Visioning Session

This session brought together municipal and industrial representatives whose primary concern is wastewater. Through this session, these individuals prioritized problems and proposed actions to address threats to the Ohio River.

Biggest Threats to Ohio River
Listed in order of importance:

1. Lack of public education/empowerment
2. Less than full understanding of water quality problems
3. Lack of a coordinated/integrated management plan
4. Nonpoint sources of pollution
5. Uncontrolled development

What Can ORSANCO Do

1. Strengthen/enhance educational focus of ORSANCO:
   - Citizens/elected officials/regulators need to understand information (technical information should be comprehensible by all stakeholders)
   - Increase involvement of general public throughout Ohio River Valley through coordination of public interest groups/increased educational efforts (connect with River network)
   - Use available data/information to educate communities on various land use impacts
   - Develop guidelines/strategy on land use planning, based on water quality of area

2. Strengthen/enhance coordination role of ORSANCO:
   - Coordinate watershed management efforts
   - Develop strategy for smaller watershed groups
   - Strengthen role of data collection/management/dissemination:
     - Act as basin-wide clearinghouse of water quality/GIS data/information
     - Strengthen monitoring efforts to better understand nonpoint sources of pollution
   - Coordinate state permitting requirements. Ensure more consistency in process of developing permit limits from state water quality criteria

Advisory Committee Needs

Above recommendations are broad and need review. Restructuring of ORSANCO committees could help identify specific tasks and accomplish above goals.

1. Strengthen Public Interest Advisory Committee (PIACO)
2. Make POTW committee part of broader watershed advisory committee
AGREEMENT CONCERNING COOPERATION AND THE EXCHANGE OF INFORMATION
BETWEEN
THE OHIO RIVER VALLEY WATER SANITATION COMMISSION
AND
THE LAKE BIWA-YODO RIVER WATER QUALITY PRESERVATION ORGANIZATION

The Ohio River Valley Water Sanitation Commission (ORSANCO) and the Lake Biwa-Yodo
River Water Quality Preservation Organization (BYQ) agree to promote the exchange of
information on water quality preservation in order to further improve water quality in the
rivers and lakes within the jurisdiction of each organization as follows:

Article 1
The Rivers and lakes subject to this Agreement are:
(1) The Ohio River and its tributaries, and
(2) Lake Biwa and the Yodo River.

Article 2
The information to be exchanged includes the following:
(1) Technologies and programs related to water quality preservation
(2) New scientific and management developments related to the water environment
(3) Administration and management of rivers and their whole systems through
   cooperation among states or prefectures
(4) Other information that is useful to water quality preservation.

Article 3
The information exchange will be carried out through the following programs:
(1) Exchange of publications
(2) Exchange of research and study results
(3) Invitations to researchers to present and discuss findings.

Article 4
ORSANCO and BYQ will exercise sincere efforts to implement the above programs.

Article 5
This Agreement will become effective on the day of signature.

Article 6
Problems and issues not specified in this Agreement should be discussed and solved through
mutual consent.

Signed on this, the 15th of July, 1998 at Cincinnati, Ohio.

Shoichiro Kobayashi
President of the Lake Biwa-
Yodo River Water Quality
Preservation Organization

Philip C. Morgan
Chairman of the Ohio River
Valley Water Sanitation
Commission
Among guests at the 50th Anniversary Banquet were a delegation from the Japanese-based Biwa-Yoda River Water Quality Preservation Organization who signed an agreement of international friendship and cooperation between the two organizations.

Illinois
Mary A. Gade, Director, Illinois Environmental Protection Agency
Constance Humphrey, Director of Inter-Government Affairs
and Office Manager, The Association Group
Phillip C. Morgan, Director, Danville Sanitary District

Indiana
Joseph H. Harrison, Sr., Bowers, Harrison, Kent & Miller
Vasiliki Keramida, President & Chief Executive Officer,
Keramida Environmental, Inc.
John Hamilton, Commissioner, Department of Environmental Management

Kentucky
James E. Bickford, Secretary,
Natural Resources & Environmental Protection Cabinet
Stephen L. Henry, M.D., Lieutenant Governor
Roy W. Mundy, Vice President & Manager,
Kentucky-American Water Company

New York
Douglas E. Conroe, Director of Operations, Chautauqua Institution
Thomas A. Erlanson, Ph.D., Professor of Biology & Geology
Jamestown Community College
John P. Cahill, Commissioner, Department of Environmental Conservation

Ohio
Richard Miller
Donald R. Schregardus, Director, Ohio Environmental Protection Agency

Pennsylvania
Melvin E. Hook, R & D Engineering, P.C.
William M. Kudaroski, Operations Manager/Production
Pennsylvania-American Water Company
James M. Seif, Secretary, Department of Environmental Protection

Virginia
Filbert Tobias, State Water Control Board

West Virginia
Michael P. Miano, Director, Department of Commerce,
Labor & Environmental Resources,
Division of Environmental Protection
Ronald R. Potesta, President, Potesta and Associates

United States of America
Robin Corathers, Executive Director, Rivers Unlimited
Mill Creek Restoration Project
W. Michael McCabe, Regional Administrator,
US Environmental Protection Agency, Region III
Phillip J. Shepherd, Newberry, Hargrove & Rambicure

Officers
Phillip C. Morgan, Chairman
Roy W. Mundy, Vice Chairman
Vasiliki Keramida, Secretary/Treasurer
Alan H. Vicory, Jr., Executive Director and Chief Engineer

* as of July 1, 1998