



The
ORSANCO
2011 Annual
Report





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TO THE PRESIDENT AND GOVERNORS*

The Ohio River Valley Water Sanitation Commission (ORSANCO) is an interstate water pollution control agency created in 1948 by the State of Illinois, the State of Indiana, the Commonwealth of Kentucky, the State of New York, the State of Ohio, the Commonwealth of Pennsylvania, the Commonwealth of Virginia, and the State of West Virginia with approval of the Congress of the United States. The Commissioners of ORSANCO respectfully submit the following report of activities for 2011 to:

- The Honorable Pat Quinn, Governor of Illinois
 - The Honorable Mitchell E. Daniels, Jr., Governor of Indiana
 - The Honorable Steven L. Beshear, Governor of Kentucky
 - The Honorable Andrew M. Cuomo, Governor of New York
 - The Honorable John R. Kasich, Governor of Ohio
 - The Honorable Tom Corbett, Governor of Pennsylvania
 - The Honorable Robert F. McDonnell, Governor of Virginia
 - The Honorable Earl Ray Tomblin, Governor of West Virginia
- and
- The Honorable Barack Obama, President of the United States

*As of December 31, 2011



Chairman's Message

"The only constant is change, continuing change, inevitable change; that is the dominant factor in society today. No sensible decision can be made any longer without taking into account not only the world as it is, but the world as it will be."
— Isaac Asimov

Change is constant. The river changes, technology changes, leadership changes. For ORSANCO to stay relevant, it must strive to be flexible in its policies, cutting-edge in its science, and forward-thinking in its leadership.

I have lived near the headwaters of the Ohio River my entire life. Through my career as an environmental regulator, I take pride in the role I have played in improving the lives of the people of the Ohio River Valley. In my position as ORSANCO Chairman, I have witnessed the expansion of the organization's mission and its continued collaboration with other entities on issues of mutual interest.

In addition to its traditional role, ORSANCO continued to expand its mission while providing service to its member states by developing

a water resources program to coordinate the management of both water quality and quantity. In 2011, the Commission began the process of acquiring foundation grants to provide operational support to its newly-formed Water Resources Committee. Through the collaboration of its River Users program, ORSANCO began a study of total dissolved solids to provide the scientific basis for regulatory decisions that the states could not acquire on their own. The Commission also continued to collaborate on developing a nutrient trading program to protect watersheds at lower costs, a benefit in this time of tight state budgets.

As the technology supporting our knowledge of water quality continues to evolve, so must our reactions to it. Changes in the detectable levels of pollutants, and changes in our understanding of the effects of pollutants on human health and the environment, inform ORSANCO's decision-making. Through its Pollution Control Standards the Commission addresses such issues, including, in 2011, adopting a criterion for total dissolved solids, and considering a variance request relating to a discharge of mercury in the upper river.

Among emerging issues in the Ohio River Basin are new methods of extracting and processing energy sources and the water quality issues surrounding them. Coal, natural gas, and hydropower all present both opportunity and concern. For years ORSANCO worked to lessen the water quality impacts of coal mining and coal-fired power plants. Now with the new methods of shale natural gas extraction, the Commission will work with industry as well as regulatory agencies to ensure that the waters of the Ohio River Basin are protected.

Finally, the Commission experienced a change in leadership in 2011 with the retirement of its Executive Director and Chief Engineer, Alan Vicory. ORSANCO has achieved a multitude of water quality milestones during his 24-year tenure, which are highlighted on the following pages. I have the utmost confidence that the Commission and its competent staff will continue to champion the water resources of the Ohio River Valley for years to come.

Charles A. Dunton

Departing Message from Alan H. Vicory, Jr.



To the Governors of the States Signatory to the Ohio River Valley Water Sanitation Compact, Commissioners of ORSANCO, and citizens of the Ohio River Valley:

Upon my retirement from 32 years of service on ORSANCO's staff, including 24 as Executive Director and Chief Engineer, I express my heartfelt personal thank you for the opportunity to assist in the advancement of clean streams in this blessed region of the United States, rich in our most precious of natural resources, water.

I am a personal witness to the improvements in water quality and the power and effectiveness of partnerships and collaboration, without which ORSANCO could not have spearheaded its successes so cost-effectively.

In my tenure, I have administrated ORSANCO's daily activities through the completion of secondary

wastewater treatment in all Ohio River communities, and the emergence of the information technology revolution, which has provided powerful new tools for communications, measuring and analyzing water quality, modeling to support program design, and decision making. Indeed, ORSANCO has dramatically increased its capacities for program delivery over the past two decades, while retaining the same level of staffing since 1975!

Today, the importance of ORSANCO's services to the Compact states, and to the citizens and industries dependent on clean, safe water for their life, recreation and business needs is greater than ever. And, as large geographic-scale programs will be necessary going forward -- to continue the progress recorded over ORSANCO's illustrious 63-year

history -- I see the Commission perfectly positioned and ready to assume the coordinating role that will be indispensably necessary.

The opportunity to serve the states and play a part in improving the waters of the Ohio River Valley has indeed been a professional dream and privilege.

Alan H. Vicory, Jr.



ACCOMPLISHMENTS DURING ALAN VICORY'S TENURE

- 1987 Alan Vicory, Jr., became the 4th Executive Director of the almost 40-year-old Commission
- 1988 Ashland Oil Spill occurred; ORSANCO served as a central clearinghouse for spill information and provided on-river monitoring of the spill
- 1989 Ohio River Sweep began as a pilot project; the following year 14,000 volunteers participated in first river-wide Sweep
- 1992 ORSANCO began a Volunteer Monitoring pilot project, later formalized as the RiverWatchers Program
- 1993 ORSANCO moved into its new headquarters building
- 1993 ORSANCO developed biocriteria for the Ohio River
- 1995 ORSANCO initiated the Watershed Pollution Reduction Program
- 1995 ORSANCO reached a milestone in wastewater treatment: all Ohio River municipalities attained secondary treatment
- 2000 ORSANCO consulted with the Baltic countries to implement transboundary watershed management practices through the Great Lakes/Baltic Sea Partnership
- 2002 ORSANCO designed "Life Below the Waterline," a 2,200-gallon mobile aquarium
- 2004 ORSANCO purchased the historic paddle wheeler, P A Denny, as a floating classroom and formed the program now known as the Foundation for Ohio River Education (FORE)
- 2008 ORSANCO celebrated its 60th anniversary
- 2009 The Ohio River Basin Congressional Caucus was established by U.S. Congressional Representatives to enhance recognition of Basin-wide issues
- 2010 ORSANCO initiated a full refurbishment of the Organics Detection System
- 2010 ORSANCO investigated expanding its mission to include water resources management
- 2011 ORSANCO worked with public and private interests to form the Cincinnati regional Water Technology Innovation Cluster, a partnership seeking to advance environmental protection in tandem with economic development

Protecting the River's Many Uses



Under the authority of its Compact, ORSANCO maintains pollution control standards for the treatment of sewage and industrial wastes discharged to the Ohio River. These standards ensure that the water quality of the river is suitable for the uses designated by the Compact: public and industrial water supply, recreational use, and aquatic habitat, as well as other legitimate uses. The standards recommend stream criteria to assure that these uses will be achieved, and set wastewater discharge requirements to attain these criteria.

In 2011, the Pollution Control Standards Program addressed several significant issues. The Commission adopted a water quality criterion of 500 mg/L for Total Dissolved Solids for the protection of public water supplies

to be applied at water withdrawal intakes. This was deemed necessary to address an emerging water quality issue in the Ohio River Basin.

ORSANCO also received a request for a variance from the Commission's prohibition of mixing zones for bioaccumulative chemicals of concern pertaining to a discharge of mercury in the upper Ohio River. An initial public comment period was held and several thousand emails were received from the public voicing opposition to granting a variance. Several comments were received in favor of granting a variance. The request will require careful consideration due to the complex issues involved.

Finally, the Commission is undertaking a new review of



the Standards. Issues under consideration include water quality criteria for pathogens, selenium, bromide, mercury, and temperature.



Managing Water Resources throughout the Basin

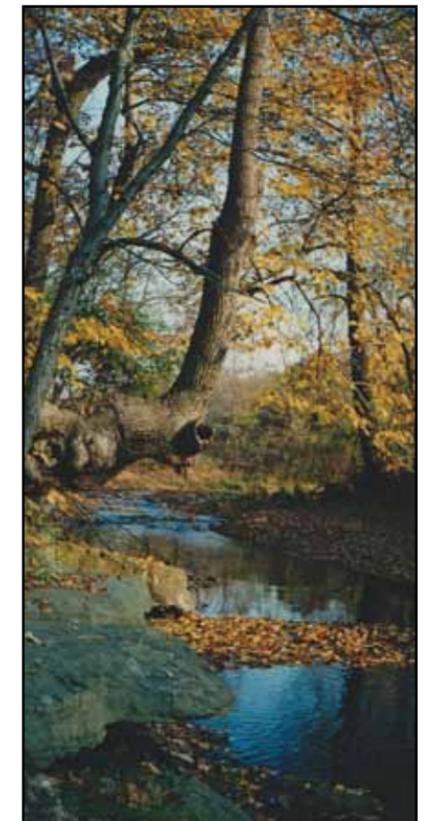


Recognition of the increasing threats to the water resources of the Ohio River Basin, and a growing understanding of the interconnectedness of water quality and water quantity, have prompted ORSANCO to expand its services to the states toward more holistic interstate water resources management.

As an initial step, the Commission established a new standing committee, the Water Resources Committee, to guide the development of a water resources program and recommend appropriate action with respect to water resources management and policy issues. The committee, with representatives from nine states and three federal agencies (U.S. Army Corps of Engineers, U.S. Geological Survey, and the Tennessee Valley Authority), held its inaugural meeting in

February 2011. This meeting was an important step in facilitating a more effective and coordinated approach to water resources management in the Basin.

ORSANCO's initial water resources efforts will focus on building the inherent capacity necessary to achieve an integrated approach to regional water resources management. To develop this capacity, a series of preliminary studies will be conducted to provide a general characterization of the Basin's water resources and to define assessment and management needs. This three-year effort, which is set to begin in early 2012 and provides operational support to the Water Resources Committee, will be externally funded through philanthropic grants from foundations throughout the Basin.



Assessing Water Quality

Ensuring water quality in a multi-state river system requires consistency and efficiency. ORSANCO achieves this by operating monitoring programs on behalf of its member states to check for pollutants and toxins that may interfere with specific uses of the river, and conducting special studies to address specific water quality issues.

BIMONTHLY AND CLEAN METALS SAMPLING PROGRAM

Since 1975, ORSANCO has collected nutrient and ion concentration

data from the Ohio River and its major tributaries. The program collects data six times per year at 15 locations on the Ohio main stem and near the mouth of 14 tributaries. Using "clean techniques," water samples are collected bimonthly at each of the 15 Ohio River locations and analyzed for concentrations of 18 metals in both total recoverable and dissolved form. ORSANCO adopted dissolved metals criteria in 2000 because the dissolved portion of metal contaminants is more toxic and more easily taken up by organisms.

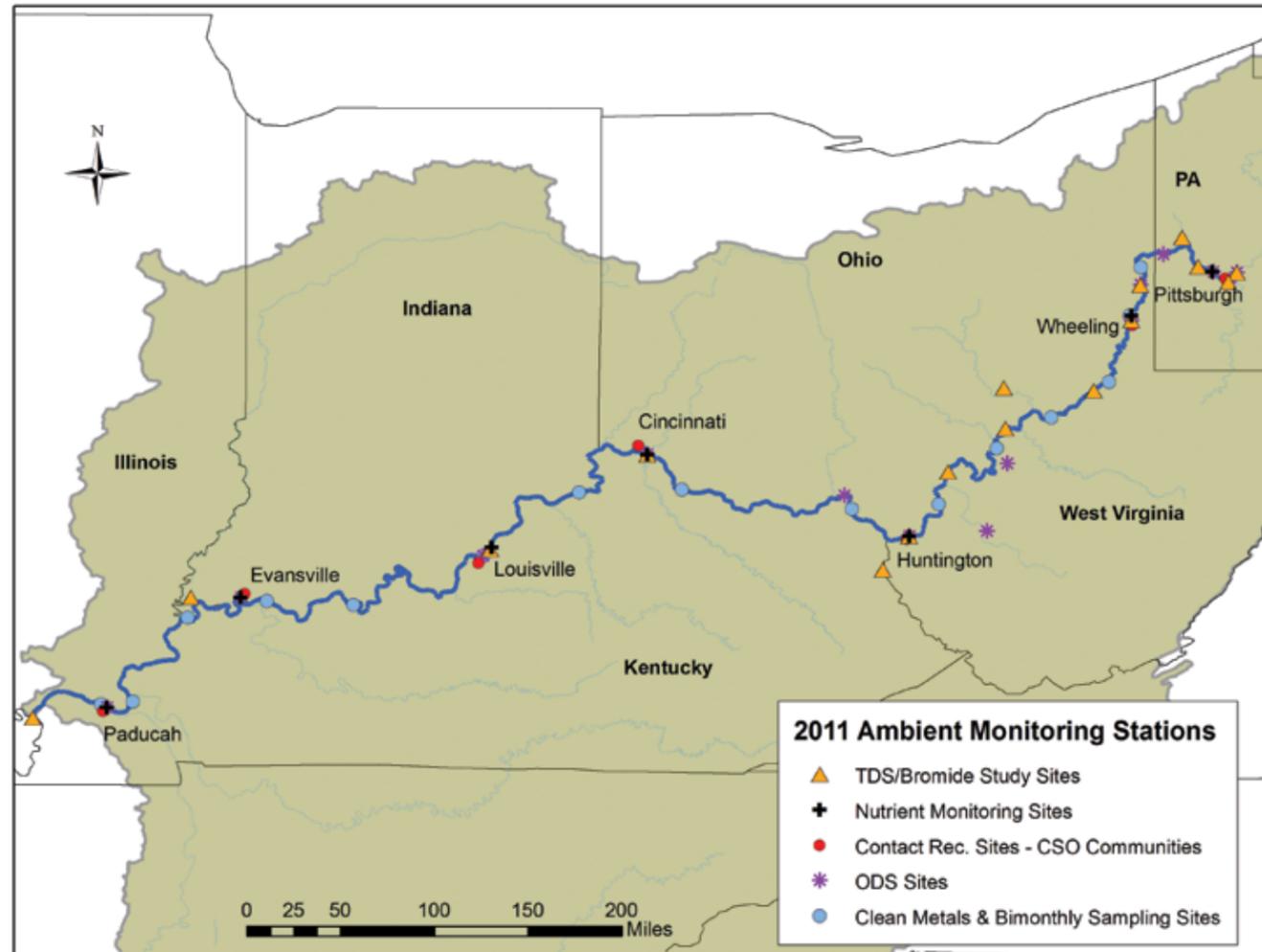
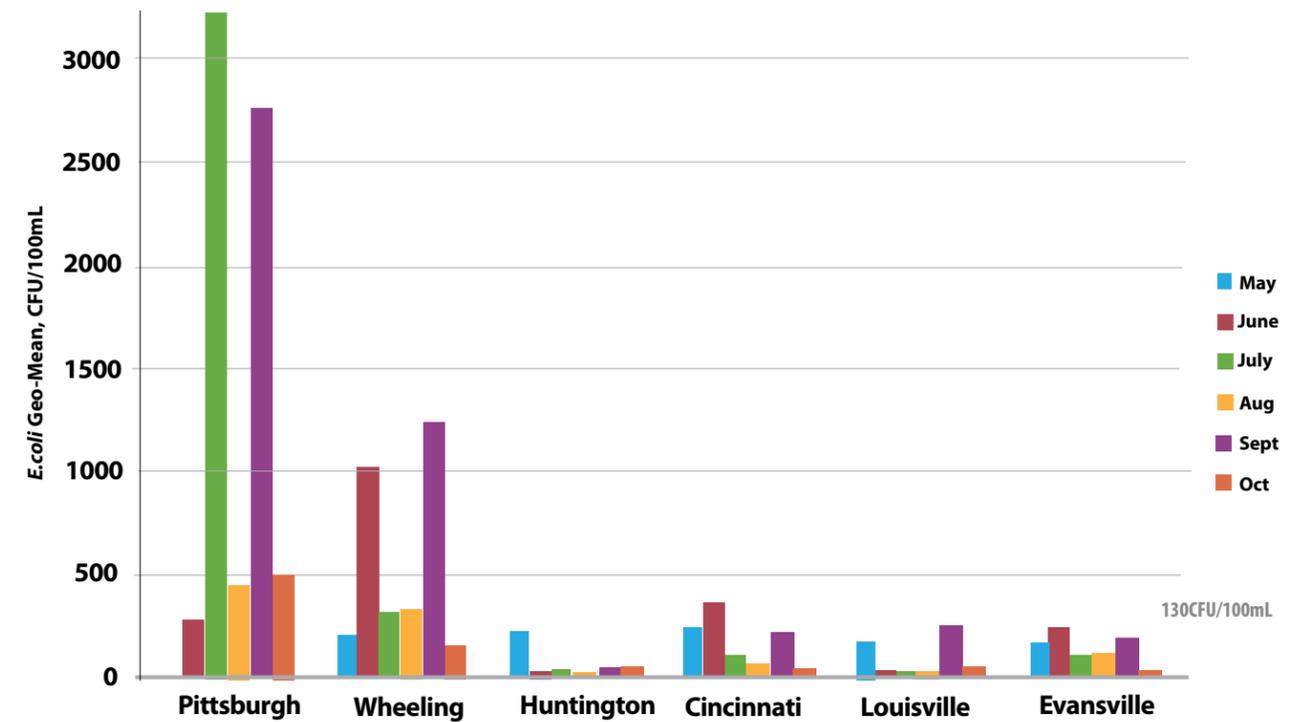
Bimonthly sampling indicated that higher than average flows in March through May and November through December of 2011 yielded violations of ORSANCO total mercury and phenolics water quality criteria. Violations of Pennsylvania, West Virginia, Kentucky, and Indiana total iron

water quality criteria applicable to the Ohio River were also found at most monitoring stations in the highest flows. No violations of human health criteria were found in 2011 for six other monitored pollutants: arsenic, barium, chloride, nitrite-nitrate nitrogen, silver, or sulfate.

DISSOLVED OXYGEN AND TEMPERATURE MONITORING

Because fish and other aquatic life depend on dissolved oxygen (DO) in water, ORSANCO monitors DO conditions in the Ohio River. From May through October, the Commission receives data from electronic monitors at nine navigational dams and hydropower plants. 2011 saw a very wet spring and early summer throughout the Ohio River Valley, followed by hot, dry conditions, and ending with a wet fall season. This resulted in several violations of both DO and

2011 *E.coli* Monthly Geometric Mean



temperature criteria. However, there were fewer violations compared to past low-flow years, indicating improved water quality.

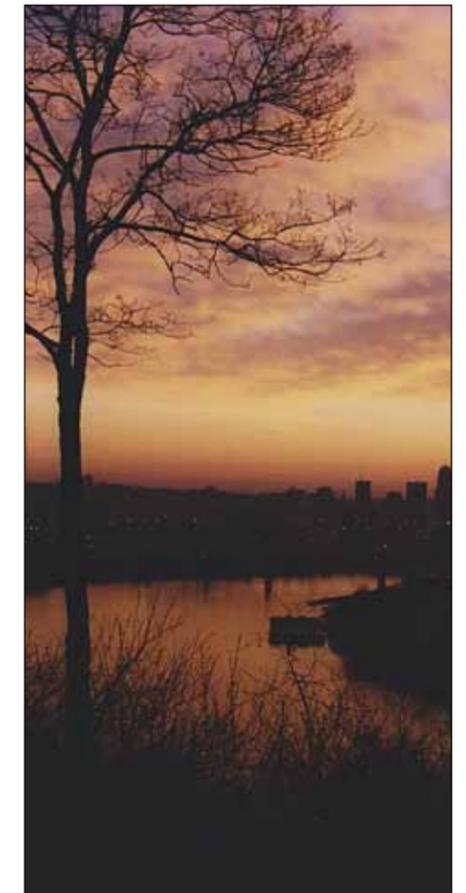
Montgomery, Racine, Kyger, Greenup, Markland, JT Myers and Smithland had average temperature exceedances, while Racine, Kyger, Greenup, Markland and Smithland had DO exceedances.

CONTACT RECREATION BACTERIA MONITORING

During the recreation season (May-October), ORSANCO monitors bacteria levels in six urban areas with combined sewer systems on the Ohio River. Bacteria, including *E.coli* and fecal coliform, indicate the presence of fecal contamination that can cause people to become ill after swimming, jet-skiing, or other activities in which they come in contact with the river.



As shown in the graph above, all six urban areas were unsuitable for contact recreation for some period of the contact recreation season, due to frequent rainfall throughout 2011.



Special Projects



TOTAL DISSOLVED SOLIDS

Total dissolved solids (TDS) refer to the sum of all minerals, salts, metals, and charged ions dissolved in water. Primary constituents of TDS include sulfate, chloride, calcium, magnesium, potassium, sodium, bicarbonates, and to a lesser extent, bromide. TDS is not believed to pose a human health concern, but is regulated due to its potential to degrade taste and aesthetics of drinking water. High levels of TDS can also cause industrial water users problems with scaling in pipes and boilers, and can reduce water filter efficiency. Bromides in source water can also create difficulties for drinking water utilities in meeting disinfection byproduct standards.

In recent years, increasing trends of dissolved solids have been observed in the Ohio River and its tributaries. The underlying causes for these increased levels, however, are not well understood. In light of this uncertainty, ORSANCO proactively adopted a 500 mg/L water quality criterion for TDS in the Ohio River to protect public drinking water supplies.

In addition, the Commission initiated a new sampling program in December through its Ohio Rivers Users Program to better understand the dynamics of TDS in the Ohio River and to substantially enhance the existing data set. The one-year study entails collecting weekly samples at 13 Ohio River locations and four tributary sites, including water utilities, industries, and power plants. Samples are analyzed for TDS and ten individual dissolved solids constituents. The information generated by this effort will provide valuable insight into the nature of dissolved solids in the Ohio River and will strengthen the scientific basis for regulatory decision making.

METHYL MERCURY STUDIES

Ohio River methyl mercury investigations began in 2010 through a cooperative study with the U.S. Geological Survey (USGS) to investigate the relationship between methyl mercury concentrations in the water and in fish tissue, and to evaluate whether ORSANCO's monitoring stations adequately represent

mercury levels in the river. Methyl mercury is a concern due to its accumulation in fish tissue and the potential human health effects from eating fish.

Results of that study show methyl mercury concentrations in water are one to two percent of total mercury concentrations, and that ORSANCO's standard grab sample from a lockwall is not appropriate for analysis of photosensitive methyl mercury. ORSANCO's continued efforts to quantify methyl mercury in the Ohio River will employ an appropriate sampling methodology used by the USGS.

Concurrently, methyl mercury analyses in fish began in 2010 to determine the concentrations, as well as the relationship with total mercury. Although most studies assume there is a 1:1 methyl- to total mercury ratio, preliminary results indicate this ratio in the Ohio River may be less. Of the 19 fish samples submitted for methyl mercury analyses, only one (striped bass from the Cannelton Pool) yielded results in violation of the human health criterion.



LOWER WABASH RIVER

Under a grant from The American Recovery and Reinvestment Act, through the Indiana Department of Environmental Management, ORSANCO is engaged in a study of the output from the Wabash River. The study has two objectives: estimate the total annual load of total nitrogen and total phosphorous exiting the Wabash River; and determine the Wabash River's contribution and causes of low dissolved oxygen in the Smithland Pool of the Ohio River.

The initial data collection was concluded in 2011, with the final report to be completed in early 2012. A three-year continuation of the project has been authorized for monitoring the nutrient load of the Wabash River.

OHIO RIVER BACTERIA TMDL

Fecal coliform and *E. coli* bacteria are indicators of the presence of human sewage and other warm-blooded animal feces in water. In 2011, the Commission

continued to play an active role in developing bacteria total maximum daily loads (TMDLs) for the Ohio River. A TMDL is the maximum amount of a pollutant that a waterbody can receive while still meeting water quality standards. This effort is being led by U.S. EPA Region 5 with guidance from ORSANCO's TMDL Work Group.

In August 2011, ORSANCO began sampling 37 tributaries of the Ohio River from Pittsburgh, PA to Cairo, IL. Sampling will continue into 2012 and include some non-recreation months, for a total of 15 rounds. The data generated from this survey will help characterize tributary loadings and will aid in the TMDL modeling effort. The TMDL model will address the sources, fate, and transport of water and pathogen indicators. Modeling is expected to begin in 2012-2013.



Reducing Nutrients in the River and Beyond



Nutrients have been identified as the third most common cause of impairment to waters of the United States. Excess nutrients can cause algae-related taste and odor problems for drinking water utilities, contribute to low dissolved oxygen levels that can have a negative impact on wildlife and habitat, and produce toxins that can cause illness in people. ORSANCO has been working with federal, state and local agencies to address the causes and effects of excess nutrients both within the Ohio River Basin and in downstream waters.

NUTRIENT CRITERIA

In order to limit the problems associated with algae blooms on a national scale, U.S. EPA has asked the States to develop numeric nutrient criteria for lakes, rivers, and streams. ORSANCO is developing these

criteria for the Ohio River. To support this effort, samples are collected twice per month at seven water utilities covering the upper, middle, and lower reaches of the river, and tested for both algae and nutrients. Data from other Commission programs are also used in this project, including biological data and water chemistry. ORSANCO has been seeking technical support from U.S. EPA to perform an in-depth analysis of the data. In addition, the Commission is convening a panel of experts, which will review the collected data and propose a plan for in-house data analysis and development methodology. The culmination of these two efforts will provide the best chance for successfully developing numeric nutrient criteria.

NUTRIENT TRADING

ORSANCO is collaborating with the Electric Power Research Institute

(EPRI) to develop a nutrient trading program for the Ohio River Basin. This program will produce water quality credits for nitrogen and phosphorus aimed at protecting watersheds at lower overall costs. The program may also benefit receiving water bodies as far away as the Gulf of Mexico. This will be a first-of-its-kind interstate trading project in terms of scope and magnitude, and represents a comprehensive approach to designing and developing credit markets for nitrogen and phosphorus.

In 2011 advisory committees of interested participants were formed to help guide the development of the program. Pilot trades are being scoped for implementation in 2012 and 2013, which will allow testing of program elements prior to activating the full trading program.

GULF OF MEXICO HYPOXIA

Nutrients from the Mississippi River watershed (including the Ohio River) flowing into the Gulf of Mexico contribute to a large hypoxic zone, where depleted oxygen levels in the water cannot fully support marine life. ORSANCO coordinates the Ohio River Sub Basin Committee of the Gulf Hypoxia Task Force. The Task Force identified the need for states to develop nutrient reduction strategies to prioritize the on-going efforts within the Mississippi River watershed, with the goal of accelerating the reduction of nutrient loads without the need for a specific water quality standard.

These strategies identify programs designed to reduce nutrients and responsible entities (e.g. Soil and Water

Conservation Districts), identify priority watersheds within each state, and identify reduction goals. Work on these strategies began in 2011 and is expected to be completed in 2012.



Protecting Drinking Water



Breakaway barge at Emsworth Dam

Over five million people rely on the Ohio River as a source of drinking water. ORSANCO's Source Water Protection Program is a cooperative effort among the states, industries, and drinking water utilities that border or use the river. A primary objective of source water protection is multi agency/industry communication regarding issues of concern. This is achieved through meetings like the one convened in April for the 15 drinking water utilities along the 137 miles from Pittsburgh, PA to Sistersville, WV, during which water quality issues associated with shale gas development were discussed.

SPILLS AND EMERGENCY RESPONSE

The Ohio River is one of the most heavily industrialized rivers in the United States, with hundreds of industrial discharges and millions of tons of cargo transported each year, yet relatively few spills and

accidental discharges are reported to the Commission. ORSANCO receives from 30 to 60 reports each month, most of which have only localized adverse effects. All spill reports received by ORSANCO staff are evaluated to assess their potential impacts to downstream drinking water utilities and the environment. ORSANCO notifies appropriate personnel, and may also assist in locating or tracking the spill and analyzing and interpreting water quality data.

While no major spills were reported in 2011, there were several incidents that illustrate the range of situations that occur on the Ohio River and its tributaries to which the Commission responds:

■ In April, a potentially catastrophic incident occurred when several barges broke away in a strong current, in a highly populated area five miles downstream of Pittsburgh. One barge was loaded with 378,000

gallons of benzene which, if it had gone over the Emsworth Dam, could have been disastrous for both drinking water safety and aquatic life. However, the barge was secured before any damage was sustained.

■ A fish kill was reported in the summer near Louisville; affected species were predominantly silver and big-head carp (both invasive species). Commission biologists supported the efforts of the Kentucky Division of Wildlife and emergency response personnel to identify the cause and source of the spill.

■ Algal blooms have been reported more frequently in recent years. ORSANCO responded to algal blooms on both the Little Miami and Licking rivers in the summer of 2011. Results of Commission water analysis were used to reopen a drinking water intake on the Licking River.



Algal bloom on the Little Miami River



Specimen from Louisville fish kill

ORGANICS DETECTION SYSTEM

The Organics Detection System (ODS) is a unique partnership among ORSANCO, drinking water utilities, and industries along the Ohio River and major tributaries. The ODS was initiated in 1978 to protect drinking water utilities from contamination due to river-borne organic chemicals. By collecting and analyzing water samples daily at 14

stations, this system is responsible for detecting, identifying, and tracking chemical spills and releases. The Commission recently undertook a complete upgrade that will bring the ODS up to current technological and analytical standards. A website will provide near real-time access to data, and online analyzers will allow automated sampling and analysis when operators are not available.



Protecting Aquatic Life

Improvements in Ohio River water quality over the past 40 years have provided a cleaner River for aquatic life. Population data collected during ORSANCO's yearly fish population studies evidences this progress. The Commission's biological monitoring programs allow scientists to measure and interpret the overall health of the Ohio River's aquatic community.

POOL ASSESSMENTS

ORSANCO conducts biological surveys in different parts of the river each year, assessing several of the 19 segments, or "pools," with 15 random sites sampled in each. Typically, four pools are assessed each year, achieving a complete river-wide survey every five years. In 2011, New Cumberland, Willow

Island, Greenup, and Cannelton pools were assessed. These surveys continued the second round of ORSANCO's five-year rotation, allowing biologists to compare multiple assessments of the same pools.

The results of all pool surveys to date can be seen on the graph below. Of the pools sampled in 2011, New Cumberland and Willow Island were both found to be in "fair" biological condition, Greenup was found to be in "good" biological condition, and Cannelton was determined to be in "very good" biological condition. When compared to past surveys, New Cumberland and Willow Island scored lower, while scores for both Greenup and Cannelton increased slightly. Biologists are

working to understand these differences, which may be associated with annual variation (flows, increased submerged aquatic vegetation, etc.) or changes in land use patterns, and not with decreased water quality conditions, as no water quality parameters measured by ORSANCO reflected similar changes.

FISH TISSUE CONTAMINANTS

Because people consume fish from the Ohio River, ORSANCO examines fish tissue for the presence of certain chemicals that may be harmful when eaten. Yearly results are sent to the states bordering the River. The states are moving toward a standardized Ohio River Fish Consumption

Advisory Protocol to provide more consistent information for people who consume Ohio River fish. At this point, two states have adopted the protocol into their advisories for 2012, with other states to follow soon. While the protocol addresses the two major contaminants of concern (PCBs and mercury), the program continues to screen for both legacy (e.g., DDTs, chlordanes, lead) and emerging contaminants such as polybrominated diphenyl ethers (PBDEs) and perfluorinated compounds (PFCs). Biologists have also used the results of recent mercury studies to incorporate the analysis of methylmercury into routine tissue contaminant monitoring.

Research

GREAT RIVERS STUDY

Since 2004, the Commission has participated in one of the most comprehensive scientific surveys ever conducted on the great rivers of the central United States. The U.S. EPA's Environmental Monitoring and Assessment Program (EMAP) Great Rivers Ecosystems (GRE) study will provide information on the health of the Missouri, Mississippi, and Ohio rivers. ORSANCO has been instrumental in developing and implementing the GRE study. Thanks to a recent one year, no-cost extension to the agreement, the 2011 pool

surveys were recently added to the study, making them the last to be intensively sampled as part of the program. The Commission can now focus on assessing the data and developing a final study report in the fall of 2012.

OHIO RIVER BASIN FISH HABITAT PARTNERSHIP

ORSANCO is also involved with another basin-wide assessment of fish habitat conditions being conducted on behalf of the Ohio River Basin Fish Habitat Partnership. This assessment tool uses landscape-scale variables to predict biological measures (fish and mussel indices and metrics) for every stream in the basin. Due to be completed in early 2012, this study will give the Commission a data-driven assessment pinpointing the most intact areas of the basin, as well as highlighting those areas most impacted by human disturbance.

OHIO RIVER FISH GENETICS PROJECT

ORSANCO has been working closely with a Marshall University graduate student on a project funded by the Electric Power Research Institute in an attempt to quantify the barrier potential of mainstem navigation dams on fish movement. The study analyzes the genetic structure of populations of longnose gar, bluegill, and sauger from different sections of the river to identify patterns of gene exchange across navigational pools. The project will be completed in 2012.

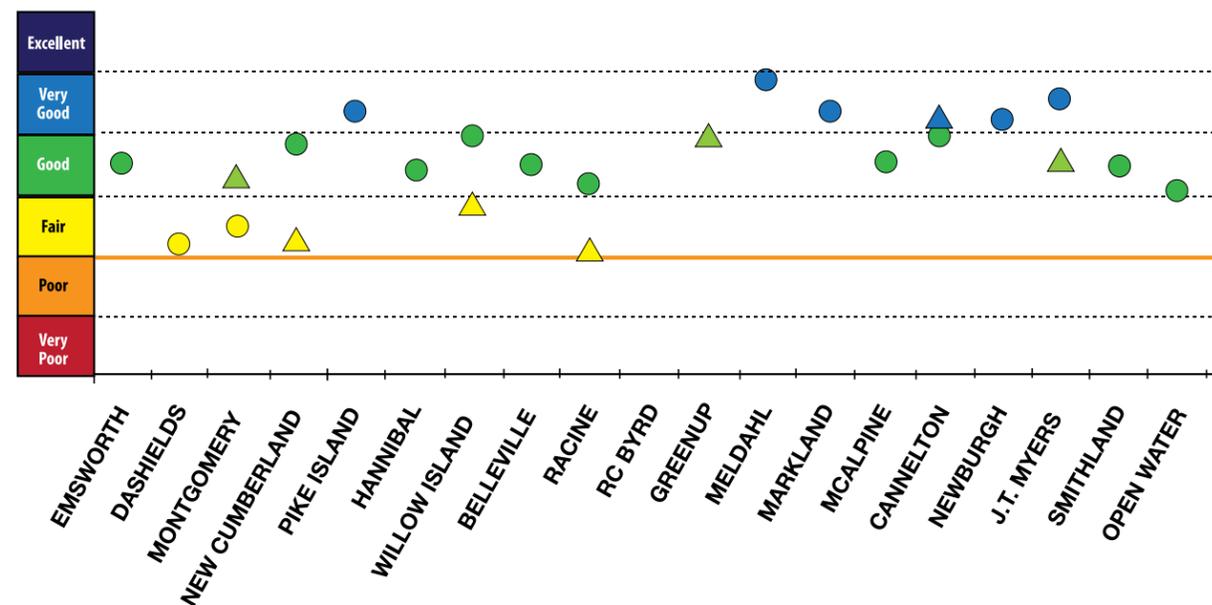
NEW AND NOTEWORTHY

ORSANCO biologists use electrofishing techniques in different areas of the river to obtain a representative sample of the fish community. During the 2011 field season, electrofishing crews collected five striped mullet near Paducah, KY, and observed several schools with approximately a dozen fish in each. These and similar observations could indicate an increase in this primarily marine species in the lower Ohio River. In addition, silver carp were observed upstream of the McAlpine Locks and Dam near Louisville, KY. Often referred to as flying carp, this invasive species competes with native fish and presents a hazard to boaters. This was the first time ORSANCO had observed these fish above the Falls of the Ohio, and may indicate a significant upstream movement by the species.

Striped mullet



Silver carp



Public Information and Outreach



ORSANCO provides the public with educational materials and opportunities for hands-on involvement in water quality stewardship through programs like River Sweep, RiverWatchers, and Life Below the Waterline.

RIVER SWEEP

For over 22 years, volunteers from Pittsburgh, PA to Cairo, IL have dedicated the third Saturday in June to picking up trash and debris from the shorelines of the Ohio River and its tributaries. In 2011, more than 19,000 volunteers at 511 cleanup sites collected tires, plastics, appliances, and other items along 3,000 miles of shoreline.

Prior to the Sweep, ORSANCO conducts a poster and T-shirt contest for students in kindergarten through twelfth grade within the Ohio River Basin. In 2011, the grand prize poster winner was Sarah

Moinudeen, an 8th grader from Jackson Middle School, Vienna, WV. The T-shirt winner was Haven Carter, a sophomore from Benjamin Bosse High School, Evansville, IN. Both were honored by their schools and received a \$500 U.S. Savings Bond.

CORPORATE SPONSORS

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 Childers Oil Company
 Dayton Power and Light
 Dominion Foundation
 Domtar Corporation
 Dow Corning Foundation
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Duquesne Light Company
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 Massac County SWCD
 McGinnis, Inc.
 Mead Johnson Nutrition
 Neville Chemical Company
 PPG Industries
 Rumpke
 SABIC Innovative Plastics
 Sanitation District No. 1 of Northern Kentucky
 Talisman Energy USA
 West Virginia American Water
 XCG Consultants



Sweep Manager Jeanne Ison's photo won the 2011 American Rivers "National River Cleanup Photo Contest."

LIFE BELOW THE WATERLINE

Life Below the Waterline, ORSANCO's 2,200 gallon mobile aquarium, continued to draw record crowds in 2011. The aquarium is used to demonstrate the abundant and diverse aquatic life of the Ohio River. Fish for the aquarium are caught locally so residents can see the variety of aquatic life that thrives in their area. In 2011, the aquarium

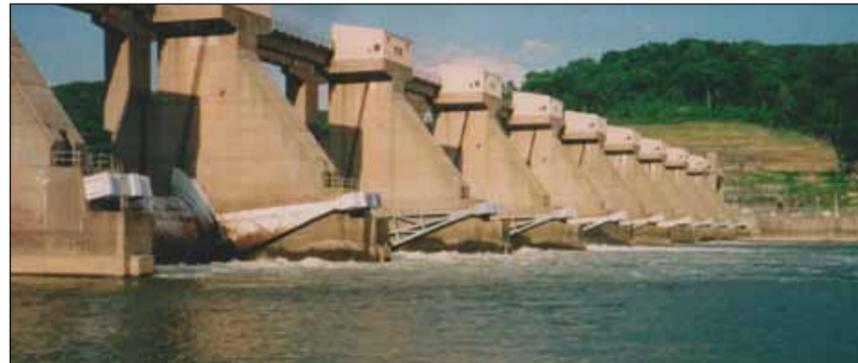
appeared in Cincinnati and Marietta, OH; Wheeling, WV; Louisville and Paducah, KY, and Madison, IN.

RIVERWATCHERS

Since 1992, ORSANCO has promoted stewardship of the Ohio River Basin and real science in the classroom through the RiverWatchers volunteer monitoring program. The program began with five participating schools and has expanded throughout the Ohio River Watershed. In 2011, the program included groups in six states testing their communities' water quality. Data are available to the public via ORSANCO's website.



Advisory Committees



ORSANCO employs a cooperative approach to improving water quality, working with both public and private Ohio River Basin stakeholders. The Commission seeks input from advisory committees representing various water-related interests.

WATER RESOURCES COMMITTEE

The Water Resources Committee guides the development of a water resources program and recommends appropriate action regarding water resources management and policy issues. Committee membership is open to all Ohio Basin states, and includes representatives from federal agencies such as the U.S. Army Corps of Engineers and the U.S. Geological Survey.

WATER USERS ADVISORY COMMITTEE

The oldest advisory committee, this group comprises drinking water utilities along the Ohio River and its tributaries. The committee discusses water quality issues and provides input on ways to improve the river as a source of drinking water. It also recognizes exemplary water treatment operators through ORSANCO's Registry of Distinguished Operators.

PUBLICALLY OWNED TREATMENT WORKS (POTW) ADVISORY COMMITTEE

ORSANCO's POTW Advisory Committee encompasses municipal wastewater treatment utilities along the Ohio River. It seeks to improve the operation of POTWs through technology transfer, and provides input on wastewater treatment issues. Members also recognize

exemplary wastewater treatment operators through the Registry of Distinguished Operators.

POWER INDUSTRY ADVISORY COMMITTEE

Throughout its history, ORSANCO has worked with numerous industry advisory committees to find cooperative approaches to improving water quality. As the largest water user on the Ohio River, the power industry has a great reliance on water, and has been the most active industry committee in recent years.

PUBLIC INTEREST ADVISORY COMMITTEE (PIACO)

PIACO members represent various river-based recreational and entertainment interests. With the perspective of those who are on the river, this committee provides valuable feedback on Commission programs, including communicating issues to the public.

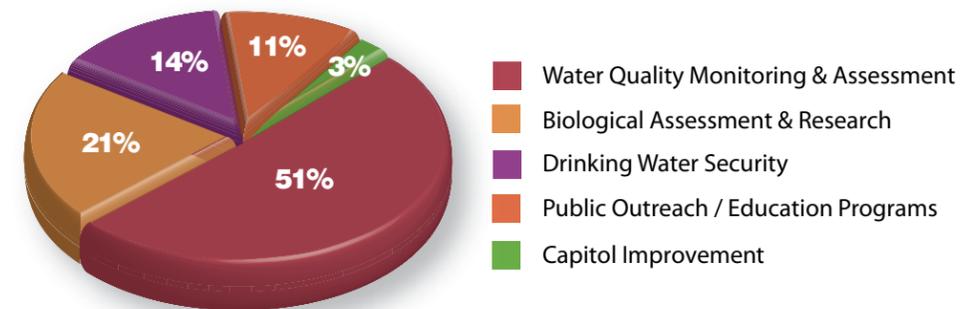
Financial Overview



EXPENDITURES BY MAJOR PROGRAM AREA

Water Quality Monitoring & Assessment	\$1,844,302
Biological Assessment & Research	\$744,760
Drinking Water Security	\$515,994
Public Outreach / Education Programs	\$405,934
Capitol Improvement	\$95,834

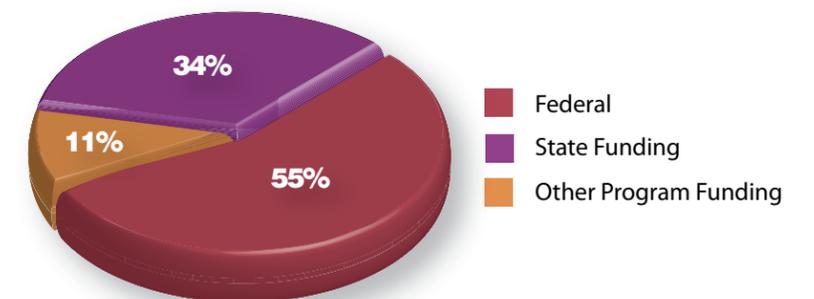
TOTAL \$3,606,823



REVENUES BY MAJOR SOURCE

Federal	\$2,206,955
State Funding	\$1,363,500
Other Program Funding	\$434,253

TOTAL \$4,004,708



Detailed financial information can be found in the June 30, 2011 audited financial statements.



ORSANCO Staff



Alan H. Vicory, Jr., P.E., BCEE,
Executive Director & Chief
Engineer

Peter Tennant, P.E., BCEE, Deputy
Executive Director

Tracey Edmonds, Administrative
Assistant

WATER QUALITY MONITORING AND ASSESSMENT PROGRAMS

Jason Heath, P.E., BCEE, Manager
of Monitoring, Assessment &
Standards Programs

Steve Braun, Environmental
Specialist

Stacey Cochran, Environmental
Specialist

Eben Hobbins, Environmental
Specialist

Greg Youngstrom, Environmental
Specialist

Jamie Wisenall, Contractual
Environmental Specialist

BIOLOGICAL & RESEARCH PROGRAMS

Jeff Thomas, Manager of Biological
Programs

Ryan Argo, Aquatic Biologist

Rob Tewes, Aquatic Biologist

John Spaeth, Contractual Aquatic
Biologist

SOURCE WATER PROTECTION & EMERGENCY RESPONSE PROGRAMS

Jerry Schulte, Manager
of Source Water Protection &
Emergency Response

Travis Luncan, Environmental
Chemist

Lila Xepoleas Ziolkowski, Analytical
and Environmental Chemist

WATER RESOURCES PROGRAMS

Sam Dinkins, Project Coordinator,
Research, ORSANCO/Ohio River
Users, Water Resources

PUBLIC INFORMATION PROGRAMS

Jeanne Ison, Manager of Public
Information/Education Programs

Melissa Mann, Public Information/
Education Specialist

Alexandra Stevenson, Publications,
Part-time

ADMINISTRATIVE PROGRAMS & HUMAN RESOURCES

David Bailey, Director of
Administration and Human
Resources

Donna Beatsch, Data Processing
Specialist, Part-time

Joe Gilligan, Comptroller
Lisa Cochran, Administrative
Assistant, Part-time

John Klear, Data Systems
Administrator

Matt Glazer, Maintenance,
Part-time

YEARS OF SERVICE

Tracey Edmonds – 15 years

Eben Hobbins – 10 years

John Klear – 5 years

Melissa Mann – 5 years



Members of the Commission*

Chairman: Charles Duritsa

Vice-Chairman: Kenneth
Komoroski

Secretary/Treasurer: Toby Frevert

Executive Director and Chief
Engineer: Alan H. Vicory, Jr.

ILLINOIS

John J. Kim, Interim Director,
Illinois Environmental Protection
Agency

Toby Frevert

Phillip C. Morgan

INDIANA

Thomas Easterly, Commissioner,
Indiana Department of
Environmental Management

Joseph H. Harrison, Sr., Bowers
Harrison, LLP

Vasiliki Keramida, Ph.D., President
and Chief Executive Officer,
Keramida Environmental, Inc.

KENTUCKY

Leonard Peters, Kentucky Energy
and Environment Cabinet

Jerry Abramson, Lieutenant
Governor

Jeff Eger, Water Environment
Federation

NEW YORK

Joe Martens, Commissioner,
New York Department of
Environmental Conservation

Douglas E. Conroe, Director
of Operations, Chautauqua
Institution

Michael P. Wilson, Professor, State
University of New York Fredonia

OHIO

Scott Nally, Director, Ohio
Environmental Protection
Agency

Paul Tomes

PENNSYLVANIA

Michael Krancer, Secretary,
Pennsylvania Department of
Environmental Protection

Greg Phillips, District Manager/
CEO, Westmoreland
Conservation District

Charles Duritsa

VIRGINIA

David Paylor, Director,
Virginia Department of
Environmental Quality

David Johnson, Director,
Department of Conservation
and Recreation

Robert H. Wayland III, Virginia
Water Control Board

WEST VIRGINIA

Randy C. Huffman, Cabinet
Secretary, Department of
Environmental Protection

David Flannery, Jackson Kelly,
PLLC

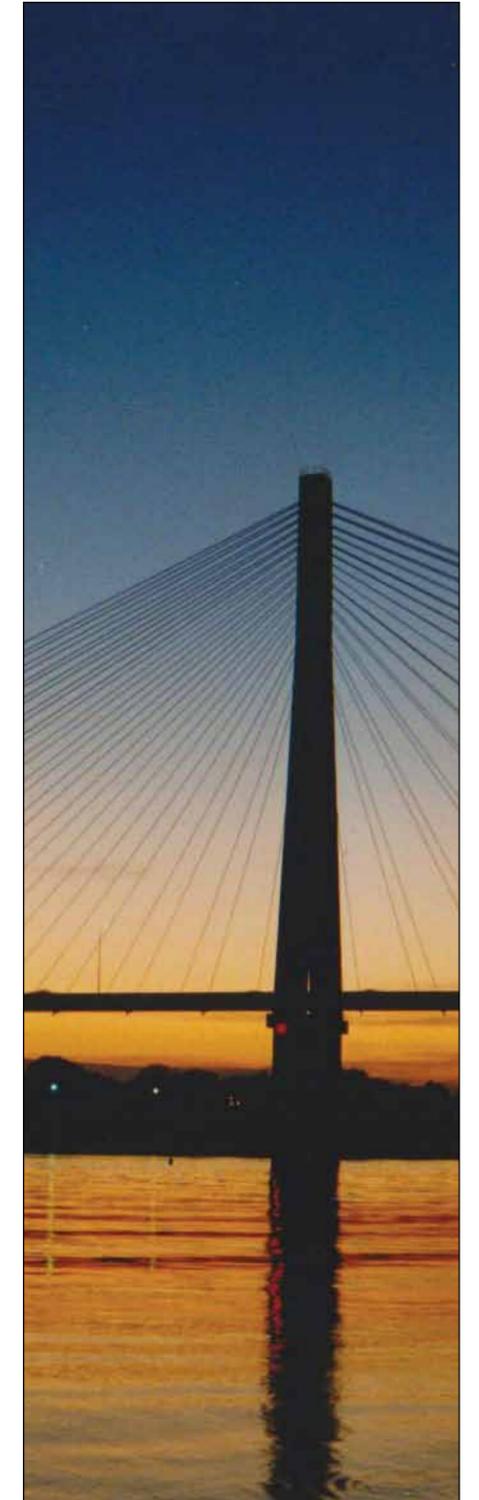
Ronald R. Potesta, President,
Potesta and Associates

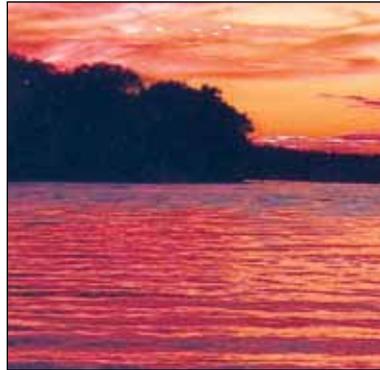
FEDERAL

Stuart F. Bruny

Kenneth Komoroski, Partner,
Fulbright & Jaworski L.L.P.,
Pittsburgh, PA

*As of December 31, 2011





5735 Kellogg Ave.
Cincinnati, OH 45230
513-231-7719
www.orsanco.org

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