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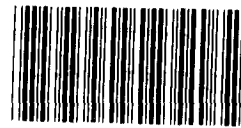
BY THE COMPTROLLER GENERAL

# Report To The Congress

OF THE UNITED STATES

## Federal-Interstate Compact Commissions: Useful Mechanisms For Planning And Managing River Basin Operations

The Delaware and Susquehanna River Basin Commissions were created to provide a coordinated, comprehensive regional approach to interstate water problems. Many of the issues the commissions are attempting to solve--such as water allocation and adequate water supplies--are complex and controversial. While there are no easy solutions, the commissions continue to work toward meeting the basins' water needs.



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The States rate high marks for initiating the compact arrangement and committing themselves to working through a regional river basin commission. The future effectiveness of the commissions will depend to a great extent on the members' willingness to support and fully participate in them.



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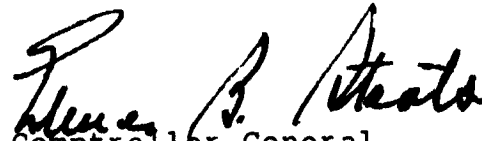
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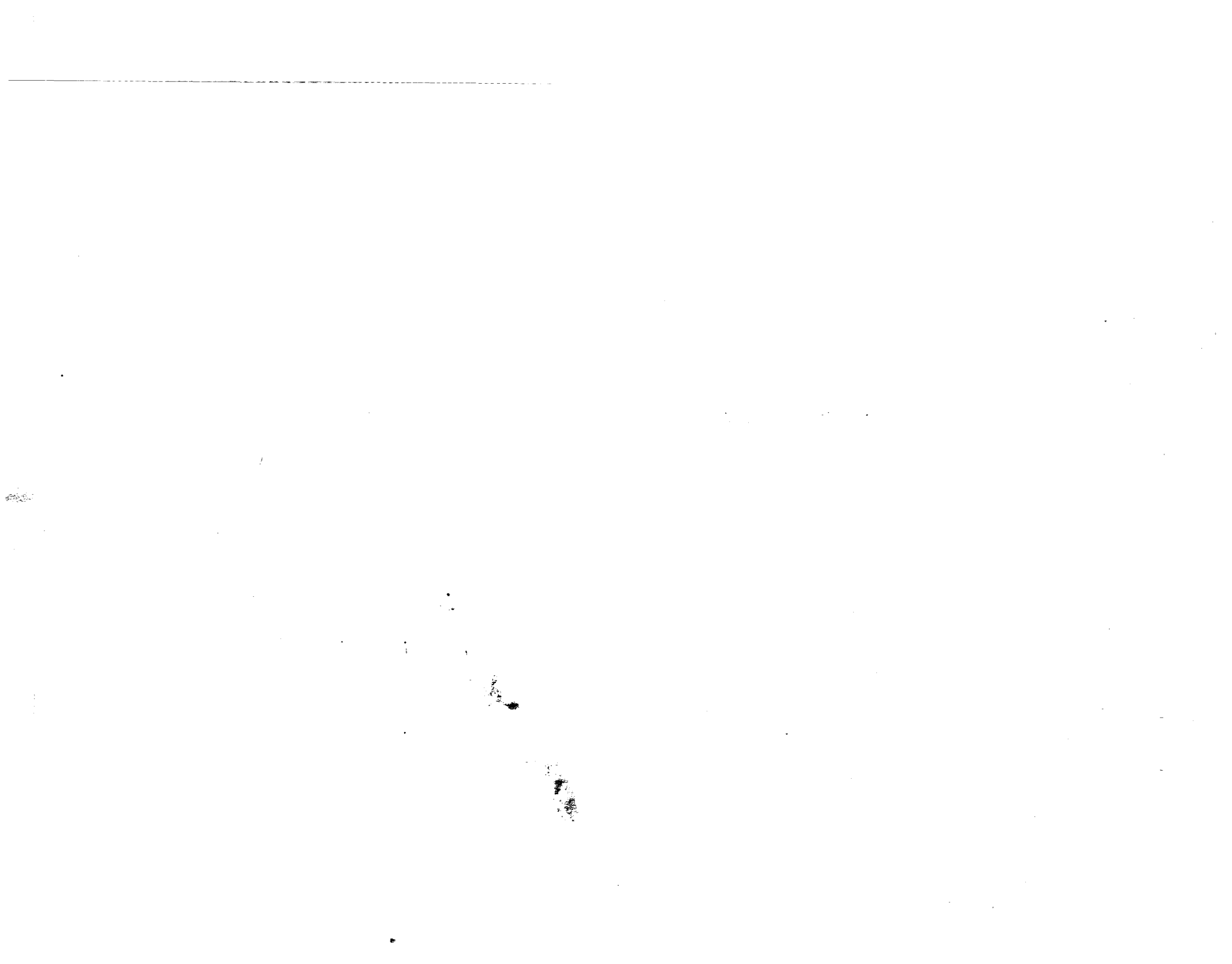
To the President of the Senate and the  
Speaker of the House of Representatives

This report describes the major interstate water problems existing within the Delaware and Susquehanna River Basins and discusses how the two existing Federal-interstate compact commissions work to solve these problems.

We made our review to evaluate the effectiveness of the commissions in dealing with water problems. The information contained in this report may be useful to the Congress in considering new methods of planning and managing river basins' water resources.

We are sending copies of the report to appropriate House and Senate committees; the Director, Office of Management and Budget; the Secretary of the Interior; and the Governors of the States of Delaware, Maryland, New Jersey, New York, and Pennsylvania. We will also make copies available to interested organizations as appropriate and to others upon request.

  
Comptroller General  
of the United States



COMPTROLLER GENERAL'S  
REPORT TO THE CONGRESS

FEDERAL-INTERSTATE COMPACT  
COMMISSIONS: USEFUL MECHANISMS  
FOR PLANNING AND MANAGING  
RIVER BASIN OPERATIONS

D I G E S T

Through Federal-interstate compact commissions, the Federal and State governments work as partners to plan and manage the use of water resources within a river basin. Currently, two Federal-interstate compact commissions exist: the Delaware River Basin Commission and the Susquehanna River Basin Commission.

The commissions are currently encountering problems, including internal disagreements over their roles and funding. The commissions are facing difficult decisions over the adequacy of future water supplies, particularly during droughts.

GAO believes that while their progress has been slow, the commissions have been a positive force for water resource planning and management. Future success depends upon the commitment and support of all members.

DELAWARE RIVER BASIN COMMISSION

As the principal coordinating body for water resource planning and management within a four-State region, the Delaware River Basin Commission has successfully managed a severe regional drought, adopted and implemented basinwide water quality standards, and established basinwide water policies. The member States are Delaware, New Jersey, New York, and Pennsylvania.

The commission currently faces complex decisions affecting the future of the basin. It is attempting to reach agreement on a basinwide water management plan. To do this, it must overcome conflicts and controversies over water needs and project construction which have hampered some implementation efforts in the past. Through a detailed study, the

commission has more clearly defined the issues to be addressed in its comprehensive management plan. The most critical issue facing decisionmakers is the need to maintain adequate streamflows during droughts. (See p. 10.) Other major issues include toxic substances, water quality in the estuary, groundwater shortages, and flood loss reduction. (See p. 14.)

A key issue of how to deal with future droughts--water allocations--has not been resolved. Negotiations are underway which are intended to quantify the amounts of water diversions and minimum releases required of the affected parties during droughts. While it is too early to predict the success of the present negotiations, the parties are optimistic that agreement can be reached. (See p. 12.)

#### SUSQUEHANNA RIVER BASIN COMMISSION

Although the Susquehanna River Basin is less developed than the Delaware and has a relatively abundant water supply, the Susquehanna commission is addressing problems such as potential water supply shortages, floods, and localized pollution from mine drainage. Due to the relatively light development of the basin, the commission has the opportunity to anticipate and provide solutions for long-range water supply needs and to consider future flood damage reduction measures.

The member States--Maryland, New York, and Pennsylvania--however, are not in complete agreement over the commission's proper role or the extent of its control over the basin's water resources. For example, the commission wants to become an active manager of the basin's water supply by purchasing and reselling available water rights from storage reservoirs; however, one signatory party--New York State--does not support that action. (See p. 23.)

ADEQUATE FUNDING AND COMMITMENT ARE  
THE KEYS TO COMMISSIONS' FUTURE

The effectiveness of an intergovernmental commission depends on all parties' commitment to support and fully participate in it, even at the cost of occasionally sacrificing their prerogatives.

One signatory party--New York--now questions its involvement in the Federal-interstate commissions. The State has contributed less than its agreed-upon share to the Susquehanna commission for several years because of State budget cuts. In fiscal years 1978 and 1979 New York paid only \$125,000 of its \$200,000 agreed-upon share. For fiscal year 1980 the State's payment was \$10,000 short. For fiscal year 1981 the Federal Government for the first time is also contributing \$10,000 less than its apportioned share. Should this trend continue, both commissions' programs and their ability to deal with basin-wide problems will be affected.

CONCLUSIONS

GAO believes that the commissions are worthwhile and achieve results--such as managing a basinwide drought--attainable only by joint cooperation and action. Their progress has been slow in some areas, but they have been dealing with complex and politically sensitive issues. They can continue to make positive contributions if all members give them adequate encouragement and support. (See p. 27.)

AGENCY COMMENTS

The Secretary of the Interior, speaking also as the Federal member of the river basin commissions, stated that the report is a fair assessment of the problems these commissions face and that they are valuable tools for planning and managing river basin operations. Maryland believes that the Susquehanna compact is of great

value and that continued strong Federal support is important and highly desirable. Pennsylvania commented that the report is a very accurate assessment of the commissions.

New York State said that it was disappointed with the report's general conclusions, but it did not provide any additional information. Delaware and New Jersey did not comment. (See p. 29.)



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ABBREVIATIONS

DRBC	Delaware River Basin Commission
GAO	General Accounting Office
SRBC	Susquehanna River Basin Commission

## GLOSSARY

Aquifer	Layers of soil or rocks bearing subsurface water (underground reservoirs).
Augmentation	Supplementing the usable water supply in a river through human efforts.
Consumptive uses or depletion	Water that is diverted from a surface stream or groundwater aquifer and not returned to the stream or aquifer for future use.
Diversion	The taking of water from a body of surface water into a canal, pipeline, or other conduit.
Drought	A period of deficient precipitation or runoff extending over an indefinite period of time. There is no universally accepted quantitative definition of drought.
Estuary	The tidal portion of a river.
Evaporation of water	The transfer of water out of a river basin.
Flood plain	The area adjoining the channel of a stream which has been or hereafter may be covered by flood water.
Impoundment	An onriver facility that accumulates water in the valley through which a river flows--that is, a reservoir.



## CHAPTER 1

### INTRODUCTION

Federal-interstate compacts are formal agreements between two or more States and the United States to promote effective basinwide water resources management. They reflect a significant departure from traditional compacts in that (1) the United States is a signatory party with the States and (2) extremely broad powers are granted to the compact commissions. The commissions are responsible for multipurpose planning, management, and development of the river basins' resources.

The Delaware River Basin Compact was the first Federal-interstate compact, approved in 1961 by Delaware, New Jersey, New York, Pennsylvania, and the United States. A similar compact was formed in 1970 for the Susquehanna River Basin in New York, Pennsylvania, and Maryland.

### THE DELAWARE RIVER BASIN

The Delaware River originates in New York State, flowing 330 miles downstream along the borders of Pennsylvania, New Jersey, and Delaware before emptying into the Atlantic Ocean. It drains an area of approximately 13,000 square miles.

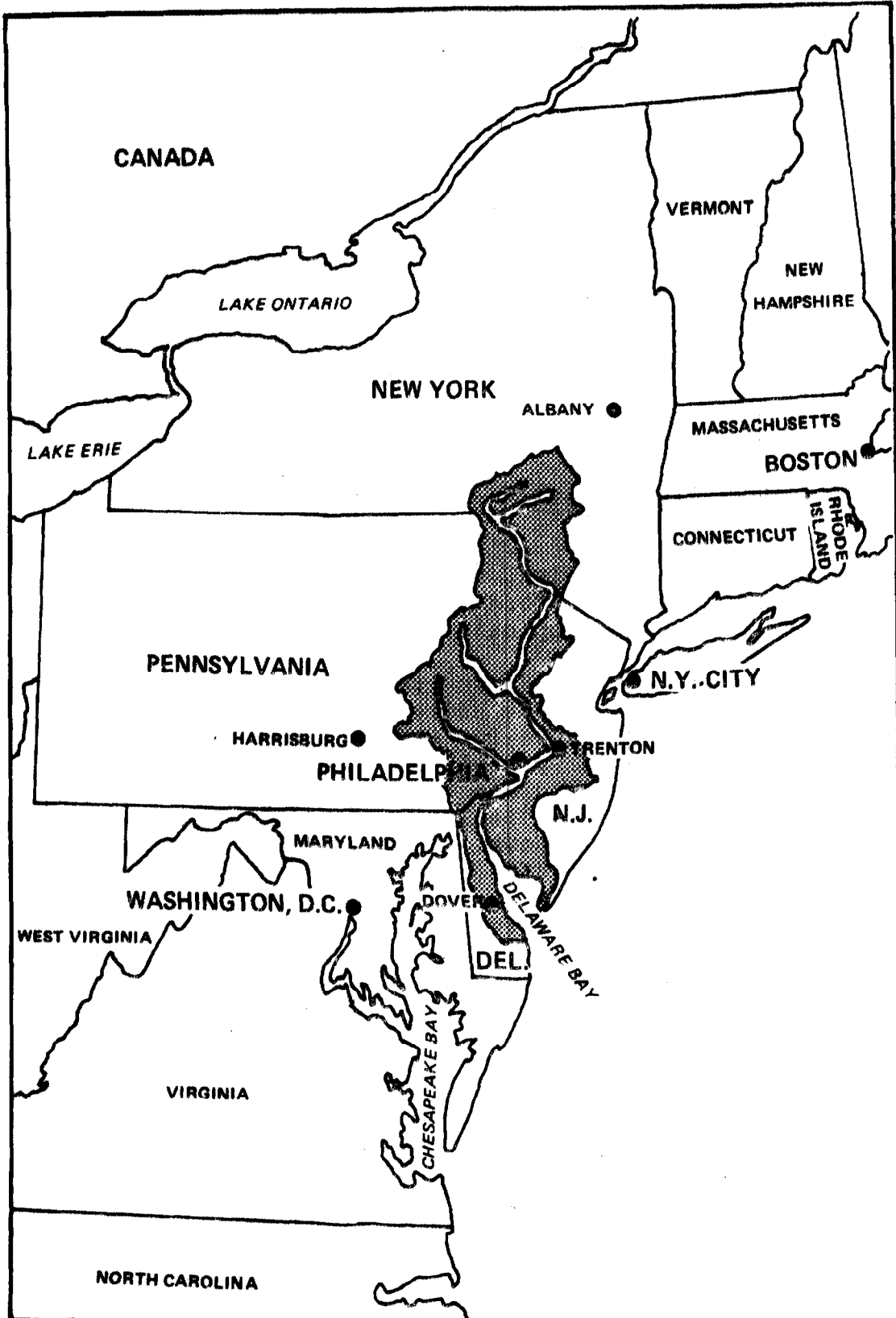
The Delaware River Basin includes Philadelphia, the fourth largest city in the United States, and serves as a major water supply source for metropolitan New York City. The upper Delaware is sparsely settled farmland; the lower Delaware is densely populated and highly industrialized. About 20 million people, including 7 million basin residents, depend on the Delaware River, its tributaries, and groundwater for their water supply.

### THE SUSQUEHANNA RIVER BASIN

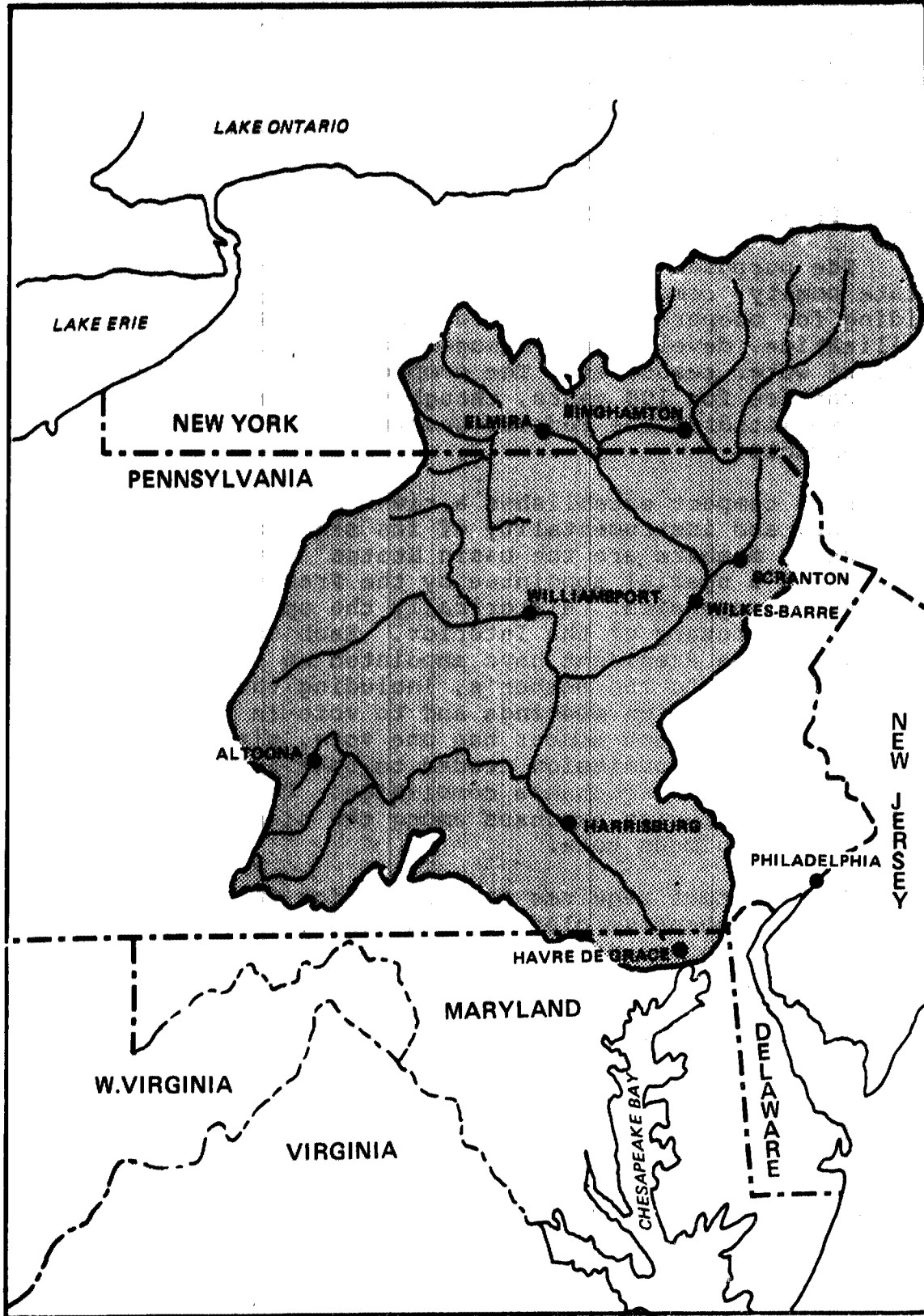
The Susquehanna River is about 450 miles long. It flows from New York southward through central Pennsylvania into Maryland and empties into the Chesapeake Bay. It is the greatest source of freshwater in the bay and is extremely important to the bay's ecology.

The Susquehanna River Basin is the largest underdeveloped river basin east of the Mississippi River with a population of about 3.5 million. Its major population centers are Binghamton and Elmira in New York; the Scranton and Wilkes-Barre area of northeastern Pennsylvania; and the cities of Harrisburg, York, and Lancaster in south central Pennsylvania.

# DELAWARE RIVER BASIN



# SUSQUEHANNA RIVER BASIN



Because of its relative abundance of water and lesser economic development, the Susquehanna has been used extensively for electric power generation purposes. Electric power generation comprises the largest industrial use of the basin's water. There are four major hydroelectric dams across the lower Susquehanna, and two major nuclear generating facilities, including the Peach Bottom Plant and the Three Mile Island facility.

#### MAJOR PROVISIONS OF THE COMPACTS

The purposes of the compacts include promoting interstate comity; removing causes of controversy; and providing for cooperative planning and action for conservation, utilization, development, management, and control of the basins' water resources. The compacts bind the signatory parties for 100 years, though the Congress may at any time withdraw the Federal Government as a party to the compacts.

Each compact establishes a river basin commission as an agency and instrumentality of its signatory parties. The commission members are the basin States' Governors (ex officio) and a special appointee by the President to represent all Federal agencies. Historically the appointee has been the U.S. Secretary of the Interior. Each State commission member and the President have appointed an alternate with powers similar to the member's, including the authority to attend commission meetings and to vote in the absence of the member. Each member has one vote, with a majority of the Delaware commission needed to take action and three-quarters of the Susquehanna commission. Certain actions, such as apportioning expenses among the signatory parties, require a unanimous vote.

Each compact requires the commission to formulate and adopt a comprehensive plan for the immediate and long-range development and use of the basin's water resources, a water resources program, and annual expense and capital budgets. Water projects in the basin that have substantial effect on its resources require commission approval. To be approved, the project must comply with the comprehensive plan.

In consenting to the compacts, the Congress attached reservations to safeguard Federal interests. A key reservation provides that the concurrence of the Federal member is needed to bind the Federal Government to the comprehensive plan. Furthermore, the President may, by Executive order, suspend, delete, or modify any provision of the comprehensive plan as it applies to Federal agencies or officers if he



determines the suspension, deletion, or modification to be in the national interest.

#### OBJECTIVE, SCOPE, AND METHODOLOGY

Several types of organizations exist in the United States for coordinating river basin planning activities, including Federal-interstate compact commissions and river basin commissions established under the Water Resources Planning Act of 1965. Commissions established under Federal-interstate compacts have planning authority and broad powers to manage and control the water and related land resources of an entire river basin. In contrast, river basin commissions established under title II of the Water Resources Planning Act are principally planning and coordinating bodies.

Our water resources audit activities include reviewing basinwide Federal and State planning systems to determine if one planning mechanism and technique for solving national and regional water problems is most effective. In our report entitled "Colorado River Basin Water Problems: How To Reduce Their Impact" (CED-79-11), we identified a need for a basinwide management organization to effectively manage the basin's water resources. We are currently reviewing river basin commissions established under the Water Resources Planning Act of 1965. For this report, we reviewed only those river basins which have Federal-interstate compact commissions with basinwide managing authority which address water resources issues. Our objective was to determine the major problems these commissions are facing and how effectively they are dealing with these problems. We limited our review to major issues with interstate impact, while recognizing that the individual States do perform valuable functions in water resource activities.

We reviewed the laws and legislative histories establishing the Federal-interstate compact commissions to identify their responsibilities and authority. To establish the significance of the problems the commissions are facing and what they are doing to deal with them, we interviewed Federal and State water resources officials. We also examined available Federal, State, and commission studies, plans, reports, and other records including the Supreme Court decree applicable to the Delaware River. Most of our work was done at the Delaware River Basin Commission's office in West Trenton, New Jersey, and the Susquehanna River Basin Commission's office in Harrisburg, Pennsylvania.

We interviewed representatives from the Army Corps of Engineers, the U.S. Geological Survey, the Environmental Protection Agency, and the Water Resources Council. We also interviewed Delaware and Susquehanna River Basin Commissions' staff members, State water resources officials in Delaware, Maryland, New Jersey, New York, and Pennsylvania, and the U.S. commissioners for the Delaware and Susquehanna River Basin Commissions.

## CHAPTER 2

### MANAGING THE WATER RESOURCES

#### OF THE DELAWARE RIVER BASIN

While the Delaware River Basin Commission (DRBC) has made progress in identifying and dealing with the basin's problems, much more remains to be done. Future droughts threaten salt contamination of drinking water, toxics are of increasing concern, water quality needs to be improved, groundwater supplies are being depleted, and potential flood losses need to be reduced. In addition, the competing demands for water of New York City and the lower basin States are a continuing source of conflict.

DRBC is attempting to deal with these problems. It recently completed a detailed draft study of the basin to identify current water resource problems and alternative solutions and is now trying to negotiate differences and agree to a basinwide management plan. The success of these efforts will depend on the commitment and support of commission members.

#### THE DELAWARE RIVER BASIN COMPACT

The Delaware River Basin Compact was a result of conflicts and controversies over allocation of water. The impetus for the compact came from outside the basin. In the 1920s New York City, located in the Hudson River Basin, sought to add to its water supply by tapping the headwaters of the Delaware River in New York State. In the absence of a compact agreement between the States of New Jersey, New York, and Pennsylvania, the resulting controversy led to a decree by the United States Supreme Court in 1931 which was amended in 1954. In both instances, the Court granted New York City the right to divert water from the Delaware River provided the city compensated for such diversions by releasing water downstream to augment low flows.

Attempts to form a compact in the basin had failed three times before 1954. State and local government officials, believing that Supreme Court action was no substitute for a comprehensive river basin plan, renewed their efforts to create an effective organization for managing the basin's water resources. They subsequently drafted a Federal-interstate compact which was approved by each of the basin States before getting Federal approval. This was the first interstate water compact not merely consented to by the Congress, but one in which the Congress joined the United States to the compact.

Seven Federal agencies, including the Departments of Justice and the Interior, opposed Federal participation in the compact, raising constitutional and conflict-of-interest questions. However, the States believed that Federal membership was needed for a regional organization to be effective. To obtain Federal membership, the States agreed that the Federal Government could add certain reservations to the compact. These reservations included such things as (1) specifying that the Congress retained the right to amend or repeal various sections of the compact at any time and (2) giving the President power to suspend elements of the comprehensive plan that he deems not to be in the national interest insofar as their binding nature on the exercise of Federal authorities is concerned if such elements are in conflict with Federal law. The President signed Public Law 87-328 on September 27, 1961, creating the Delaware River Basin Commission to coordinate, plan, and manage the water resources in the four-State basin area.

COMMISSION'S COMPREHENSIVE PLAN  
IS NOT YET COMPLETE

DRBC's current plan is not a viable one for meeting the water resources needs of the basin. Several voids developed in the plan when the commission voted not to ask the Congress for funds to construct a planned major project--Tocks Island Dam. The commission recognizes the plan is no longer workable and has started a new planning effort.

DRBC describes its current comprehensive plan as

"\* \* \* a system of physical projects coupled with legally binding policies designed to provide dependable supplies of water at key locations within the basin and guidelines to be followed by those who may wish to use the water or need to encroach thereon."

It includes broad statements of policy and specific water quality standards for each part of the basin.

The current comprehensive plan is the "law" of the basin. It does not, however, supersede the need for more detailed State plans. Each basin State has developed or is developing plans for its portion of the basin. These plans must conform to the general policies set forth in the DRBC comprehensive plan.

DRBC adopted the first phase of its current comprehensive plan in March 1962, shortly after the commission

was established. The main source for this project-oriented plan was a survey report of the basin issued in 1961 by the Army Corps of Engineers. Recognizing that it was not a complete water management plan, DRBC attempted to develop a more complete plan in 1971. Although not formally approved, the DRBC staff subsequently issued a document setting forth planning assumptions, programs, data, and a means of managing the basin's water resources.

The core of the 1962 comprehensive plan was the proposed Army Corps of Engineers' Tocks Island Dam project. As a multi-purpose project, it would have provided significant water supply, flood control, hydroelectric power, and recreational benefits. A major planning assumption was that the project would have supplied enough water to meet the basin's water needs during periods of drought. Public opposition to the project increased during the early 1970s, and in 1975 a majority of the basin States' Governors decided not to recommend congressional funding for its construction. As a result, DRBC's prior planning assumptions were no longer valid, underscoring the need to update and revise its comprehensive plan.

DRBC initiated a detailed (level B) study <sup>1/</sup> of the basin in October 1976 as the basis for updating its comprehensive plan. This level B study is expected to cost about \$1.5 million, of which the Federal share of \$1.1 million is being funded by the Water Resources Council. According to the Council's guidelines, level B studies should cover a 15- to 25-year period; be based on judgmental planning and existing data and studies; and include State, Federal, and public participation.

In its draft level B study report, issued in October 1979, DRBC identified the major water issues of the basin and alternative solutions to address them. DRBC expects to issue its final report in March 1981.

Some Federal officials have criticized past level B studies because they have failed to produce implementable plans or recommendations to guide future water resource decisions. In most cases, the sponsoring organization lacked implementing authority. DRBC, however, has such authority

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<sup>1/</sup>The objective of a level B study is to develop a plan for managing the water resources of a river basin by identifying policies, programs, and projects in certain areas including water conservation, water quality, and water supply.

and is attempting to agree on specific alternatives and solutions to be incorporated into its comprehensive plan.

AGREEMENT IS NEEDED ON MAINTAINING ADEQUATE  
STREAMFLOWS DURING FUTURE DROUGHTS

The most critical policy issue currently facing decisionmakers in the basin is the need to maintain adequate streamflows during future droughts. The Delaware River Basin experienced its worst drought of record during the 1960s (1961-67). Thirteen years later, DRBC is still trying to agree on a plan to cope with future droughts. Past efforts have been hampered by conflicts and controversies over water allocation and project construction. The issues and alternative solutions are now more clearly defined, and the signatory parties have intensified their efforts to develop a basinwide plan for droughts.

Problems caused by droughts

Adequate streamflows are needed to compensate for depletive uses, to control saltwater intrusion, and protect water supply sources. Deficient precipitation produces droughts which make maintaining adequate streamflows more difficult.

Precipitation in the Delaware River Basin is distributed fairly uniformly, geographically and throughout the year. While rainfall is generally adequate in most years, the basin has periodically experienced droughts of varying intensity.

In its recently completed level B study of the basin, DRBC examined the potential effects of a recurrence of the drought of record. For planning purposes, DRBC used the year 2000. It concluded that depletive water uses would increase significantly, and as a result, projected freshwater flows would be insufficient to keep saltwater from infiltrating the Potomac-Raritan-Magothy aquifer. This aquifer is practically the sole water supply source for residents of Burlington, Camden, and Gloucester Counties in southern New Jersey.

Depletive uses expected  
to increase significantly

Most water used in the Delaware River Basin returns quickly to a stream and is available for reuse. Depletive uses (consumptive use and exports), on the other hand, permanently remove water from the basin, thereby reducing freshwater flows. Consumptive uses are expected to more than double between 1970 and the year 2000, from 376 to

824 million gallons a day. Exports of water out of the basin are also expected to increase from 651 to 911 million gallons a day.

Saltwater intrusion may  
contaminate aquifer

Freshwater flows during a severe future drought are projected to be much less than needed to maintain present or proposed alternative chloride standards in the Delaware River estuary. The potential danger to users of the aquifer is that their drinking water could contain relatively high sodium concentrations. This potential health threat is a major concern in DRBC's planning for future droughts.

Because it is recharged from the estuary, parts of the Potomac-Raritan-Magothy aquifer may be permanently damaged unless freshwater flows are adequate to keep saltwater from advancing upstream. Several factors contribute to this problem:

- Withdrawals from the aquifer have increased significantly over the past 25 years resulting in greater recharge from the estuary.
- The aquifer in the Camden area now receives over 50 percent of its recharge from the estuary, and such recharge could exceed 85 percent during a severe drought.
- The aquifer receives significant recharge from the estuary over a large area including points downstream where saltwater concentrations are greater.

Excessive human consumption of sodium has long been recognized as a major contributing cause of hypertension and cardiovascular disease. While food is the major source of sodium, some recent studies have indicated a possible connection between high levels of sodium in drinking water and hypertension.

Developing a surface water source and more stringent controls over groundwater withdrawals by New Jersey could help lessen the impact on the aquifer. A major issue which DRBC is working to resolve is whether to retain its present chloride standard or adopt a revised standard which can be more realistically met. The freshwater flows needed at the head of the estuary will be directly related to the standard selected. The higher the standard, the greater the flow needed. A major obstacle to achieving needed flows has been the Supreme Court decree governing exports of water out of the basin to New York City and New Jersey.

Supreme Court decree requirements  
cannot be met during future droughts

New York City will not be able to comply with the decree during a recurrence of the 1960s drought. The decree was based on the drought of the early 1930s, the most severe drought previously recorded. However, the 1960s drought was considerably worse. During that drought, New York City could not meet both its own needs and the flow maintenance requirements, and stopped releasing water downstream in 1965. At that time, DRBC declared a water supply emergency and, using its authority under the compact, temporarily modified the Supreme Court decree to alter the releases and diversion rates required from New York City dams. It obtained additional water supplies from private impoundments and Federal reservoirs. These actions helped DRBC to successfully manage the basin's water resources to the end of the drought.

New York City depends on the Delaware River for almost half of its water supply requirements. It imports water from three Delaware reservoirs over 100 miles from the city. Despite objections by New Jersey and Pennsylvania, the U.S. Supreme Court first granted the city the authority to take water from the Delaware in 1931, and then permitted the city to increase its diversions in 1954. The Supreme Court decree was based on the assumption that there was adequate water in the Delaware River system to meet New York City's needs as well as those of downstream users.

The decree, amended in 1954 and still in effect, permits New York City to divert 800 million gallons a day but requires it to compensate for such diversions by releasing water downstream when the flow at Montague, just south of Port Jervis, New York, falls below 1.13 billion gallons a day. In addition, the decree permits New Jersey to export up to 100 million gallons a day out of the basin without making compensating releases.

Renegotiating decree provisions is a  
key step in developing a drought plan

As stated earlier, the Delaware River Basin Commission does not have a plan to cope with future droughts. The parties now recognize that the 1954 amended decree is no longer a workable document for dealing with future droughts and are attempting to quantify reduction in diversion and release requirements of the decree. This is a key step in developing a drought plan.



The Supreme Court decree fixed specific diversion and compensating release requirements on the parties. The adoption of the Delaware River Basin Compact effectively froze the provisions of the decree for 100 years, since the parties waived their rights to go back to the Court except in extremely limited circumstances. DRBC, under the compact, has authority to alter diversions and releases of the decree, but only by unanimous consent of the four member States and New York City in the absence of an emergency, and by unanimous consent of the four States and the United States in the case of an emergency.

The parties to the Supreme Court decree (Pennsylvania, New Jersey, Delaware, New York, and New York City) have been meeting since March 1979 in closed sessions to renegotiate the diversion and release requirements of the decree, as well as related issues pertaining to future droughts and other interstate water problems. After these negotiations are completed, DRBC (the same parties, excluding New York City but including the Federal Government) will conduct public hearings on proposed revisions to its comprehensive plan.

These negotiations were initiated after Pennsylvania threatened litigation unless all concerned parties agreed to an alternative decree arrangement. The State took this action in 1978 after the Congress designated the middle Delaware River as part of the national wild and scenic river system, which in effect made it highly unlikely that Tocks Island or any substitute project could be constructed on this part of the Delaware. Pennsylvania contended that the out-of-basin diversions permitted by the amended decree were conditioned on a mainstream impoundment to protect the interests of the lower basin. In effect, the dispute began back in 1975 when New Jersey, New York, and Delaware outvoted Pennsylvania on proceeding with construction of the Tocks Island project.

Details as to the progress of these negotiations have not been made public. The parties remain optimistic that agreements can be reached and that litigation can be prevented.

Since June 1980 rainfall has averaged about 30 percent below normal in the Delaware basin. To forestall a possible water shortage this summer, DRBC declared a water emergency on January 15, 1981. The declaration temporarily reappor-tions the Delaware's water so as to maximize storage in the various reservoirs and bans all nonessential water uses in the river basin.

Additional water storage facilities will also be needed

Even if agreement is reached on modifying the decree, additional measures will be needed to increase the river's flow during a drought. DRBC intends to meet this need in part by applying conservation measures but mainly by developing additional water storage facilities.

Additional water storage will be needed to augment freshwater flows in the estuary because present storage facilities cannot meet the basin's water needs under a recurrence of the 1960s drought conditions. How much will be needed depends on the results of the decree negotiations. At this time, the four most likely flow augmentation projects are modifications of two Federal dams, a public utility-financed dam, and a New Jersey-financed reservoir.

The Prompton Dam, completed in 1960, and the Frances E. Walter Dam, completed in 1961, were primarily for flood control. Projects to modify these two Federal facilities to provide water supply storage have been part of DRBC's comprehensive plan since 1962. According to the Army Corps of Engineers' estimates, it will take 9 years for each of these modified facilities to be operational from the time initial Federal appropriations are received, assuming adequate funding thereafter.

OTHER MAJOR WATER ISSUES  
CONFRONTING THE BASIN

In addition to planning for future droughts, other major issues confront the basin.

- Toxic substances pose a potential threat to the basin's waters.
- Water quality in the estuary needs improvement.
- Groundwater overdrafts 1/ need to be reduced.
- Flood loss is still a concern.

This section briefly summarizes these issues and DRBC's activities in these areas.

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1/An overdraft occurs when withdrawals from an aquifer exceed the amount of water recharge.

### Toxic substances pose a potential threat to basin's waters

Although water quality in most of the basin has improved in recent years, there is increasing concern over the threat of toxic substances to the basin's surface and groundwater.

DRBC is currently studying residual waste management to develop a program for treatment and safe disposal of toxic substances. However, little information is available on closed sites and there have not been extensive sampling and monitoring efforts to date. DRBC's goal is to develop a basinwide, long-term toxic substance management program. In addition to DRBC's efforts, the Environmental Protection Agency and the States are establishing and implementing the waste treatment requirements specified in the Clean Water Act.

### Improving water quality in the estuary

The water quality of the Delaware River ranges from excellent in parts of the nontidal sections to poor in parts of the highly industrialized tidal portion of the estuary extending 85 miles from Trenton to the Delaware Bay. To improve the quality of the estuary, DRBC initiated a waste-load allocation program in the 1960s. While some measurable improvement has taken place, major improvements are not expected to be evident until after modernization of Philadelphia's sewage treatment plants is completed. These plants are scheduled to be operational in 1983. Parts of the estuary, however, will still not meet the "fishable waters" criteria under the Clean Water Act. DRBC has been conducting analyses to determine how it can meet these criteria.

### Managing groundwater shortages

Parts of southeastern Pennsylvania that depend almost entirely upon groundwater have experienced very rapid growth since 1950. Development has exceeded groundwater yields, and some communities have had water shortages. The aquifers supplying this area store considerably less water than coastal plain aquifers and are particularly vulnerable to droughts. DRBC has initiated action to declare the affected area a "groundwater protected area," under its compact authority, which permitted it to establish special regulations in the fall of 1980 to improve the management of this limited water resource. A proposed surface water system to supplement these groundwater supplies, as well as provide water for a new nuclear

plant, has met with considerable public opposition. Construction of this system--Point Pleasant Pumping Station, already included in the comprehensive plan--will require DRBC approval.

#### Reducing flood loss damages

According to recent Federal and State studies, major flood control structures would not necessarily provide significant flood protection, and local flood protection projects are not always feasible. The studies concluded that nonstructural approaches, such as land use controls and floodproofing, could substantially reduce flood losses at a lower cost. The U.S. Department of Housing and Urban Development's National Flood Insurance Program is the major mechanism available for bringing about local regulation of development in the flood plain. DRBC has conducted over 100 flood insurance studies under this program. While such studies have been completed for most flood-prone areas, not all communities have adopted flood plain regulations and, where adopted, there is no assurance they are being enforced. DRBC, in its level B study, supported a nonstructural approach to flood loss reduction and did not propose any major new flood control structures.

#### ADEQUATE FUNDING IS KEY TO COMMISSION'S FUTURE

The compact calls for an equitable funding apportionment among the signatory parties. The DRBC members from time to time have revised sharing arrangements. Presently, the Federal Government, New Jersey, Pennsylvania, and New York would each contribute 23 percent of the budget and Delaware the remaining 8 percent. The proposed fiscal year 1981 regular operating budget is about \$1.1 million.

DRBC's staff depends primarily on State and Federal appropriations to support its operating budget. Staff funding has been uncertain at times, particularly by New York State. The signatory parties have not to date agreed upon utilizing their authority to develop independent funding sources for the commission to carry out all its activities. However, DRBC has authorized the collection of application fees and penalties which are used to supplement signatory party contributions. The commissioners believe the member governments have an obligation to fund the commission, and this enables them to maintain control over the staff.

With the exception of New York State, DRBC members have generally been supportive of the commission's efforts. New York State officials question the need for this type of commission. They believe it duplicates State efforts, infringes on State rights in intrastate matters, and is dominated by the downstream States that receive most of the benefits. As a result, the New York alternate commissioner said that the State will limit its future funding of the commission to the amount of benefits the State receives from membership in DRBC.

State officials were generally satisfied with the Federal Government's participation in DRBC and the cooperation of Federal agencies. The Congress has in the past fully funded the Federal Government's agreed-upon share of the commission's budget but has not approved additional funds requested by DRBC for expenses incident to its view that it is subject to the National Environmental Policy Act of 1969.

### CHAPTER 3

#### MANAGING THE WATER RESOURCES

#### OF THE SUSQUEHANNA RIVER BASIN

As in the case of the Delaware Commission, the greatest value of the Susquehanna River Basin Commission (SRBC) appears to be its capability for basinwide planning, coordination, and authority to implement planning. Since its formation the commission's activities have included conducting special studies of the basin's water resources issues, mapping the basin's flood plains, and exercising an oversight responsibility on projects affecting the basin's water. Population growth and increased water demands for power generation and agriculture could cause potential future water supply problems. The commission is now attempting to develop a water supply plan and to become more active in the water supply management area, but not all members support this effort. The commission is also experiencing a revenue shortfall, and should it continue, the commission's future effectiveness may be threatened.

#### THE SUSQUEHANNA RIVER BASIN COMPACT

Representatives of the States of New York, Pennsylvania, and Maryland began working together in 1963 to form a regional organization to manage the Susquehanna River Basin's water resources. Because the Susquehanna was a watershed with low population densities and relatively underdeveloped from an urban and industrial perspective, they believed an interstate compact would provide the opportunity for orderly future development and conservation of the basin's water resources. They agreed on a Federal-interstate compact patterned after that of the Delaware River Basin. By mid-1968 the States had approved the compact and begun their efforts to get congressional consent.

As in the case of the Delaware compact, Federal agencies, mainly the Water Resources Council and the Office of Management and Budget, objected to Federal participation by raising jurisdictional conflict-of-interest questions and questioning the need for an organization as binding as a Federal-interstate compact. The Federal Government subsequently agreed to support the compact, provided reservations were added to protect its interests. Examples of these reservations were previously mentioned on page 4. These reservations were added, and the President signed the compact into law on December 24, 1970.

## PLANS TO MEET FUTURE WATER NEEDS

Numerous agencies, including SRBC, are planning ways and means of regulating the extremes in the basin's streamflows. However, in the final analysis, it is SRBC's responsibility to integrate into a single water management plan those plans, programs, and projects which will meet the basin's future water needs.

Numerous Federal and State agencies' studies of the Susquehanna basin conclude it has plentiful water supplies. However, like any river basin, it experiences low-flow periods during drought, and at such times some communities experience water supply problems. Growing use of water by public utilities, industry, agriculture, and public suppliers is expected to place additional demands on the basin's available water supply. The commission has adopted a comprehensive plan for the basin, but it has done little until recently to develop a water supply plan that defines how the water supply goals and objectives set forth in its comprehensive plan will be achieved. Independently the States have developed plans for the parts of the basin that lie within their boundaries. The SRBC staff intends to utilize these plans to the extent possible in developing its basinwide plan.

### Commission's water supply planning

SRBC adopted its comprehensive plan for managing and developing the basin's water resources in December 1973. Since then few changes have been made to the plan.

SRBC's comprehensive plan is a generalized statement of conditions, objectives, and goals. For example, the plan sets out the water supply program objectives as the

"\* \* \* fulfillment of immediate and projected long-range demands of the people of the basin for domestic, municipal, agricultural and industrial water supply, including use for cooling and irrigation."

The goals for the water supply program include

- coordinating water supply, water quality, and land use planning development programs;
- developing plans for use of the basin's ground and surface water;

- establishing a system for allocating water;
- developing management plans for water-short periods;
- improving utilization of water through system improvements and more efficient management of water resources; and
- integrating regional water supply systems.

The comprehensive plan also established an Early Action Program which sets out the commission's 5-year priorities for meeting water supply needs and demands. The specific program recommendations included (1) developing a plan for managing municipal water supply shortage emergencies, (2) evaluating ongoing water supply planning programs and studies, and (3) encouraging and supporting research on technology and methodology of developing water supplies and conserving water.

The compact also requires the commission to prepare an annual water resources program based upon the comprehensive plan. The program is to contain projects and facilities to be undertaken by the commission and by government and private agencies for the next 6 years. The commission has adopted only one such program which covered calendar year 1976. The SRBC Executive Director explained that the commission's annual budget document is based on the comprehensive plan and contains essentially the same type of information that would be included in an annual water resources program.

The SRBC water resources program is more specific than the comprehensive plan. It identifies specific needs in the flood control, water supply, and water quality program areas and makes recommendations to meet these needs.

#### State water supply planning

New York has completed comprehensive water resource plans for the subbasins within its boundaries. Pennsylvania is preparing a State water plan and has completed work on all the subbasins within the State. The SRBC staff concluded that the two studies in New York were directed toward solutions for the total water supply situations and needed updating to be usable. According to SRBC, the Pennsylvania water plan would be useful in developing the commission's water supply plan because it contains a considerable amount of useful data.



Pennsylvania's water plan, which the State formally began preparing in the late 1960s, is nearing completion. Parts of the plan prepared to date deal with the issues of water supply, flood damage reduction, recreation, and water quality management. The plan is being issued as a series of separate reports, organized by subbasin. Reports have been released for all subbasins in the Susquehanna River Basin. The plan identifies needs and alternative solutions that extend to the year 1990 and discusses long-range problems and needs for the year 2020. In the water supply area, the plan's objectives are to develop water resources to assure adequate supplies during drought, identify feasible alternative solutions, encourage water reuse and conservation measures, and suggest changes in water laws and institutional arrangements. Data is developed on individual communities and summarized for the subbasins. The plan shows that a number of communities either need now or will need by the year 2020 additional water supplies, but it does not recommend large structural projects such as dams or reservoirs.

According to Pennsylvania's Associate Deputy Secretary for Resources Management and the SRBC Executive Director, State and SRBC planning is complementary rather than duplicative. The State's planning is intrastate, very detailed, and directed at identifying problems and solutions to individual municipalities' water problems. SRBC's planning, on the other hand, is broader, setting forth general goals and objectives for the basin. It also emphasizes the interstate water resource issues.

COMMISSION IS ATTEMPTING TO BECOME  
AN ACTIVE WATER RESOURCES MANAGER

Although SRBC has undertaken a number of management and regulatory activities, it has not yet exercised its management capability. It has actually exercised less authority than authorized because the signatories (1) have not wanted to relinquish their own authority or have the commission duplicate their efforts and (2) have not determined it to be necessary for the commission to exercise the full authority granted by the compact. However, the commission is attempting to become a more active manager of the basin's water resources, especially in the water supply program area.

The compact gives SRBC broad authority to manage the basin's water resources. It has the authority to build, manage, and control projects; approve or disapprove the projects of others if they affect the basin's water resources; and issue regulations governing the use of

basin water resources. While the commission has not attempted to build any projects, it reviews certain types of proposed projects to determine that they are compatible with the commission's requirements and will not impair or conflict with the comprehensive plan. The commission's review power extends to proposed projects that involve diversion of water into or out of the basin, including consumptive water uses, groundwater withdrawals with a potential interstate effect, projects on a State boundary, and projects affecting the comprehensive plan.

SRBC regulations require the State agencies who also review projects to forward to SRBC applications for projects that have been received by the agencies. Otherwise the project sponsor must submit an application directly to SRBC. From the application or other information, the commission decides whether to undertake a formal revision of the individual projects or to accept the signatory agency's review. The commission generally accepts the State agencies' review determination if one has been made.

The commission's recent focus in the project review area is on the Federal relicensing of four hydroelectric projects on the lower Susquehanna River. In its review, the commission is stressing several critical basinwide issues including minimum flow releases, water quality, water supply diversions, and terms of licenses.

#### Opposition hinders development of a water supply program

Some progress has been made in developing elements of a water supply program, but opposition to some parts of the program is hindering further progress. Two of the most significant regulations issued as an element of SRBC's water supply program are the water conservation policy and standards and the low-flow management regulations. However, controversy surrounds the implementation of the low-flow management regulations.

#### Water conservation policy

The water conservation policy and standards adopted by SRBC in January 1979 require new industrial, commercial, and municipal water users "to maximize their water use efficiency by utilizing available feasible water conservation technologies." Public water suppliers are to reduce distribution system losses to about 20 percent and to implement metering programs or other conservation measures. Industrial users are also supposed to install meters or other

conservation devices; agricultural users are advised to irrigate only to achieve optimum crop production or to protect against crop failure.

#### Low-flow management regulations

To ensure adequate water supplies for existing and future users in the Susquehanna River Basin, the commission adopted a regulation requiring that consumptive users must provide water in the total amount consumed during periods of low streamflow. The regulation affects consumptive uses initiated after January 23, 1971, the effective date of the Susquehanna River Basin Compact.

The regulation requires consumptive users, such as powerplants, agricultural irrigators, and municipalities, to "compensate" their supply source for all water they consume during periods of low flow. The commission selected the 7-day, 10-year low flow as the minimum flow criterion at which compensation is required. The 7-day, 10-year low flow is the flow rate of a stream for 7 consecutive days with a frequency of occurrence of 1 in 10 years. Should the flow fall below the criterion, SRBC may require compensation for consumed water. The compensation for consumed water may be provided from water stored in reservoirs owned by an applicant, by purchase of available water from public or private storage facilities, or by construction of new reservoirs. Alternatives to compensation may include discontinuing consumptive use operations or applying conservation measures.

The power companies have expressed an interest in using some of the water storage capability at the Army Corps of Engineers' Cowanesque Lake project in northern Pennsylvania to supply makeup water for releasing during low-flow periods. The Corps is currently studying whether this idea is feasible, and preliminary indications are favorable. While the power companies can negotiate directly with the Corps for purchasing rights to use stored water, both the Corps and SRBC prefer to have SRBC purchase those rights and then contract to resell them to users. SRBC believes that this approach will enable it to better manage and control the river's water resources, rather than allow a power company to control releases.

New York has opposed the idea of having SRBC purchase and resell water storage rights at Cowanesque. Although New York does not question SRBC's power to allocate the basin's water resources, it does not want SRBC to assume control over water rights at any location. New York's

primary argument is that SRBC's water marketing could set a precedent contrary to the State's riparian rights doctrine. 1/ Despite New York's opposition, SRBC voted at its May 1980 meeting to amend the comprehensive plan and adopted a water supply management policy. The policy directs SRBC to make all necessary commitments to acquire water rights and manage water supply storage available in public or private storage reservoirs in the basin.

OTHER MAJOR PROBLEMS FACING THE BASIN  
WHICH THE COMMISSION IS ADDRESSING

Although its water resources are relatively abundant, the Susquehanna River Basin does have problems such as floods, localized pollution from mine drainage, and potential water supply shortages as discussed earlier. According to several State water resource officials, these problems do not appear to require immediate solutions since the river basin is still underdeveloped from an urban and industrial perspective. However, SRBC is working to meet the basin's future water needs. Pennsylvania's Associate Deputy Secretary for Resources Management contrasted the Delaware and Susquehanna basins by characterizing the Delaware as a "problem basin" and the Susquehanna as an "opportunity basin."

Floods pose a problem for the basin

Like the Delaware commission, SRBC was faced almost as soon as it was organized with an emergency resulting from a serious flood. Therefore, much of its activity has focused on flood plain management and control. Much of the Susquehanna River Basin is highly vulnerable to flood damage. Record floods have occurred in most locations in the basin in at least one of the following years: 1889, 1935, 1936, 1946, and 1972. The worst occurred in 1972, 2 years after the commission was established. Since then SRBC has been mapping the basin's flood plains under contracts, first with the Department of Housing and Urban Development, and now with the Federal Emergency Management Agency. As an outgrowth of the mapping program, SRBC has been producing special reports pertinent to flood plain management in selected communities. It has also been working to improve the basin's flood forecasting and warning activities. These efforts have achieved some success, but the commission believes much remains to be done in the overall area of flood damage reduction.

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1/A system of water law under which owners of land along banks of a stream or waterbody have rights to use its waters.

Water quality is generally good, but acid mine drainage pollutes streams

The water quality of the Susquehanna River Basin is generally good. Acid mine drainage from coal mining activities is the major water pollution problem. This occurs when acid water drains from abandoned mines, which in extreme cases causes the streams to turn yellow and stops all biological activity. Stringent laws and regulations have drastically reduced the impacts from active mining operations, but abandoned mine discharges continue to degrade many streams, affecting about 250 miles of the Susquehanna River system. Mine drainage abatement activities are reducing the effects of mine drainage, but according to commission officials, the improvement is not sufficient to meet water quality standards in the foreseeable future. They cite the high cost of abatement activities and the number of drainage sources as major factors hampering future improvement.

COMMISSION'S FUTURE EFFECTIVENESS  
MAY BE THREATENED

SRBC is experiencing a revenue shortfall which may threaten its effectiveness. According to State officials, New York has failed to pay its share of the commission's budget for several years because of cutbacks at the State level. In fiscal years 1978 and 1979 it paid \$125,000 (62.5 percent of its share) and in fiscal year 1980 paid \$200,000 of its \$210,000 share. For fiscal year 1981 New York budgeted \$200,000, \$10,000 short of its agreed-upon share. Since New York State has failed to meet its share for several years and reduced its 1981 share, the Federal Government believed that it should not contribute more than the lowest signatory party's contribution. Therefore, the President's 1981 budget requested only \$200,000 of the \$210,000 Federal share.

While the revenue shortfalls to date have been absorbed by economy and efficiency measures, the commission's future financial stability could be threatened if below-normal contributions from members continue. The commission has no independent source of revenue. Like most interjurisdictional agencies, the commission looks to its members for financial support of all authorized and approved activities.

Originally a strong supporter, New York State has changed its attitude toward SRBC and DRBC. New York State water resource representatives go so far as to question the need for these types of commissions. Even though both rivers originate in New York, they believe most of the benefits accrue to the other States which, in New York's

opinion, dominate the commissions. Moreover, they believe New York State will not be able to continue funding the commission as it has in the past and will in the future limit its share to the amount of benefits received.

## CHAPTER 4

### CONCLUSIONS AND AGENCY COMMENTS

#### CONCLUSIONS

The Delaware and Susquehanna River Basin Commissions were created to provide a coordinated, comprehensive regional approach to interstate water problems. Although the commissions have not yet proven to be ideal remedies for settling water controversies, they are useful mechanisms for planning and managing river basin operations. They provide a forum for handling problems and taking advantage of opportunities across State boundary lines on a regular, systematic basis. They also contribute to consistency in water resources management throughout their respective basins and provide each basin State with a voice on interstate matters. The commissions can act in some cases when a member party cannot--for example, allocate water during a drought.

Many of the issues, such as water allocation and adequate water supplies, that the commissions are attempting to solve are complex, controversial, and affect a vital need of member parties. While no easy solutions exist to these problems, the commissions continue to work toward meeting the basins' water needs. Their progress has been slow, but no further interstate litigation has resulted.

The States rate high marks for initiating the compact arrangement and committing themselves to working through a regional river basin commission. In retrospect, it seems extraordinary that they all consented to bind themselves together with the Federal Government to a 100-year agreement during which majority or three-quarters vote would determine most water policies and decisions in the two basins. In forming such a compact, the States sacrificed some of their individual prerogatives for 100 years to give an administrative entity the authority to jointly exercise sovereign powers over the basins' water resources for the common interest of the regions' people. However, there may be some reservations about this commitment, as discussed below.

The future effectiveness of the commissions will depend to a great extent on the members' willingness to support and fully participate in them. At least one member--New York--is questioning its involvement in the commissions, believing that the benefits received from participation are less than its financial contribution.

As a result, New York has in several years contributed less than its agreed-upon financial support. For the first time, in fiscal year 1981 the Federal Government reduced its contribution to the Susquehanna commission's budget. Should this trend continue and/or other signatory parties elect to restrict their mutually agreed-upon financial support, the commissions' future programs will probably be affected and so will their ability to deal with basinwide problems. To overcome future revenue shortfalls, the commissions will be challenged to show convincingly to their members, as well as to the public, the value of their programs and/or the adverse effects if the programs are not funded sufficiently.

The commissions were established as a result of differing circumstances. The Delaware commission was founded after major interstate water controversies had developed and the Susquehanna commission before such controversies developed. Both commissions had laudable goals: encourage and provide for the planning, conservation, utilization, development, management, and control of the basins' water resources.

The initial reason for forming the Delaware compact--to settle existing water disputes--is still valid. The commission has not been able to reach agreement on apportioning water in times of drought. However, the parties to the Supreme Court decree now agree that it is no longer a workable document for dealing with future droughts. At the commission's urging, the parties are reassessing the diversion and release requirements of the decree through face-to-face negotiations. If unanimous agreement can be reached on these requirements, litigation may be avoided and a major purpose for creating the commission would be achieved.

Controversies over competing water needs and project construction have also hampered the Delaware commission's efforts to develop a complete basinwide management plan. Through a level B study the commission has more clearly defined the basin's major issues and developed alternatives to addressing them. We believe this action is a step in the right direction; however, the benefits from this effort will not be fully realized until the parties have agreed on a plan which clearly identifies the actions needed to meet the river basin's future water needs and have implemented the plan.

Lacking serious interstate water problems, being relatively underdeveloped, and having an abundant water supply, the Susquehanna River Basin presents organizations



charged with planning and managing its water resources with both an opportunity and a challenge. The existence of a commission affords the opportunity to meet future water demands and resolve conflicts among competing needs when water may be less abundant. If there were no commission or compact, it would have to be invented, at least on an ad hoc basis, to deal with major catastrophes such as droughts or floods. In our view, the cost of such a commission should not necessarily be measured against current benefits but must be weighed against long-term benefits and risks.

The SRBC members' challenge is to work together to solve problems as they may occur. The nature of the commission depends on the desire of the parties to use it as the water resource agency of the basin. Without this commitment, it appears that the commission will wither, and the States would have to individually plan and manage the basin's water resources, with a probable sacrifice of coordination and a less effective use of the basin's water resources.

The Delaware River Basin Commission is currently faced with decisions affecting the basin's future. The Susquehanna River Basin Commission may be faced with similar decisions in the future. Reaching agreements within the commission framework may be slow and time consuming, but it is preferable to litigation. With this in mind, the States and the Federal Government will be challenged to find the best means for encouraging, supporting, and working through the commissions for the mutual benefit of their respective river basins.

#### AGENCY COMMENTS

Comments on the report were requested from the Secretary of the Interior and the States of Pennsylvania, Maryland, New York, Delaware, and New Jersey. None of the comments required us to modify our conclusions, although we made suggested changes in the body of the report where appropriate.

The Secretary of the Interior, speaking also as the Federal member of the two commissions, stated that the report is a fair assessment of the problems the Delaware and Susquehanna River Basin Commissions face. The Secretary of the Interior also said that these two commissions are valuable tools for planning and managing river basin operations. Maryland believes that the Susquehanna River Basin compact is of great value and that continued strong support of the compact by the Federal Government is

important and highly desirable for all interests involved. Pennsylvania commented that the report is a very accurate assessment of the commissions and offered some specific comments. (See apps. I, II, and III.)

New York State said that it was disappointed with the general conclusions reached in the report and regretted that its concerns were inadequately addressed. We believe that we adequately addressed New York's views on pages 17 and 25. These views were obtained from the Governor's appointed alternates to the Delaware and Susquehanna commissions. (See app. IV.)

Delaware stated that it did not have any comments at this time. New Jersey did not comment.



## United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

JAN 2 - 1981

Mr. Henry Eschwege  
Director, Community and Economic  
Development Division  
General Accounting Office  
441 G Street, N. W.  
Washington, D. C. 20548

Dear Mr. Eschwege:

This is in response to your letter of December 3 enclosing the draft General Accounting Office report on "Federal-Interstate Compact Commissions: Useful Mechanisms for Planning and Managing River Basin Operations."

This report has been reviewed by the United States Commissioners of the Delaware and Susquehanna River Basin Commissions. Minor editorial changes were discussed with your staff and are to be included in the final report. The report is a fair assessment of the problems the Commissions face, and we appreciate having had the opportunity to review it prior to publication.

We, too, feel that these two existing Federal-Interstate Compact Commissions are valuable tools for planning and managing river basin operations.

Sincerely,

A handwritten signature in cursive script that reads "Cecil D. Andrus".

Cecil D. Andrus  
Secretary of the Interior, and  
Federal Member of the  
Delaware and Susquehanna River  
Basin Commissions



STATE OF MARYLAND  
EXECUTIVE DEPARTMENT  
ANNAPOLIS, MARYLAND 21404

SAMUEL W. BOGLEY  
LT. GOVERNOR

January 6, 1981

Mr. Henry Eschwege  
Director  
United States General Accounting Office  
Washington, D. C. 20548

Dear Mr. Eschwege:

In the absence of Governor Hughes from the State, I wish to acknowledge and thank you for your letter of December 3, 1980 enclosing two copies of your proposed draft to the Congress. Maryland is pleased with the positive tone and favorable findings in the draft entitled "Federal-Interstate Compact Commissions: Useful Mechanisms for Planning and Managing River Basin Operations."

The great value of a Susquehanna River Basin Compact to its participants, to the people of the Basin and to the general public, has been recognized by the State of Maryland prior to the Compact's being established by its signatories on December 24, 1970.

In a statement delivered to the Congress on September 30, 1970, former Governor J. Millard Tawes said, in part:

"Only a small portion of the Susquehanna River Basin is in Maryland, but its significance to my State is not to be measured by the length of the river or the size of the drainage area within our boundaries. We are the downstream State. The quantity and quality of the waters that reach us are of vital concern to downstream use and to the Chesapeake Bay into which the river empties.

". . . A major element of the Compact--the major element to Maryland--lies in its potential capacity to guide the inevitable, future development of the region in such a way as to preserve and to enhance the quality of the environment.

". . . The choice we have is between fragmented, unplanned, duplicative, wasteful development, on the one hand, and an orderly, coordinated, planned development, on the other hand. The Susquehanna River Basin Compact offers us an opportunity to exercise the latter option.

Mr. Henry Eschwege

-2-

January 6, 1981

" . . .The Susquehanna Compact pledges specifically that, in planning the development and use of the water resources of the basin, there be taken into--and I quote from the Compact--'consideration the effect of the plan upon the receiving waters of the Chesapeake Bay.' It is our intention that this requirement be observed."

Intergovernmental cooperation is the fabric, and governance of Chesapeake Bay is the pattern which have long guided our work effort in the Susquehanna River Basin as well as in the Potomac River Basin. The pattern of Chesapeake Bay governance is to provide for the protection of the Bay's precious resources by:

1. Establishing a Maryland-Virginia partnership for governing the affairs of Chesapeake Bay proper (this was recently achieved through the establishment of the Chesapeake Bay Commission and the Bi-State Working Committee on Chesapeake Bay);
2. Strengthening Maryland State government to provide for unified direction and coordination of Chesapeake Bay affairs which is carried out presently through the coastal zone management activities of the Tidewater Administration of the Department of Natural Resources;
3. Making the Federal-State compacts on both the Susquehanna River and Potomac River pay greater dividends in terms of the Bay. (On the Susquehanna River, the Basin Commission is actively involved in the relicensing of the four hydro-electric dams in the Lower Susquehanna River, and in controlling the operations of these dams which directly affect the Upper Chesapeake Bay);
4. Tying Maryland and Virginia institutions of higher learning closer together and coordinating their research activities through the Chesapeake Research Consortium, which has been accomplished to a great extent; and
5. Permitting a strong, well-coordinated Federal research program aimed at increasing our fundamental knowledge of the Bay. (Recent action by Congress established the Chesapeake Bay Research Coordination Act which is intended to achieve coordination of Federal research in the Chesapeake Bay area).

The preceding comments are intended to convey the extent and determination of commitment by the State of Maryland in the protection and wise management of Chesapeake Bay and its resources through all available means including inter-governmental cooperation in the work of the Susquehanna River Basin Commission, the Potomac River Basin Commission and the Chesapeake Bay Commission.

APPENDIX II

APPENDIX II

Mr. Henry Eschwege

-3-

January 6, 1981

I therefore believe that continued strong support by the Federal government of the Susquehanna River Basin Compact is important and highly desirable for all interests involved. Such support must include a continuing commitment to the goals of the Compact, encouraging an effective and productive relationship among the signatories and providing requisite financial contributions.

Again, we thank you for giving us the opportunity to comment on the proposed draft.

Sincerely,



Lt. Governor



COMMONWEALTH OF PENNSYLVANIA  
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Office of the Deputy Secretary  
Resources Management

Henry Eschwege, Director  
Community and Economic Development  
Division  
U. S. General Accounting Office  
Washington, D. C. 20548

December 23, 1980



In reply refer to  
RM

Dear Mr. Eschwege:

Governor Thornburgh has asked me to respond to your December 3, 1980 letter requesting comments on the draft GAO Report entitled "Federal-Interstate Compact Commissions: Useful Mechanisms for Planning and Managing River Basin Operations." As you may be aware, I currently serve as Governor Thornburgh's Alternate Commissioner to both the Delaware and Susquehanna River Basin Commissions.

We want to thank you for the opportunity of reviewing the draft Report. In general, the Report is a very accurate assessment of the past achievement, present challenges and future opportunities of the Delaware and Susquehanna Commissions. Despite the relative brevity of the Report, virtually all of the major issues confronting DRBC and SRBC are well highlighted, and discussed in a fashioned which is both clear and understandable even for those readers who are not familiar with the subject. Although we have a few comments and minor corrections, overall we wish to commend your staff for development of an excellent report.

Our specific comments are as follows:

1. In the digest, page ii, a more accurate description of the most critical issue facing DRBC might be stated as follows: "The most critical issue facing decision makers is the development of arrangements to allocate interstate waters in managed streamflows during future droughts. Solutions will almost inevitably involve adjustments to water rights previously established by a United States Supreme Court Decree, whose provisions cannot be met under severe drought conditions."
2. On pages 1, 14, and 20, the Susquehanna River Basin is described as "underdeveloped." The use of this term implies a value judgment that the Susquehanna Basin has not received its fair share of population or industrial development, and should be the target of future growth to achieve a "proper" level of development. While the Susquehanna Basin may have substantial room for new residential, commercial, and industrial development,

[GAO NOTE: Page references may not agree with those in the final report. Changes suggested in comments 2, 3, 5, 7, 10, 12, and 16 were incorporated. Comments 1, 4, 6, 8, 9, 11, 13, and 14 provided additional information or did not, in our opinion, otherwise require any changes. The issue in comment 15 was not raised by State or Federal officials during our fieldwork, but we have, however, brought the matter to the attention of the alternate Federal member.]

Henry Eschwege, Director

- 2 -

December 23, 1980

the Basin does serve a number of important economic functions despite its low density of population. The Susquehanna watershed is a major agricultural food and fiber producing area in the Eastern United States. Its vast forestry sources provide supplies vitally needed for furniture, paper and pulp industries. As noted in the report, the Susquehanna is a major center of energy production. A more accurate description of the Susquehanna River Basin might be a watershed with low population densities and relatively undeveloped from an urban and industrial perspective.

3. The statement on page 2 that an unanimous vote is required by the Compacts for declaring a state of emergency and approving a budget is not accurate. In the Delaware River Basin Compact, only a declaration of an emergency which affects rights provided under the 1954 Supreme Court Decree requires an unanimous vote of the Commission. (See Delaware River Basin Compact, Section 3.3 (a).) A declaration of an emergency under Article 10 of the Delaware Compact or Article 11 of the Susquehanna Compact does not require unanimous vote. Under both Compacts, adoption of a current expense in Capital Budget does not require unanimous vote, but an unanimous vote of the Commission is mandated for the apportionment of expenses among the signatory parties. (See Delaware Compact, Section 13.3 (b) and Susquehanna Compact, Section 14.3 (b).)
4. On page 6, it may be worth noting that the DRBC Level B Study was only one of a number of efforts undertaken simultaneously by the Delaware Commission and its members to address the major water management problems in the Basin. Concurrent with Level B, the Basin Commission undertook a detailed groundwater study, and in cooperation with the Army Corps of Engineers and the States, DRBC expended considerable effort on development of a dynamic salinity model for the Delaware Estuary and reservoir operations model for entire Basin. Data from these efforts has proven vital as key inputs to the Level B Study, in order to develop a truly workable and effective plan.
5. At the top of page 9, the Report notes that in the mid 1960's DRBC declared a water supply emergency and invoked its authority under the Compact to alter release rates provided under the Supreme Court Decree. In fact, DRBC altered both diversion and release rates under the Decree during the 1960's drought.
6. At the bottom of page 9, the statement is made that the parties to the 1954 Decree "are attempting to quantify reduction in diversion and release requirements of the Decree." A slightly more accurate description is that the parties are attempting to develop a phased drought management plan, to provide stepped reductions in diversion and release rates at various stages of a future drought.



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7. In describing the subject matter of the current "good faith" negotiations on page 10, a fair listing might include the re-negotiation of diversion and release requirements under the Decree, drought emergency plans for conservation measures and reservoir operations, the scheduling of new storage projects and allocation of water among the States from current resources as well as new reservoirs, as well as related issues. The good faith negotiations are not simply limited to drought management, but the entire range of interstate water issues confronting the parties to the Decree.
8. At the bottom of page 10, some explanation may be needed regarding why DRBC is not placing primary emphasis on conservation measures to meet the projected need in a future drought. Most discussions of conservation measures refer to the potential of water conservation in residential and industrial facilities, including for example, installation of water-saving plumbing devices and leakage control measures. Most of these "popular" conservation measures are addressed to non-consumptive water uses, that is, those uses which withdraw water from a river and, after use in a home or industry, return the water back to the river. In the Delaware Basin, conservation measures applied to non-consumptive uses yield very little, if any, benefit. These conservation efforts merely reduce both the level of withdrawal and the amount of water returned, yielding no net increase in river flow. As a result, such conservation efforts are not an effective method of addressing the streamflow and salinity control problems confronting the basin. Only conservation measures addressed to out-of-basin diversions and in-basin consumptive uses will have any measurable impact. Studies conducted by DRBC indicate that even with a ten to twenty percent reduction of in-basin consumptive uses, the net increase in river flow to assist in salinity would be less than one-half to one-fourth the yield of a moderate-sized reservoir project. At the same time, in order to reduce industrial and power plant consumption by that amount, it appears that production levels in the affected industries will have to be reduced, potentially resulting in increased unemployment and some economic dislocation.
9. On page 11, we would suggest that the statement "groundwater overdrafts need to be reduced," might be expanded to include "an alternative supply must be developed to provide conjunctive management of ground and surface water sources."
10. In the middle of page 12, it is noted that DRBC has initiated action to declare a "groundwater protected area" in southeastern Pennsylvania. The declaration of a groundwater protected area was adopted by the Commission in October, 1980, and the protected area program will become effective on January 1, 1981.

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- The groundwater protected area regulations provide for intensive regulation of new groundwater withdrawals within the designated territory, and establishes special provisions aimed at protecting existing users and encouraging the application of conservation measures and leakage control programs.
11. In addition to the groundwater problems in southeastern Pennsylvania, DRBC confronts a major overdraft problem in the Potomac-Raritan-Magathy aquifer in southcentral New Jersey. Almost all the drinking water supplies in the Camden-Burlington area rely on groundwater withdrawals. These withdrawals are now so extensive that a cone of depression has developed which actually induces recharge from the Delaware River into the aquifer. Almost one half of the aquifer recharge now comes from the Delaware River during normal periods, and in a drought the level of recharge from the river rises to almost 85%. Because of the threat of salinity intrusion being induced from the estuary in the aquifer, New Jersey is also planning to develop a surface water intake system upstream of the salinity-impacted zone of the estuary in order to supplement supplies in the heavily-populated urban area located along the river.
  12. We were somewhat surprised by the statement on page 13, "The signatory parties have to date opposed giving the staff the authority to develop independent funding sources, such as issuing bonds." While both Compacts provide for the issuance of bonds, this funding vehicle appears limited to the financing of capital projects. The floating of bonds is not an authorized or appropriate method of funding the operating budget of a river basin agency. At the same time, both Commissions have been attempting to explore the possibility of other independent financing vehicles. Unfortunately, both Compacts are less than clear regarding the authority of the Commissions to impose fees or charges on water users, or to levy a water tax to fund regular Commission operation. We do believe that the member governments have an obligation to fund the Commissions, but at least Pennsylvania is not opposed to development of an independent funding source if such can be founded on a firm, legal basis.
  13. We must note an irony regarding the statement on page 13 by New York's Alternate Commissioner to DRBC that New York State intends to limit its future funding to "the amount of benefits the State receives from belonging to the DRBC." The fact is that New York City is the largest user of Delaware Basin waters. Indeed, New York City diversions from the Delaware Basin exceed the total of all in-basin consumptive uses by power plants, industries, municipalities and agriculture. New York City receives almost one half of its municipal water

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supply from the Delaware. The value of that water to the state of New York, in both economic and social terms, far exceeds the relatively limited contribution demanded by the River Basin Commission.

14. Regarding the discussion of NEPA funding from the Federal Government, it should be noted that the preparation of environmental impact statements by the Delaware Commission reduces the demand on other Federal agencies to prepare such statements regarding projects which are subject to both DRBC and other Federal regulations. Because of DRBC's broad background in water resources and environmental issues, and its cooperative arrangements with the member states, preparation of environmental impact statements by DRBC can often be carried out with less staff in funding than might be demanded by some Federal agencies. This view has been confirmed by representatives of several Federal agencies which cooperate with DRBC, including the Army Corps of Engineers and EPA.
15. The discussion of the Susquehanna River Basin Commission seems to overlook one of the major issues which has demanded a great deal of Commission attention in recent years, that is, the relationship of SRBC and the Federal Energy Regulatory Commission in the regulation of operations at major hydroelectric facilities along the lower Susquehanna. Although the Susquehanna Compact establishes SRBC as the comprehensive river basin planning and management agency for the region with a broad, multipurpose perspective, FERC has been surprisingly reluctant to accept and follow SRBC's requirements for the modification of hydroelectric project operations in the public interest. During recent relicensing proceedings before FERC, the Susquehanna Commission (along with the fishery and resource management agencies of the states, and the Fish and Wildlife Service) attempted to impose conditions requiring minimum schedules of releases from certain hydroelectric dams, and the installation of fish passage facilities to restore the anadromous fishery in the river. In doing so, SRBC was attempting to apply provisions of its comprehensive plan which had been adopted with the full support and concurrence of the Federal member (see Susquehanna River Basin Compact, United States Reservation (r) 2.) Despite language in the Compact appearing to bind Federal agencies to the provisions of the Basin's comprehensive plan when adopted with the concurrence of the Federal member, FERC continues to take the position that it may accept or reject, at its sole discretion, any requirement imposed by SRBC. This posture taken by SRBC appears to exemplify that the very problem of "duplicating, overlapping and uncoordinated administration" by single-purpose agencies led to the creation of the Federal-Interstate Compacts. If one or more such single-purpose Federal or State agencies can, at will, disregard or

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set aside the comprehensive plans and policies developed by the Federal-Interstate Commissions, the power of both SRBC and DRBC to provide for balanced, multipurpose management of water resources will be placed in serious jeopardy.

16. Finally, on pages 17 and 20, reference is made to "Pennsylvania's Associate Deputy Commissioner for Water Resources." My current correct title is Associate Deputy Secretary for Resources Management or Alternate Commissioner to DRBC and SRBC.

Once again, we would like to thank you for the opportunity to review the draft Report. Your staff has clearly put a great deal of work and thought in this effort. We look forward to seeing the final Report when it is published.

Sincerely,



R. Timothy Weston  
Associate Deputy Secretary  
for Resources Management

STATE OF NEW YORK  
EXECUTIVE CHAMBER  
ALBANY 12224

HUGH L. CAREY  
GOVERNOR

January 19, 1981

Dear Mr. Eschwege:

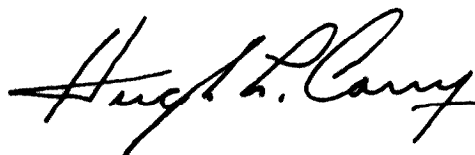
We have completed our review of the proposed draft report on Federal-Interstate Compact Commissions for the Delaware and Susquehanna River Basins.

We are disappointed with the general conclusions reached in the report and particularly regret that the legitimate concerns of New York State were inadequately addressed although my alternates to the Commissions made themselves available to your staff. While these Commissions have a legitimate coordinative role that is of value to the member states, New York as the headwaters State is not interested in having any Commission actually managing the water resources in New York. We simply do not need another layer of bureaucracy to impede our management efforts.

We will continue to fulfill our commitment to support the Compact Commissions, but our support will surely soften in the face of continued Commission actions clearly detrimental to our interests.

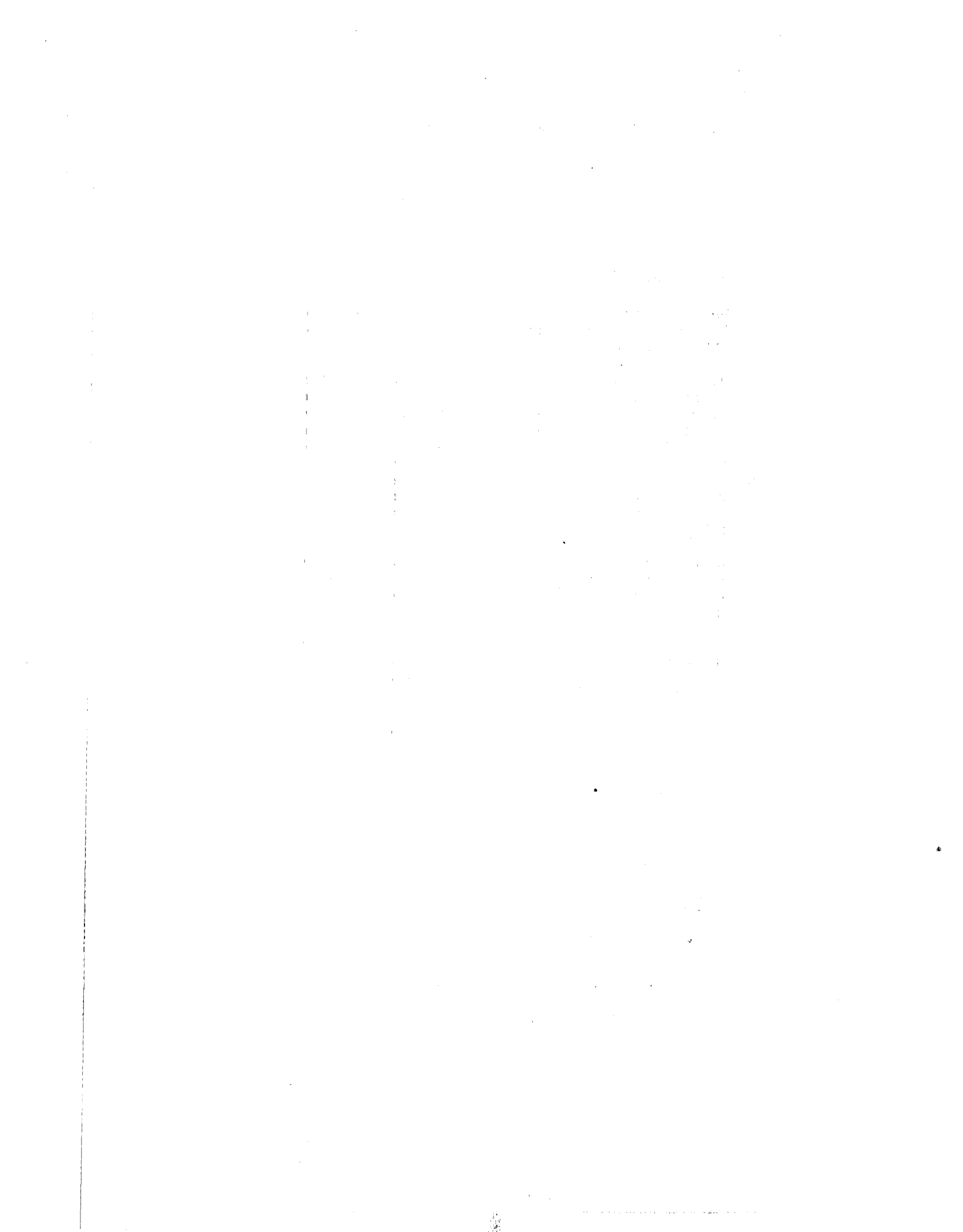
It is interesting to note that the Federal-Interstate Compact mechanism has not been used in any other river basin in the country. Clearly the Title II (non-compact) Commissions have been found to be more desirable.

Sincerely,



Mr. Henry Eschwege, Director  
Community and Economic  
Development Division  
United States General  
Accounting Office  
Washington, D. C. 20548

[GAO NOTE: We believe that we adequately addressed New York's views on our report (see pp. 17 and 25), which were expressed by the Governor's appointed alternates to the commissions. We are currently reviewing title II commissions. (See p. 5.)]





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