



Annual  
Report  
1974



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Seining in Delaware Bay as seen from the New Jersey shore.

## Introduction

This is the 12th annual report of the Delaware River Basin Commission, bringing the formal record of the agency through December 31, 1974. It relates DRBC's progress and activities for 18 months from the period covered by the 11th report, and thus converts to a calendar-year reporting cycle.

The report evaluates the durability of the interstate-federal Delaware River Basin Compact, DRBC's enabling law, after 13 years, and describes the Commission's responses to the nation's changing environmental mood as well as to the new federal law that overhauled the nation's water pollution control policies and practices. It tells how mushrooming energy-related developments are pressuring water managers into tough and sometimes extreme decisions, at least by former standards. And it recounts the latest events in the saga of Tocks Island, the controversial and long-delayed reservoir plan that is now undergoing perhaps the most penetrating reappraisal of any public works project in the nation's history.

The report discusses the many programs and studies in effect to help deal with water resources problems that have developed in the mountainous and rural upper basin, particularly the New York State sector. And it describes the year's specific policy decisions and developments in the areas of water supply, flood loss reduction, environmental protection, project reviews, water pollution and program planning.

DRBC is the region's instrumentality for achieving a good and equitable balance in assuring both environmental quality and public benefit from the region's water resources. In the hope that it is fulfilling its commitment, the Commission respectfully presents this report to the valley's 7 million residents of New York, Delaware, Pennsylvania and New Jersey and their elected state and national representatives.



# 1974 • Review

The general commitment, jurisdiction, duties and powers of the Delaware River Basin Commission, as reflecting the philosophies and goals of its founders, were clearly spelled out in the 1961 interstate-federal Compact that created the agency.

The framers of the Delaware River Basin Compact, a then-unprecedented but since-copied experiment in federal-state partnership, were acutely cognizant of the unpredictability of future events and policy trends in the region and nation. It was thus intended that the Compact and Commission should remain viable mechanisms that could respond to the future water resource needs of the Delaware Basin region, come what may. And so they were fashioned.

More than 13 years later, the statutory mandate that defined the Commission's overall mission for water resources planning, conservation, coordination, management, development and protection, including what it may and may not do, remains unchanged in the Compact.

However, the unforeseen has heaped upon the 1970s and its elected and career officials an avalanche of changed conditions and public opinion from a time that was half-way back to World War II. To a vocal and influential element of society, the one-time dream of a widespread nuclear power has become a nightmare. Water supply and flood control needs that were relatively easily solvable then by building dams have now grown even more acute but at a time when dam is a dirty word. Old tolerance of industrial and city waste discharges that were only fractionally purified, at best, has been eclipsed over the years until the nation now has a law that talks of near-total elimination of pollutants. The post-war welcome mats put out to industrial parks, housing developments, highways and growth and ratables generally are giving way to keep-out signs.

Some, yet few, changes have been suggested for the Compact, and from few sources also. And these propose primarily that the Commission be armed with strong and direct control over uses of land in preference to the limited and indirect influence it now exercises. Apparently no one dissents in principle, but winning approval of such delegation of authority from home rule-conscious legislators, though untried, is another matter—in 1961 or 1975.

The 1970s do command, however, strong emphasis on environmental quality. But even this void in the 1961 Compact has been rectified within the document's unaltered framework. An extensive environmental protection code has been incorporated into the agency's rules, and a five-member special unit established to enforce it.

**2** Water resources and government administration people, at least those who are heard on the subject, view the Compact and Commission as effective

instruments. As for their present and past efficiency, many of the programs of the Commission — drought response, water quality controls, water supply and regional waste planning, environmental reviews and others — have attracted praise. However, one academic-based investigator has written critically of DRBC's management of the tidal estuary pollution cleanup, challenging the program's technological basis that, on the other hand, had been found valid by a panel of prominent scientific experts. In 1967, affected municipalities and industries protested the stringency of DRBC's new water quality standards that might be regarded eight years later as moderate. A foundation study assessed DRBC's policies as hampered by lack of strong leadership. And critics of projects and programs with which DRBC has been identified have chosen also to make uncomplimentary allegations about the agency's competence and objectivity. Others complain that DRBC has been funded inadequately to allow full effectiveness.

Generally, criticisms and suggestions voiced about DRBC, by friends and foes alike, have been in the context of leadership, policy decisions, administrative and program effectiveness and funding.

The air has been remarkably clear of Monday morning second-guessing of the fathers of the Delaware River Basin Compact on the substance, philosophy and goals of the document.

Translated into water resources terms, trends and public opinion of the 1970s have had a profound effect on the direction of Commission policies and programs. Water planning assumptions were under reevaluation in the event that water supply output from projects envisioned in DRBC's Comprehensive Plan falls short of former expectations. The fate of the Tocks Island lake dispute was being awaited because of the project's immense significance to supplying domestic water, cooling electric generators, holding off salt water intrusion up the tidal river, reducing flood damages, meeting energy demands, and accommodating recreation demands. Pollution control programs had been retooled to comply with new national policies. Ecology vs. energy interests flooded the environmental unit and project review branch with impact responsibilities.

Adoption of a water pricing regulation program that was years in the making and joining with the Federal Government in arranging for flood studies of 119 Delaware Valley communities were major program achievements in 1974.

Geographically speaking, there was especially intense involvement in programs of particular interest to the fifth of the 13,000-square-mile basin that lies in New York State. These activities spanned the full range of water resource work — municipal, industrial and agricultural waste treatment, water supply, flood protection and recreation.

## Reorganization

With new Governors taking office in two signatory states — New York and New Jersey — and each later naming a new Alternate, the Commission underwent the biggest membership turnover in its 13-year history. Governors of the basin states are ex officio DRBC members.

In New Jersey, Governor Brendan T. Byrne became his state's Member of DRBC upon succeeding William T. Cahill as chief executive of the Garden State. Soon afterward, Governor Byrne named David J. Bardin, a former Federal Power Commission lawyer who more recently had been an environmental official with the Israeli government, to replace Richard J. Sullivan as Environmental Protection Commissioner and DRBC Alternate Member.

Before resigning the governorship of New York, Vice President Nelson A. Rockefeller was the last remaining original 1961 Member of DRBC. He was



Governor Carey

succeeded by Governor Malcolm Wilson, the former Lieutenant Governor. In mid-1974, W. Mason Lawrence, a high state conservation official who had been active for a decade in Delaware Basin affairs, retired and was replaced as New York's Alternate Member by Ronald W. Pedersen, First Assistant Commissioner of Environmental Conservation.

In 1975, DRBC gets a new Member from New York in Governor Hugh L. Carey and a new Alternate Member in Environmental Conservation Commissioner Ogden R. Reid, both former Congressmen.



Commissioner Reid

The 1974 changes left Pennsylvania's venerated Secretary of Environmental



Mr. Briganti

Resources, Maurice K. Goddard, as the only charter representative of any of the five signatory parties still serving DRBC. He has been Alternate to all four Governors of the Keystone State since the Commission was organized in December 1961.

Early in 1975, DRBC lost two of its veteran staff members, each

head of one of the Planning Division's four branches. The untimely death of Theodore Briganti, who had supervised the work of the Project Review Branch since its inception in 1962, took from the Commission an erudite, widely-traveled and valued colleague. And retirement closed out the nine-year DRBC career of Ralph Porges, a strong administrator



Mr. Porges



Mr. Gross

who had distinguished himself during 26 years with the U. S. Public Health Service before expanding the Water Quality Branch into the Commission's largest and perhaps most critical single operation.

Succeeding Mr. Porges and Mr. Briganti as heads of the branches were their top assistants, Seymour P. Gross in Water Quality and David B.

Everett in Project Review. One of DRBC's first engineering staff members, Mr. Gross had joined the Program Planning Branch in 1962 and moved into the pollution control program several years later. Mr. Everett, a Trenton area native, was assistant engineer for Hamilton Township in Mercer County prior to moving to DRBC in 1967.



Mr. Everett

## River Conditions

If the hydrology of the Delaware River system was uneventful from late in 1973 through 1974 — meaning no serious flooding or water shortages, it was also good and healthy. So were ground water supplies and quality.

Weather conditions produced precipitation at 12 percent above the long-term norm and streamflows ran 35 percent higher than average from July 1973 through December 1974. The wettest three-year period in a half-century of record keeping on the Delaware ended on October 1, 1974. In fact, the observed average flow at Trenton has been near or above normal every year since 1968.

Not from June 1973, when high waters caused some severe damages and necessitated evacuation of hundreds of families in eastern Pennsylvania and southeastern New York, was there any extensive flooding through 1974.

# Focus on Upper Basin

New York area planning a highlight;  
other 1974 program work reported

Many of the most essential functions of the Commission are its least conspicuous. Some jobs that are endlessly routine yet crucial to water planning and management are collecting data on flows and water quality; analyzing and correcting population projections and concentrations and other regional statistics germane to supply and demand of water resources; conducting geological, ground water, fisheries and limnological investigations; and preparing graphics essential to communicating facts and ideas.

These are a few of the perpetual water management counterparts to watching styles, stocking the inventory and buying merchandise in retail sales. The functions continue as, quite often, only the emphasis changes — adapting to new patterns of public interest, new variations of old problems, or new locations where they had not been experienced before.

## Upper Basin Programs

A major emphasis of the 1970s at the Basin Commission is the headwater region above the Tri-State Rock near Port Jervis, N.Y. Representing about a quarter of the 12,750-square-mile basin, this region lies mostly in New York State, drained largely by the East and West Branches of the Delaware and the Neversink and Mongaup Rivers, but includes also a sizeable portion of northeastern Pennsylvania, notably the Lackawaxen River valley. A rural, scenic, resort-recreation and agriculture-oriented region of countless Catskill and Pocono Mountains streams, it contrasts sharply with the urban-industrial character of the lower basin's tidal estuary area. The greatest amount of precipitation in all of New York State as well as the four-state Delaware Valley falls on the upper basin, which also is characterized by extreme variations of streamflows. To New York City the upper Delaware for years has been important as the largest single water supply source, producing about half of its massive daily consumption through giant aqueducts reaching to three big Delaware tributary reservoirs.

To deal with water-related problems that have been growing along with the region itself, concerned officials in New York established in 1969 the Upper Delaware River Regional Water Resources Planning Board to develop by late-1975 a Delaware Basin water resources plan for the next 50 years.

The study and plan formulation, both early action and long-range portions, have been coordinated with the DRBC to insure compatibility with basinwide planning.

Responding to a New York State request that it work with the Board, DRBC agreed to take on primary

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responsibility for three of the nine major study areas.

The product of that commitment by DRBC has just been presented to the Board in the form of three reports — on water quality management, municipal and industrial water supply, and water-related recreation.

Each of the "functional" reports presented to the Upper Delaware Board for use in developing the regional plan comprises an extensive compilation of technical data and series of alternative plans to deal with the region's pollution control, water supply and recreation needs.

A flurry of additional New York-focused DRBC assignments has resulted from recent emphasis on the need to identify and control, to the extent required, non-point pollution sources — those from either man-caused or natural origins but not traceable to particular outfalls.

These DRBC efforts have included identification of baseline nutrient levels related to existing land use; determining extent of entrapped nutrients in reservoirs; identification of critical and controllable nutrients at the head of the proposed Tocks Island reservoir and in existing up-river impoundments; assessment of needed control programs, benefits and costs; and discussions of land use implications to meet water quality goals. A feared big part of the non-point pollution problem is nutrients, which in large amounts can cause excessive algae growth. Some of these studies were completed in 1974, and others continued.

Still many other Commission activities are upper basin-related. They include helping with the plan to add 75 miles of the upper Delaware bordering New York and Pennsylvania to the National Wild and Scenic River System; reappraising water supply yield dependability in the post-drought period; identification and environmental assessment of future electric generator sites; conducting flood studies dealing with basinwide delineation of and setting standards of use for flood-prone lands; arranging local flood plain studies in two New York communities — and probably more later — so they can qualify for flood insurance; and participating in a proposed Corps of Engineers study of upper basin tributaries, particularly for controlling floodwaters.

In 1974, DRBC expanded its summer limnological surveys, including fisheries, which now extend from Portland, Pa., five miles below Delaware Water Gap, to the Cannonsville and Pepacton Reservoirs in the New York State headwaters, a distance of about 162 stream miles. The studies, initiated in 1969, provide baseline information on physio-chemical and biological conditions in the upper river.



Sunset on the upper Delaware

### Other Activities and Developments

The wide-ranging Federal Water Pollution Control Act of 1972 directed the President, acting through the Water Resources Council, to arrange for planning studies of all river basins in the nation. In response to an invitation from the Council for it to conduct such a comprehensive study of its own valley, the Commission authorized the staff to submit a study proposal. The DRBC application for a grant to finance the work had not been acted on by the end of 1974.

The Commission has a continuing commitment to assist in and promote work by volunteer watershed groups that are important to good conservation practices at the local level. In 1974, the Mid-Atlantic Council of Watershed Associations published a 24-page guide entitled "A Watershed Association for Your Valley" on which the DRBC staff was the primary source of advisory, editorial and graphics assistance. The Commission also prepared a map display on local watershed development and protection plans throughout the four-state basin for the 1974 Delaware Basin Water Resources Conference.

In a move supported by DRBC for esthetic, water supply and water quality protection reasons, New Jersey formally added the historic Delaware and Raritan Canal and tow path to its state parks system. Much of what remains of the original canal,

principally the feeder portion from above Stockton to Trenton, lies in the Delaware Basin. The canal is the mechanism for conveying to Northeast Jersey that portion being taken of New Jersey's court-decreed entitlement of 100 million gallons daily of Delaware supplies. New Jersey was following the lead of Pennsylvania, which years ago designated as the Theodore Roosevelt State Park the old Delaware Canal from Easton to Bristol.

The Commission updated in 1974 the maps it had published showing detailed locations of all known petroleum pipelines for use by developers, builders, highway departments and others so that ruptures and resulting spills can be avoided. The price remained at \$5 a set.

However, increased costs forced an increase to \$2 a set the charge for the boating-recreation maps of the upper Delaware — 200 river miles from Hancock, N.Y., to Trenton, of which nearly 20,000 have been sold.

Another Commission publication, the annual Water Resources Program, was published in new bound form rather than in substitute pages as before. The document is a six-year action program for water resource activity based on the longer-range Comprehensive Plan. It also contains valuable supply-demand data covering all phases of water use.

# Energy Pressures

Water management work complicated by plans to meet power-oil demands

Industrial efforts to satisfy the region's seemingly insatiable appetite for energy are posing for the Basin Commission probably the most complex and delicate public policy problems encountered in its 13-year history.

Public demand for energy is producing a growth market that the energy industry even at utopian efficiency would be hard-pressed to supply. On the other hand, the public, through its elected representatives and watchdog organizations, is throwing down the environmental gauntlet at every proposal.

Due to economic turns and environmental pressures, energy development activities abated somewhat during 1974, but this is seen as only temporary.

In the middle are DRBC and other regulatory agencies whose legally mandated mission is to protect the environment and yet assist in the efforts to provide such reasonable operations and facilities as are proposed to meet demands. The electric companies are thrust into the eye of the environmental storm by public utility franchise laws that obligate them to service their consumers whatever growth there may be.

Energy-related activities are developing to fever pitch at all DRBC levels — from the Commissioners and top executives through the environmental unit and all four branches in the Planning Division.

DRBC personnel participated in or monitored an ever-increasing number of meetings and conferences on such energy-related subjects as electric generating, deepwater ports and oil refining capacity, typical of which was its preparation and presentation of papers on "Water for Energy Self-Sufficiency" for an important series of sessions organized by the U.S. Water Resources Council. Virtually every energy-connected facility poses environmental dilemmas by 1970s standards — fossil-fired generators with fuel source and thermal pollution problems; nuclear power plants with safety and radiation risks; cooling and transmission line towers that are scenic bugaboos; refineries with organic wasteloads; oil and gas ships, trains, terminals, storage tanks and pipelines with their spill and fire threats; and others.

Energy issues before DRBC fall generally into electric generating or petroleum operations categories.

## Electric Generating

The big problem with electric generating operations is that they create easily the largest single consumptive demand for Delaware Basin water, except for the existing U.S. Supreme Court-sanctioned exports of 900 million gallons a day to New York City and northeastern New Jersey. A consumptive use is one in which the water does not get back into the Delaware stream system, as with the diversions to New York and North Jersey that end up in other watersheds and with water evaporated off when used for cooling electric generators and reactors.

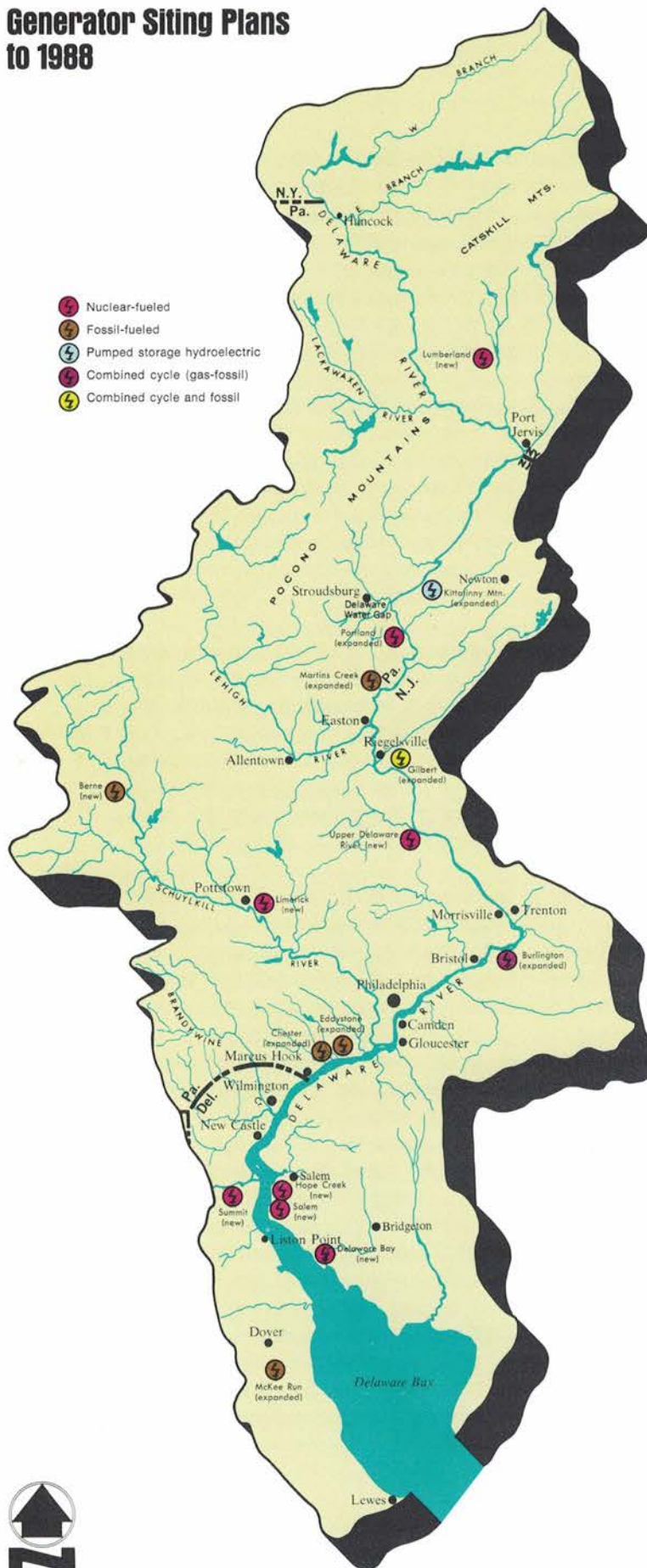
The prospect of immense water losses from electric generating, considering that demands for energy are now doubling at the rate of every 18 years (until recently every decade), prompted the Commission several years ago to summon from the basin's electric utilities a Master Siting Study to apprise it how many plants they would have to build or expand, along with the type, size, location and water demand for each.

In December 1971 they responded that by 1986 they would need to build 16 new plants, including 10 nuclear, and expand 10 of the 26 existing water-using operations, one into a nuclear facility. This would be necessary, they said, to increase their in-basin output from 6,600 megawatts at water-using stations to a startling near-40,000 mw, meanwhile boosting their consumptive water use from 38 to 670 cubic feet a second, a 16-fold increase (or 25 to 433 million gallons daily, nearly half the court-allowed exports). The Commission knew — and stated so at the time — the Delaware system could not endure such a drain and still accommodate water demands to meet household and other industrial needs while holding off the salt front from Philadelphia's water supply intakes in event of drought.

Upon learning in 1973 of changes in plans by some of the companies, DRBC called for an update of the siting study, which was received and released in May 1974. Probably reflecting a combination of fuel shortage fears, economic conditions, environmental protection demands and anticipation



# Generator Siting Plans to 1988



of offshore nuclear generating development, the second study scaled down the earlier 15-year energy output goal by more than a fourth to 28,500 mw in 1988. The updated report envisioned 16 projects — eight new and eight expanded — instead of the earlier 26, and eight nuclear plants, not 11. The nuclear plants would be located one each in New York and Delaware and three each in Pennsylvania and New Jersey, the latter including the Salem plant already under construction as the first atomic generator in the basin.

A further scaledown of plant siting projections is anticipated in the forthcoming 1975 edition of the siting study as a result of recently-announced plant construction deferrals, with perhaps more to come.

The scaledown of the projections, however, failed to comfort DRBC, since both energy output and water use projections can be expected to increase again in the decades beyond 1988. And even with population increases leveling off, no stabilization is yet perceptible in the steadily increasing per capita consumption of both water and electricity.

From the time the first siting study was received, the Commission tried in vain to raise from public and foundation sources the substantial funds needed to mount an environmental overview investigation that would measure the cumulative impact of all the projected installations. Finally, it turned in 1974 to the utility companies urging them to hire a major consulting firm to conduct the additional study. At year-end, the Commission formally had approved the descriptive scope of the study which the staff helped develop and was awaiting the selection of a firm to do the job.

The overview environmental investigation of the siting study will cover impacts on water supply, air quality, noise, aquatic and terrestrial ecology, flood plains, secondary social, cultural and economic effects, and other factors.

DRBC has established a policy of requiring electric utilities to provide their own make-up water storage facilities in the absence of adequate public reservoirs such as Tocks Island. Nonetheless, projections of cooling water needs are so great as to threaten minimum streamflow objectives essential to retard the salt front and to meet other water demands unless sizeable public water supplies are stored for use during low flow periods.

Considering contemporary resistance to constructing reservoirs, and assuming that utility companies will have no easier time building them



than public agencies, DRBC is assessing the advisability of drastic water use restrictions. These include setting basinwide limits for future consumptive uses.

In considering whether to go along with such reservoir resistance and water-use restrictions, policy makers must weigh the obvious implications of inhibited growth, impact on resource management technology and the cost of water, now still the least costly public utility commodity.

### **Petroleum Facilities**

Paralleling the startling growth of electric generating activities in the Delaware Valley region has been a steady stream of disclosures of plans for petroleum-associated facilities—tanker operations, unloading installations, refinery expansion, and tank farm and pipeline construction.

With refineries in operation by seven major producers, the Delaware estuary region already houses the largest concentration of petroleum activity in the eastern United States. And the lower Delaware's convenience to world major oil markets, its purported conduciveness to supertanker shipping operations, and its proximity to widely discussed offshore drilling sites have served only to increase pressures and prospects for additional Delaware Valley petroleum development.

Even natural gas, normally excluded from DRBC concern because of its non-water-related nature, has entered the picture due to plans to ship and store along the lower river liquified natural gas, a highly volatile substance.

Indicators that the American petroleum industry has even more big plans ahead involving the Delaware River area induced the Delaware Basin Commissioners late in 1974 to direct the staff to approach oil executives with the suggestion that they prepare a master siting study for planned and projected petroleum facilities not unlike that already presented with effective results to DRBC for electric generating operations.

Initial negotiations were marked by oil industry concerns that such a joint venture of public disclosure could pose anti-trust problems for competing oil corporations unlike electric utilities

that hold monopoly privileges in exchange for obligatory service to franchise areas. However, progress did develop in the talks and prospects for some agreement in 1975 appeared favorable.

Without full knowledge of future petroleum industry plans for the Delaware Valley, the Commissioners said they would be frustrated in their ability to effectively engage in long-range policy-making for water resource management in which oil operations would be a big consideration. DRBC had become a focal agency on a number of new oil-related proposals by 1974, and it anticipated more.

At its final meeting of the year, the agency entertained a spirited public hearing on its draft environmental impact statement on a plan for construction of docking and storage facilities and an oil pipeline in Bristol Township, Pa., about which neighboring residents complained of the prospective eyesore with some concurrence from the impact statement.

DRBC also announced it would sponsor jointly with New Jersey's Environmental Protection Department a public information meeting early in 1975 on two controversial and neighboring liquified natural gas receiving and storage operations planned for Gloucester County, N.J., and in which the Federal Power Commission was the primary regulatory agency.

Earlier in the year, DRBC cleared for construction after influencing ecology-accommodating design changes and imposing other conditions, including appointment of a project watchdog answerable to the Commission, a controversial 90-mile oil pipeline through five eastern Pennsylvania counties. The Marcus Hook-to-Northampton conveyance, a fuel supplier for two electric generating plants, was approved only after 18 months of public controversy that centered on Pennsylvania Public Utility Commission proceedings, two informational meetings involving DRBC, three related environmental impact statements with hearings, a DRBC public hearing on the application itself, and, finally, denial of requests by project opponents for further DRBC hearing of a judicial nature. As 1974 ended, the pipeline's fate awaited the outcome of a suit challenging DRBC's approval of the project that was filed in federal court by an anti-pipeline group and Bucks County.

# The Commission • 1974



Governor Wilson



Governor Byrne

*Chairman*  
Malcolm Wilson *Governor of New York*

*Vice Chairman*  
Brendan T. Byrne *Governor of New Jersey*

Sherman W. Tribbitt *Governor of Delaware*

Milton J. Shapp *Governor of Pennsylvania*

Rogers C. B. Morton *Secretary of the Interior*

Governors serve ex officio · U.S. Member appointed by the President



Governor Tribbitt



Governor Shapp



Secretary Morton

## Advisors

Abraham Beame  
Mayor of New York City  
*New York*

Carmen F. Guarino  
Philadelphia  
Water Commissioner  
*Pennsylvania*

Col. C. A. Selleck Jr.  
Philadelphia  
District Engineer, ACE  
*United States*



## Alternate Members



Ronald W. Pedersen  
*New York*



David J. Bardin  
*New Jersey*



John C. Bryson  
*Delaware*



Maurice K. Goddard  
*Pennsylvania*



Thomas F. Schweigert  
*United States*



## The Staff

James F. Wright  
*Executive Director*

William Miller  
*General Counsel*

W. Brinton Whitall  
*Secretary*

Dawes Thompson  
*Public Information Officer*

Arthur E. Peeck  
*Chief Administrative Officer*

Robert L. Mann  
*Head, Environmental Unit*

Mr. Wright

## Planning Division

Herbert A. Howlett *Chief Engineer*

C. H. J. Hull *Staff Engineer*

## Branch Heads

Seymour D. Selzer *Program Planning*

Ralph Porges *Water Quality*

Robert L. Goodell *Operations*

Theodore Briganti\* *Project Review*

\* Mr. Briganti died early in 1975

# Softening Flood Impacts

DRBC-HUD program to help towns impose controls, acquire insurance

The Delaware Basin's flood-threatened communities will get a big assist toward imposing management controls and their property owners will gain welcome access to disaster insurance under a DRBC-federal partnership effort initiated in 1974.

The program began in June as the U.S. Department of Housing and Urban Development entered the first \$805,740 phase of what by the end of the year totaled \$2.4 million in contracts under which DRBC is supervising preparation of flood plain studies for 119 Delaware Valley municipalities.

The DRBC role, engaging two full-time staff professional engineers, entails contracting with and overseeing the work of consulting firms that are performing the technical investigations of flood histories town-by-town.

As the reports are completed for each town, the federal-DRBC program will offer flood insurance at subsidized rates on structures and their contents, provide coverage at actuarial rates for future properties located in high-risk areas, and promote good land use of flood plains. In return for these benefits, the local governments must adopt regulations limiting development in areas subject to periodic flooding so that future damages will be reduced.

Under recent federal laws, no federal financial assistance, such as loan, grant, insurance or subsidy, will be available after July 1, 1975, for acquisition or construction purposes in any area identified by HUD as flood-prone unless the local governing body has qualified to participate in the National Flood Insurance Program.

HUD arranges for the flood insurance studies of participating communities in order to establish actuarial premium rates and to provide additional information to local governmental units for more effective enforcement of required land use regulations along flood plains. Besides a local flood history, each study includes an estimate of flooding frequency, and a map delineation of selected frequencies of the areas as well as an identification of various flood risk zones for use in determining insurance rates.

The program has enhanced DRBC's opportunities to attain its principal goal in the field of non-structural flood plain management — that of usefulness to scores of Delaware Valley municipalities in setting

regulations they must have to cut down on future flood damages. It will add substantially to the 1,000 miles of shoreline along some 30 high-risk stream reaches where such studies have been completed already in the Delaware Valley by the U.S. Geological Survey, Corps of Engineers, DRBC, state agencies and volunteer watershed groups.

Of the 119 municipalities for which studies had been, or soon were to be, started as 1974 ended, 114 are in Pennsylvania. Three are in Delaware and two in New York. New Jersey was still setting priorities for its areas in most critical need of the program, so none of the municipalities covered under the first Delaware Valley contracts are in the Garden State. However, prospects were that many New Jersey communities in the Delaware Basin would be included in the next group of DRBC studies, and that similar programs would be initiated for New Jersey communities elsewhere, particularly in high-risk areas of the Passaic and Raritan River watersheds.

## New Advisory Committee

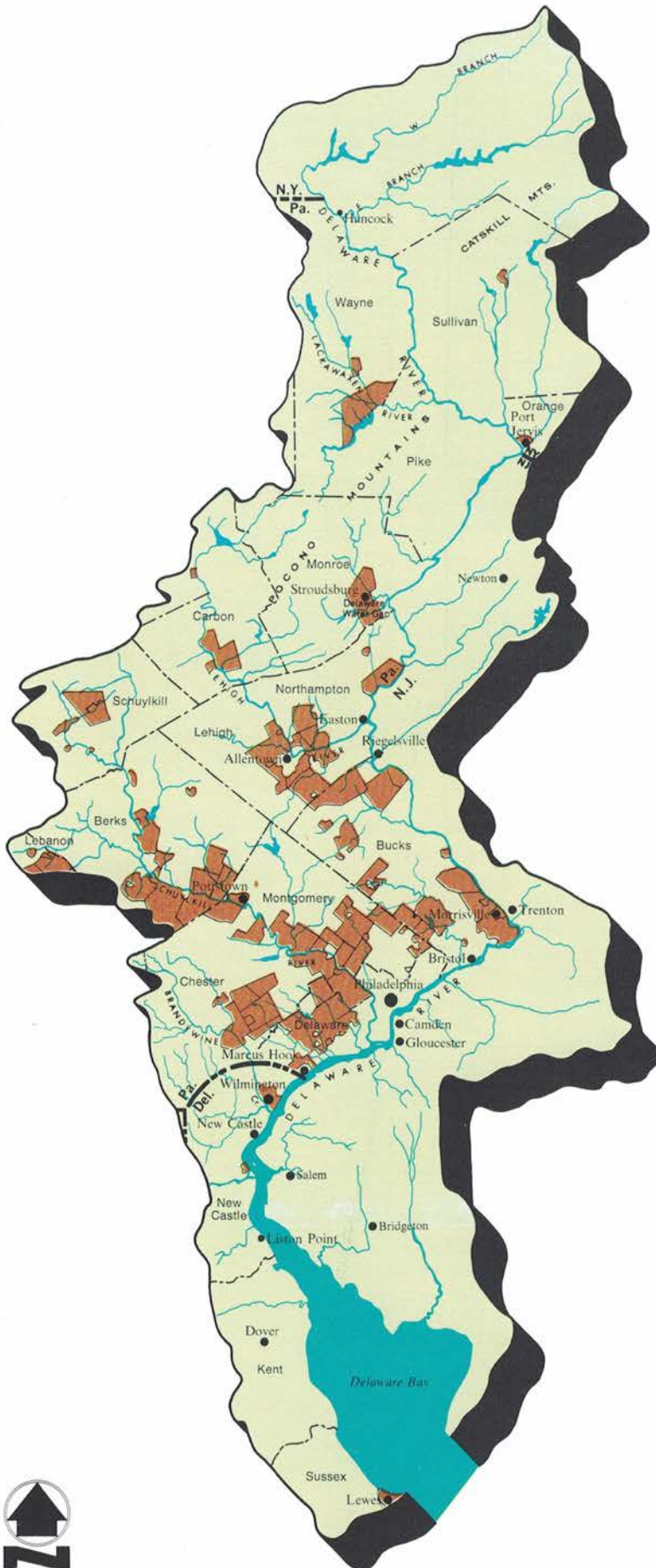
Progressing concurrently with the DRBC-HUD program were reviews by the Commission and other federal and state agencies of a 1973 report that recommended a basinwide program of uniform flood plain delineation to DRBC.

The report, prepared by a prominent consulting firm, proposed standards for incorporation into DRBC's Comprehensive Plan to protect public safety, health and property through progressive use of flood plains. The study's suggested total management program would integrate effective non-structural measures and structural controls, including flood plain regulation, forecasting and warning for possible evacuation, land acquisition and treatment, tax incentives, reservoirs, dikes, flood proofing of buildings, and channel improvements.

To assist the Commission in its deliberations on the management program, it established a Flood Plain Regulation Advisory Committee to which each of the five Commissioners were to name two members. The advisory group was scheduled to begin its work early in 1975.

The resolution establishing the committee noted the annual average flood losses of \$8 million in the four-state basin and charged it expressly with recommending standards for flood plain use for the Comprehensive Plan.

# Flood Areas Under DRBC-HUD Program



Municipalities to be studied under initial phases of the DRBC-HUD flood investigation program:

## PENNSYLVANIA

### Berks County

Amity Twp.  
Cumru Twp.  
Douglass Twp.  
Earl Twp.  
Hamburg Boro  
Kutztown Boro  
Leesport Boro  
Lower Alsace Twp.  
Muhlenberg Twp.  
Ontelaune Twp.  
Robeson Twp.  
Shillington Boro  
Temple Boro  
Union Twp.

### Bucks County

Bridgeton Twp.  
East Rockhill Twp.  
Falls Twp.  
Hulmeville Boro  
Lower Makefield Twp.  
Morrisville Boro  
New Britain Boro  
New Britain Twp.  
New Hope Boro  
Newcomixion Twp.  
Northampton Twp.  
Quakertown Boro  
Sellersville Boro  
Springfield Twp.  
Tinicum Twp.  
Upper Makefield Twp.  
Upper Southampton Twp.  
Warminster Twp.  
Yardley Boro

### Carbon County

East Penn Twp.  
Franklin Twp.  
Jim Thorpe Boro  
Leighton Boro  
Parryville Boro

### Chester County

Downingtown Boro  
East Bradford Twp.  
East Goshen Twp.  
East Vincent Twp.  
East Whiteland Twp.  
North Coventry Twp.  
Pocopson Twp.  
West Chester Boro  
West Goshen Twp.  
Westtown Twp.  
West Whiteland Twp.

### Delaware County

Clifton Heights Boro  
Edgemont Twp.  
Folcroft Boro  
Glenolden Boro  
Haverford Twp.  
Marple Twp.  
Middletown Twp.  
Nether Providence Twp.  
Norwood Boro  
Parkside Boro  
Radnor Twp.  
Springfield Twp.  
Swarthmore Boro  
Trainer Boro  
Upper Chichester Twp.  
Upper Darby Twp.  
Upper Providence Twp.

### Lebanon County

Heidelberg Twp.  
Millcreek Twp.  
Myerstown Boro  
Richland Boro

### Lehigh County

Emmaus Boro  
Salisbury Twp.  
South Whitehall Twp.  
Upper Saucon Twp.  
Whitehall Twp.

### Luzerne County

White Haven Boro

### Monroe County

Stroudsburg Boro  
Stroud Twp.

### Montgomery County

Ambler Boro  
Conshohocken Boro  
East Norriton Twp.  
Hatboro Boro  
Horsham Twp.  
Lansdale Boro  
Lower Gwynedd Twp.  
Lower Merion Twp.  
Lower Moreland Twp.  
Lower Providence Twp.  
Plymouth Twp.  
Pottstown Boro  
Rockledge Boro  
Upper Gwynedd Twp.  
Upper Merion Twp.  
Upper Providence Twp.  
West Conshohocken Boro  
West Norriton Twp.  
Whitmarsh Twp.  
Whitpain Twp.

### Northampton County

Bangor Boro  
Bethlehem  
East Allen Twp.  
Freemansburg Boro  
Hanover Twp.  
Lower Mount Bethel Twp.  
West Easton Boro

### Schuylkill County

Blythe Twp.  
Cressona Boro  
Landingville Boro  
New Philadelphia Boro  
Port Carbon Boro  
Pottsville

### Wayne County

Honesdale Boro  
Palmyra Twp.  
Paupack Twp.

## DELAWARE

Delaware City  
Lewes  
Wilmington

## NEW YORK

Liberty Village  
Port Jervis



# Environmental Safeguards

For the 2½-year-old Environmental Unit, 1974 was a year for helping the DRBC guard against threats to the ecology — both real and feared — and for its routine, if high-pressure, burden of preparing or reviewing environmental impact reports and statements.

During the year, DRBC learned from the electric utility companies operating in and around the basin about their extensive plans for building or expanding generating stations to keep pace with service area demands. The information provided by the utilities was helpful on water environmental impact factors on a plant-by-plant basis but lacked data DRBC needs for a good cumulative analysis. The Environmental Unit helped the utilities develop a descriptive scope acceptable to DRBC of the cumulative ecological investigation that the companies will initiate early in 1975.

Similarly, the Environmental Unit was key to the efforts initiated late in 1974 to influence the petroleum industry to prepare a future facilities siting report along the lines of that required of the electric utilities by the Commission. The idea of a counterpart petroleum plan grew out of apprehension among Delaware Basin Commissioners that oil facility plan disclosures — for terminals, pipelines, storage tanks, deepwater ports, refineries — were popping up at such an alarming rate that it would be impossible to gauge their combined impact without more advance and detailed notice.

Typical DRBC involvement was with plans by two major petroleum concerns to erect liquified natural gas (LNG) storage facilities at two neighboring riverfront locations in Gloucester County, N.J. DRBC had become interested over the safety of the facilities, where natural gas critically needed in the region would be stored, after delivery by tankers, in liquid form. DRBC's main concern was the proposed location of the facilities in heavily populated areas. In accordance with the National Environmental Policy Act, the Commission wanted full disclosure on the projects to assure consideration of public comments early in the decision-making process of site selection.

Another concern was a plan for an oil tank terminal on the river in Bristol, Pa., which Burlington, N. J., stiffly resisted.

The environmental unit also is working on ways for the Commission to exercise greater surveillance over planned large-scale real estate developments that are proliferating, particularly in Pennsylvania's Pocono Mountains region. Such developments' impact on natural and human environment is a growing problem to DRBC, which reviews water and sewer needs, but sometimes not until work starts on site preparation and construction.

to new federal procedures that earlier DRBC requirements had predated.

The new regulations governing processing of environmental reports and preparation of impact statements were adopted late in 1973 with many changes suggested at the public hearing.

Designed to conform to policies of the National Environmental Policy Act and guidelines of the President's Council on Environmental Quality, they call for several stages of impact disclosures, beginning with an applicant's submission of a simple form from which need for further review is readily decided. An affirmative judgment at that point results in the call for an environmental report from the applicant or, in the case of a project by the Commission itself, from the staff. Next comes an assessment of the report concluding that an environmental impact statement should be prepared or that the Executive Director should issue a "negative declaration" that the proposal is not significant ecologically and thus not in need of an impact statement. Finally, comments from agencies and the general public are filtered and the final statement prepared relating carefully considered measures taken and revisions necessary to make the project acceptable. Since many projects prove unacceptable early, the total number surviving the full route does not reflect projects withdrawn or abandoned early in the review process.

Also promulgated, to assist project sponsors, were DRBC supplemental guidelines governing actual content of various required environmental reports. These include instructions for describing the existing environment, checklists of potential impacts on a project-type basis, and staff procedures for reviewing impact statements by other federal agencies and preparing its own.

During the report period, the environmental unit finished its own impact statements on two major electric generating plant expansions and on a major oil pipeline project through five counties to serve the pair of plants. It also submitted a draft statement to public hearing on the Bristol oil terminal plan and produced two negative declarations — on a now-canceled refinery expansion in Gloucester County and on the Commission's regulations governing sale of water supply.

Also, the unit received from other federal agencies 41 draft and final impact statements to review and comment upon, where appropriate. These involved four nuclear power plants, an off-shore atomic power system, rail and road transportation jobs, a flood control project, a multiple-purpose reservoir, a park, a pipeline, two watershed developments, a supertanker construction program, power transmission line, two marine terminals, an urban renewal program located on a flood plain and a national scenic river designation plan.

# Project Reviews

One of the Commission's most visible functions — and one that perennially keeps it in the direct line of fire between developers and environmental and anti-growth forces — is its review of a large variety of water-related projects undertaken by others. They are sponsored by such non-DRBC entities as local, state and federal government, electric utility companies and other industries and businesses.

Recent years have seen a major increase in the complexity of projects reviewed for approval by DRBC due mainly to the pressure of environmental considerations.

In 1974, DRBC cleared 130 projects, including public and industrial wastewater operations and expansions, surface and ground water supplies, pipelines, dredging operations and watershed protection and development plans.

This branch continues to process many more applications than reach the Commission for approval vote. An additional 80 or so yearly never make it, often due to inability to meet DRBC standards or environmental protection codes.

Several important projects were cleared since the last report — but only after proving to be compatible with DRBC's Comprehensive Plan and not deleterious to the valley's water resources. Indeed, some would enhance present resource conditions, among them the improved waste treatment program at the City of Philadelphia's southwest pollution control plant, the regional sewerage plan of Monroe County, Pa., and effluent upgrading at the Edge Moor plant of E. I. duPont DeNemours & Co., Inc., and other industrial installations.

Among the big-project clearances were a pair of electric generator expansions in northeastern Pennsylvania and northwestern New Jersey and an oil pipeline from Chester, Pa., to serve them. Reviews continued on still-pending applications for approval of three nuclear generating stations — Hope Creek in Salem County, N. J., Summit on the Chesapeake and Delaware Canal, and Limerick on the Schuylkill River near Pottstown, Pa.

The Commission's adversary — or adjudicatory — hearing procedure was employed only once — at the request of the Environmental Coalition on Nuclear Power in its fight to prevent DRBC approval and thus halt construction of Philadelphia Electric

Co.'s Limerick plant. Adjudicatory hearings are quasi-judicial, employing a hearing officer, sworn testimony and cross-examination, as compared with DRBC's legislative-type public hearing to which all project review applications are now subjected. The Limerick legislative public hearing already had been held when the request was granted for the adversary review, which was still in progress at year-end.

Opponents of the Interstate Energy Pipeline that is designed to serve the two approved up-river generator projects sought but were denied an adversary hearing. The pipeline foes then sued in federal court to set aside the DRBC's approval of the project and to require it to hold the adversary hearing. This action was still pending as 1975 arrived.

Important procedural changes for the Project Review Branch were initiated or proposed in 1974. To defray the increasing costs of conducting future adjudicatory hearings, the Commission amended its rules to assess costs of the proceedings, including hearing officer fees and transcript charges, against project sponsors. Previously, DRBC had borne these expenses. Under discussion also was a general increase in the fees that have been charged to sponsors of project review proposals, except public agencies, since 1972.

A public hearing was held late in 1974 on a plan for the Commissioners to delegate to the Executive Director some of their project review approval authority — that governing proposals not requiring inclusion in the Comprehensive Plan and where there are no substantive issues or objections. This was still under review as the year ended.

Public information practices involving project review applications also were expanded in 1974. The Commission now publishes monthly a list describing all new proposed projects, regardless of how long they must wait for a ruling, and asking the public for comments. Formerly, fewer classes were noticed, and then only just prior to scheduled decisions.

Also, in 1974 the Commission began holding public hearings on all projects requiring clearance. Previously, hearings were conducted mostly only on proposals requiring incorporation in the Comprehensive Plan.

# Tocks Island Restudied

Tocks Island, the controversial reservoir proposal that may be the most intensively studied public works project in the nation's history, ground to a standstill in 1974 to await the outcome of a new Congress-ordered investigation to dwarf all previous ones.

The probe's conclusions, along with the recommendations of the valley's four Governors speaking as state members of the Delaware River Basin Commission, are to be presented to Congress by August 28, 1975. This will be one year after federal lawmakers moved to resolve once and forever the dispute over a once-popular plan. Proponents laud it as an effective means to provide water supply, recreation, energy, flood protection and critical flow controls for a major region in need of them all, but environmental opponents see it as an astronomically priced anathema whose benefits are allegedly inflated if not mythical and which would result in ecological disaster.

The new study was the eventual result of a series of events that began early in 1974 when DRBC decided to call a public hearing on whether Tocks Island should be advanced from the "inactive" to the "active"—and thus cleared—list of projects in its annual Water Resources Program.

Tocks Island remained on the uncleared list for at least another year, with only Pennsylvania's Governor Shapp pressing for undelayed approval of the reservoir. But the flurry of activity triggered by the DRBC hearing mushroomed into a crescendo of confrontation between pro and con Tocks forces in the Delaware Valley region and overflowing to Washington, culminating in the study directive.

New Jersey already had initiated its own reevaluation of the state's one-time enthusiastic support of Tocks Island and, like everyone else, was awaiting the outcome of the new federal study.

Senate and House critics and questioners of Tocks Island moved unsuccessfully at first to have an outside, non-governmental institution designated by Congress to conduct the study. Later, the Commission, speaking for the basin states, formally petitioned Congress to order a Tocks probe and to put it in the Commission's hands. However, the final verdict by the Congressional appropriations committees was to charge the mission to the Corps of Engineers and direct that in so doing that it cooperate with DRBC.

As the allotted 12 months began ticking off, the Corps and members of DRBC, principally New Jersey and New York, whose Governors had been questioning the Tocks plan, began working out procedures for getting the study moving and for assuring that there would be extensive public information and participation throughout the process.

The study substance and public aspects were tightly intertwined by the framers of the investigation. This was a group set up as the Study Management Team comprising the federal and four state members of DRBC, and the Corps, with advisory assistance available from federal agencies including the President's Council on Environmental Quality, Environmental Protection Agency and National Park Service.

Through the fall of 1974, the Management Team was meeting up to three days weekly in New York preparing the two critical documents that were to give a precise definition of the study. These were the Plan of Study, to provide the general objectives and framework, and the Detailed Scope of Work, enumerating and itemizing the activities required of the contracting firm then not yet engaged.

The documents were subjected to two rounds of hearings in Trenton and in the project area to solicit recommendations, comments and criticisms, resulting in extensive revisions.

Meanwhile, the consultant selection phase was initiated, again with full participation by the Management Team. Beginning with consideration of more than 130, the candidates were pared to eight finalists. Finally, unanimous accord was reached on the designation of a joint venture by two national consultant groups, URS/Madigan-Praeger, Inc., and Conklin & Rossant.

The contract — for \$1,150,000 — was signed on December 13, and within days the firms had teams of specialists in a dozen fields swarming throughout the region collecting basic literature and other preliminary information.

The investigation, named the Comprehensive Review Study of the Tocks Island Lake and Alternatives, was divided into five parts — analysis of needs; review of the project, water quality and objections; analysis of alternatives to meet the needs; institutional alternatives; and land use and secondary impacts of the project.

Publication of review drafts of the first two parts (reviews of the project and institutional alternatives) was scheduled for March 1, with subsequent review and final drafts on all five parts slated for release April 1 and May 1. Then a revised draft of the complete report is to be ready for review June 20, in time for polishing into a final report before the August deadline.

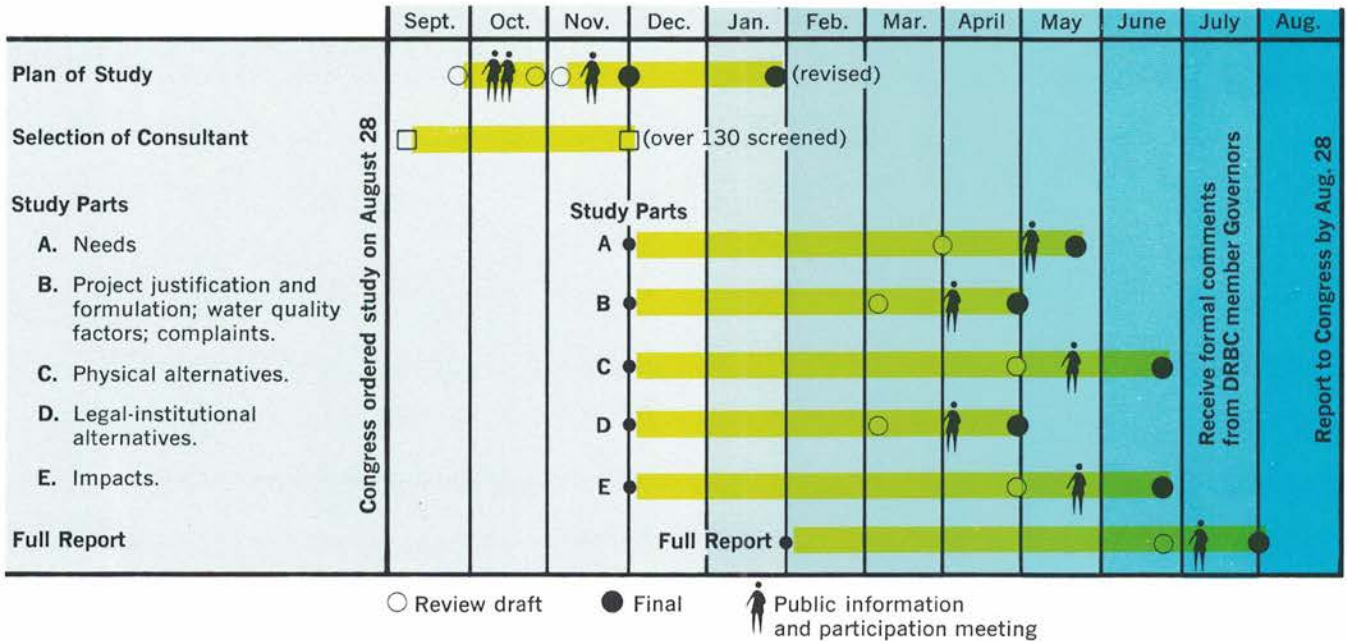
## Public Participation

The Study Management Team directed from the start that there was to be full — and perhaps unprecedented — public disclosure of and participation in the conduct of the investigation



# Tocks Island Study Schedule

1974-75



Mr. S. K. Wright

throughout its duration, and that it was to be DRBC's responsibility to administer both the information and participation phases.

After a wide search, the Commission engaged Stewart K. Wright, a water resources and community relations specialist attached to Cornell University, as its Tocks Island Study Officer to manage the public aspects of the investigation as 1975 began.

By the time of the Tocks Island Study Officer's arrival, additional staff assistance for the office had been provided and operation of the Office's program had commenced.

One of the first projects was establishment of a network of repositories at key locations throughout the region where current materials relating directly to the study, and many pre-study documents providing background information, would be made available for public examination.

To guarantee complete public access to current study materials, the Management Team had ordered three repositories established. But suggestions and requests for additional sites soon resulted in a total of 10 being created. Their locations range 300 miles geographically from Delhi, N.Y., in the upper basin, to Dover, Del., in the lower estuary region, and also

include Philadelphia, Avoca, East Stroudsburg and Doylestown in Pennsylvania; Branchville and two Trenton locations in New Jersey; and New York City.

Into the repositories go all substantive materials from the consultants and Corps, such as the study plan, work scope, contracts, progress reports and drafts of the report itself, in addition to all current DRBC and Management Team announcements, notices, transcripts, newspaper clippings and correspondence referring or relating to the study.

The Study Office also is responsible for maintaining liaison with Tocks interest groups — pro, con and neutral, and with state advisory committees, state and federal lawmakers and government agencies.

Through 1975, the Study Office will distribute report drafts to interest groups and the press and arrange information meetings at which the public is to have the opportunity to comment, criticize and suggest changes prior to compilation of the full report, whose public review and comment the Study Office also will arrange.

Besides giving public exposure to progress reports by the consultants and accounts of frequent Management Team meetings, the Study Officer will prepare and distribute his own reports of the study's progress and give an oral review of the investigation at monthly meetings of DRBC.

To support its Tocks Office activities, DRBC is to receive \$77,000 from the study appropriation.

# Water Quality

DRBC's water quality effort since 1973 has been devoted principally to pushing ahead with its continuing programs while at the same time doing some adjusting to the nation's drastic new pollution control law.

While imposing new procedures, requirements and goals, the new national policies expressly endorse, encourage and rely heavily on an active role by interstate agencies where they exist.

Under the law's provisions, each of the four member states, by gubernatorial action, has designated DRBC as a coordinating mechanism to participate with state agencies in implementing key water quality planning activities in the basin. The end products of the planning work in each state are to be pulled together for incorporation into DRBC's Comprehensive Plan.

The U. S. Environmental Protection Agency called for reviews — to assure compatibility with requirements in the new law — of water quality standards by the basin states. In turn, the states asked DRBC to analyze proposed EPA revisions as they affected the Delaware. Brought together through the Commission's Water Quality Advisory Committee, pollution control experts of the four states and the two EPA regions covering the basin helped the DRBC staff produce standards for the region that are regarded as compatible, achievable and consistent with federal requirements. The revised standards subsequently were incorporated into the Commission's Comprehensive Plan that forms the basis for the basin's water quality program. The states adopted them also.

Issuance of water quality permits was mandated by the new law to the states and EPA, thus DRBC transferred to them its extensive and effective program of adopting and administering discharger abatement schedules — or permits. DRBC still is indirectly active in this field, however, since it reviews significant federal and state-issued permits to assure consistency with basinwide requirements.

DRBC retained its important role as administrator of the seven-year-old program of assigning allocations of permissible wasteloads to scores of public sewerage facilities and industries that discharge organic pollutants to the 85-mile tidal estuary from Trenton to below Wilmington. This is the phase of the estuary cleanup program under which polluters, in effect, are allowed a share of the total oxygen demand on the river from discharges that must be held to a strict limit if improved stream quality is to be attained. Permits implement the allocations.

In fact, DRBC foresees the day when it may have to expand its allocations policy by applying such a program to the non-tidal upper river from Trenton

upstream to above the Easton area. Stream quality in this area is regarded as good, but development pressures could necessitate a wasteload allocations program for new and existing dischargers to keep it that way. At year-end, DRBC was awaiting the findings of a scientific study aimed at giving a more definitive portrait of upper river quality.

The National Commission on Water Quality, in an effort to assess the impact and implications of meeting the future ultra-stringent waste elimination requirements under the new federal law, selected the Delaware River as one of a dozen regions to be investigated. The Delaware was chosen because of the advanced water quality programs already under way in the basin and because of the great volumes of technical data available, particularly on the tidal estuary.

DRBC also continues the program of extensive surveillance and sampling for pollution in the estuary that it conducts with the states as a single regional enterprise. The present surveillance and monitoring program, covering both stream and effluent quality, costs more than \$1 million annually, of which more than a fourth is the Commission's share. It comprises 17 stream quality monitoring stations, two with automatic data transmitters; 20 boat runs a year up the estuary; four state laboratories with some 30 technicians, and DRBC staff analyses. DRBC water quality sampling data from three recent years were published by the U. S. Geological Survey in 1974.

DRBC has anti-pollution policing powers — and sometimes uses them, but does not view itself as a primary enforcement agency. Where violations are observed, cases are referred routinely for correction or punitive action to the respective states, where standards generally are identical to DRBC's. In some instances, however, where alleged violations constituted offenses against the Delaware River Basin Compact, the Commission has adopted a policy of rigid enforcement.

The Commission initiated study efforts in 1974 into a pair of contrasting water quality problems. In one, an investigation was authorized to evaluate thermal wasteloads to the tidal river and recommend a plan for allocating them among dischargers, since cumulative effects of many heated discharges are threatening DRBC's ability to hold stream temperatures within legal limits. In the other, concerning the 11 million cubic yards of dredging spoils excavated annually from shipping channels in the navigable Delaware, DRBC asked the Corps of Engineers for a plan with recommended disposal sites that would produce minimum environmental harm.

The role of the Commission is not only continuing, but expanding, in promoting, initiating and cooperating in programs to create more regional



DRBC's "Miss B.O.D." is launched for a pollution surveillance run on the tidal estuary portion of the Delaware.

sewerage solutions, particularly in fast-growth, mostly suburban, areas where the water environment is bad or threatened. DRBC was the leader in establishing the program now well under way in Delaware County, Pa., and more recently has played a significant part in regionalization efforts in Salem, Camden and Warren Counties, N. J., and in Chester County and the Stroudsburg area and Brodhead Creek watershed in Monroe County, Pa.

Of the scores of proposed projects that DRBC reviews annually to insure against water resources and environmental degradation, well over half are finetoothed for water quality factors, among others.

Responsibility of federal and state agencies for issuing alerts and conducting cleanups in event of spills of oil and other hazardous substances recently has increased sharply, thus this activity in which DRBC formerly had more involvement has been largely discontinued. Nonetheless, where occasions arose to respond to emergency notification received of threats to public water supplies and other uses, DRBC continued to disseminate alert information to the public and concerned agencies.

### **Estuary Cleanup**

The Commission reported publicly at its 1974 annual meeting that, with 44 of the more than 90 organic waste dischargers to the tidal river falling behind in their compliance schedules, it now appeared likely that a wait until 1980 might be necessary before a satisfactory improvement is registered in the depressed quality of water in the Delaware estuary. DRBC had been looking to a measurable upgrading of the heavily taxed waterway in 1977.

Delays in meeting abatement schedules, particularly for municipalities and public authorities, were attributed to failure of funding agencies to produce grants, labor disputes, failures in wastewater experiments, and awaiting decisions by federal authorities on policies covering disposal of sludge accumulations. Also, it has been time-consuming for new consolidated sewerage agencies that will contribute greatly to quality improvement to get into full swing.

The cleanup status report found 29 dischargers — about equally divided between industries and municipalities — operating their plants in full compliance with abatement orders. They totaled nearly a third of the dischargers, but represented only seven percent of the allowable wasteload, so the reflected quality improvement was slight.

Eighteen more dischargers, mostly industries, while not yet in full compliance, were on time with their upgrading schedules. Most of them are to be operating lawfully in 1975 with an expected more significant effect than the earlier group on the river, since they account for nearly 20 percent of the wasteload.

The remaining 44, three-fourths of them municipalities, including major cities that represent so much of the pollution problem, were neither treating in full compliance nor upgrading on schedule. Among this group, Philadelphia itself represents more than 40 percent of the allowable pollution load, illustrating the extent to which the ultimate cleanup goal hinges on the upgrading program of the basin's largest city.

# Water Pricing

A decade after taking its first step to assure an adequate future water supply for the Delaware Basin region, the Commission in 1974 enacted regulations for selling water — for new and increased uses only — to pay for needed reservoir storage.

Under the water pricing regulations enacted by the Governors and Secretary Morton at the annual meeting, industries and public and private purveyors must pay for water taken in excess of volumes they were drawing — and will continue to draw — free.

The free water allowance is that for which they held an applicable state permit or were physically capable of withdrawing, whichever was less, as of March 1971. That date marked the completion of the first reservoir whose water supply cost is to be financed from the program's income and thus is the point used for determining free water entitlements.

At the end of 1974, negotiations between the Commission and the first of what would become many customers for new or increased water withdrawals were in progress. It was expected that contracts between DRBC and the early customers — electric utility companies with generating station expansions recently or soon-to-be put into operation — would be announced soon for public hearing with the prospect that the first checks for water sales would be arriving early in 1975.

However, a cloud hung over the water sales program also at year-end, since litigation was pending in federal court in which a group of lower Bucks County municipalities and water authorities and the Monroe County, Pa., government sought to nullify the DRBC decision to sell water. Their suit alleged that DRBC lacked authority to impose the water charges and also that legally mandated environmental and other procedures had been disobeyed. Enactment of the regulations was voted unanimously by the Commissioners notwithstanding the legal suit that already had been filed.

Soon after enactment of the program the Commission sent tentative notices of free water entitlements to about 260 prospectively affected takers of surface water supplies in New Jersey, Pennsylvania and Delaware. About 100 are municipalities, public authorities and private companies that operate water distribution systems and the rest are water-using industries. They were

notified that only those exceeding their entitlements would be charged — and only for the balance. Since many have no immediate plans to increase withdrawals, they will not pay for years, and many others likely never.

Here are the principal features of the water sales program:

- Four cents per thousand gallons is the basic rate. However, this charge, though modest, will be assessed only against water that is used consumptively — that is, evaporated into the atmosphere, as from cooling electric generators; exported from the Delaware Basin; or otherwise not returned to basin streams. A discounted rate of .4 mill, or only a hundredth of the consumptive rate, will be charged to municipalities, water companies and others for returned water.
- Only users of surface waters, not ground or well supplies, pay.
- DRBC sales are to purveyors and industries that draw supplies directly from surface streams, or to agencies or companies to whom exports go out-of-basin. Households, industries and others supplied by water systems continue to deal with those purveyors, not DRBC. In effect, DRBC is a wholesaler whose charges presumably are passed on to users by purveyors.
- Few if any farms are expected to be charged for irrigation uses in view of the liberal free water allowance of 12 inches per acre annually.
- No charge is levied where a withdrawal is taken from or made up from a non-DRBC-financed reservoir.
- No charge is made for water taken upstream of the U.S. Supreme Court's River Master gauging station at Montague, N. J., from either the Delaware or its tributaries. This means that all takings from the New York State portion of the basin and also from Wayne and upper Pike Counties in Pennsylvania will be free. The high court's Delaware River decree mandates that New York City's reservoirs guarantee a minimum flow in the river at Montague, thus any such stream losses will be replenished from the City's system, not DRBC's.
- No charge will be assessed for withdrawals below the Cohansey River mouth, only 38 miles

from the ocean in Cumberland County, N.J., because of their insignificance to the DRBC's ability to keep the seawater salt front below the mouth of the Schuylkill River at Philadelphia.

- For water taken between the Cohansey and Schuylkill Rivers, proportional charges will be assessed reflecting the extent to which the replacement from reservoirs is needed to hold off the saltwater intrusion.

The basis for DRBC's water sales program is federal law providing that storage space for water supply may be incorporated into multiple-purpose federal reservoirs built for flood control and other benefits defined as responsibility of the national government. However, where water supply is added, its capital cost must be reimbursed to Washington over a 50-year period.

In 1962, Congress authorized construction of a federal reservoir network in the Delaware Valley, all to include water supply, and in the mid-1960s, DRBC formally pledged to reimburse the federal investment through wholesale-level sales of the water. As work commenced on the federal reservoirs, DRBC entered project-by-project contracts agreeing to reimburse Washington.

To date, one reservoir, Beltzville, in the Lehigh Valley, has been completed, and construction is under way on another, Blue Marsh, west of Reading, Pa., on a Schuylkill tributary. The controversial Tocks Island reservoir on the upper Delaware is construction-ready pending reevaluation, and design work essentially has been completed on Trexler, another Lehigh Valley facility. Trexler now awaits construction funds from Congress.

Income from the sales program will be used only to repay the federal water supply expenditures — in effect, a low-interest, long-term loan — and cover administrative costs. As each reservoir is completed, the unit water charge is to be recomputed. The bigger the reservoir added to the system, generally the lower the unit rate.

New Jersey and Pennsylvania, the benefiting states from the first group of reservoirs, agreed back in the 1960s to begin making small annual payments to an escrow fund to repay the Federal Government. As sales income from direct buyers grows, the state obligations will drop — probably to zero, since sale of all available supplies is anticipated.

Moving the regulations from initial proposal to enactment was a laborious process that spanned 16 months.

On February 28, 1973, the first of two marathon public hearings on the proposed rules was held. That hearing produced an extensive record of views by government officials and agencies, business and civic organizations and private citizens that proved to be highly constructive and helpful. The staff revised the document into what it felt was a responsive second draft, distributing it to the public with a 16-page issues-and-answers paper acknowledging validity of many complaints and suggestions.

One complaint, that inadequate time had been allowed for water users to digest the earlier proposal, was rectified the second time around by waiting nearly seven months after publication of the revised draft for the next hearing in March 1974. This hearing produced an equally long record and resulted in another public issues-and-answers response, this one even more voluminous and again finding the testimony to be highly productive.

The 40 pages of issues-answers explored hundreds of points under dozens of categories — agriculture, free water permits, non-DRBC reservoirs, saltwater withdrawals, fire-fighting water, riparian rights, exempt uses, navigation uses, metering, snow making, environmental assessment, out-of-basin diversions, rates and legal authority.

Critics of the plan insisted that it should have been the subject of an environmental impact statement, but a Commission assessment of the ecological issues concluded the program would not have a substantial effect on the quality of the region's human environment and therefore was exempt from the impact statement requirement, a conclusion concurred in by the President's Council on Environmental Quality. This was one of the issues in litigation.

Among the most difficult complaints for the Commission to explain away was that, in event the mammoth Tocks Island reservoir is built and included in the water supply sales, the rate would skyrocket when adjusted. Actually, economies of scale would mean that the unit cost of Tocks Island water supply would, if anything, force the pooled rate down, not up, unless extended deferral of the project prevents holding cost escalation to a minimum.

# Financial Summary

## Budgetary

1974 REVENUES		
	Budgeted	Received
Delaware	\$ 138,400	\$ 138,400
New Jersey	378,346	378,346
New York	307,900	307,900
Pennsylvania	434,200	434,200
United States	220,000	220,000
EPA Grant	177,400	177,400
Miscellaneous	3,000	11,077
Project Review Fees	0	110,652
Judgments	0	6,000
Interest Income	0	14,528
<b>TOTAL</b>	<b>\$1,659,246</b>	<b>\$1,798,503</b>
Excess of revenues over budgeted funds	139,257	0
	<b>\$1,798,503</b>	<b>\$1,798,503</b>

The records of the Commission are independently audited each year as required by the Compact.

1974 EXPENDITURES		
	Appropriations	Expended
<b>By Organization</b>		
Directorate	\$ 338,411	\$ 341,574
Administrative Division	163,458	214,635
Planning Division	1,157,377	1,071,697
<b>TOTAL</b>	<b>\$1,659,246</b>	<b>\$1,627,906</b>
<b>By Program</b>		
Water Supply	44,000	36,283
Water Demand	25,000	27,729
Recreation	60,000	59,068
Power	35,000	49,999
Project Review	149,000	145,997
Water Quality	632,246	661,651
Comprehensive Plan	214,000	241,980
Flood Loss	72,000	48,491
Basin Operation	149,000	123,179
Small Watersheds	28,000	16,281
Environmental Analysis	224,000	190,248
<b>TOTAL</b>	<b>\$1,632,246</b>	<b>\$1,600,906</b>
Capital Program	27,000	27,000
<b>GRAND TOTAL</b>	<b>\$1,659,246</b>	<b>\$1,627,906</b>
Excess of revenues over budgeted funds <sup>(1)</sup> or receipts over expenditures <sup>(2)</sup>	139,257 <sup>(1)</sup>	170,597 <sup>(2)</sup>
	<b>\$1,798,503</b>	<b>\$1,798,503</b>

## Non-Budgetary

	Funds Available	Expenditures	Unexpended Dedicated Allotment
Tocks Island Region Environmental Study	\$ 8,687	\$5,541	\$ 3,146
Tocks Island Fish Research	16,616	3,166	13,450
Thermal Study	42,493	0	42,493
Flood Plain Contract	200,000	0	200,000
<b>TOTAL</b>	<b>\$267,796</b>	<b>\$8,707</b>	<b>\$259,089</b>





**Delaware River Basin Commission**  
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