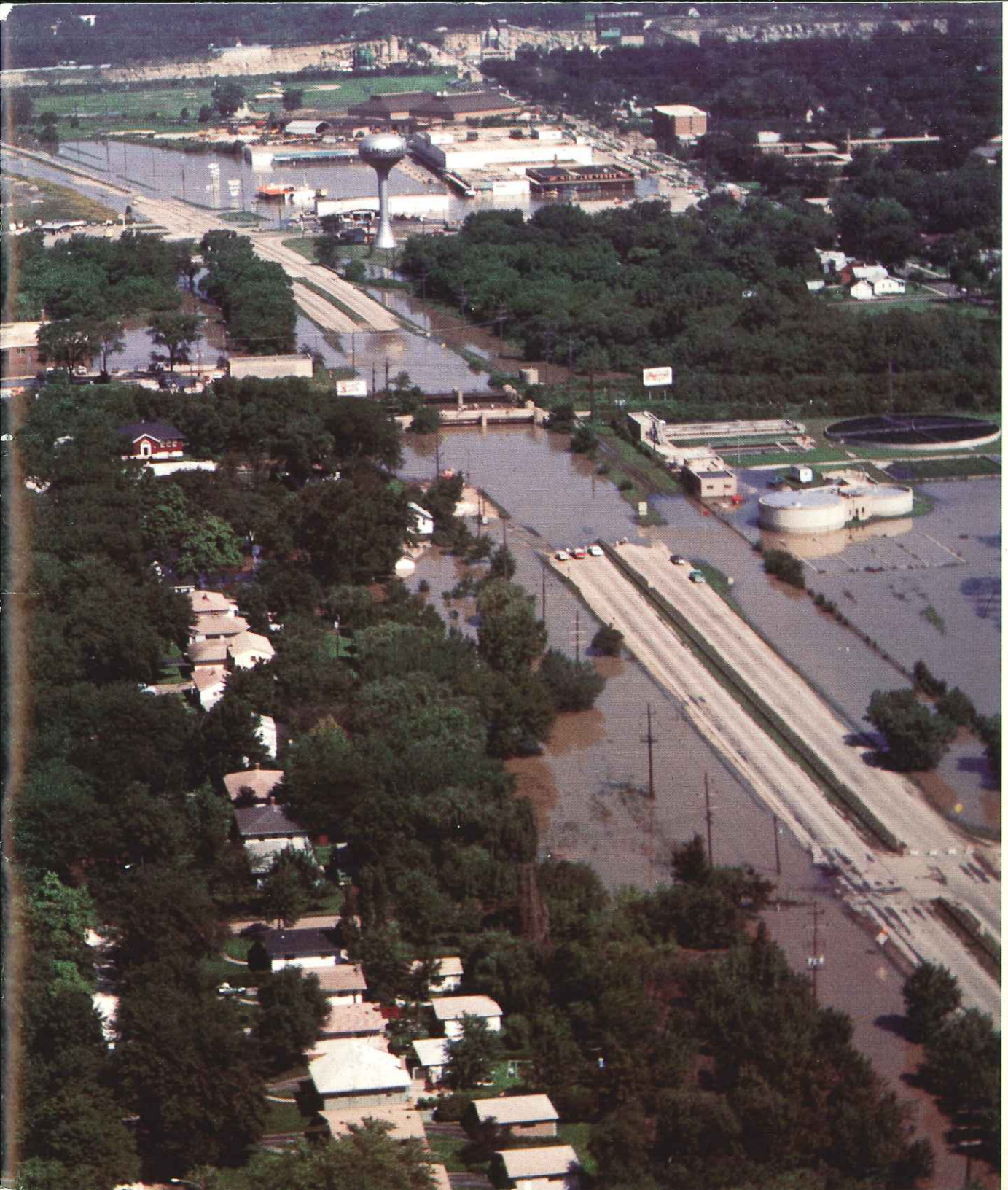


OUR COMMUNITY AND FLOODING:

A Summary Of Floodwater Management Plans For the Chicago Metropolitan Area

Prepared by United States
Department of Agriculture,
Soil Conservation Service
and Metropolitan Sanitary District
of Greater Chicago
in cooperation with
the citizens and local government agencies
of northeastern Illinois

OUR COMMUNITY AND FLOODING:

A Summary of Floodwater Management Plans for the Chicago Metropolitan Area

PREFACE

We have a problem in the Chicago Metropolitan Area—flooding.

For years, we have paved over the soft earth that held the rain and melting snow. For years, we have covered increasing amounts of land with parking lots, roof tops, and highways. With great technical skill, we have learned to channel the rain that falls on our roofs, into gutters, down rain spouts, and through storm sewers, only to have it splash as a torrent into rivers that were never designed by nature to hold such volume. As each community adds wave after wave of runoff to these outlets, the water collected so carefully rushes over the banks of the rivers and streams and causes the very problem that all our technology was supposed to stop—flooding.

Flooding is a complex problem. The muddy water that floods our homes, streets, businesses, and public buildings, comes not only from the rain that falls on our roofs, but also from sources miles away. Just as much of the rain that falls on our community is channeled away to become some other neighborhood's wet, muddy mess.

The problem is not only complex, it is also big. It's big in area, affecting all communities that make up the Chicago Metropolitan Area. The flooding problem is also big in damage, causing millions of dollars of loss annually. Since the rains will continue to come and our communities will continue to grow, the flooding problem will continue to grow, unless we find a solution.

TABLE OF CONTENTS

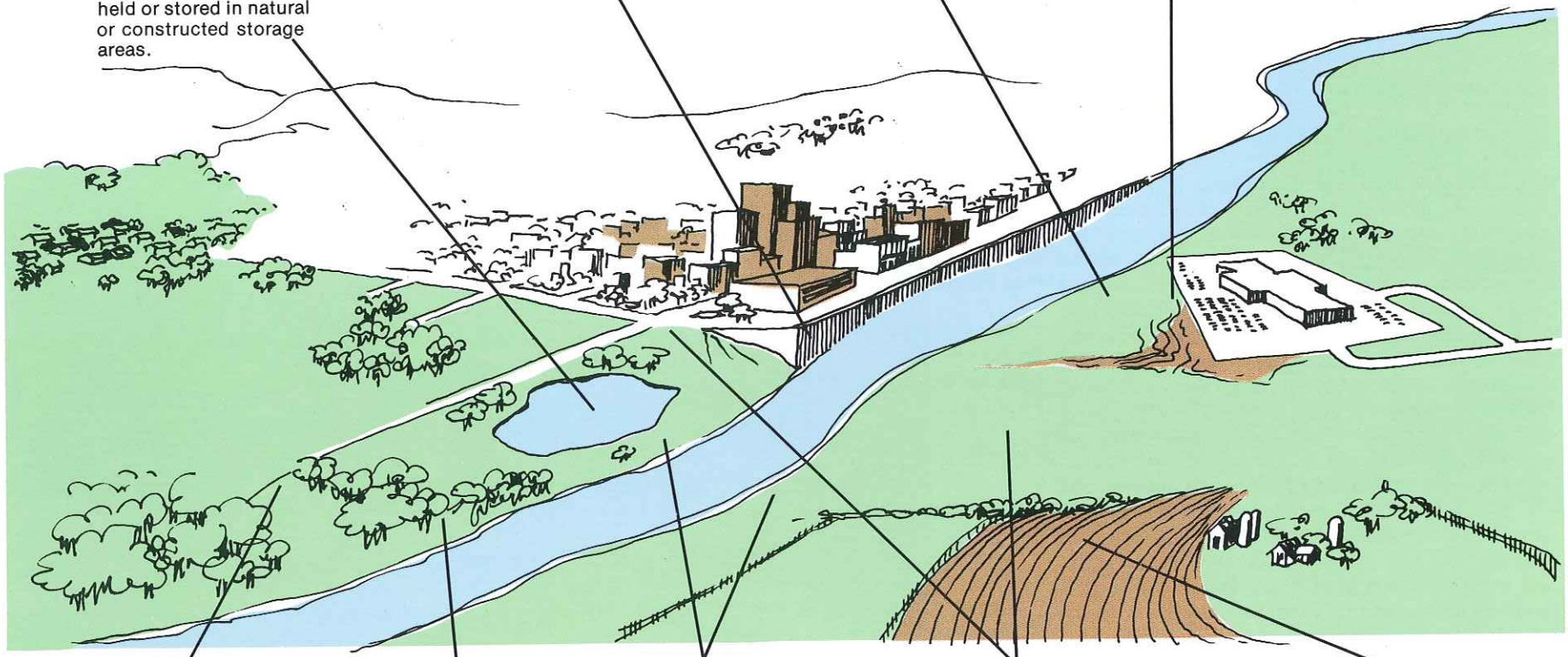
TERMS USED IN FLOODWATER MANAGEMENT

RESERVOIR
A natural or man-made site where water is collected and stored. Floodwater detention is a means of flood control whereby excessive flood flows are temporarily held or stored in natural or constructed storage areas.

CHANNEL IMPROVEMENT
Any means by which the capability of a stream or channel to contain and convey flood flows is increased.

FLOOD PRONE OR FLOOD HAZARD AREA
Those floodplains which have not been protected from flooding either by structural or non-structural means.

FLOOD PROOFING
A means of eliminating future flood losses by installing devices or otherwise modifying buildings which are subject to flooding.



FLOODWAY FRINGE
Those portions of the flood hazard areas lying outside the floodway.

FLOODWAY PRESERVE
The designation and retention of an area subject to flooding in a natural and unimproved condition so it will continue to flood but with no harmful effects.

FLOODWAY
The channel of a river or stream and those portions of the floodplain adjoining the channel, which are reasonably required to efficiently carry and discharge the peak flood flow of the regional flood of any river or stream.

FLOODPLAIN
The Area adjoining a river, stream or lake which has been or may hereafter be covered by floodwater.

EROSION AND SEDIMENT CONTROL
Means by which excessive soil loss and resultant deposition can be prevented or reduced; the term is used to apply to both the regulations and the engineering and agronomic means by which this is achieved.

SECTION 1

The Chicago Area River Basin: The Need To Study The Problem

The Chicago Area River Basin Study was begun in 1971, when the Board of Commissioners of the Metropolitan Sanitary District of Greater Chicago (MSDGC), requested the United States Department of Agriculture (USDA) to make a cooperative river basin investigation and survey of the six watersheds draining the Chicago Metropolitan Area.

Participating agencies of the USDA include the Soil Conservation Service (SCS), the Forest Service (FS), and the Economic Research Service (ERS).

On March 1, 1971, the Metropolitan Sanitary District entered into a cooperative agreement with the Soil Conservation Service to prepare a River Basin Plan under authority of Section 6 of Public Law 566, 83rd Congress, as amended—the Watershed Protection and Flood Prevention Act.

Concerned citizens joined local, state and federal agencies to investigate flooding problems in the entire Chicago Metropolitan Area. Working from a set of guidelines, every aspect of the flooding problem was investigated. All local, state, and federal programs and projects involving flood control were considered.

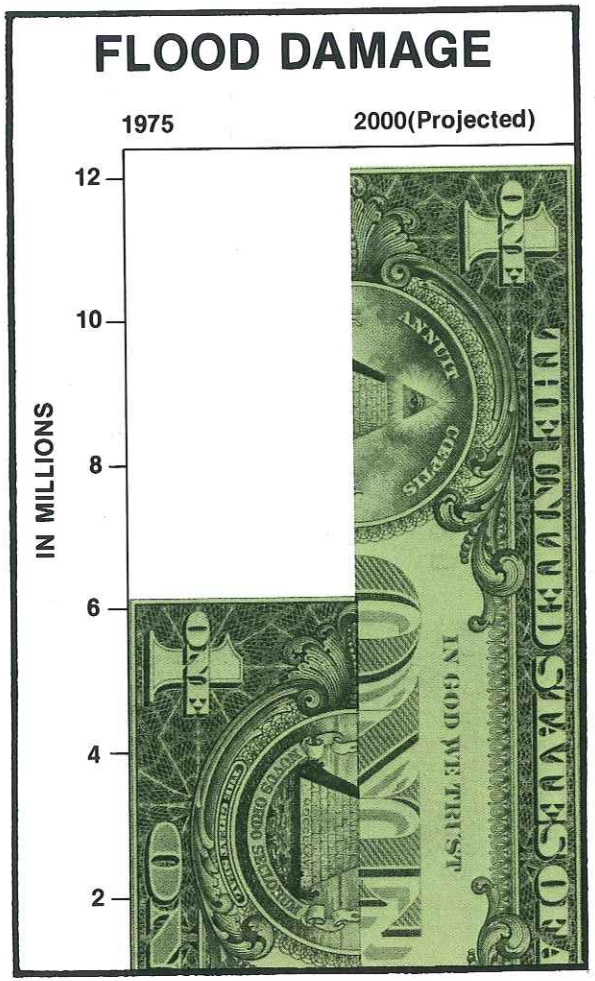
The primary goal of the study was to develop comprehensive plans to reduce existing floodwater damage. The problems and needs in each of the watersheds were considered. Programs and projects were to be developed which could be implemented in the near future.

The *Chicago Area River Basin Study* would culminate in a report that identified the type, location, scale and priority of water and related land resource developments that would meet present and future needs. The report would summarize six watershed management plans and measure their combined effect in terms of their physical, economic, social and environmental impacts.

The *Chicago Area River Basin Study* details the procedures used by the members of our communities, and local, state, and federal agencies to study, evaluate, and supply the final workable information needed to effect a solution to the flooding problem.

Our Flooding Problem: A Description

A near geometric growth rate aptly describes the alarming increase in the floodwater damage problem within the Chicago area. Current flood damage in our River Basin Area is estimated to be over $6,000,000 annually. Unless major flood control measures are installed, these damages are projected to nearly double by the year 2000, as shown in the following graph.



The flooding problem is caused by a maze of overlapping economic, social, political and physical factors. Because of this complexity, there has been until recently, little understanding of the problem.

The rapid population growth since the 1950s caused many local municipalities to urbanize areas that are natural floodplains, i.e. those areas next to rivers and streams that flood when their banks overflow. Urbanization of these areas at that time was considered sound economic and political reasoning. It was orderly growth within areas that were nearest existing water, sanitary systems, highways, storm sewers, railroads, and utility lines. As floodplains were developed, the amount of flooding and the value of losses by flooding increased.

The six watersheds in the study area have approximately 100,000 acres (40,500) hectares) of floodplain encompassing all or parts of more than 100 communities. Approximately 4.4 percent

Flood damage—the price for building in flood plains.

(33,600) of our 7.5 million population live in floodplains. This proportion is expected to increase to 5.3 percent (513,600) of the 9.76 million population projected for 2000 for the Chicago Area River Basin.

An estimated 13,200 residential buildings and 520 business, manufacturing and industrial buildings are subject to flood damage. Also affected are 10 major transportation arteries and 25 secondary traffic routes. Direct damage to highways, streets and bridges is not usually large; however, major economic losses are incurred in the form of associated damages when traffic is disrupted and homes, businesses and factories become inaccessible due to floodwaters.

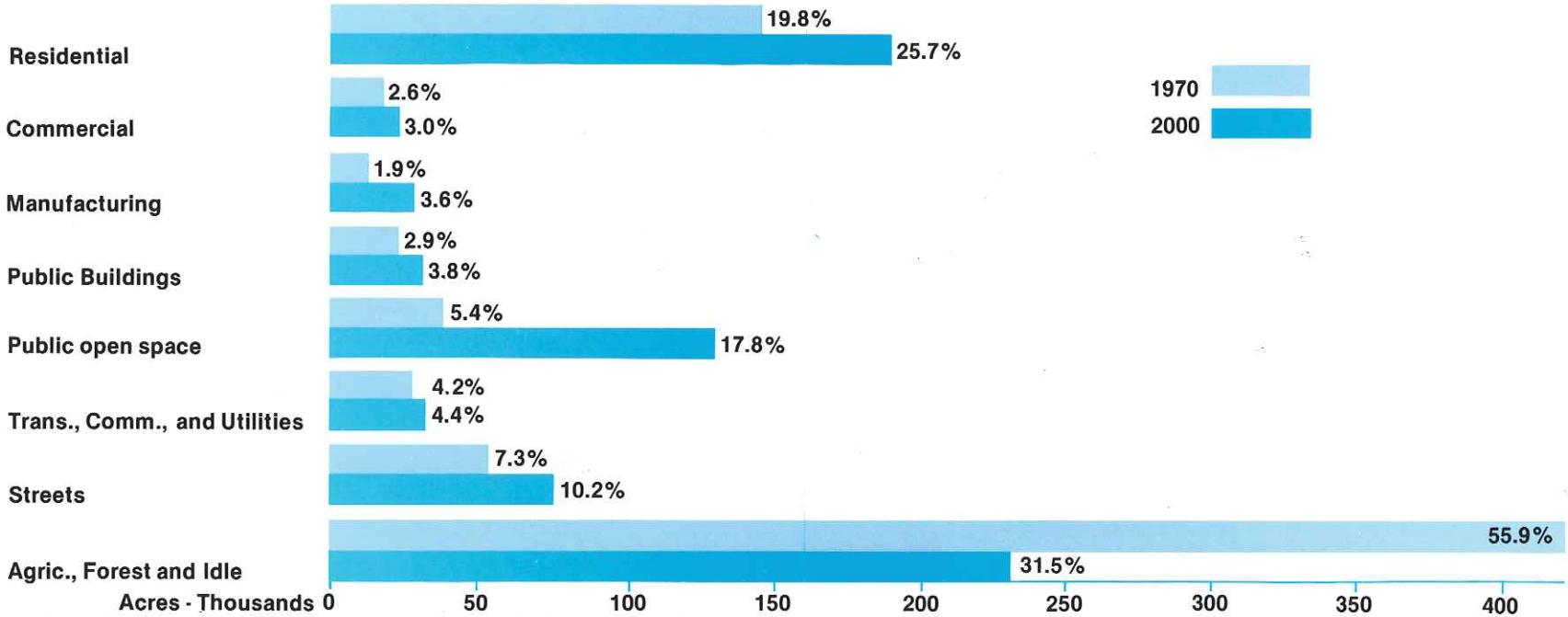
Our flooding problem is compounded because important physical factors which increase the frequency and magnitude of flooding have not been considered. An example is the development of upland areas that were either in cultivation or lay idle as swamplands and wetlands. These lands were developed with disastrous effects on their floodplain neighbors. The natural floodwater storage of the swamplands and wetlands was lost while pavements draining into storm sewers sped the increased runoff onto the floodplains. Still another example is the practice of filling floodplains to insure that planned improvements are above supposed flood-of-record elevations. This filling, however, caused the runoff to find other areas to flood, increasing flood stages.

With increased flooding, the pollution hazard has grown greater. This is because a major cause of pollution is sediment resulting from erosion on areas undergoing urban development.

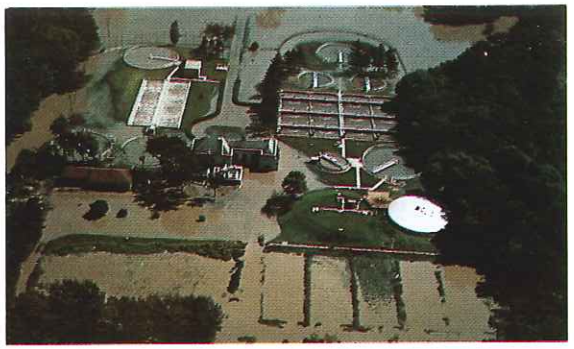
Our communities have responded to the increase in flooding by an uncoordinated, patchwork attempt to alleviate the problem on the local level. These independent efforts have often caused as many problems as they cured. A prime example of this is channel enlargement. This eases local problems in most instances but often results in increased flood stages downstream, which are more damaging than the previous upstream flooding.

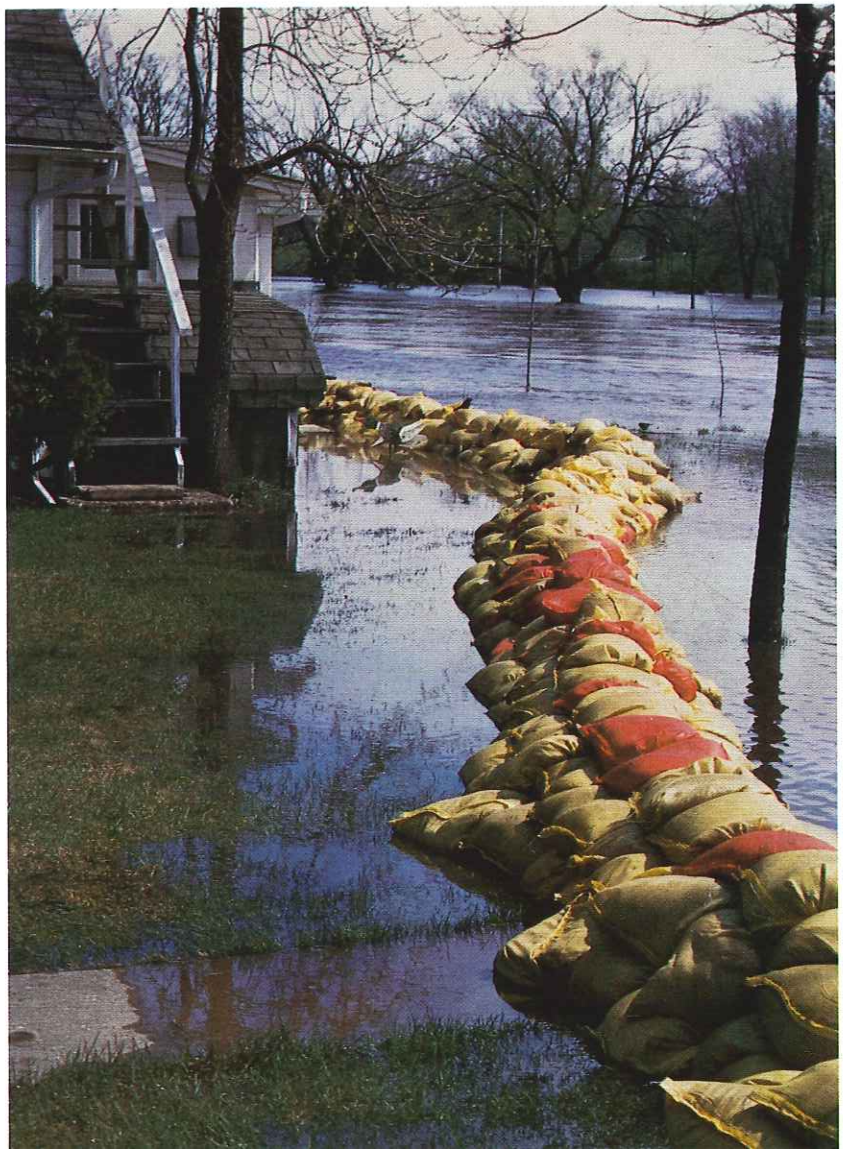
Thus, flooding and the damage it causes can only be solved or reduced by a coordinated effort of all the communities in the six watershed areas in the Chicago Area River Basin.

STUDY AREA-LAND USE

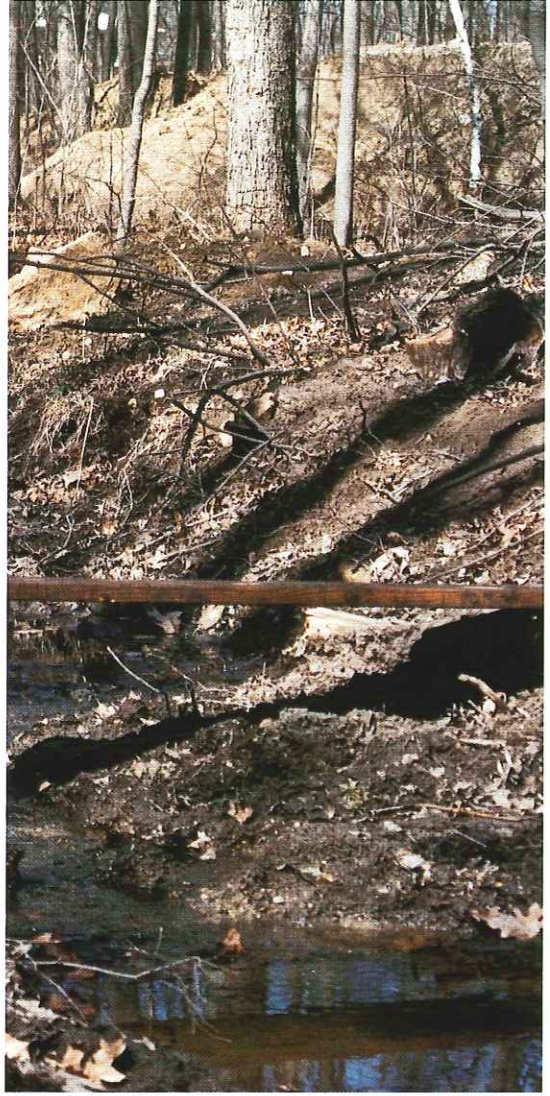


Most of the Basin's 52,000 acres of forestland is included in the two land use categories of Agricultural, forest and idle or public open space.





The changing landscape—from fields to homes or factories—often results in increased flood damages. The filling of floodplains makes for greater flood hazards, as does building in flood prone areas.
Annual flood damages to area residences total $7.1 million and involves over 13,000 homes. More than 520 businesses are affected with yearly losses of $1.9 million. In addition, traffic interruptions are estimated at approximately $2 million annually.



Erosion and sedimentation are directly related to land and water management and are not limited to rural areas. Annually, in the Chicago metropolitan area, 2.2 million tons of soil along with fertilizer and other chemicals are washed away. In a single year, a one-acre construction site can dump up to 100 tons of soil into waterways. This soil or sediment clogs streams, drainage channels, lakes and shipping canals. Water based recreation and fish habitat deteriorates as water quality is lowered by sediment.

The Chicago Area River Basin: How It Grew

To better understand how flooding became the problem it presently is, concerned citizen groups and government agencies investigated the history, development and growth in the study area.

The study area is the Chicago Area River Basin, located primarily on the southwest shore of Lake Michigan and dominated by the Metropolitan Area of Chicago. The area includes the following six watershed areas: North Branch Chicago River, Des Plaines River, Little Calumet River, Calumet-Sag Channel, Poplar Creek and Salt Creek.

The area was first discovered in 1673 by Marquette and Joliet who were forced to move their early camp because of floods. It was not claimed for the United States, however, until 1803, when Captain John Whistler established a fort at the mouth of the Chicago River. The fort was soon abandoned and no true development of the area occured until Chicago was incorporated during the 1830's.

It was during this decade that the Erie Canal was completed, opening the Great Lakes to extensive shipping. This stimulated the growth and development of the Chicago area. Economic growth was given an additional boost by the completion of the Illinois and Michigan Canal in 1848. The development of a system of mid-western railroads during the 1850s further established the area as a regional and national transportation center. By 1860, northeastern Illinois was served by fifteen railroads with 150 trains entering or leaving the area daily.

The Civil War witnessed even greater development of the area as a transportation center, especially for farm products. In 1862, over 65 million bushels of grain were shipped through Chicago terminals. The opening of the Union stockyards in 1864 served as an additional stimulus to the regional growth.

The Chicago fire occurred in 1871. Although a great tragedy, it served to revitalize the urban area and promote suburban development.

Industrial development by the turn of the century further invigorated the area's growth and attracted a substantial immigrant population. By the end of World War I, the area was clearly established as a metropolis, second only in national importance to New York City.

The first major modification of the natural drainage system in Chicago metropolitan area, was done in the late 1880s. During this period the disease and typhoid death rate was enormous and the metropolitan Sanitary District of Greater Chicago was created to protect the public. A series of canals were constructed to reverse the flow of the Chicago River. The canals carried wastes away from Lake Michigan to the Mississippi River via the Des Plaines and Illinois River systems.

A Plan of Guidelines: Study What, Find What?

The information gathered during the Chicago Area River Basin Study will be used for budget planning, land use planning, establishing priorities for the funding and early acquisition of lands. These will be needed for floodwater retarding and multiple-purpose sites, recreational areas and parks, floodways and open space preserves, and other improvements.

Because of the large scope of the study, some guidelines had to be established. These guidelines assure that the program developed would promote more efficient economic growth, sound land use, and would be consistent with overall national objectives. Through these guidelines, the information needed for potentially feasible projects and related programs would be identified.

The agencies and committees involved in the Chicago Area River Basin Study began their investigation by establishing the following set of guidelines:

1. Delineate flood prone areas and floodways; flood prone areas are those floodplains which have not been protected from flooding either by structural or non-structural means. A floodway is the channel of a river or stream and those portions of the floodplain adjoining the channel which are reasonably required to efficiently carry and discharge the peak flow of the regional flood of any river or stream.
2. Project future urbanization;
3. Evaluate the impact of urbanization on natural resources;
4. Identify improved land use conversion procedures to minimize erosion and sediment damage, that is, the means by which excessive soil loss and resultant deposition can be prevented or reduced; the term is used to apply to both the regulations and the engineering and agronomic means by which this is achieved.
5. Evaluate alternative ways to reduce flood damage such as:

a. floodwater detention (a means of flood control whereby excessive flood flows are temporarily held or stored in natural or constructed storage areas);
b. floodway preserves (the designation and retention of an area subject to flooding in a natural and unimproved condition so it will continue to flood but with no harmful effects);
c. channel improvement (any means by which the capability of a stream or channel to contain and convey flood flows is increased);
d. floodplain modification (a floodplain is the area adjoining a river, stream or lake which has been or may hereafter be covered by floodwater);
e. flood proofing (a means of eliminating future flood losses by installing devices or otherwise modifying buildings which are subject to flooding); and
f. land use regulations.

6. Develop detailed environmental resource inventories;
7. Define recreational areas within each watershed;
8. Enhance fish and wildlife habitat;
9. Evaluate the environmental impact of various recommendations and project measures;
10. Provide benefit features and cost estimates for the selected program in each watershed; and
11. Recommend ordinances, new legislation, and changes in current authorizations to facilitate the plans.

Existing Services and Programs: The Need to Study Available Programs

Several local, state and federal agencies provide services that help meet some of the needs of the study area. The programs of these agencies relieve some of the problems of flooding in the Chicago Metropolitan Area. However, some agencies are short of manpower and others lack sufficient funding. These agencies at their present levels cannot totally solve our flooding problems, but they can help.

A description of existing programs relating to the Chicago metropolitan area follows:

USDA Programs

1. ***Soil Conservation Service**** provides technical assistance through Soil and Water Conservation Districts. Officials of these districts help landowners and operators plan and carry out conservation work on the land.
2. ***Food and Agriculture Act*** (PL-87-703) authorizes the organization of Resource Conservation and Development projects to develop and carry out plans of action for the orderly use of natural resources.
3. ***The Federal Extension Service*** acts as the educational agency of the U.S. Department of Agriculture and the land grant universities. Three levels of government—federal, state, and county—share in financing, planning, and carrying out extension educational programs.
4. ***The Agricultural Stabilization and Conservation Service Program*** provides cost-sharing assistance to farmers to implement conservation practices.
5. ***The Farmers Home Administration*** provides, among many things, loans for water and waste disposal systems for rural districts and watersheds.
6. ***The Cooperative Forest Management Program*** provides technical assistance to landowners. An agreement between the Illinois Department of Conservation, Division of Forestry and the *U.S. Forest Service* makes this assistance available on a cooperative basis. Land treatment measures frequently utilized are reforestation, afforestation, timber stand improvement, grazing control, etc.
7. ***The Economic Research Service*** analyzes the effects of alternative resource plans in terms of costs, social impacts, and the natural resource base. In this study, they have provided economic and demographic data on a watershed basis and made detailed evaluations of the impacts of the selected plans among the various communities and income class levels.

*Authorized in 1935 under the Soil Conservation Act (PL-74-46). *PL-46* Programs give assistance to soil and water conservation operations. *Soil and Water Conservation Districts* and other qualified sponsors can develop group action programs with help from the Watershed Protection and Flood Prevention Act (Public Law 83-566, as amended). The Upper Salt Creek Watershed Work Plan was developed under this program. It is authorized and under construction. Summary information from this plan is presented in this report as an example of a successful, cooperative approach to implementation.

Other Federal Programs

The U.S. Army Corps of Engineers, through a series of River and Harbor and Flood Control Acts, has authority to plan and construct major reservoirs and local protection measures for flood control and to improve navigation.

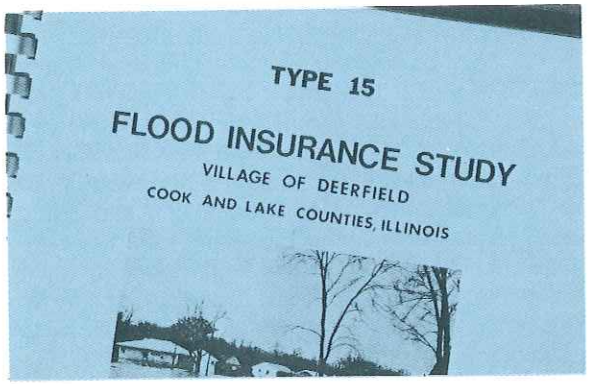
In March of 1975, the Corps initiated a study for the Chicago-South end of Lake Michigan Study Area to control overbank flooding and surface ponding in the area drained by the Des Plaines River and its tributaries and the area tributary to Lake Michigan. The study area includes much of the Chicago Metropolitan Area River Basin Study Area. Poplar Creek, the only watershed not included in the Corps' study, is part of the River Basin Study. The Corps has, therefore, agreed to give the joint study areas lowest priority so as to avoid the duplication of planning efforts.

The National Flood Insurance Act of 1968 and the ***Flood Disaster Protection Act of 1973*** created a flood insurance program now being administered by the Flood Insurance Administration of the Housing and Urban Development Administration.

The 1968 Act made federally subsidized insurance available to citizens in communities that adopt regulations controlling future development of their floodplains.

Farming practices that include contouring and terracing help manage water and reduce soil loss on cropland.

The 1973 Act makes flood insurance mandatory as a condition for any federally related financial assistance to any community or individual wishing to acquire or refinance property or build within the flood hazard area as defined by the program established in 1968.



State and Local Programs

There are a number of programs being implemented by the State of Illinois and local government agencies which have had an influence on planning in the River Basin Area. These programs involve the interception, storage, and treatment of combined sewer overflow into the rivers, floodplain regulation, temporary storage of storm water runoff, soil erosion and sediment control, and channel modification. All programs influence the stage and discharge of the rivers, and thus have an impact on planning for flood control in the watersheds.

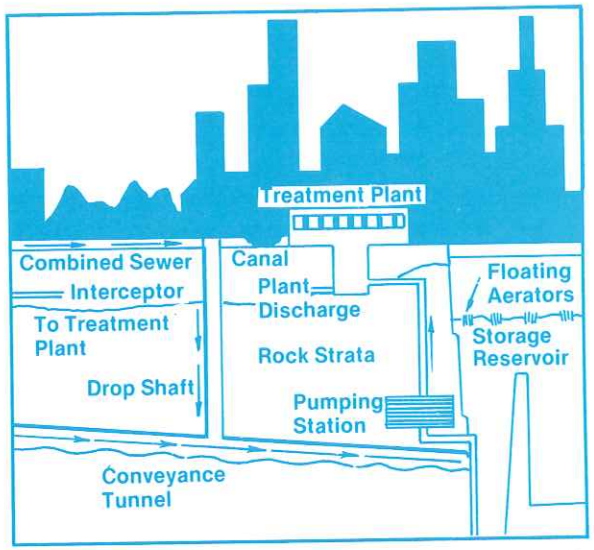
The State of Illinois floodplain regulations were implemented for the first time in the North Branch of the Chicago River Watershed in March 1975 and the Upper Salt Creek in February 1976. The regulations require that:

1. Floodplain areas be divided into floodways (that portion of the floodplain required to store and convey water); and flood fringe areas (area of floodplain outside the floodway).
2. A permit be obtained to construct within the designated floodplain area.
3. Any construction that significantly raises the stage or velocity of the 100-year design flood in the floodway is prohibited.

Tunnel and Reservoir Plan (TARP)

TARP is a plan for the collection and treatment of combined sewer overflow for the Chicago Metropolitan Area. The project will be implemented by the Metropolitan Sanitary District of Greater Chicago. Problems of flooding and pollution occurring within the rivers of the combined sewer area prompted development of the TARP program. Total cost of federally funded construction will be approximately 1.5 billion dollars.

As the metropolitan area continues to develop there is an increase in the proportion of impervious surfaces, such as roofs and pavements. These surfaces increase the storm water runoff to the watercourses. The increases have overloaded the flow capacity of the open watercourses. This has made it necessary at times for reversal of the flow in the main channels into Lake Michigan. These reversals defeat the purpose of the channel and local system constructed eighty years ago to direct the flow away from the lake.



The recommended TARP plan will collect all of the rainfall, except for the peak few hours of the most severe storms. The system will convey the overflow through a series of deep tunnels to large pit-type detention reservoirs.

Total storage capacity of the reservoirs will approximate 126,000 acre feet. The tunnel system, with diameters up to thirty-six feet, will approximate 125 miles in length. The system will serve a combined service area of 363 square miles and will entrap more than ninety-six percent of the combined sewer spillage, thereby removing over ninety-nine percent of the annual suspended solids that were formerly discharged into the watercourses. In the post storm period, the dewatering pumps will be operated to pump the stored water back to the treatment plants.

Sewer Permit Programs

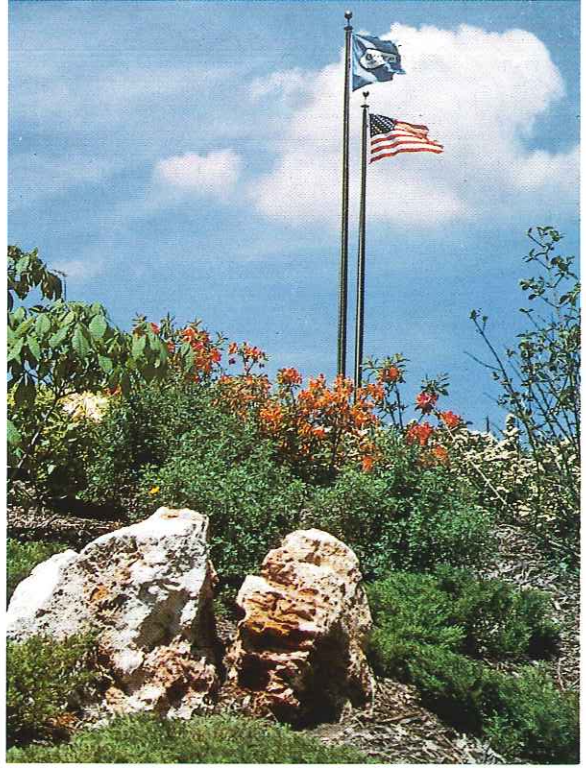
Since 1972, detention of storm water runoff requires sewer permits within the service area of the Metropolitan Sanitary District. This area includes most of Cook County. Lake and DuPage Counties have also developed similar ordinances based on the MSDGC regulations.

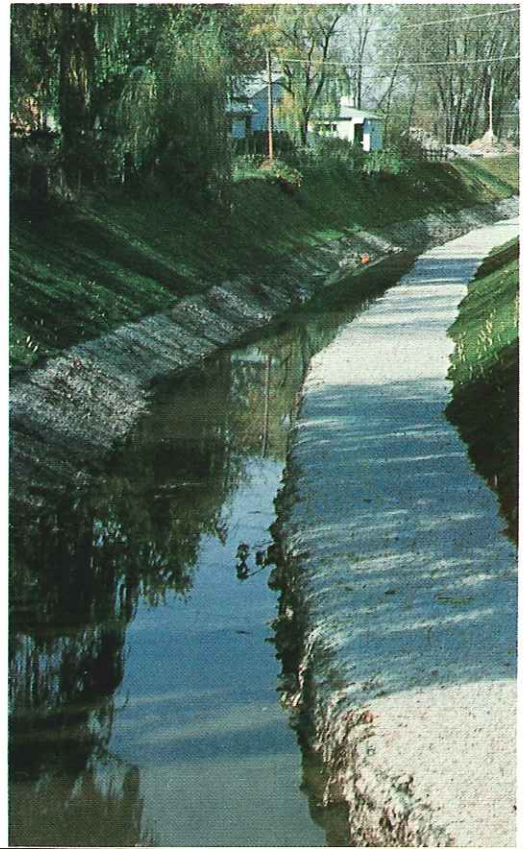
The intent of the regulations is to encourage local governments and developers to jointly provide detention storage. This eliminates excessive runoff during heavy storm periods and promotes comprehensive community wide programs for flood control. The MSDGC ordinance requires that the release rate of storm water runoff from all developments of a certain size not exceed storm water runoff from the area in its natural undeveloped stage.

The State of Illinois, the MSDGC, and local agencies have implemented a number of channel modification and reservoir programs throughout the metropolitan area to relieve local flooding problems over the years.

The MSDGC has also had a continuous program of reservoir construction since 1967, and has expended over 16.6 million dollars of its funds to provide 3,015 acre feet of flood storage in twelve multipurpose flood control structures throughout the Chicago Metropolitan Area.

A number of municipalities have enacted sediment and erosion control ordinances to achieve proper treatment of land undergoing urban development from agricultural, forest or idle land. These ordinances are aimed at preventing excessive soil erosion on developing areas.





Compatible resource use patterns are that mix of land uses which bring about a quality environment. Consideration is given converting land to a competing use, such as a change from agricultural to residential or industrial.

SECTION 2

The First Step In Formulating A Plan: Inventory the Problem and Assets

The size of the problem—the area it covers, the number of people it affects, the dollars lost, the dollars it will take to improve the situation—requires a well organized method of arriving at a set of solutions. The evaluation of the data and the formulation of the final plans were guided by the *USDA Procedures for Planning Water and Related Land Resources.* These procedures were established in March of 1974, in accordance with the Water Resources Council's Principles and Standards which had become effective October 25, 1973.

The first phase of the study consisted of developing detailed inventories in each of the study areas. These inventories specifically identify environmental and economic problems associated with land and water management. The inventories include not only the existing situation but also include projected population and future land use problems.

The environmental resource inventories identify and evaluate the following features:

1. Water quality
2. Physical descriptions of all streams and their surrounding plant life
3. Lakes and ponds
4. Open space and green space
5. Fish and wildlife resources
6. Special interest areas
7. Future conditions and how these projections will impact inventoried items.

The economic inventories provide local interests with a precise measurement of the extent and intensity of the flood damage problem in each area of the River Basin, including:

1. Identification of all residences that are subject to flooding at least once every 100 years
2. Identification of all businesses that are subject to flooding at least once every 100 years
3. Calculation of average annual floodwater damages caused by flooding residences, businesses, and obstructing traffic on major highways
4. Delineation of the 100-year floodplain on detailed two-foot contour maps
5. Identification of the 100-year flood profile
6. Implications of continued floodplain filling and build-up.

SUMMARY OF COMPONENT NEEDS

Objective	Component Needs Description	North Branch Chicago River	Little Calumet River	Des Plaines* River	Calumet-Sag Channel	Poplar Creek	Total
National Economic Development (NED)	1. Flood Damage						
	a. Damage (Avg. Ann.$)	2,994,700	3,134,000	5,647,200	164,900	124,900	12,065,700
	b. Residences (No)	1,002	6,950	4,936	175	102	13,165
	c. Businesses (No)	20	142	331	—	28	521
	2. Outdoor Recreation (Avg. Ann. User-days)	—	—	—	—	—	91,500,000
Environmental Quality (EQ)	1. Erosion Control						
	a. Agricultural Land (Acres)	—	30,000	120,000	8,000	6,500	164,500
	b. Developing Land (Acres/Yr.)	500	1,000	3,200	430	250	5,380
	2. Preservation Existing Wetlands (Acres)	300	108	10,000	310	380	— 11,098
	3. Preservation Stream Quality (Miles)	57	109	250	25	26	467
	4. Acquisition Floodplain (Acres)	800	—	5700	90	435	7,025
	5. Protection of Open Space (Acres)	—	—	222	455	—	677
	6. Natural Areas (Acres)	—	998	900	50	—	1,948

*Lower portion of Salt Creek is included here. Upper Salt Creek watershed has a plan previously completed.

A Record of What We Need: The Component Needs

To go along with the inventories, a description of the benefits that each community wanted to receive was needed. These benefits called *Component Needs*, are a list of the type, quantity and quality of desired beneficial effects.

Steering committees in each area identified the component needs insofar as possible. These component needs were then supplemented as information from detailed investigations became available.

The final component needs were determined through the combined efforts of the steering committees, the Metropolitan Sanitary District of Greater Chicago, the Illinois Division of Water Resources, and the U.S. Department of Agriculture Field Advisory Committee.

Steering Committees continued to direct the process of determining how each need should be dealt with in the final plans. They also helped to contact potential sponsors in an effort to keep the plan measures practical. After the inventories were complete, the steering committees directed the process of defining the component needs in each neighborhood area.

The table lists the component needs for each of the watersheds and is summarized for the Basin.

Plan Formulation: Optimum Plans

The overall purpose of water and related land resources planning is to improve the quality of life. To insure that both economic and environmental considerations are part of the planning process, the objectives of National Economic Development (NED) and Environmental Quality (EQ) are used.

The consideration of these objectives has been explicitly stated or implied in numerous congressional enactments and executive actions. These two objectives are a part of what is commonly called the Principles and Standards Procedures. The objectives of National Economic Development and Environmental Quality are a systematic way of evaluating information in terms of how the economy and environment are effected by present as well as future conditions.

While NED and EQ are established as major planning objectives, of equal or greater importance were the needs and wants of the citizens in each community. Local and regional considerations were essential in planning the most practical use of the area's resources.

In formulating a plan of action that satisfied all three areas—NED, EQ, and citizen and community needs—a unique balance had to be accomplished. The following section details the procedures used to create that balance. It describes how the inventories and component needs were converted into specific plans that meet the objectives of NED and EQ. And finally, how the "give and take" process resulted in the *Selected Plans*.

It was also necessary to establish a definition of flooding, and to establish some constraints on the size of problem areas to be studied. The purpose of these actions would be to insure consistency throughout the total study area.

The influences of National Economic Development, Environmental Quality objectives and the study constraints are detailed in the following paragraphs.

The National Economic Development (*NED*) objective assesses the national economic output as the combined earnings of labor and property that arise from current and future production. The increase in national income within the basin is its contribution to this objective. These gains accrue from increased earnings as a result of reduced disruption of economics activity due to floods, from watershed protection, and from increases in the value of goods and services produced by outdoor recreation.

The Environmental Quality (*EQ*) objective is directed toward the conservation, protection and proper utilization of natural, scenic, and cultural resources. This objective is satisfied by:

(1) protection or enhancement of open and forested areas, lakes, streams, and wetlands;

(2) the protection of areas with significant archeological, historical or scientific value;

(3) the protection or improvement of water quality;

(4) the reduction of erosion and sediment damages.

The major consideration of the environmental objective is to conserve natural resources so that they will be available when needed and that the freedom of choice by future users will not be impaired.

Although *regional development* and *social well-being* considerations were not identified as major planning objectives, they are extremely important to the residents of the Study Area. Most communities recognize that water resource development within the River Basin will have a minor impact on national income. However, in areas where flood losses are severe, significant impacts on the local economy will occur from the reduction of flood losses.

Regional development is considered by identifying impacts on income, employment and quality of services, from both the national and regional viewpoint.

Social well-being impacts consider the personal, group and community effects of program proposals. These include such factors as security of life, health and safety, personal income distribution (net gains or losses), and regional employment and population distribution.

The following constraints were established and followed in making the study:

(1) The definition of flooding was interpreted as being that which occurs as a result of overbank flow.

(2) Flood damages were analyzed along streams having drainage areas greater than five (5) square miles. Solutions to flooding problems in smaller areas were considered to be of such a localized nature that they are beyond the scope of this study.

Public Participation

The Chicago Metropolitan Area is a complex system of neighborhoods, villages, and overlapping governmental units at many levels. No single governmental office or agency has control over the entire area. Moreover, no single group of citizens understands the total problem or what represents the best combination of measures for each community.

The people who live in each community must decide whether they are more concerned with the flooding problems than with floodplain development. They must interpret inventory data and decide whether to allocate more funds to acquire open space or to encourage private, commercial, or residential development.

Since only local governmental officials and local interests can establish these priorities, a means of communicating directly with local interests had to be found. The steering committee concept filled the need for an organization which could allow local interests to express their problems. It was through their efforts that federal and state agencies were directed to formulate plans which would best solve these problems and needs.

Steering committees are groups of concerned citizens who serve on a voluntary basis. They represent the social, economic, and environmental setting prevalent in their area and have joined together to seek solutions to the flooding problems that confront their communities. Committee boundaries are defined by either utilizing watershed boundaries or major political boundaries such as counties.

Each steering committee has two types of members. The executive group consists of members who attended each meeting, prepare mailing lists, and in general conduct the necessary business of the steering committee. The second level of membership is more fluid in nature. These members are regularly informed about steering committee activities through the publication of minutes and announcements of meetings. Committees are supported by donations from various public and private sources.

After a steering committee was formed, the executive group determined how they would communicate with the people in the various neighborhoods and stimulate interest which must be sustained for years. Local people must first analyze the land and water related resources and then help develop an action plan which will solve many of their problems.

Some steering committees have been successful in stimulating local inputs by moving the meeting locations to the areas of concern and doing a good job of public relations. Other communities have chosen to work only in very small geographical areas. These committees have been equally successful.

Inventories were supplied to the steering committees for their review and consideration. The committee members solicit potential sponsors who may be concerned with the implications that the inventories revealed.

The final formulation act that the steering committees performed was to organize a series of public hearings to assure that no serious problem had been missed.

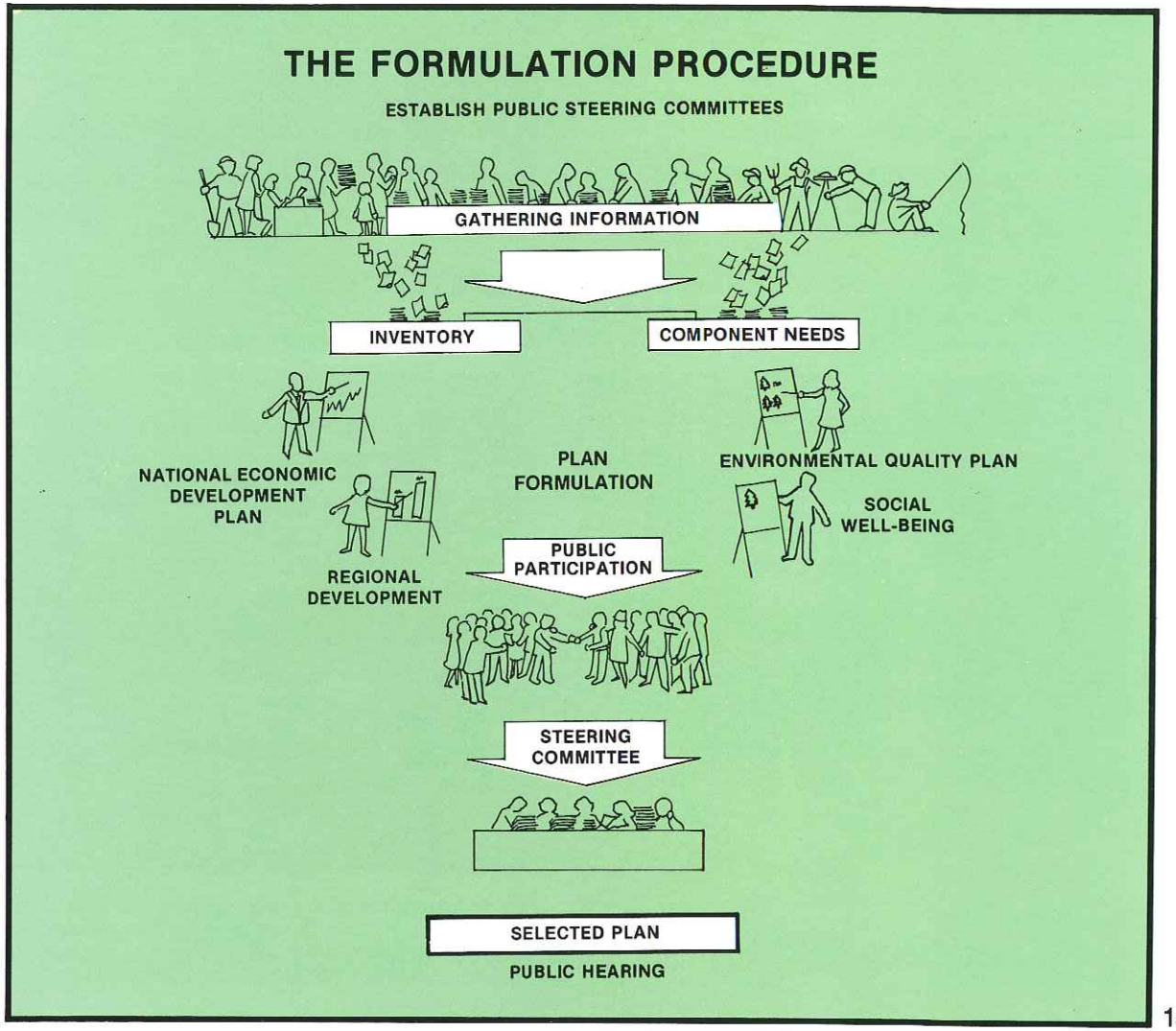
Many times private individuals and/or interest groups added very significant inputs, and identified key environmental resources or economic problems which otherwise may have been overlooked.

The Formulation Procedure: Putting It All Together

The plan formulation procedure began after the component needs were well defined by the steering committees. The committees first defined some planning guidelines to simplify the plan formulation procedure and provide consistency throughout the study area. The following goals and assumptions were universally adopted by the steering committees:

1. 100-year frequency level of flood protection (urban areas). This is a flooding hazard which occurs once in a 100 years.
2. Project flooding conditions with urbanization at the year 2000.
3. Place emphasis on floodwater retention.
4. Limit analysis to floodplain areas and damages associated with overbank flooding.
5. Assume that the Metropolitan Sanitary District's *Tunnel and Reservoir Plan* for the combined sewer areas is in place.
6. Assume flood control measures which have been authorized and funded are in place.

As mentioned earlier, the procedure used during the plan formulation was the USDA Procedures for Planning Water and Related Land Resources. The following shows how the Component Needs were expressed in terms of plan measures and designated as meeting either NED or EQ objectives.

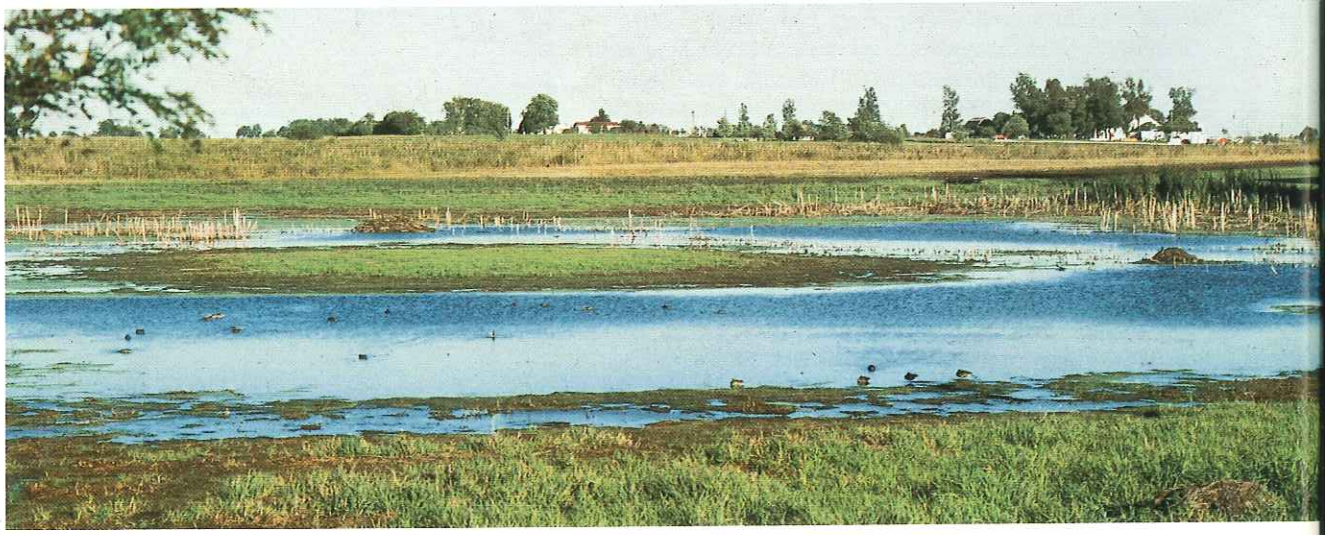


Environmental Quality Plan

Each steering committee prepared an environmental quality plan. The following are some examples of plan measures which were included in many of the environmental plans:

Wetland Purchase
Low Flow Augmentation
Woodland Purchase
Unique Natural Area Purchase
Erosion and Sediment Control
Floodplain Acquisition
Land Treatment

The procedures of the *Principles and Standards* provide a system whereby the effects of the Environmental Quality Plan are displayed in the National Economics Development Account, the Social-Well-Being Account, the Regional Development Account, as well as the Environmental Quality Account.

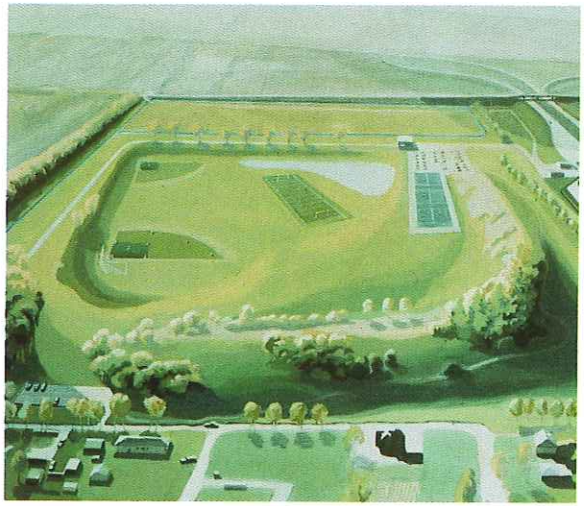


Environmental Quality plans include the wise managment of land and water resources. Purchase of wetlands and unique natural areas is one way to protect our land, wildlife and neighborhoods.

National Economic Development Plan

The plan prepared was a modified National Economic Development Plan. These objectives were the most efficient tools for achieving those component needs which contribute to national economic development. In developing this plan, many alternative plan measures were evaluated. Costs for each measure were estimated and resulting benefits were calculated. The plan which included a combination of measures that produced the greatest net benefits was considered the National Economic Development Plan. These plans generally included such measures as:

- Floodwater Retarding Reservoirs
- Flood Plain Regulations
- Recreational Developments
- Flood Proofing
- Channel Enlargements
- Diverson Channels
- Existing Reservoir Modification



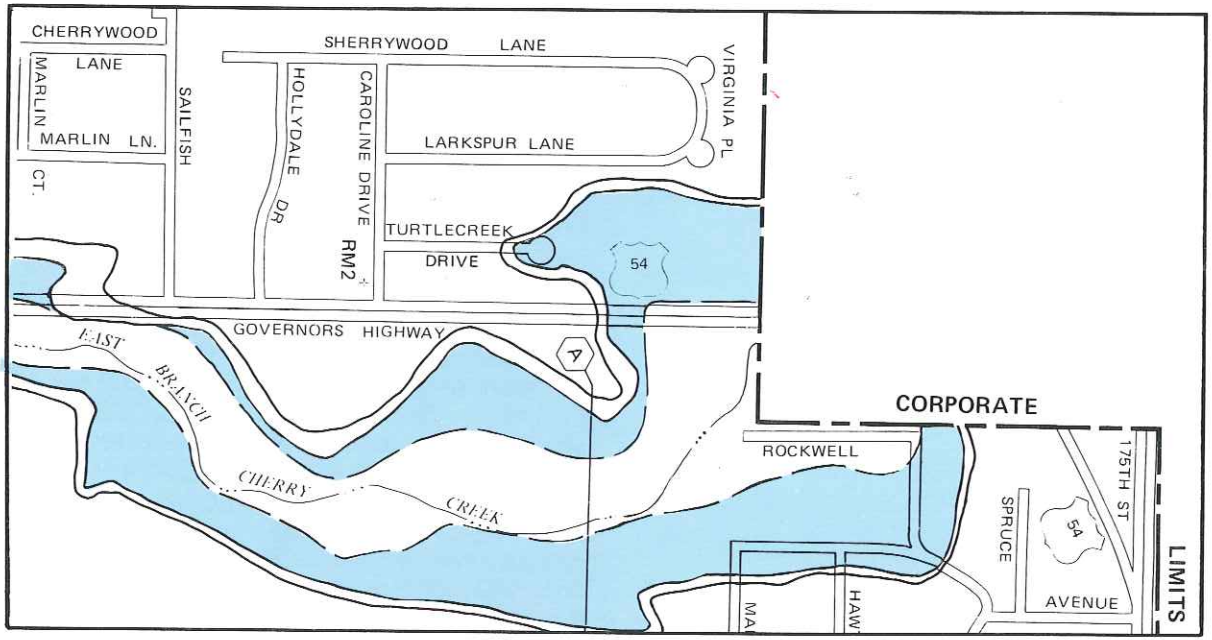
National Economic Development plans include floodwater retarding reservoirs along with the implementation of flood plain regulations.

Formulation of the Selected Plans

The final step in the formulation procedure was the combining of features from the National Economic Development Plan and the Environmental Quality Plan to produce the Selected Plan for each watershed. Where conflicts occurred between environmental quality and national economic development, these conflicts were resolved. Gradually, Selected Plans were developed under the guidance of the Steering Committees. These plans were a complex balance of plan measures which best meet the area's needs, minimize conflicts, and achieve desired benefits at costs which are realistic with regard to local means. The *Selected Plans* were then displayed in each of the four accounts.

During the entire plan formulation period, the steering committees served as principal coordinators between various local interests and the federal and state agencies who were responsible for water resource development. Steering committee activities included: organizing neighborhood meetings, resolving conflicts between various governmental units, soliciting comments from private individuals, and proposing compromise solutions to resolve conflicts. Once the *Selected Plan* had been written and circulated in a draft form, the steering committees held public hearings in an effort to obtain additional response from individuals and local and state government.

With the conclusion of public hearings and incorporation of all comments, the plans were then printed and distributed to concerned individuals, potential sponsors and other interested groups.



SECTION 3

THE SELECTED PLANS: THE FINAL FLOODWATER MANAGEMENT PLANS

The first part of this section sets forth the pertinent physical and economic data for the five Floodwater Management Plans. These have been developed as a part of this study. More detailed explanations of the various plan features can be found in the supplements to the report. They consist of the Floodwater Management Plans for each of the respective watersheds. Also included is the *Work Plan* for Upper Salt Creek Watershed, a tributary of the Des Plaines River. This plan was developed in 1973 under the Watershed Protection and Flood Prevention Act (Public Law 566). It is an integral part of the solution to the flooding and land resource management problems of the area.

The second part of this section lists the physical and economic effects of the plans. Both the beneficial and adverse effects of the plans are listed. These effects are also shown in the system of accounts to which they apply. The effects listed under the various accounts—national economic development, environmental quality, regional development, and social well-being—represent the final tradeoffs which have been agreed to in developing the selected plans.

SUMMARY OF FLOODWATER MANAGEMENT PLAN DATA

Plan Item	Upper Salt Creek	North Branch Chicago River	Little Calumet River	Des Plaines River	Calumet-Sag Channel	Poplar Creek	Total
Watershed Area (Sq. Mi.)	52	102	213	670[1]	117	40	1,142
Structural Measures:							
Physical Data							
Reservoirs (No.)	6	7	4	11	—	—	28
Water Surface Area (Acres)	649	34	53	13	—	—	749
Storage Capacity							
Sediment (Ac. Ft.)	568	171	609	268	—	—	1,616
Floodwater (Ac. Ft.)	6,467	7,317	11,707	8,720	—	—	34,211
Other (Ac. Ft.)	2,519	—	59	350	—	—	2,928
Total (Ac. Ft.)	9,554	7,488	12,375	9,338	—	—	38,755
Volume of Excavation (Cu. 1,000 Yds.)	2,253	12,161	1,694	5,750	—	—	21,858
Length Channel Modification (Miles)	1.8	—	3.8	3.7	—	—	9.3
Volume Channel Excavation (Cu. 1,000 Yds.)	94.06	—	104.9	239.7	—	—	438.66
Other Structural Measures							
Bridge Modification or Removal (No.)	—	—	1	2	2	1	6
Gate Control System (No.)	—	1	—	1	—	—	2
Dike (Miles)	—	—	—	0.7	—	0.27	0.97
Diversion (Miles)	—	—	—	2.1	—	—	2.1
Non-Structural Measures							
Wetland Purchase (Acres)	—	—	—	4,225	310	380	4,915
Floodplain Purchase (Acres)	261	—	—	2,585	35	435	3,316
Floodplain Regulations	—	Yes	Yes	Yes	Yes	Yes	—
Flood Proofing (No.)	—	86	239	133	11	6	475
Purchase of Severely Flooded Homes (No.)	—	—	—	9	—	—	9
Channel Maintenance	Yes	Yes	Yes	Yes	Yes	Yes	—
Open Space Purchase (Acres)	—	—	—	222	270	—	492
Installation Costs ($1,000)							
Construction	14,243	20,257	19,448	35,200	110	109	89,367
Engineering	1,399	1,540	1,474	2,643	8	8	7,072
Land Rights	19,514	12,775	8,162	39,046	13,086	2,619	95,202
Project Administration	2,650	1,652	1,564	2,818	9	8	8,701
Total Installation Cost	37,806	36,224	30,648	79,707	13,213	2,744	200,342
Average Annual Maintenance Cost ($1,000)	639.2	111.9	214.9	874.8	34.1	66.2	1,941.1

[1] Includes Upper Salt Creek drainage area

NATIONAL ECONOMIC DEVELOPMENT ACCOUNT SUMMARY*

Measure of Beneficial and Adverse Effects	North Branch Chicago River	Little Calumet River	Des Plaines River	Calumet-Sag Channel	Poplar Creek	Total
Beneficial Effects (Avg. Ann. $'s)						
Flood Damage Reduction	2,614,400	3,064,500	4,416,300	19,500	120,600	10,235,300
Recreation	555,600	87,800	1,431,800	—	121,500	2,196,700
Accelerated Land Treatment**	—	—	—	—	—	—
Total Beneficial Effects	3,170,000	3,152,300	5,848,100	19,500	242,100	12,432,000
Adverse Effects (Avg. Ann. $'s)						
Structural Measures						
Installation	2,493,000	1,800,700	3,443,600	8,800	18,400	7,764,500
Operation & Maintenance	71,850	103,000	126,800	2,200	5,100	308,950
Stream Channel Maintenance	40,000	38,000	117,400	10,000	7,800	213,200
Recreation Development	—	—	—	—	—	—
Installation	—	6,000	328,400	—	—	334,400
Operation & Maintenance	—	4,400	259,900	—	—	264,300
Purchase of Floodplain and Open Space Areas	—	—	684,600	745,500	80,100	1,510,200
Purchase of Wetland Areas	—	—	398,900	57,100	70,000	526,000
Accelerated Land Treatment**	(52,600)	(111,900)	(509,000)	(70,200)	(20,200)	(763,900)
Flood Proofing	—	7,000	21,100	900	500	29,500
Purchase of Homes	—	—	39,400	—	—	39,400
Floodplain Regulations	—	62,500	206,000	21,000	20,000	309,500
Floodplain Recreation Development	—	—	143,500	—	32,800	176,300
Total Adverse Effects	2,604,850	2,021,600	5,769,600	845,500	234,700	11,476,250
Net Beneficial Effects	565,150	1,130,700	78,500	-826,000	7,400	955,750

*Data not available for Upper Salt Creek

**Accelerated Land Treatment beneficial effects not evaluated; adverse effects shown in parenthesis not included in totals.

Plan Summary Accounts

The last part of this section includes the following information for each of the six Floodwater Management Plans, including Upper Salt Creek: (1) A map showing the location of structural measures; (2) a summary of the selected plan data and major effects; and (3) a brief narrative description of the plan.

1. *The National Economic Development Account Summary* displays the economic costs and benefits generated by installing the selected plan elements. Under the beneficial effects, average annual flood damage reduction benefits and recreation benefits are the principal economic factors. Costs shown as adverse effects include both the amortized cost of installation and annual operation and maintenance costs which would be associated with the selected plan elements. The accelerated land treatment program has not been evaluated in monetary terms; therefore, the beneficial effects are not shown.

ENVIRONMENTAL QUALITY ACCOUNT SUMMARY*

Measure of Beneficial and Adverse Effects	North Branch Chicago River	Little Calumet River	Des Plaines River	Calumet-Sag Channel	Poplar Creek	Total
Areas of Natural Beauty						
1. Preserves river corridor (Acres)	1,600	3,900	15,000	350	905	21,755
Preserves river corridor (Miles)	22	109	250	25	26	432
2. Preserves river aesthetics (Miles)	57	109	250	25	26	467
3. Disturbs vegetation (Acres)	813	200	541	—	4	1,558
4. Inundates (Acres)	34	41	78	—	—	153
5. Provides open space (Acres)	613	302	7,573	615	815	9,918
6. Enhances visual quality						
Existing Streams (Miles)	57	109	250	25	26	467
Existing Pools (Acres)	270	—	—	—	—	270
7. Preserves Natural Uplands	1,200	4,000	5,500	—	—	10,700
Quality Considerations of Water, Land, and Air Resources						
1. Improves Water Quality						
Existing Streams (Miles)	22	109	250	25	26	432
Existing Pools (Acres)	270	—	—	—	—	270
2. Increases construction caused sediment and erosion (Acres)	813	200	541	—	4	1,558
3. Increases traffic noises and dust during construction	Yes	Yes	Yes	—	—	—
4. Increases stream basic flow (cfs)	12	9	—	—	—	21
5. Reduces erosion and sediment from construction sites each year (Acres)	500	1,000	3,200	430	250	5,380
6. Improves water quality by reducing suspended sediment	Yes	Yes	Yes	Yes	Yes	Yes
7. Provides annually:						
Tree planting (Acres)	10	50	140	35	85	320
Forest stand improvement (Acres)	10	50	140	35	85	320
8. Lowers ground water table near reservoir sites	Yes	Yes	Yes	—	—	—
9. Reduces amount of sediment from entering streams each year (Tons)	6,000	52,700	98,800	35,000	28,100	220,600
10. Reduces erosion from agricultural and idle land (Acres)	—	31,500	120,000	16,800	9,150	177,450
11. Preserves stream bank vegetation along streams (Miles)	57	109	243	25	26	460
Biological Resources and Selected Ecosystems						
1. Provides water capable of supporting fish life (Acres)	270	No	13	No	No	283
2. Changes earth channel to lined channel (Miles)	No	0.37	2.4	No	No	2.77
3. Temporarily disturbs stability of existing stream channel (Miles)	No	Yes	Yes	No	No	—
4. Preserves prime wetland and wild life habitat (Acres)	No	No	4,225	310	380	4,915

*Data not available for Upper Salt Creek

2. The effects displayed in the *Environmental Quality Account Summary* show the environmental quality effects of installing the selected plan. There is no attempt to identify effects as adverse or beneficial. This display simply tabulates all the effects that can be expected. The effects of some measures will change with time. For example, construction activity causes sediment and erosion and produces noise and dust. However, after the construction is completed, if the area is in public ownership, it may have environmental quality potential which the original land form did not have. This table contains a great deal of data, and therefore can be very helpful to those concerned with evaluating the environmental effects of installing the selected plan.

REGIONAL DEVELOPMENT ACCOUNT SUMMARY*

Measure of Beneficial and Adverse Effects	North Branch Chicago River	Little Calumet River	Des Plaines River	Calumet-Sag Channel	Poplar Creek	Total
Income (Avg. Ann. $'s)						
1. Value of increased output to region	3,649,000	3,421,900	6,480,200	25,800	263,300	13,840,200
2. Induced activities in region	109,000	8,800	584,800	2,000	24,200	728,800
3. Total Beneficial Effects	3,758,000	3,430,700	7,065,000	27,800	287,500	14,569,000
4. Adverse Effects	2,657,450	2,133,500	5,769,600	845,500	234,700	11,640,750
5. Net Beneficial Effects	1,100,550	1,297,200	1,295,400	-817,700	52,800	2,928,250
Employment						
1. Permanent Jobs - Region	2.9	3.5	11.0	0.3	1.0	18.7
2. 10-year Jobs - Region	40	26	39.1	0.1	0.3	105.5

*Data not available for Upper Salt Creek

Benefits included in "value of increased output" are (1) the beneficial effects described in the National Economic Development Account and (2) employment opportunities resulting from the installation and operation and maintenance of planned measures. Construction of planned measures will require more than 105 employees over an estimated 10-year installation period. Operation and maintenance of these same measures will entail an additional 18.7 permanent employees.

"Induced activities" are benefits resulting from increased economic activity stemming from project installation. Homeowners who have assurance of reduced flood damage will make needed repairs and/or improvements to their homes. Usage of the recreation opportunities provided will promote the sale of additional goods and services. The multiplier effect of such business will be beneficial to the individual retailers and their suppliers within the metropolitan area.

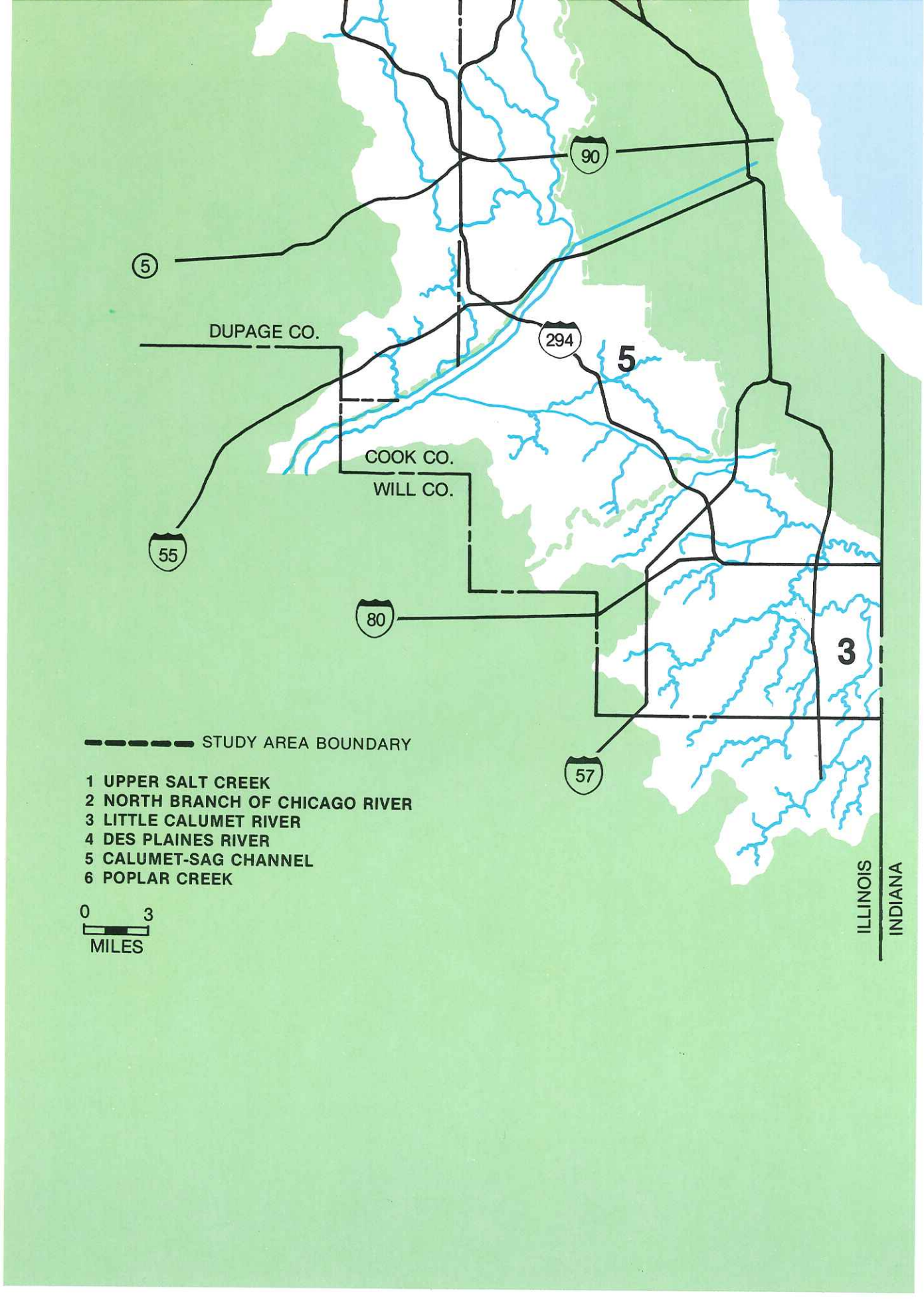
SOCIAL WELL-BEING ACCOUNT SUMMARY*

Measure of Beneficial and Adverse Effects	North Branch Chicago River	Little Calumet River	Des Plaines River	Calumet-Sag Channel	Poplar Creek	Total
Real Income Distribution						
1. Creates medium income permanent jobs in area	2.9	3.5	11.0	0.3	1.0	18.7
2. Creates regional income benefit distribution to an income class of $12,000+ (Avg. Ann. $'s)	3,758,000	3,430,700	7,065,000	27,800	287,500	14,569,000
Life, Health and Safety						
1. Reduces annual traffic disruptions (No.)	64,000	7,300	102,500	0	0	173,800
2. Reduces health hazard caused by polluted floodwater	Yes	Yes	Yes	Yes	Yes	Yes
3. Protection from 100-year flood						
Residences	916	6,710	3,401	7	86	11,120
Businesses	18	142	286	0	24	470
4. Increases hazard to human life from drowning and traffic accidents	Yes	Yes	Yes	No	No	—
5. Provides technical assistance to assist homeowners with flood proofings (No.)	86	239	133	11	6	475
6. Controls future floodplain development	Yes	Yes	Yes	Yes	Yes	Yes
Recreational Opportunities						
1. Provides recreational visitor-day activities	930,000	43,700	754,300	0	81,000	1,809,000

*Data not available for Upper Salt Creek

4. *The Social Well-Being Account Summary* shows the impact of the selected plan on the human environment. This account lists impacts on income distribution, life, health, safety, and recreational opportunities. The judgment of being adverse or beneficial is left to the interpretation of the reader. In some cases, the impact may even conflict. For example, the health hazard caused by flooding will be reduced but the impoundments of floodwater and/or permanent water provide a health and safety hazard which did not exist prior to installation of the selected plan.

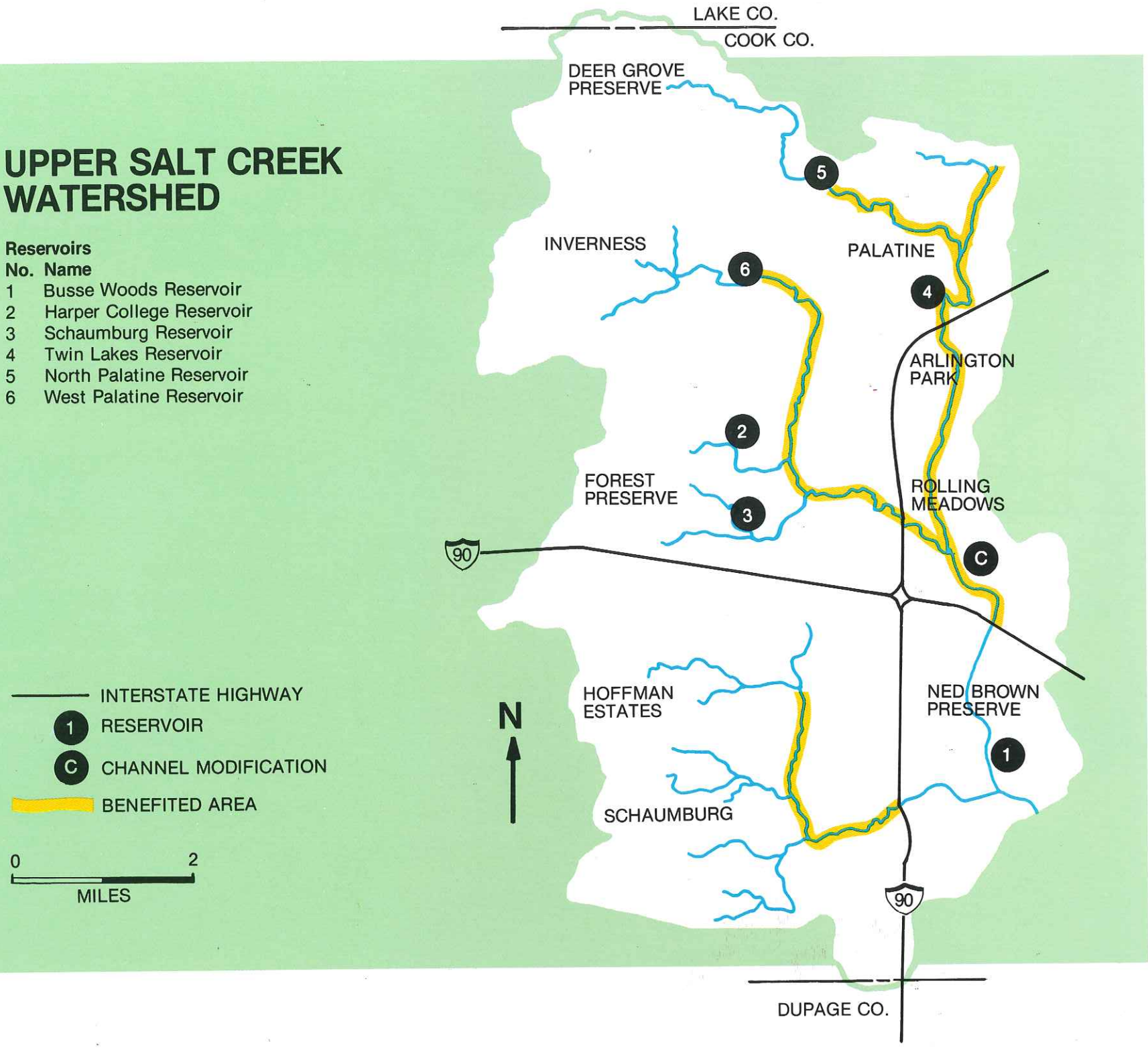

METROPOLITAN
CHICAGO
STUDY AREAS
94
WISCONSIN
ILLINOIS
N
LAKE CO.
COOK CO.
KANE CO.
1
2
4
6
94
LAKE
MICHIGAN


90
5
DUPAGE CO.
294
5
COOK CO.
WILL CO.
55
80
3
57
STUDY AREA BOUNDARY
1 UPPER SALT CREEK
2 NORTH BRANCH OF CHICAGO RIVER
3 LITTLE CALUMET RIVER
4 DES PLAINES RIVER
5 CALUMET-SAG CHANNEL
6 POPLAR CREEK
0
3
MILES
ILLINOIS
INDIANA

UPPER SALT CREEK WATERSHED

Reservoirs

No.	Name
1	Busse Woods Reservoir
2	Harper College Reservoir
3	Schaumburg Reservoir
4	Twin Lakes Reservoir
5	North Palatine Reservoir
6	West Palatine Reservoir



UPPER SALT CREEK WATERSHED FLOODWATER MANAGEMENT PLAN

SELECTED PLAN DATA AND EFFECTS

Summary of Plan Data

Physical

No. of Reservoirs - 6
Miles of Channel Modification - 1.8
Storage Capacity (acre-feet)
- Sediment - 568
- Floodwater - 6,467
- Recreation - 2,519
- Total - 9,554

Surface Area (acres)
- Sediment - 281
- Recreation - 589
- Floodwater - 1,500

Recreation Development
Flood Proofing
Channel Maintenance
Floodplain Preserves
Land Treatment Program[1]

Financial ($1,000)

Installation Costs	
Construction	14,242.9
Engineering	1,399.4
Land Rights	19,513.8
Project Administration	2,650.0
Total	37,806.1
Cost Sharing	
Federal	12,998.4
State & Local	24,807.7
Maintenance Costs	(Average Annual)
Structural Measures	32.8
Recreation Facilities	593.6
Nonstructural Measures	12.8

[1]Benefits and costs are not shown

Summary of Plan Effects

Flood Protection Provided (100-year Level):
- Residences - 1,200
- Businesses - 5
- Transportation Routes - 24

Adequate Land Treatment
- Agricultural Land - 1,750 acres
- Urbanizing Land - 350 acres/year

Preservation of Natural Resources
- Preserves Floodplain
- Stream Corridors - 261 acres

Provides 1,910,000 recreation user-days

Average Annual Benefits

Recreation	$2,126,500
Damage Reduction	840,300
Other and Secondary	504,100

This plan was developed as a result of an application for assistance under the Watershed Protection and Flood Prevention Act (Public Law 566). Studies resulting from this application indicated that a project for flood prevention and recreation was feasible in the upstream 50 square mile portion of this Des Plaines River tributary.

The plan as developed and set forth in the watershed work plan of May 1973 provides for six (6) reservoirs and 1.8 miles of channel modification at a total cost of 37.8 million dollars based on 1974 prices. This plan was approved for operations on October 10, 1974.

These improvements will provide a 100-year level of flood protection to 1,200 residences, 5 businesses, and 24 major transportation routes. These urban properties are located primarily in the villages of Elk Grove, Schaumburg, Rolling Meadows, and Palatine. These municipalities, area park districts and the following entities are local sponsors of the project: The North Cook Soil and Water Conservation District, The Metropolitan Sanitary District of Greater Chicago, The Cook County Forest Preserve District, and the State of Illinois.


NORTH BRANCH OF CHICAGO RIVER STUDY AREA
Reservoirs
No. Name
4 Skokie Road Reservoir
7 Highland Reservoir
15 Atkinson Road Reservoir
18 Waukegan Road Reservoir
27 Duffy Lane Reservoir
29 Deerfield Reservoir
32A Northbrook Reservoir
32B Techny Reservoir
32C Glenview Reservoir
94
15
4
18
7
27
29
32A
32B
32C
LAKE MICHIGAN
LAKE CO.
COOK CO.
N
INTERSTATE HIGHWAY
RESERVOIR
LOW FLOW AUGMENTATION FACILITY
BENEFITED AREA
0
2
MILES

NORTH BRANCH CHICAGO RIVER WATERSHED FLOODWATER MANAGEMENT PLAN

SELECTED PLAN DATA AND EFFECTS

Summary of Plan Data

Physical

No. of Reservoirs - 7
Storage Capacity (acre-feet)
- Sediment - 171
- Floodwater - 7,317
- Total - 7,488

Surface Area (acres)
- Sediment - 34
- Floodwater - 271

Flood Proofing
Channel Maintenance
Floodplain Regulations
Land Treatment Program[1]

Financial

Installation Costs ($1,000)	
Construction	20,257.0
Engineering	1,539.5
Land Rights	12,775.0
Project Administration	1,652.5
Total	36,224.0
Cost Sharing	
Federal	
State & Local	
Maintenance Costs (Average Annual)	
Structural Measures	71.9
Non Structural Measures	40.0

Summary of Plan Effects

Flood Protection Provided (100-year Level):
- Residences - 916
- Businesses - 18
- Transportation Routes - 13

Adequate Land Treatment
- Urbanizing Land - 500 acres/year

Preserves stream corridors - 22 miles
Provides 930,000 recreation user-days
Increases stream low flow by 12 cfs

[1]Benefits and costs are not shown

This plan was developed in October, 1974, and covers an area of 65,300 acres (102 sq. mi.) in Cook and Lake Counties, Illinois. It includes all of the natural drainage area of the North Branch of the Chicago River above Touhy Avenue. The center of the watershed area is at the Lake-Cook County line about 3 miles west of the Lake Michigan shore.

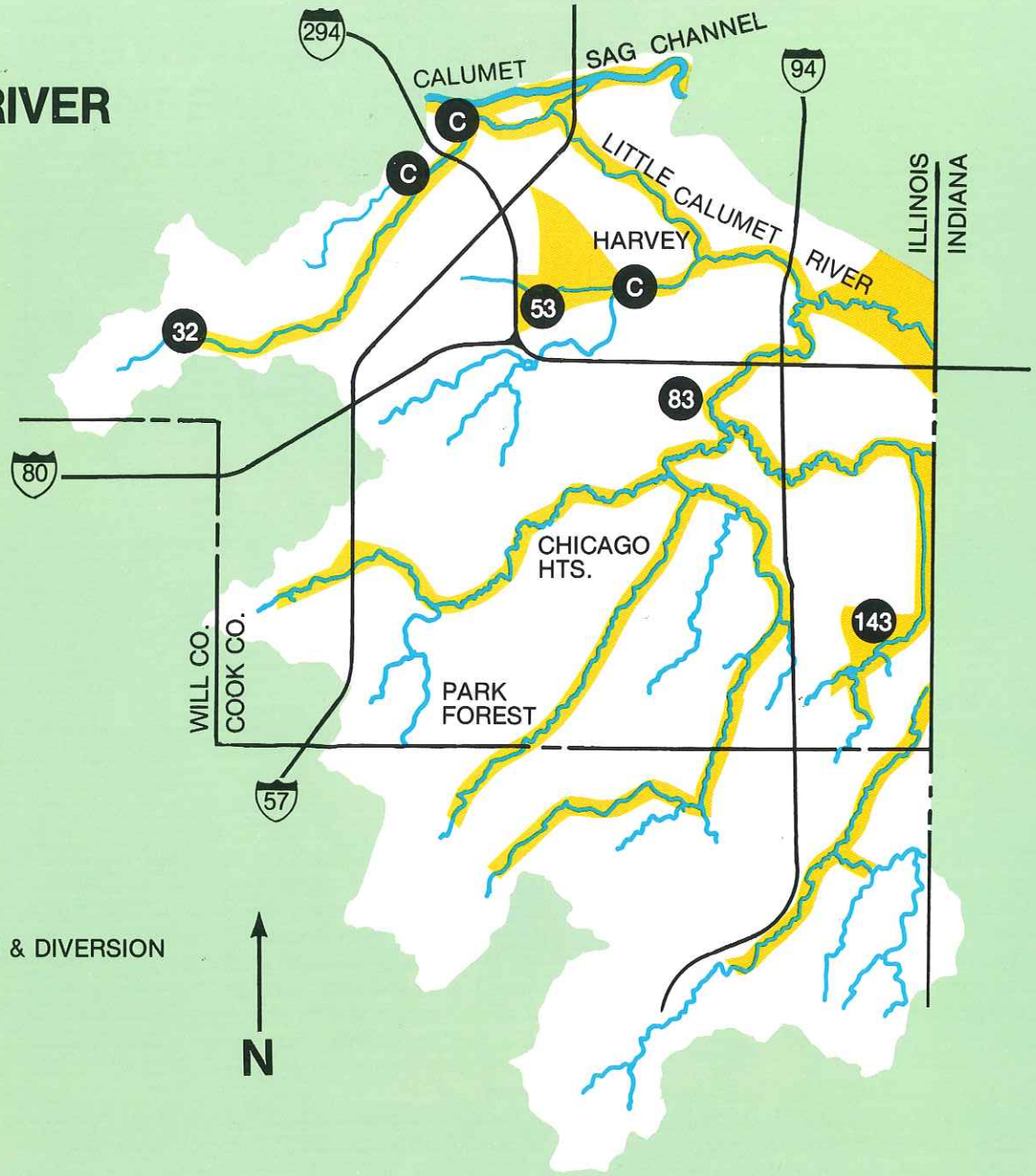
The plan is a feasible solution to watershed problems and will: (1) reduce flood damages by: (a) installing seven (7) floodwater retarding structures, (b) floodplain zoning and land use regulations, (c) stream channel maintenance and (d) flood proofing; (2) provide increased recreation use by improving water quality in the Skokie Lagoons and increasing low flows in the Skokie River and the North Branch of the Chicago River and (3) provide watershed protection and environmental enhancement with an accelerated land treatment program. The plan is estimated to cost 36.2 million dollars based upon 1973 prices. Costs were amortized at 6 7/8 percent for 100 years.

These improvements will provide a 100-year level of flood protection to 916 residential properties and 18 business, commercial and public establishments located on some 5,500 acres of floodplain. Average annual residential flood damages will be reduced by approximately 97 percent. There are a number of communities within the watershed which will benefit directly from the various measures. Included are the following communities: Bannockburn, Deerfield, Glenview, Highland Park, Lake Forest, Morton Grove, Northbrook, Northfield, Riverwoods, Wilmette and Winnetka. Other communities in the watershed which will benefit indirectly from the installation of plan measures include: Glencoe, Highwood, Lake Bluff, Lincolnshire, Niles, North Chicago, Skokie and Waukegan.

LITTLE CALUMET RIVER STUDY AREA

Reservoirs

No.	Name
32	Tinley Park Reservoir
53	Markham-Harvey Reservoir
83	Thornton Reservoir
143	Lynwood Reservoir



INTERSTATE HIGHWAY

1 RESERVOIR

C CHANNEL MODIFICATION & DIVERSION

BENEFITED AREA

0 3

MILES

LITTLE CALUMET RIVER WATERSHED FLOODWATER MANAGEMENT PLAN

SELECTED PLAN DATA AND EFFECTS

Summary of Plan Data

Physical

No. of Reservoirs - 4
Miles of Channel Modification - 3.8

Storage Capacity (acre-feet)
- Sediment - 609
- Floodwater - 11,707
- Recreation - 59
- Total - 12,375

Surface Area (acres)
- Sediment - 40.6
- Recreation - 12.7
- Floodwater - 139.6

Recreation Development.
Flood Proofing
Floodplain Regulations
Channel Maintenance
Land Treatment Measures [1]

Financial

Installation Costs ($1,000)

Construction	19,448.0
Engineering	1,474.0
Land Rights	8,162.0
Project Administration	1,563.8
Total	30,647.8

Cost Sharing
- Federal
- State & Local

Maintenance Costs (Average Annual)

Structural Measures	103.0
Recreation Facilities	4.4
Non-Structural Measures	100.5
Flood Proofing	7.0

[1] Benefits and costs are not shown

Summary of Plan Effects

Flood Protection Provided (100-year Level):
- Residences - 6,710
- Businesses - 142
- Transportation Routes - 12

Adequate Land Treatment
- Agricultural Land - 31,500 acres
- Urbanizing Land - 1,000 acres/year

Preserves Stream Corridors - 109 miles

Provides 43,700 recreation user-days
Increases stream low flow by 4,000 GPM

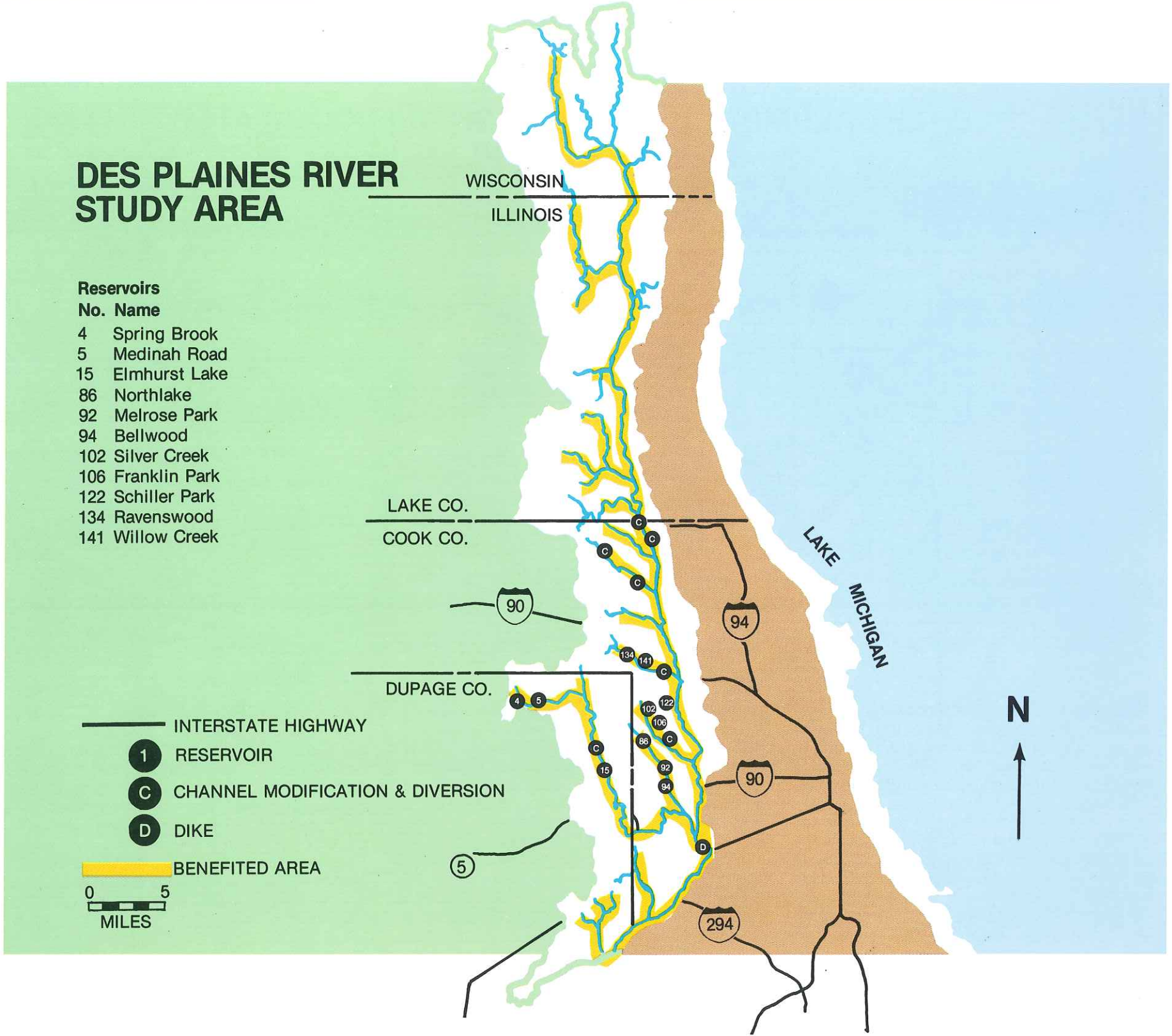
The Little Calumet River Floodwater Management Plan was developed in May, 1975. It encompasses an area of 136,500 acres (213.3 sq. mi.) in Cook and Will Counties, Illinois, extending downstream to the confluence with the Calumet-Sag Channel.

The plan represents a feasible solution to the water and related land resource problems of the area. It will: (1) reduce flood damages; (2) provide increased water-based recreation and (3) provide watershed protection and environmental enhancement by establishing an accelerated land treatment program. This will be accomplished by: (1) installation of four (4) floodwater retarding structures; (2) channel modification consisting of 2.51 miles of earth channels, 0.37 miles of lined concrete channels and 0.93 miles of closed concrete conduit; (3) floodplain regulation; (4) stream channel maintenance and (5) flood proofing. Cost of the structural measures is estimated to be approximately 30.6 million dollars at the 1974 price base. Costs were amortized at 5 7/8 percent for 100 years.

Total flood damages in the watershed will be reduced by nearly 98 percent. This will be accomplished by protecting 6,710 homes and 142 businesses from a 100-year flood event.

Communities which will benefit directly from the flood protection include Calumet City, Dolton, Harvey, Lansing, Midlothian, Oak Forest, Robbins, South Holland and Tinley Park. Other communities which will receive benefits of an indirect nature include: Chicago Heights, Country Club Hills, Crete, Dixmoor, East Chicago Heights, Flossmoor, Hazel Crest, Homewood, Markham, Matteson, Park Forest, Park Forest South, Posen, Sauk Village, South Chicago Heights and Thornton.

DES PLAINES RIVER STUDY AREA



Reservoirs

No.	Name
4	Spring Brook
5	Medinah Road
15	Elmhurst Lake
86	Northlake
92	Melrose Park
94	Bellwood
102	Silver Creek
106	Franklin Park
122	Schiller Park
134	Ravenswood
141	Willow Creek

DES PLAINES RIVER WATERSHED FLOODWATER MANAGEMENT PLAN

SELECTED PLAN DATA AND EFFECTS

Summary of Plan Data

Physical

No. of Reservoirs - 11
Miles of Channel Modification -
Dike and Diversion - 6.5
Storage Capacity (acre-feet)

Sediment -	268
Floodwater -	8,720
Recreation -	350
Total -	9,338

Surface Area (acres)

Sediment -	65
Recreation -	13
Floodwater -	295

Recreation Development
Wetland Purchase - 4,225 acres
Floodplain Purchase - 2,585 acres
Open Space Purchase - 222 acres
Flood Proofing
Purchase of Severely Flooded Homes
Floodplain Regulations
Channel Maintenance
Land Treatment Measures[1]

Financial

Installation Costs ($1,000)	
Construction	35,200
Engineering	2,643
Land Rights	39,046
Project Administration	2,818
Total	79,707
Cost Sharing	
Federal	
State & Local	
Maintenance Costs	(Average Annual)
Structural Measures	126.8
Recreation Facilities	259.9
Floodplain Recreation	143.5
Non-Structural Measures	323.4
Flood Proofing	21.2

Summary of Plan Effects

Flood Protection Provided (100-year Level):
Residences - 3,401
Businesses - 286
Transportation Routes - 10

Adequate Land Treatment
Agricultural Land - 120,000 acres
Urbanizing Land - 3,200 acres/year

Preservation of Natural Resources
Land Purchases 7032 acres
Stream Corridors - 250 miles
Provides 754,300 recreation user-days
Increases stream low flow by 2,200 GPM

[1]Benefits and costs are not shown.

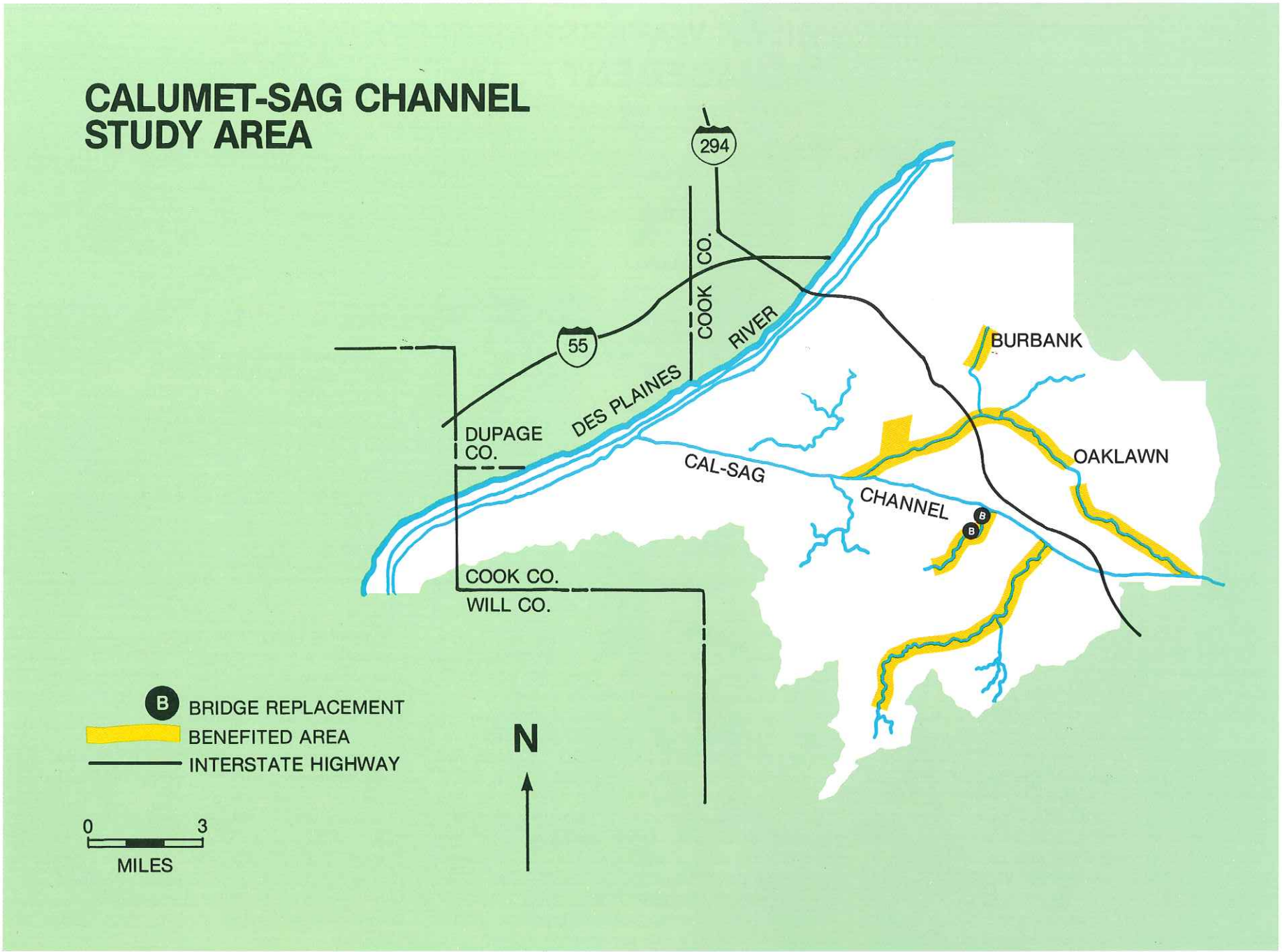
The Des Plaines River Floodwater Management Plan was developed in June, 1975. It encompasses an area of 428,400 acres (670 sq. mi.) in Cook, DuPage, Lake and Will Counties, Illinois and Kenosha and Racine Counties, Wisconsin. The area includes Salt Creek, which enters the Des Plaines River from the northwest near Brookfield, and is the largest tributary. Salt Creek is divided into an upper and lower portion at about the Cook-DuPage County line. Plan measures for Lower Salt Creek are included in this plan, and those for Upper Salt Creek are set forth in the Upper Salt Creek Watershed Work Plan (see pages 17 & 18).

The plan contains structural and non-structural elements to solve the water and related land resource problems in a diverse and complex area about 70 miles in length and an average of 10 miles in width. Project purposes include flood control and recreation. Measures to be installed include an accelerated land treatment program, a floodplain management program, flood proofing, channel maintenance, purchase of wetlands and the following structural measures: (1) ten excavated floodwater retarding structures; (2) one multiple-purpose (floodwater retarding and recreation) structure; (3) 7 miles of channel modification dike & diversion and (6) an automatic gate control system on Lake O'Hare. Cost of the structural measures is estimated to be 79.7 million dollars based upon 1975 prices. Costs were amortized at 6 1/8 percent for 100 years.

Projected flood damages will be reduced by 96 percent in the areas in which project measures are proposed. A total of 3,401 residences and 286 businesses will be protected from the 100-year flood as a result of the project.

There are numerous municipalities and unincorporated areas within the watershed which will benefit either directly or indirectly from installation of the plan measures. A list of these communities with populations exceeding 20,000 includes: Addison, Arlington Heights, Bellwood, Brookfield, Des Plaines, Elk Grove Village, Elmhurst, Franklin Park, Maywood, Melrose Park, Mount Prospect, Park Ridge, Westchester and Villa Park.

CALUMET-SAG CHANNEL STUDY AREA



CALUMET-SAG CHANNEL WATERSHED FLOODWATER MANAGEMENT PLAN

SELECTED PLAN DATA AND EFFECTS

Summary of Plan Data

Physical

Bridge Replacement - 2	
Wetland Purchase	310 acres
Open Space Purchase	255 acres
Prairie Purchase	50 acres
Flood Proofing	
Channel Maintenance	
Floodplain Regulation	
Land Treatment Measures[1]	

Financial

Installation Costs ($1,000)	
Construction	110.4
Engineering	8.3
Land Rights	13086.0
Project Administration	8.8
Total	13,213.5
Cost Sharing	
Federal	
State & Local	
Maintenance Costs (Average Annual)	
Structural Measures	2.2
Non-Structural Measures	31.0
Flood Proofing	0.9

Summary of Plan Effects

Flood Protection Provided (100-year Level):
- Residences - 7
- Transportation Routes - 2

Adequate Land Treatment
- Agricultural Land - 8,000 acres
- Urbanizing Land - 430 acres/year

Preservation of Natural Resources
- Wetland Areas - 310 acres
- Stream Corridors - 25 miles
- Open Space - 615 acres

[1]Benefits and costs are not shown.

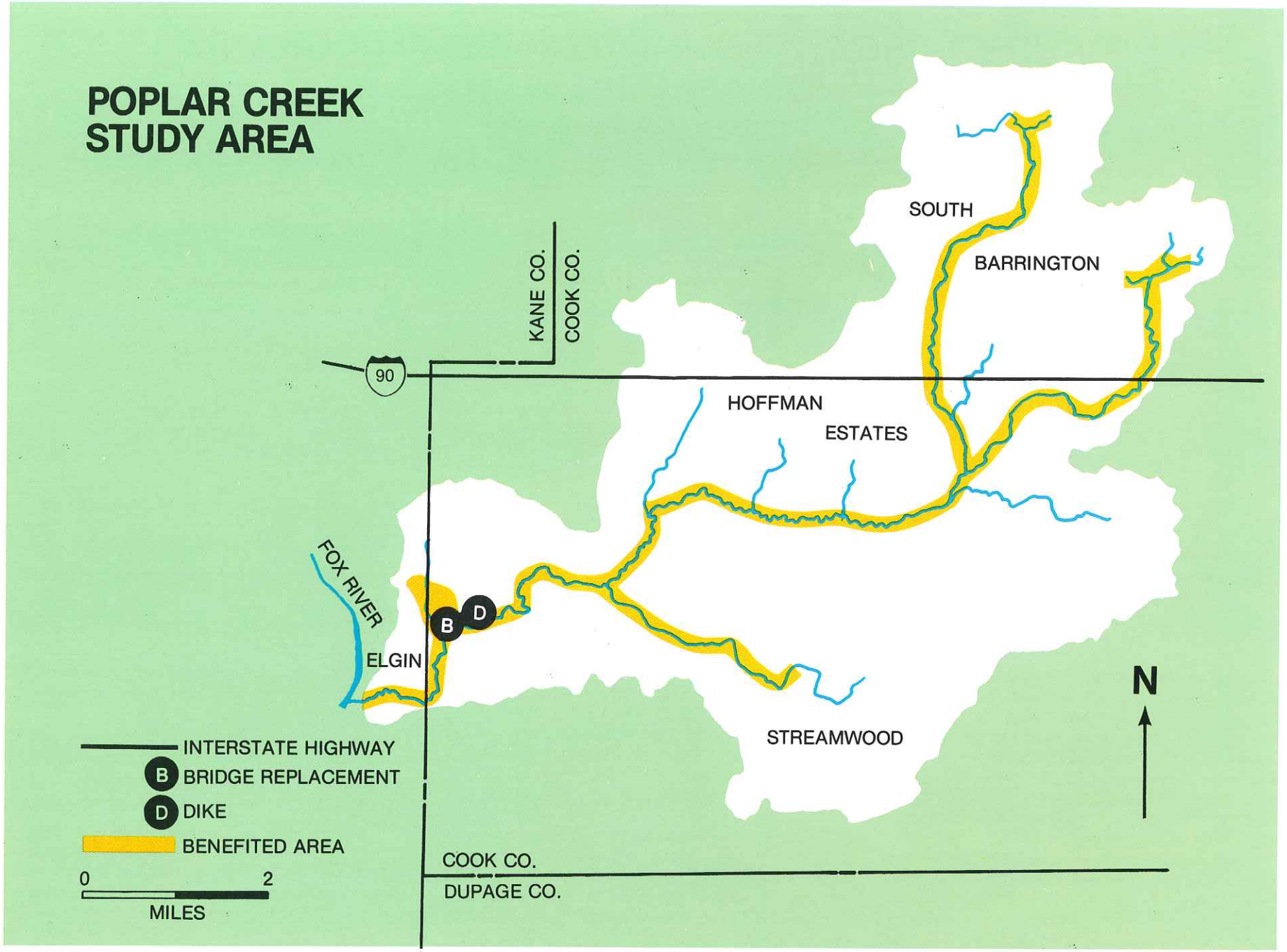
This plan, developed in January, 1976, covers an area of 74,800 acres (117 sq. mi.) in Cook, DuPage and Will Counties, Illinois. The area is comprised of about 16 miles of the Calumet-Sag Channel and the local drainage which enters from Blue Island, Illinois, downstream to the confluence with the Chicago Sanitary and Ship Canal. Also included is local drainage downstream to the vicinity of Romeoville.

Flood damages within the watershed are of major significance in four tributary locations: (1) Tinley Creek; (2) Navajo Creek; (3) Lucas Ditch; and (4) Melvina Ditch. The plan contains structural and non-structural elements to solve the water and related land resource problems of the area with emphasis on flood reduction in the areas cited above. The plan has been developed to: (1) reduce erosion and sedimentation; (2) protect existing wildlife habitat; (3) improve stream water quality and enhance stream fisheries; (4) reduce flood damages; and (5) provide additional public open space.

Measures to be installed include an accelerated program of land treatment, purchase of open land, floodplain regulation, flood proofing, channel maintenance, purchase of wetlands and natural areas, and the structural measures were limited to reconstruction of 2 bridges. Cost of the structural measures is estimated to be $143,500 based on 1976 prices. Costs were amortized at 6½ percent for 100 years.

Projected flood damages will be reduced by 12 percent. This reduction in flood damages will be entirely on the Navajo Creek Tributary.

The municipalities within the watershed which will benefit from the installation of structural & non-structural measures include Alsip, Blue Island, Chicago Ridge, Crestwood, Hazelgreen, Oak Lawn, Palos Heights, Palos Hills and Worth.


POPLAR CREEK
STUDY AREA
SOUTH
BARRINGTON
KANE CO.
COOK CO.
90
HOFFMAN
ESTATES
FOX RIVER
B
D
ELGIN
STREAMWOOD
N
INTERSTATE HIGHWAY
BRIDGE REPLACEMENT
DIKE
BENEFITED AREA
0
2
MILES
COOK CO.
DUPAGE CO.

POPLAR CREEK WATERSHED FLOODWATER MANAGEMENT PLAN

SELECTED PLAN DATA AND EFFECTS

Summary of Plan Data

Physical

Miles of Earth Dike - 0.27
Bridge Replacement - 1
Wetland Purchase 380 acres
Floodplain Purchase 435 acres
Flood Proofing
Floodplain Regulation
Channel Maintenance
Land Treatment Measures[1]

Financial

Installation Costs ($1,000)	
Construction	108.7
Engineering	8.2
Land Rights	2,618.9
Project Administration	8.1
Total	2,743.9
Cost Sharing	
Federal	
State & Local	
Maintenance Costs (Average Annual)	
Structural Measures	5.1
Non-Structural Measures	27.8
Floodplain Recreation	32.8
Flood Proofing	0.5

Summary of Plan Effects

Flood Protection Provided (100-year Level):
- Residences - 86
- Businesses - 24

Adequate Land Treatment
- Agricultural Land - 6,500 acres
- Urbanizing Land - 250 acres/year

Preservation of Natural Resources
- Open Space - 815 acres
- Wetland Areas - 380 acres
- Stream Corridors - 26 miles

Provides 81,000 recreation user-days

[1]Benefits and costs are not shown

This plan, which was developed in December, 1975, covers an area of 25,500 acres (39.8 sq. mi.) in Cook and Kane Counties, Illinois. It is an irregularly-shaped watershed in Northwestern Cook County which outlets into the Fox River in the southeastern corner of Elgin. The area is currently about 40% developed for urban uses, but this is projected to increase to 65% by the year 2000.

The plan provides flood protection to the only major flood damage problem area in the watershed, which is located in southeastern Elgin. In addition to providing flood damage reduction, the plan measures will also: (1) reduce erosion and sedimentation; (2) protect existing wildlife habitat; (3) improve stream water quality and enhance stream fisheries and (4) provide additional public open space.

The flood damage reduction will be accomplished by the construction of 0.27 miles of earth dike and replacement of the Villa Avenue bridge. Other measures to be installed include: (1) an accelerated land treatment program; (2) floodplain purchase; (3) floodplain regulation; (4) flood proofing; (5) channel maintenance and (6) purchase of wetlands.

Projected flood damages will be reduced by nearly 97 percent in the area in which project measures are proposed. In accomplishing this objective, a 100-year level of flooding protection will be provided to 86 residences and 24 businesses.

The following communities will benefit either directly or indirectly from installation of the proposed structural and non-structural measures: Barrington, Bartlett, Elgin, Hanover Park, Schaumburg, South Barrington and Streamwood.

The installation cost of the dike and bridge replacement is estimated to be slightly less than $300,000 based on 1975 prices. Costs were amortized at 6 1/8 percent for 100 years.

Implementation Program

Each of the selected plans involves a structural program. Implementation of these structural programs involves action at the local, state and federal levels. Included in the structural program are measures such as floodwater retarding reservoirs, channel modification, diversion channels, earth levees, bridge modification and modification of existing reservoirs. The goal of these programs is to have the local sponsors acquire the land rights for the structures and the federal government provide the funds for their construction. An arrangement such as this will, in this area, generally result in cost sharing approximately one-third local and two-thirds federal.

There are presently two alternatives available for securing necessary federal participation. Funds may be obtained by means of existing legislation. Such is the case for the implementation of the Upper Salt Creek Watershed Work Plan which utilized the legislation of the Watershed Protection and Flood Prevention Act (PL-566 as amended). Funds may also be obtained by means of special legislation authorized by Congress for specific floodwater management projects. Such was the case of the omnibus legislation introduced for the North Branch Watershed Floodwater Management Plan. As watershed plans are completed and local sponsorship commitments are obtained, appropriate legislation may be introduced.

Non-Structural Program

A non-structural program for each Floodwater Management Plan has been prepared that will involve the participation of the local sponsors of the watersheds. These include floodplain management, channel operation, maintenance, and soil erosion and sediment control programs. All programs must be substantially in operation before the installation of the structural measures.

Floodplain regulations were implemented by the State of Illinois, in a program initiated for the first time in the North Branch of the Chicago River Watershed in March 1975 and the Upper Salt Creek in February 1976. The regulations, issued under the authority of the Illinois Revised Statutes, 1973, Chapter 19, Section 52-78, authorize the Division of Water Resources to define floodplains and to establish a permit procedure for regulating construction within such defined floodplains.

In the Chicago metropolitan area, maps prepared by the Soil Conservation Service for the *River Basin Plan* are being used by the State to define the floodplain. The regulations are: (a) to locate development outside the defined floodplain; (b) to relocate limited construction within the floodplain to flood fringe areas where construction will be safe from flood damage; and (c) to elevate structures above the regulatory flood protection elevation so as to prevent flood damage. Where local regulations are more stringent, they will prevail. Any construction in the floodway, (defined by the State as that area of the floodplain required to store and convey floodwater of the regulatory flood with no significant increase in stage) that increases flood heights or velocities or causes pollution, erosion, sedimentation, fire hazards or nuisances, is prohibited.

Development in the flood fringe area, (the area of the floodplain not in the floodway) is permitted. Developers must meet certain requirements to build in this area, however. Landfill is permitted providing it does not create adverse velocities in the floodplain and is elevated above the regulatory flood stage. Likewise, structures are permitted providing the superstructures are also raised above the flood stage elevation.

The responsibility for channel operation and maintenance is designated in each plan. Each sponsor is responsible for that portion of the river, stream or channel which passes through their community. Sponsors have agreed to conduct a channel maintenance program within their jurisdiction to: (a) prevent the build-up of debris in the channel; (b) prohibit changing the effective depth of the channel; (c) prohibit encroachment into the channel; and (d) to excavate the channel when necessary to maintain its present flow capacity. Annual or more frequent inspections will be made by the sponsors collectively to determine the condition of the major tributaries to ensure that the channels are being properly maintained. Maintenance of reservoirs will also be the responsibility of designated sponsors who will operate them as recreational areas during non-flood periods. Formal agreements will be made to carry out the program for the 100-year design life of the project.

Soil erosion and sediment control ordinances are being prepared by the local sponsors utilizing a model prepared with the assistance of the Northeast Illinois Natural Resource Service Center, the Northeastern Illinois Planning Commission, Soil and Water Conservation Districts and the Soil Conservation Service.

The ordinances require developers to meet the conditions of the soil erosion and sediment control ordinances before obtaining a building permit from the appropriate municipality.

The conditions usually include the presentation of a plan to effectively control soil erosion and sediment during and after construction of the project. The ordinances also provide for stiff penalties if the plan, as approved by the municipality, is not followed.

A model zoning or subdivision ordinance is needed to ensure that existing natural upland areas are retained and/or protected in developing communities.

ESTIMATED COST SHARING SUMMARY (INSTALLATION)

Watershed	Construction	Engineering	Land Rights	Project Administration	Total Costs
Upper Salt Creek					
Cook County Forest Preserve District	—	294,300	301,700	—	596,000
State of Illinois	$4,729,900	—	774,000	—	5,503,900
MSDGC	—	—	15,427,950	310,000	15,737,950
Village of Palatine	—	—	476,100	—	476,100
Village of Schaumburg	—	—	1,624,500	—	1,624,500
Village of Elk Grove	—	—	869,250	—	869,250
Federal Government	9,513,000	1,105,100	40,300	2,340,000	12,998,400
Sub-Total	14,242,900	1,399,400	19,513,800	2,650,000	37,806,100
North Branch					
Non committed	20,257,000	—	27,000	752,500	21,036,500
Lake County	—	—	1,805,000	—	1,805,000
MSDGC	—	—	4,700,000	—	4,700,000
State of Illinois	—	—	5,493,000	—	5,493,000
Federal Government	—	1,539,500	—	—	1,539,500
Deerfield	—	—	750,000	—	750,000
Glenview & Techny Order	—	—	—	900,000	900,000
Sub-Total	20,257,000	1,539,500	12,775,000	1,652,500	36,224,000
Little Calumet	19,448,000	1,474,000	8,162,000	1,563,800	30,647,800
Des Plaines	35,200,000	2,643,000	39,046,000	2,818,000	79,707,000
Calumet-Sag	110,400	8,300	13,086,000	8,800	13,213,500
Poplar Creek	108,700	8,200	2,618,900	8,100	2,743,900
GRAND TOTAL	89,367,000	7,072,400	95,201,700	8,701,200	200,342,300

Cost sharing by the local sponsors of each floodwater management plan is arranged through a "Memorandum of Understanding" prepared by the local agencies involved. The Memorandum delineates the financial responsibility the sponsors commit themselves to in support of the floodwater management plan. The commitments are principally for the acquisition of land rights to be used for the structural program.

LIST OF DETAILED FLOODWATER MANAGEMENT REPORTS

Upper Salt Creek Watershed Work Plan

North Branch of the Chicago River Floodwater Management Plan

North Branch of the Chicago River Environmental Assessment

North Branch of the Chicago River Floodplain Information Maps and Profiles

Little Calumet River Floodwater Management Plan and Environmental Assessment

Little Calumet River Floodplain Information Maps and Profiles

Des Plaines River Floodwater Management Plan and Environmental Assessment

Des Plaines River Floodplain Information Maps and Profiles (Lake County, Illinois and Kenosha County, Wisconsin)

Des Plaines River Floodplain Information Maps and Profiles (Cook and DuPage Counties, Illinois)

Poplar Creek Floodwater Management Plan and Environmental Assessment

Poplar Creek Floodplain Information Maps and Profiles

Calumet-Sag Channel Watershed Floodwater Management Plan and Environmental Assessment

Calumet-Sag Channel Watershed Floodplain Information Maps and Profiles

Income and Benefits Analysis: Chicago Metropolitan Cooperative River Basin Study

Summary of Environmental Impact of the Chicago Metropolitan Area Flood Water Management Plans

Visual Resource Evaluation of the Chicago Metropolitan Area River Basin Plan

CREDITS AND SPONSORS

Regional Agencies
Metropolitan Sanitary District of Greater Chicago
State of Illinois, Department of Transportation, Division of Water Resources
State of Illinois, Department of Conservation
State of Illinois Water Survey
Northeastern Illinois Planning Commission
Southeastern Wisconsin Regional Planning Commission (Des Plaines)
State of Wisconsin Department of Natural Resources (Des Plaines)
Northwestern Indiana Regional Planning Commission (Little Calumet)
State of Indiana Department of Natural Resources (Little Calumet)

Upper Salt Creek Watershed
Steering Committee Chairman, Tom Hamilton
Sponsors:
- North Cook Soil and Water Conservation District
- Metropolitan Sanitary District of Greater Chicago
- State of Illinois, Department of Transportation, Division of Water Resources
- Cook County Forest Preserve District
- Elk Grove
- Elk Grove Park District
- Schaumburg
- Schaumburg Park District
- Rolling Meadows
- Palatine
- Palatine Park District
- Salt Creek Rural Park District
- United States Department of Agriculture, Soil Conservation Service

North Branch of the Chicago River
Lake County Steering Committee Chairman, Donald Strenger
Cook County Steering Committee Chairman, Tom Smith
Planning Participants and Potential Sponsors:
- U.S. Army Corps of Engineers
- Metropolitan Sanitary District of Greater Chicago
- State of Illinois, Department of Transportation, Division of Water Resources
- Lake County Forest Preserve District
- Cook County Forest Preserve District
- Lake County Soil and Water Conservation District
- North Cook Soil and Water Conservation District
- Lake County
- Cook County
- East Skokie Drainage District
- North Skokie Drainage District
- Union Drainage District Number 1
- West Skokie Drainage District
- Lake Bluff
- North Chicago
- Lake Forest
- Bannockburn
- Lincolnshire
- Deerfield Park District
- Highland Park
- Highland Park District
- Northbrook
- Northfield
- Winnetka
- Glenview
- Wilmette
- Niles

Little Calumet River
Chairman of Steering Committee, Ed Howell
Planning Participants and Potential Sponsors:
- Will and South Cook Soil and Water Conservation District
- Lake County, Indiana Soil and Water Conservation District
- Metropolitan Sanitary District of Greater Chicago
- State of Illinois, Department of Transportation, Division of Water Resources
- Cook County Forest Preserve District
- Will County Forest Preserve District
- Cook County
- Will County
- Cal-Union Drainage District
- Lincoln-Lansing Drainage District
- Drainage District Number 2
- Union Drainage District Number 2
- Union Drainage District Number 4
- Tinley Park
- Tinley Park District
- Oak Forest
- Midlothian
- Robbins
- Matteson
- Olympia Fields
- Flossmoor
- Homewood
- Homewood-Flossmoor Park District
- Hazel Crest
- Hazel Crest Park District
- Country Club Hills
- Markham
- Markham Park District
- Harvey
- Park Forest South
- Park Forest
- South Chicago Heights
- Crete
- Chicago Heights
- East Chicago Heights
- Glenwood
- Thornton
- South Holland
- Sauk Village
- Lynwood
- Lansing
- Lansing Park District
- Calumet City
- Riverdale
- Richton Park
- Steger
- Blue Island
- Westhaven
- Orland Park

Des Plaines River
Chairman of Wisconsin Steering Committee, Orville Price
Chairman of Lake County, Illinois Steering Committee, Robert Tenney
Chairman of Cook County, Illinois Steering Committee, Eugene Doyle
Chairman of Lower Salt Creek Steering Committee, Tom Hamilton
Planning Participants and Potential Sponsors:
- Kenosha County, Wisconsin Soil and Water Conservation District
- Lake County, Illinois Soil and Water Conservation District
- North Cook, Illinois Soil and Water Conservation District
- Kane-DuPage, Illinois Soil and Water Conservation District
- Metropolitan Sanitary District of Greater Chicago
- State of Illinois, Department of Transportation, Division of Water Resources
- State of Wisconsin Department of Natural Resources
- Lake County, Illinois Forest Preserve District
- Cook County Forest Preserve District
- DuPage County Forest Preserve District
- Will County Forest Preserve District
- Kenosha County, Wisconsin
- Lake County
- Cook County
- DuPage County
- Weller Creek Drainage District
- City of Chicago
- Gurnee
- Libertyville
- Lincolnshire
- Long Grove
- Buffalo Grove
- Wheeling
- Wheeling Park District
- Arlington Heights
- Arlington Heights Park District
- Prospect Heights
- Mt. Prospect
- Des Plaines
- Franklin Park
- Northlake
- Melrose Park
- Bellwood
- Broadview
- Westchester
- LaGrange
- Brookfield
- Riverside
- Lyons
- Bloomingdale
- Roselle
- Itasca
- Wood Dale
- Wood Dale Park District
- Addison
- Villa Park
- Elmhurst
- Elmhurst Park District
- Oak Brook
- Hinsdale
- Western Springs

Poplar Creek
Chairman of Poplar Creek Steering Committee, William Johnson
Planning Participants and Potential Sponsors:
- Metropolitan Sanitary District of Greater Chicago
- State of Illinois, Department of Transportation, Division of Water Resources
- North Cook, Illinois Soil and Water Conservation District
- Kane-DuPage, Illinois Soil and Water Conservation District
- Elgin Sanitary District
- Cook County Forest Preserve District
- Elgin
- Streamwood
- Hanover Park
- Schaumburg
- Hoffman Estates

Calumet-Sag Channel
Chairman of Calumet-Sag Steering Committee, Chester Stranczak
Planning Participants and Potential Sponsors:
- Metropolitan Sanitary District of Greater Chicago
- State of Illinois, Department of Transportation, Division of Water Resources
- Will and South Cook Soil and Water Conservation District
- Cook County Forest Preserve District
- Cook County
- Hickory Hills
- Palos Hills
- Chicago Ridge
- Oak Lawn
- Worth
- Alsip
- Crestwood
- Palos Heights
- Palos Park

Champaign, Illinois June 1976