SHORT AND LONGER RANGE RECREATION PLANNING
FOR THE NEWARK PEQUANNOCK WATERSHED

by

GERALD WARREN BILLES
B.Arch., Tulane University
(1970)

Submitted in Partial Fulfillment
of the Requirements for the
Degree of Master of
Architecture in Advanced Studies
at the
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Signature of Author...........................
Department of Architecture, June 16, 1972

Certified by...........................................
Thesis Supervisor

Accepted by...........................................
Chairman, Departmental Committee on Graduate Students

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ABSTRACT

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Gerald Warren Billes

Submitted to the Department of Architecture on
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Newark, New Jersey has owned 35,000 acres of land—known as the
Newark Pequannock Watershed—since 1900. The land is relatively
undeveloped, used only to maintain the City's water supply system.
For fiscal reasons in 1971, Mayor Gibson initiated a policy study for
development of the property. The study is presently being prepared by
the Office of Newark Studies (ONS).

I worked with the ONS to begin to use the Watershed as
immediately as possible for temporary purposes. The first part of this
thesis involves the recreational use of the land for the summer of 1972
and concludes certain steps be taken to extend recreation to future
use. The actual processes are documented in a complete appendix
which complements this section.

The second part of my thesis explores the position Newark finds
itself with respect to the property and supports a longer range use of
the Watershed, also for recreational purposes. A recreation decision
making model and process are written as results and termed "Design
Criteria".

Thesis Supervisor: Julian Beinart
Title: Professor of Architecture (Visiting)
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I owe much appreciation to Jack Krauskoph and the entire staff at the Office of Newark Studies who made my thesis possible by allowing me to work with them and offering their assistance.

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Frances Courtney and Joan Chase edited my work, making it easier for everyone to read. My sister, Heloise Billes Kaufman, devoted personal attention in typing the final archival product.

Not least, I give my love and owe my gratitude to my wife, Frances Courtney Billes and my parents for the morale it takes to compose and finish my Masters thesis at M.I.T.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>ii</td>
</tr>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>iii</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td>iv</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>vii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF MAPS</td>
<td>ix</td>
</tr>
<tr>
<td>AERIAL VIEW OF NEWARK PEQUANNOCK WATERSHED</td>
<td>x</td>
</tr>
<tr>
<td>CHAPTER I: INTRODUCTION</td>
<td></td>
</tr>
<tr>
<td>Foreword</td>
<td>1</td>
</tr>
<tr>
<td>Backward</td>
<td></td>
</tr>
<tr>
<td>History of the Office of Newark Studies</td>
<td>4</td>
</tr>
<tr>
<td>History of the Newark Pequannock Watershed</td>
<td>6</td>
</tr>
<tr>
<td>CHAPTER II: SHORT RANGE PLANNING FOR THE WATERSHED</td>
<td></td>
</tr>
<tr>
<td>Description of the Land</td>
<td></td>
</tr>
<tr>
<td>Access</td>
<td>11</td>
</tr>
<tr>
<td>Topography and Wildlife</td>
<td>12</td>
</tr>
<tr>
<td>Climate</td>
<td>13</td>
</tr>
<tr>
<td>Facilities</td>
<td>14</td>
</tr>
<tr>
<td>Recreational Use of the Watershed this Summer (1972)</td>
<td></td>
</tr>
<tr>
<td>Procedure</td>
<td>18</td>
</tr>
<tr>
<td>Administration</td>
<td>25</td>
</tr>
<tr>
<td>Locations</td>
<td>30</td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS
(Continued)

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedules</td>
<td>46</td>
</tr>
<tr>
<td>Controls and Restrictions</td>
<td>49</td>
</tr>
<tr>
<td>Conclusions</td>
<td>55</td>
</tr>
<tr>
<td>CHAPTER III: LONGER RANGE PLANNING FOR THE WATERSHED</td>
<td></td>
</tr>
<tr>
<td>Alternative Land Use Considerations</td>
<td>61</td>
</tr>
<tr>
<td>Objectives</td>
<td>68</td>
</tr>
<tr>
<td>Evaluation of Recreational Land Use</td>
<td></td>
</tr>
<tr>
<td>Demand Considerations</td>
<td>71</td>
</tr>
<tr>
<td>Economic Considerations</td>
<td>83</td>
</tr>
<tr>
<td>Political Considerations</td>
<td>92</td>
</tr>
<tr>
<td>Social Considerations</td>
<td>104</td>
</tr>
<tr>
<td>Ecological Considerations</td>
<td>114</td>
</tr>
<tr>
<td>Access</td>
<td>119</td>
</tr>
<tr>
<td>Facilities</td>
<td>129</td>
</tr>
<tr>
<td>Recreational Design Criteria</td>
<td>135</td>
</tr>
<tr>
<td>Conclusions</td>
<td>147</td>
</tr>
<tr>
<td>APPENDIX A</td>
<td>151</td>
</tr>
<tr>
<td>APPENDIX B</td>
<td></td>
</tr>
<tr>
<td>General Correspondence</td>
<td>172</td>
</tr>
<tr>
<td>APPENDIX C</td>
<td></td>
</tr>
<tr>
<td>Meetings</td>
<td>190</td>
</tr>
<tr>
<td>APPENDIX D</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Proposals</td>
<td>207</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>APPENDIX E</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Replies to Proposals</td>
<td>230</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>243</td>
</tr>
<tr>
<td>Figure</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1.</td>
<td>ORGANIZATION OF THE RECREATION DEPARTMENT</td>
</tr>
<tr>
<td>2.</td>
<td>FUNDS AVAILABLE FOR USE AT THE WATERSHED</td>
</tr>
<tr>
<td>3.</td>
<td>MANPOWER AVAILABLE FOR THE WATERSHED</td>
</tr>
<tr>
<td>4.1</td>
<td>ROUTE 23 ISLAND</td>
</tr>
<tr>
<td>4.2</td>
<td>CHARLOTTESBURG PICNIC AREA</td>
</tr>
<tr>
<td>4.3</td>
<td>OPEN FIELD BEHIND WATERSHED OFFICE AT CHARLOTTESBURG RESERVOIR</td>
</tr>
<tr>
<td>4.4</td>
<td>ECHO LAKE PICNIC AREA ON ECHO LAKE ROAD</td>
</tr>
<tr>
<td>4.5</td>
<td>BANK OF ECHO LAKE AT THE PUMP HOUSE</td>
</tr>
<tr>
<td>4.6</td>
<td>CROSS CASTLE</td>
</tr>
<tr>
<td>4.7</td>
<td>HANKS POND AREA</td>
</tr>
<tr>
<td>4.8</td>
<td>CLINTON FURNACE ALONG CLINTON ROAD</td>
</tr>
<tr>
<td>4.9</td>
<td>FIRE TOWER PICNIC AREA</td>
</tr>
<tr>
<td>4.10</td>
<td>CEDAR POND HOUSE SITE</td>
</tr>
<tr>
<td>4.11</td>
<td>CEDAR POND</td>
</tr>
<tr>
<td>4.12</td>
<td>OAK RIDGE AND PARADISE ROADS SITE</td>
</tr>
<tr>
<td>4.13</td>
<td>DAVID DAVENPORT ROAD OPEN FLOOD PLAIN SITE</td>
</tr>
<tr>
<td>4.14</td>
<td>MILTON ROAD AND RESERVOIR ROAD-OAK RIDGE FALLS AREA</td>
</tr>
<tr>
<td>4.15</td>
<td>OAK RIDGE RESERVOIR AND FALLS AREA</td>
</tr>
<tr>
<td>4.16</td>
<td>OAK RIDGE PICNIC AREA OFF ROUTE 23</td>
</tr>
<tr>
<td>Table</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>SCHEDULE OF ACTIVITIES</td>
</tr>
<tr>
<td>2</td>
<td>FACTORS PREVENTING DESIRED OUTDOOR ACTIVITY</td>
</tr>
<tr>
<td>3</td>
<td>PROJECTED OUTDOOR RECREATION PREFERENCES FOR NEWARK</td>
</tr>
<tr>
<td>4</td>
<td>NEWARK'S TAX PAYMENTS TO WATERSHED MUNICIPALITIES</td>
</tr>
<tr>
<td>5</td>
<td>POPULATION INCREASES IN THE WATERSHED MUNICIPALITIES, 1965-1970</td>
</tr>
<tr>
<td>6</td>
<td>STATE EQUALIZATION PROPERTY TAX RATE FOR 1960 AND 1970</td>
</tr>
<tr>
<td>7</td>
<td>VALUATION CHANGE BY LAND USE, 1968-1970</td>
</tr>
<tr>
<td>8</td>
<td>POPULATION GROWTH IN WATERSHED MUNICIPALITIES</td>
</tr>
<tr>
<td>9</td>
<td>ACREAGE OWNED BY NEWARK IN THE SIX TOWNSHIPS</td>
</tr>
<tr>
<td>10</td>
<td>1970 CENSUS OF POPULATION FOR NEWARK</td>
</tr>
<tr>
<td>11</td>
<td>POPULATION OF NEWARK, 1900-1970</td>
</tr>
<tr>
<td>12</td>
<td>CAPABILITY OF NATURAL AND MAN-MADE FEATURES WITH POTENTIAL LAND USES</td>
</tr>
<tr>
<td>13</td>
<td>NUMBER OF ACRES BY RESTRICTION OF WATERSHED LANDS</td>
</tr>
<tr>
<td>14</td>
<td>MODEL OF DECISION MAKING PROCEDURES</td>
</tr>
<tr>
<td>15</td>
<td>TOWNSHIP NEED FOR RATABLES</td>
</tr>
<tr>
<td>16</td>
<td>TAX PRESSURE ON NEWARK</td>
</tr>
<tr>
<td></td>
<td>LIST OF MAPS</td>
</tr>
<tr>
<td>---</td>
<td>-------------</td>
</tr>
<tr>
<td>1.</td>
<td>WATER SUPPLY SYSTEM</td>
</tr>
<tr>
<td>2.</td>
<td>REGIONAL MAP</td>
</tr>
<tr>
<td>3.</td>
<td>NEWARK PEQUANNOCK WATERSHED</td>
</tr>
<tr>
<td>4.</td>
<td>RECREATION SITE LOCATIONS</td>
</tr>
<tr>
<td>5.</td>
<td>MASTER PLANS OF WATERSHED TOWNSHIPS</td>
</tr>
<tr>
<td>6.</td>
<td>NATURAL RESTRICTIONS COMPOSITE</td>
</tr>
<tr>
<td>7.</td>
<td>LAND USE DEVELOPMENT RESTRICTIONS</td>
</tr>
<tr>
<td>8.</td>
<td>PROPOSED CHANGES IN ROAD SYSTEM</td>
</tr>
<tr>
<td>9.</td>
<td>CENTRAL PARKING SCHEME</td>
</tr>
<tr>
<td>10.</td>
<td>DISPERSED PARKING SCHEME</td>
</tr>
<tr>
<td>11.</td>
<td>RAILROAD RIGHT-OF-WAY</td>
</tr>
</tbody>
</table>
AERIAL VIEW OF NEWARK PEQUANNOCK WATERSHED
CHAPTER I

INTRODUCTION

Foreword

Architects and planners have always been concerned with land use and land policy, but have only recently acknowledged the total and complex impact of growth on the environment. Indeed, the quality of the environment has become a national issue, and many people are looking to the architects and planners for help in "saving the earth." The focus of this thesis is not the world, but one piece of land called the Newark Pequannock Watershed and the forces that may influence its development.

The Pequannock Watershed is 35,000 acres of land located 35 miles northwest of Newark. The property is owned by Newark and presently supplies half of the city's drinking water. The Office of Newark Studies, operating independently, has been commissioned by Mayor Gibson to study the future use of such a large parcel of land, and wishes to preserve the Watershed's physical nature as much as possible.

My work is part of a larger report by the Office of Newark Studies (ONS) to be presented to the Mayor in August 1972. The larger report is a policy statement that will cover an inventory of
city-owned lands, determination of development trends in surrounding area, and determination of potential land usage with regard to the following land use components: conservation areas, recreation areas, transportation, community facilities, employment and commercial centers, housing, public utility framework, and water supply extension.

The Watershed is located in the townships of Jefferson, Rockaway, Vernon, Hardyston, Kinnelon, and West Milford. Newark pays property tax to each of these towns totaling over a million dollars. Property tax is the major factor that is driving Newark to consider development of the Watershed. However, the purity of the water supply is vital, so great care must be taken in locating land use.

The first half of my thesis is a plan to put the land into use for recreation purposes this summer. This involved scheduling and locating groups and agencies for their own program purposes. In the process of development, land masses are often left dormant and stagnant for long periods of time. In the eyes of a conservationist, low-intensity use is good, but to the citizens of Newark, it is a waste. I am attempting during the policy-making period to enact a transition use (recreation) that will further and hasten policy-making goals (i.e., serve Newark resident).

The Watershed has been long undeveloped, used only to maintain a water supply system. Controlled recreation is an activity which would be the least detrimental to the land because it alters the physical state of the property less than do other uses. Recreation, however, is a departure from traditional use of the Watershed and
caution must be taken in advocating this change.

I have assumed that there is interest in using the Watershed this summer for recreation, and that there is a need for expanding Newark's recreation facilities as well as a need for new recreation uses for the city. I have also assumed that there are resources available to afford extension of existing facilities and addition of new ones. I coordinated my findings into a usable document with recommendations for immediate and longer-range recreation use of the Watershed.

This paper is not intended to be a feasibility study, but a spatial and activities use plan. Few of the many funding sources are explored. Administrative and organizational schemes are not extensively covered, nor are reflections of central city problems, pollution, sewage, economic growth, transportation alternatives, and a number of other topics that affect development of the Watershed lands.

The second half of my thesis will analyze the medium-to longer-range use of the Watershed as a place for recreation. I hope to project an awareness of the potentials and responsibility that inevitably accompany development—an awareness that has not been developed during the period of disuse fostered by a well-intentioned Water Supply Division anxious to guarantee the purity of its water. The Appendix documents sequential steps followed in setting up recreational use this summer.
History of the Office of Newark Studies

The city of Newark, New Jersey, owns 35,000 acres of forest land—more than twice the size of the city itself—from which it gets about half of its drinking water.¹ This area, the Newark Pequannock Watershed, lies about 35 miles northwest of the city and is virtually unpopulated. (See the Regional Map on page 16.) Since Newark acquired this land in 1900, it has been unused and carefully protected in an effort to safeguard the water supply. Considering the fact that Newark has the smallest land area of any major city in the United States, as well as more than its share of urban ills, it is not surprising that Newark's mayor, Kenneth Gibson, has called the Watershed, "our most valuable resource."²

When Gibson came to office in 1970 few people in Newark were aware of the Watershed's existence (which is still the case today). Those who did know of the Watershed had probably heard of it during the

¹This water has long had a very high reputation. In 1913, Frank Urquart reported that, "The purity of the water that Newark now enjoys was made a matter of record over a hundred years ago, when Alexander Hamilton sought to learn where the purest and softest water in all the States then established was to be had....So, under his direction, the government employed a number of American and English chemists to go over the entire area of the States, examining the streams. In the report made by the chemists it was found that the waters of the Pequannock Watershed in this State were declared to be the purest." Frank Urquart, A Short History of Newark (Newark: Marion Press, 1913), p. 135.

uproar caused when the outgoing mayor, in what many considered a very shady deal, had tried to sell the land before leaving office. This attempt was foiled, but it called Gibson's attention to the Watershed. In April 1971, Mayor Gibson announced that Newark would investigate the possibility of making some economical use of the area without harming the Watershed. New filtration and treatment methods have made the strict protection of the past unnecessary. The Ford Foundation supplied $85,000 for a study to determine the potential development of the area while conserving as much of the open space as possible. In announcing the study Gibson said, "We believe that development of this property can help Newark with its fiscal problems."3

The study is being made by the Office of Newark Studies, which is privately funded and administered by Rutgers University through its Bureau of Community Service. The purpose of the Office is to analyze Newark's problems and recommend ways of dealing with them. Through an intern program which the Office coordinates with colleges and universities, Newark uses the services of college students majoring in urban affairs and related areas in working with these problems.

I came to Newark from M.I.T. in February 1972 to work as an intern with the Office of Newark Studies (ONS). At that time, the study was about half finished and it looked as if recreation would be the best short-term, if not long-term, use of the Watershed. Furthermore, the staff had become increasingly convinced that the land should

3 Ibid.
be used immediately and that some use could be made of this long idle land even before the study was finished and a final plan made. The staff had decided that a pilot program of recreation for the summer of 1972 would be the best immediate use, benefiting the citizens of Newark by providing much needed recreation, and the ONS by providing feedback on the strong and weak points of recreation use of the Watershed. The staff thought that a summer recreation program might also put them in a position from which they could initiate revenue-producing recreation facilities. It would be my job to locate and schedule individuals and groups for participation in the summer recreation program at the Watershed, and to help in any other way that was needed.

History of the Pequannock Watershed

The Watershed area takes its name from the Pequannock River, which is the major stream crossing the Watershed. It rises in the eastern part of Sussex County and flows east-southeast into the Ramapo near Pompton Plains. It flows through the highlands of northern New Jersey as is a tributary of the Passaic River. Newark's water supply system covers about 63 square miles. The city owns 86 percent of this or about 35,000 acres. The rest is privately owned. The tract contains five storage reservoirs and one intake reservoir.

The Watershed is rich in water resources and minerals. Algonquin Indians were the first settlers on the land, but white settlers came to the region by 1715 and began to farm. The farming

\[\text{The historical information for this chapter was taken from}\]
continued, a few towns grew up, and agricultural commerce influenced the development of highways and railways. The mining of iron also greatly influenced the region during the time when water was essential for power and transportation. Mining began in 1730, and in 1765 the first large-scale iron operation in the Colonies, the Charlottesburg Mine, was established on both sides of the Pequannock. There were more than twelve mines in the Watershed area, but most were closed by the late 19th century. The ruins of one iron furnace are still standing a few yards from the Clinton Reservoir.

After the Revolution, northern New Jersey began to develop as a manufacturing region. Its abundant water and mill sites attracted investors. The success of the Society for Establishing Useful Manufactures, founded in the Passaic area in 1791 as a real estate and promotional company, demonstrated the wide and lucrative market for utilities. After the Civil War, the modern factory system became the dominant method of production. New industries appeared and old ones expanded between 1860 and 1900. Cities on the Passaic River supported these factories and the river became a receptacle for industrial waste.

In 1870 Newark finished construction of the Belleville Works to take water from the Passaic River. There were immediate complaints about the quality of the water, which was affected by pollution from cities farther up the river. In 1873 and 1874 there was active

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two mimeographed reports compiled by the Office of Newark Studies: "The Newark Pequannock Watershed," and "The Development of the Pequannock Watershed Area and Newark's Water Supply: A Historical Outlook."
agitation for the water supply to come from the lakes and streams in
the northern part of the state. In 1873 the Newark Aqueduct Board
was informed of the pollution problem and was told that serious
epidemics could be traced to its water supplies. As late as 1884, the
Board dismissed a state commission proposal to establish a water
project in the Pequannock River Valley, and persisted in maintaining
the inadequate Belleville Works. But by 1886 it was evident that
plans for purifying the Passaic could not succeed. Mayor John Haynes
visited the Pequannock Watershed and, impressed with the purity of the
water, planned to purchase the supply. Problems in acquiring the
land developed from the beginning, and Haynes was ridiculed by
opponents of his plan.

However, in 1889 Newark contracted with the East Jersey
Company for construction of storage reservoirs in the Watershed and an
aqueduct capable of delivering to Newark 50 million gallons of water
a day, to be finished by May 1892 for $6,000,000. The contract was
fulfilled on time with the completion of three reservoirs and 21 miles
of 48-inch steel pipe. Another reservoir and second steel pipe were
added in 1896. In 1898 and 1899 the city installed water meters to
curtail waste. In 1900 all of the reservoirs and pipe lines were
turned over to Newark, and with the payment of the final $2,000,000 of
the $6,000,000, the entire Pequannock Watershed Supply System became
the property of the City of Newark.

Today the Watershed is administered by the Department of
Public Works and maintained by the Division of Water Supply. Most of
the Watershed's staff of 39, including a forester in charge of planting
new trees, are located at the Water Supply Office beside the Charlottesburg Reservoir. Several staff members live at the Watershed in houses provided by the city.

The Pequannock Watershed supplies 45 percent of Newark's water supply and is capable of delivering between 50 and 55 million gallons daily. The water is first treated with chlorine and lime and aerated at a treatment plant at the Watershed. It then goes to the Cedar Grove Reservoir, located on a mountain above Montclair, where it is again treated and aerated. From there it goes to Newark. Newark sells water from the Pequannock to seven separate municipalities along the way. (See Water Supply System Map on page 10.) Since the Watershed land is within the boundaries of six municipalities in northern New Jersey, Newark must pay yearly property taxes in excess of $1,200,000.

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5 In addition to the Pequannock Watershed, which is owned solely by Newark, Newark gets its water from two other sources, the North Jersey District Water Supply Commission's Wanaque Reservoir, in which Newark owns 40.5% interest, and the Elizabethtown Water Company, a privately owned water company with its supply source from the Rariton River.
WATER SUPPLY SYSTEM
OF THE
CITY OF NEWARK

DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER SUPPLY
NEWARK, N.J.

1950
HUGH J. ARREONZO
BAYSID

MAP 1
CHAPTER II

SHORT RANGE PLANNING FOR THE WATERSHED

This chapter deals with the immediate use of the Watershed. It is divided into two parts: (1) a description of the land at the present and of the existing facilities available for use, and (2) a description of the process of planning for recreation at the Watershed for the summer of 1972.

Description of the Land

Access

It takes about 45 minutes by car to travel the 35 miles from Newark to the Watershed, taking the Garden State Parkway north to exit 153 B to Route 3 west, to Route 46 west, and then Route 23 north. (See the Regional Map on page 16.) At first, Route 23 is heavily commercial, crowded with gas stations, drive-in food stands, discount stores, used car lots and shopping centers. The disappearance of this clutter is a sign that the Watershed is near. Mountains covered with trees appear in the distance and Route 23 divides to a dual highway separated by a stream. It runs through the Watershed from the southeast to the northwest. (See the Watershed Map on page 17.) The road enters an area of trees, and no buildings. It is the beginning of the Pequannock Watershed. Further along Route 23, there is some commercial
development—gas stations, restaurants, small stores and real estate offices—but the commerce is confined to the highway, as are the few settlements in the Watershed like Newfoundland and Stockholm. There is no development on the city-owned property except for a few houses for city employees assigned to the Water Supply Division. With these few exceptions, the 63 square miles of Watershed are unpopulated.

**Topography and Wildlife**

Entering the Watershed, one sees little of its expanse, for the area is a basin surrounded by mountains. These elevations form a divide between major drainage areas. The Pequannock Watershed is itself surrounded by three other watersheds—the Rockaway River Watershed to the south, the Wanaque Watershed to the east and north, and the Wallkill River Watershed to the west. The mountains in this surrounding area provide sites for three major ski areas—Snow Ball to the southwest, Great Gorge to the northwest, and Craigmere to the southeast. The land is heavily wooded with red and white oak, pine and hemlock. The terrain is rugged, with steep slopes, narrow valleys, and parallel flat-topped ridges. The Pequannock River flows through the Watershed, and in addition to the five main reservoirs, there are many smaller lakes and ponds. The Office of Newark Studies describes the Watershed as an area of "...many clear lakes and ponds, green valleys, magnificent fock outcroppings, gorges, mountains, and forest cover..." It is a beautiful place, and one that still has wildlife.

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There are white-tailed deer, woodchucks, squirrels, rabbits and snakes. There are many birds, including hawks, grouse and vultures, and the migratory birds that use the Watershed, which is located in the Atlantic flyway, as a resting place. Fish are plentiful, including bass, pickerel, perch and trout. A recent study conducted by the State of New Jersey reported that the Pequannock Watershed contains the last streams in the state with a naturally regenerating trout population.  

Climate

The climate of the Watershed is typical of northern New Jersey as reported by the United States Department of Commerce, Environmental Science Services Administration. Summer temperatures rarely exceed $100^\circ F.$ with frequent readings in the 90's from June to September. The mean maximum temperature for July is $86^\circ$ and the mean minimum temperature for July is $60^\circ$. The average date of the last freeze in the spring is May 2, and the first in the fall is October 12. The mean precipitation totals for the summer months are 3.41 inches for June, 4.26 inches for July, and 5.25 inches for August. There are 9-12 days a month with measurable precipitation. The prevailing wind is from the southwest from May to September. Destructive storms are infrequent but summer thunderstorms occasionally combine high winds

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7State of New Jersey, Department of Environmental Protection, Division of Fish, Game and Shell Fisheries, Report of Fish Population of the Streams of the Newark Watershed in 1968 and 1969, (Trenton: Department of Environmental Protection, 1970), p. 3.

with heavy rainfall. Winter temperatures rarely go below 0°; the mean maximum temperature for January is 38° and the mean minimum temperature is 20°. There is an average of 37 inches of snow in the winter, but it has varied from twice to half that amount. The prevailing winter winds are from the northwest. The Department of Commerce describes the area by saying, "The invigorating climate...with marked changes in weather, generally neither extreme nor severe, provides an excellent setting for industrial and commercial interests..." One assumes it also provides an excellent setting for recreation.

Facilities

The few facilities at the Watershed are utilities, natural or man-made, that add to the comfort and satisfaction of human beings. They include basic shelter, running water, sanitation and cooking equipment. The following facilities can be found at the Watershed:

Water — There is no piped water on the Watershed except that in the Water Supply Office at Charlottesburg, the main intake reservoir.

— There is drinkable water, naturally running, on an old wood road just off Stevens Road, which leads to the Bearfort Mountain Fire Tower.

Sanitation — There are toilets at each of the three picnic areas—Charlottesburg, Echo Lake,

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and Oak Ridge. These latrines operate on a septic tank sewer system that tolerates a limited volume.

— Other toilets are used by the staff of the Water Supply Division in a separate house outside the Water Supply Office.

— Individual wooden units may be found at Bearfort Mountain, accessible from the Fire Tower, and at Hanks Pond, accessible from Cross Castle.

— Shelter from rain can be found underneath an arcade floor structure of Cross Castle.

— The Water Supply Office is the only heated shelter on the land.

— Near Hanks Pond is an old storage shelter that has been boarded up due to vandalism.

— There is an old train station that is also boarded up.

— Other smaller structures are present, such as the old band shell and the underside of the Fire Tower.

Cooking equipment — At each of the three picnic areas, there are grills in good condition.

— There are also grills on Bearfort Mountain.
Recreational Use of the Watershed this Summer (1972)

Procedure

When I started work on February 7, 1972, the Watershed Study was already nine months in progress. I oriented myself to the study by talking to Terry Moore, project manager of the Watershed Study, and Jack Krauskoph, its director. Both were from the Office of Newark Studies (ONS), which was to be my base of operations. I also met the office staff, and during the course of time, talked with them about the overall living conditions in Newark. It would have been impossible to carry on everyday activities outside the office and still get everything done without the aid of secretaries to take messages, type, edit, and take minutes, and without the general guidance of other staff members. The situation described above was an excellent way of immersing myself in this new situation, and gave me a bona fide position of leverage.

From the beginning, I wanted to be clear about what was expected of me and what my job would entail. Terry Moore, the project manager, asked me to initiate recreation this summer at the Watershed. I replied by writing a draft of what I thought that would involve. After a Watershed Staff meeting, I eliminated about half of the document, revised some points and wrote another draft that was acceptable, except for some minor revisions. The written acknowledgement of my purpose and the process with which I intended to begin

10 The final draft with minor revisions can be found in Appendix A, p. 152.
allowed me not to tolerate wasted effort and to state clearly to others my purpose and position with the ONS.

I also began by reading all I could about the ONS, the history of the Watershed, and the reports written about the Watershed by consultants and others. I socialized, read the Newark Star Ledger and other local newspapers, asked questions, went to city council meetings, and wrote for material and information about recreation. Collectively, these activities and research increased my competence for the job.

In the second week of February, while I was reading, Terry Moore began to schedule meetings for me with prominent officials of Newark government and heads of various departments in Newark. He also suggested names of people I should contact about recreation. It was surprising how comfortable I began to feel just having met these people. If their names were mentioned later, I knew who they were, and more important, if my name was mentioned, they knew me. I meant something to them only superficially, but that seemed to be enough for them to invite me to important meetings and to recommend me to others.

Three months is not a long time to initiate a summer recreation program, but I took the time to meet some administrative heads who could be instrumental in the passage or rejection of my policy recommendations.

The groundwork was laid by the first of March when I began the planning process for the summer. Up to this time I had been listening to, reading, and assessing all that went before and all I had to do. I had to start making positive steps toward the goal I wanted to
achieve. My goal was to encourage as many Newark residents as possible to use the Watershed for conservation, educational, and primarily recreational purposes. Since very few people outside Newark city government knew about the Watershed, accomplishment of this goal would have two results: It would publicize and add impetus to the Watershed Study Report, and it would benefit Newark residents by making the Watershed available for recreation.

I chose to use already existing recreation or recreation-related groups for involving large numbers of people in the program, while maintaining some control of that involvement. Considering the time and money constraints, it was decided to ask these groups to provide the recreation programs. I requested a list of recreation agencies in Newark, which was provided by the ONS.\(^\text{11}\) I then contacted and met with representatives from these agencies.

From a few meetings with agency people, I realized that my knowledge of the physical state of the Watershed was inadequate. People wanted to know, and rightfully, whether or not the terrain was conducive to hiking, camping, boating and picnicking, and where these activities could best take place. On March 7, I spent the entire day at the Watershed, visiting all of the sites known to ONS. (Pictures of the visit can be found at the end of this section.) The trip gave me an enthusiasm I can't explain in words. It gave me the energy I

\(^{11}\text{The list was from the Group Work and Recreation Division of the Council of Social Agencies of the United Community Fund of Essex and West Hudson (Counties), Summer Recreation Directory, Camps and Programs, 1971, (Newark, United Community Fund of Essex and West Hudson Counties, 1971).}\)
needed to start meetings with larger groups—an experience I have had before with little success. At any rate, it was time to make my efforts more publicly felt.

I notified a representative from every recreation agency on the list of a large meeting, scheduled March 10, with all those interested in recreation at the Pequannock Watershed this summer. Representatives also received an agenda of the meeting, an announcement of a field trip the following week, a description and location of the Watershed, and a form to be filled out by a member of each agency.12 This was the first of two large meetings held about recreation at the Watershed. The discussion was general; we answered questions, made our position at the ONS known, and offered our assistance when possible.13 When the meeting ended, a tour to the Watershed was set for March 16.14 After the tour, invitations were sent for another meeting, which was held on March 24.15 By this time, no one had committed himself to even a preliminary proposal for use of the Watershed. I decided not to schedule another meeting until there was some commitment.

The meetings did serve the purpose of informing a large number of people. Since the meetings were open to the public, people who had an interest in recreation were induced to attend. One

12 Refer to Appendix C, p. 191, for a copy of the letter.

13 An agenda and minutes of this first meeting can be found in Appendix C, p. 197.

14 See Appendix C, p. 200, for minutes of the tour.

15 See Appendix C, p. 201, for minutes of the second meeting.
agency representative\textsuperscript{16} said that the meeting on March 10 was the first time these people had ever gathered together, and that it was a good sign for recreation in Newark. The meetings also brought ideas on recreation into the open by allowing the different agencies present to exchange points of view. I shouldn't have expected anything more. Proposals are personal and confidential for most of the participating agencies, and had to be dealt with on an individual level.

I continued to meet with individual agency representatives during April, working toward getting firm commitments in the form of proposals. On April 4 I talked with Joyce Dividson, who had been the 1971 summer recreation coordinator for Newark. She almost doubled my list of recreation agencies and gave me her impression of the agencies and their staff representatives. I regret not having talked with her sooner because the additional agencies had to be oriented to everything I had already done. Since there was no time to repeat the steps I had taken, I wrote a letter, dated April 5, to my new list of agencies, briefly stating our purpose at ONS, and describing what had been done so far. The letter also asked for the submittal of program proposals, requested a short list of items to be included in the proposals, and set a deadline for proposals on April 30, the initial due date of the Final Report to the Mayor.\textsuperscript{17} By the end of April I had received about 10 proposals.

Some Italians and Puerto Ricans felt that there was not

\textsuperscript{16}Mario Grande of the Police Athletic League.

\textsuperscript{17}A copy of the letter can be found in Appendix B, p. 175.
enough representation on the list of recreation agencies of their ethnic groups in Newark, and was true. However, there was nothing we could do, since few Italian and Puerto Rican agencies sponsored recreation programs. Daniel Blue, the Director of the Human Rights Commission, was asked to give assistance in this matter. Also, Terry Moore (ONS) asked councilmen about groups in their wards we were not aware of. Three or four more names were added to my list, but these contacts served primarily to ward off any accusation that no effort had been made to contact certain types of agencies. There are interest groups who will not be served by the recreation program this summer. The task remains for the new Director of Recreation to include these groups in a publicly sponsored program.

There was an unexpected complication in the first activity I scheduled—a camping trip for a Boy Scout group at the Watershed on April 8 and 9. A member of the Water Supply Division changed the location we had originally decided would be best for the occasion. I learned that this same Water Supply staff member had arbitrarily decided certain areas on the Watershed were off-limits. However, this incident had good results. We had a full month to clear the air before another group was scheduled to use the land. By May 9, we (ONS) had talked to Frank Yacovone, Superintendent of the Water Supply Division, and his boss Sam Friscia, Director of the Department of Public Works. More emphatically, we asked Mayor Gibson to write a memo to Sam Friscia listing the sites we wanted to use. A map of locations was attached and a courtesy copy was sent to Frank Yacovone.18 People

18A copy of the memorandum can be found in Appendix B, p. 186.
rarely give up "rights" or power—it must be taken. In the case of Frank Yacavone, it was an exclusive power of decision making for the use of the land. The rights that the ONS were given in dealing with the land had to involve a transfer of some of the power once controlled by the Water Supply Division.

Establishment of a department of recreation had been pending for months. In May, Tom McGill from the ONS was asked to be interim coordinator for the city recreation program, until a Recreation Director was hired. It was an important move for the city because funds for summer recreation were being held up by all funding sources, anticipating the formation of a recreation department. Soon after the McGill appointment was made, money was allocated for the operation of the new department. On May 9, I had another meeting of all agency representatives, which was informative for everyone. I briefly reviewed the progress made on agency proposals; Tom McGill talked about funding the new recreation programs for the city and the Watershed; and Binetta Hall mentioned the Summer Food Program in connection to sponsoring agencies. 19

I wrote a letter of acceptance and appreciation to all agencies who responded with proposals for summer recreation at the Watershed. There were no difficulties in scheduling the groups, and locations will be determined by the end of June (most programs start in July).

A sequential list of processes during my three month stay in

19Refer to Appendix C, p. 205, for minutes of this meeting.
Newark follow:

1. Established a base of operations
2. Made my purpose clear
3. Emersed myself in new conditions
4. Made myself known to influential people
5. Investigated the land and its condition
6. Met with individual agencies
7. Met with a large number of agency representatives together
8. Took a tour of the Watershed with agency representatives
9. Met with individual agencies to discuss details
10. Added to the list of agencies
11. Made sure that as many agencies were represented as possible
12. Had a trial run at the Watershed by one agency
13. Resolved problems that might have reoccurred this summer
14. Scheduled groups for the Watershed
15. Located groups at the Watershed
16. Set up a control procedure for the summer
17. Meet at the end of the summer.

I have set up a control procedure for the summer that should be used by the Watershed recreation coordinator (Item 16 above).20 I also feel there should be another meeting at the end of the summer with all agencies who participated in recreation at the Watershed during the summer of 1972. I think this would begin to tie the new Recreation Department together in Newark.

Administration

A new Recreation Department has just this spring been initiated through the Mayor's Office by the Office of Newark Studies. Before this year, recreation for the City of Newark was administered by three different groups: the Recreation Department of the Board of Education, the Department of Public Works, and the Newark Housing Authority. To date the Board of Education has been responsible for recreation at

20 The procedure can be found in the following section on "Controls and Restrictions."
public schools, after school, and during the summer months for students. The Department of Public Works under the Bureau of Parks and Grounds and the Bureau of Baths and Pools maintains and controls city-owned parks, playgrounds and swimming pools. The Newark Housing Authority administers recreation for public housing developments.  

The Board of Education was the only group of the three that dealt with recreation outside city limits. Last year the Recreation Department of the Board spent over a million dollars of Federal Title 1 funds on a campership program that bused kids as far away as Kansas and Utah to enjoy the outdoors in an Outward Bound program. The experiences were good and nothing should be taken from the program, but it would be worthwhile to use Title 1 money for similar activity at the Watershed, 35 miles away. The Board of Education is scheduled to use the Watershed, but they expect money from the new City Recreation Department to run their programs. The relationship between the Board of Education which has administered recreation since 1897 and the new City Recreation Department is still very vague.

The Mayor found it expedient to set up the new City Recreation Department for several reasons. Since there was no central department, money appropriated to Newark for recreation was handled by emergency staff, which resulted in administration problems. Last year is a case in point. The Department of Environmental Protection granted $117,000 to transport youth from the City of Newark to state parks and

\[21\] 1964 Master Plan, (Newark: Newark Division of City Planning), pp. 69-81.

\[22\] Exactly $1,263,679 was spent on 6,869 enrollees from the Newark School System.
other nearby recreational and cultural facilities. This grant was administered on three levels by an ad hoc staff. An investigation was made of the results and a letter was written to Mayor Gibson by the State Department of Environmental Protection, whose commissioner expressed dissatisfaction with the administrative system and threatened to revert to accepting applications from various municipal, quasi-public and private youth-serving agencies if a centrally-administered department was not set up. These money pressures, the continuing burden of making political decisions on recreation, and the beginning of an entirely new realm of recreation at the Watershed caused concern, and action was taken by the Mayor in instigating the present Recreation Department for the City of Newark.

The organizational structure of the Recreation Department and the sources of funds and manpower for its operation are illustrated in Figures 1, 2 and 3.

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23 The three levels were the Recreation Planning Council (Joyce Davidson), Milt Campbell Center, and the Community Development Administration.

24 State of New Jersey, Department of Environmental Protection, R. Sullivan, Commissioner, letter to Mayor Gibson in Newark; February 14, 1972.
Figure 1. Organization of the Recreation Department.

25This information was formulated and compiled through the Mayor's Office by Tom McGill, Office of Newark Studies.
Department of Environmental Protection
(for transportation)
$120,000.00

City Support Recreation Program
(for salaries and wages, swimming pools, insurance, equipment, travel)
$77,000.00

DCA (Department of Community Affairs) Summer Recreation Grant
$50,875.00

JFK Account, Bureau of Baths and Pools
(for intern program, arts and crafts)
$67,500.00

Seasonal Help, Bureau of Baths and Pools
(for salaries and wages)
$100,585.00

NLC/USCM (National League of Cities/U. S. Conference of Mayors)
(for transportation)
$7,500.00

Figure 2. Funds available for use at the Watershed

Note: The funds available for use at the Watershed this summer include all the City Support Program money and part of both Transportation grants.

26 Ibid. Present sources of transportation money should continue to be used. Further sources of support should be investigated. In connection with transportation the National Guard under the National Defense Services Act provides buses and utilization of equipment (tents, etc.), when not being used, on a fee basis. Efforts will be made this summer to take advantage of these services. Funds from the National Endowment for the Arts and the Turrell Fund are specifically for recreation programs. Newark qualifies for both if they initiate programs for the arts or for underprivileged or handicapped youth. Federal funds are provided for both conservation and recreation purposes. They include money accessible through the "Watershed Protection and Flood Prevention Act of 1954" and the Land and Water Conservation Fund. The Department of Interior publishes two booklets: one on Federal Assistance in Outdoor Recreation, and the other on Private Assistance in Outdoor Recreation. These may serve as a guide to other possible sources of funds. More information can be found in Appendix A, p. 161.
Neighborhood Youth Corps  
(summer employment program for age 16-22)

City Interns  
(city hired)

PEP (Public Employment Program)  
(from Emergency Employment Act of 1971)

State Department of Community Affairs  
(for salaries and wages)

Summer Support Program  
(city budget for salaries and wages)

In-Kind  
(gifts and volunteer)

Figure 3. Manpower available for the Watershed

Note: Manpower for the Watershed will come through the Neighborhood Youth Corps, the Summer Support Program, and any in-kind help.

Locations

The following is a list of selected recreation sites in the Watershed. On page 32 is a map that shows the exact locations of the sites.

1. Route 23 island
2. Charlottesburg picnic area
3. Open field behind Watershed office at Charlottesburg Reservoir
4. Echo Lake picnic area on Echo Lake Road
5. Bank of Echo Lake at the pump house
6. Cross Castle-Hanks Pond area

27 Ibid.
7. Clinton Furnace along Clinton Road
8. Fire tower picnic area
9. Cedar Pond site
10. Oak Ridge and Paradise Roads site
11. David Davenport Road open flood plain site
12. Milton Road and Reservoir Road-Oak Ridge falls area
13. Oak Ridge picnic area off Route 23.

Site selection was primarily based on the fact that the sites are needed for use this summer, which means that the sites chosen must require little or no preparation. This rules out activities which require permanent or elaborate facilities (unless the sponsoring agency can provide them itself). It was also necessary for all sites to be close to the Water Supply Office through which communications can easily be set up. All of the sites listed are not suited to the same uses, nor are they necessarily good for all the uses that could be made of them. The sites are described below and photographs to give a visual impression of each site follow the discussion in this section.

1) The Route 23 island is just that—an island of Route 23. It is a very small site, approximately 200 feet across, suggested for small groups of campers. A stream nearby can be stocked with fish upon request from the Water Supply Superintendent. However, this is

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28 Some of the sites listed above were suggested by Frank Yacavone, Superintendent of Water Supply and John Heilman, the City Forester. Others were suggested by Carl Schintzel, the State Forest Ranger at Bearfort Mountain, and others were known by Terrance Moore, Project Manager of the Watershed Study at the Office of Newark Studies.
an undesirable location, for most recreational activities, because of the noise from the surrounding highway (one reason people leave an urban area to participate in recreational activity at the Watershed). It seems unnecessary at this point, with 35,000 acres of available land, to choose a site in the crotch of a highway. But there is a proposal for piped drinking water at this place and there is no denying the accessibility of the area.

2) The Charlottesburg picnic area is a well-shaded location off Echo Lake Road and the south side of Route 23. There are 12 to 15 tables, each having a comfortable seating capacity of six to ten people. There are two toilets for each sex, but they cannot be used frequently by large numbers. Trees and stone tables limit the area to picnicking or possibly camping. Across a dirt road, an open field of about one acre could be used for day trip activities. The drawback of this site is the proximity of the Water Supply Office. Almost all activities of the Water Supply Division (with a crew of 39) can be seen and heard from both areas of the site.

3) The open field behind the Watershed office at Charlottesburg Reservoir is the only large flat, grassy open space (6 to 8 acres) on Watershed land accessible by automobile. The area is suitable for large groups and open field sports. This is a very pleasant place with few distractions to contend with.

4) Echo Lake picnic area on Echo Lake Road has about 18 tables and four toilets. Tables seat 6 to 10 comfortably and toilets can sustain minimum use. The site is similar to an expressway rest stop in terms of its position to Echo Lake Road, which carries a
volume of 2,200 cars a day. A stay here should serve only as a rest from other main activities.

5) A nice place for a group of 40 to 60 people is Echo Lake at the pump house. There are no large open spaces but an undulation of trees and grass near the bank. A boat dock makes it convenient for canoeing and boating. Fishing, sailing, day-camping and overnight camping are also possible.

6) The Cross Castle-Hanks Pond area is perhaps the most versatile site listed. On the ridge where the castle is located, there is room for as many as 100 campers. The ridge can be used for hiking and nature study; trails leading away from the castle are fairly well defined. This ridge is a part of Bearfort Mountain, one of the highest points on Watershed land, so there is a good view of surrounding areas. Below Cross Castle are Hanks Pond and an adjoining picnic area, a portion of which is paved (25 by 50 feet). There is a boat dock for water activity as well as a dirt access road that can be used for shore fishing. An old storage house could be opened for shelter on rainy days. The Cross Castle-Hanks Pond area has great potential and could become a focal point for all recreation activity at the Watershed.

7) Clinton Furnace, the remains of an old iron works, is set off Clinton Road about 50 feet in a ravine next to the main falls from Clinton Reservoir. Although an attraction, the area around the Furnace is small and limited to day trip stopovers. A group might explore historical aspects of iron furnaces, simply have lunch or use the furnace to cook.
8) The fire tower picnic area is the remotest site. It is a half-mile walk from Stevens Road, which is a steep gravel and dirt road three quarters of a mile from the blacktopped Union Valley Road. There is a State Forest Ranger who can relay calls in emergency cases. He is also willing to spend time with groups interested in conservation and forestry. From the tower, at the highest point on Bearfort Mountain, one can see the expanse of the Watershed and even New York on a clear day. There is good hiking northeast to Terrance Pond or southwest to Banks Pond. Swamps and private land prevent hiking in northwest and southeast directions. Three picnic tables in a small picnic area (150 by 50 feet) share the ridge clearing with the fire tower. Off Stevens Road near the fire tower are a hemlock glen, a kiln, and a fishing area at the edge of Cedar Pond. Running water is along the wood road leading to the kiln. An outhouse and a storage shed may be considered limited facilities, but other provisions should be made for visitors. The site is a good one for both day and overnight camping.

9) A spot for future overnight or day camping is the Cedar Pond site about half a mile off Clinton Road. A house once existed here but fire left only a standing fireplace and brick rubble along the foundation. Activity could take place on the flat ground if the rubble is cleared away. Down a path to the water's edge is another small clearing where groups may subdivide. A grassy strip along Cedar

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29 State Forester Ranger Carl Schintzel is available only during the day, every day in the spring and fall and half the days in winter and summer.
Pond leads to a boat dock suitable to launch any waterbound craft. The natural landscaping makes this a very attractive site, perfect for those wanting to feel removed and at one with nature. But until the site is cleared, there is a kind of disturbing presence about the whole area.

10) The Oak Ridge and Paradise Roads site is a large green open space, but it is exposed to Route 23 traffic. Because the site is rocky, a good deal of preparation would have to proceed any recreational activity. Parts of this large space are private land, so natural or man-made barriers are necessary. Large numbers of people could use the site, but until a lot of work is done to improve conditions, this is too unpleasant to use this summer.

11) David Davenport Road open flood plain site has two other large open space areas that are not very suitable even to field sports. There is good fishing in the main stream of the Pequannock River nearby. Unlike the Oak Ridge-Paradise Roads site, these fields are humid and in times of high water insects breed in pools of stagnant water. A housing development is within 100 yards of the sites. The spaces may be usable, but to a limited degree.

12) There are two sites at Milton Road and Reservoir Road-Oak Ridge falls area. One is just above the reservoir and falls and is very beautiful. Milton Road is heavily travelled but the falls drown out any sounds from the road. Where the road is out of sight and sound, the site is quiet and grassy. It is good for day trips where one can fish, picnic or play games. It is too close to the highway and a shopping center for an overnight camp, and there are
not enough things to do to keep a camper busy. The other site is below the falls and across Milton Road from the first. It could be used for fishing and camping, but because the road is at all times within hearing distance and view of this area, it is not good for either.

13) The Oak Ridge picnic area off Route 23 has five tables and four toilets. This site would accommodate large numbers (100-150) if necessary, but like both Charlottesburg and Echo Lake picnic area, it is close to well travelled roads. For the summer I cannot see much use for the location, except in the case of an overload in other areas.

Three (numbers 1, 10, and 11) of the six sites (numbers 1, 5, 10, 11, 12 and 13) suggested by members of the Water Supply Division are practically unusable, which might be attributed to their objection to using the Watershed for anything (including recreation) other than for water supply. They are perhaps justified in their skepticism, but controls and restrictions alleviate many problems that are likely to occur. Sometimes it is discrete to ask for suggestions and help from a hostile group, even if these ideas are not incorporated in a final recommendation.

All of the possible sites have not been fully investigated, but this is due to time constraints inherent in short-range planning.
Figure 4.1 Route 23 Island

Figure 4.2 Charlottesburg picnic area
Figure 4.3 Open field behind Watershed Office at Charlottesburg Reservoir

Figure 4.4 Echo Lake picnic area on Echo Lake Road
Figure 4.5  Bank of Echo Lake at the Pump House

Figure 4.6  Cross Castle
Figure 4.7 Hanks Pond area

Figure 4.8 Clinton Furnace along Clinton Road
Figure 4.9  Fire Tower picnic area

Figure 4.10  Cedar Pond house site
Figure 4.11  Cedar Pond

Figure 4.12  Oak Ridge and Paradise Roads site
Figure 4.13 David Davenport Road open flood plain site

Figure 4.14 Milton Road and Reservoir Road—Oak Ridge Falls area
Figure 4.15 Oak Ridge Reservoir and Falls area

Figure 4.16 Oak Ridge picnic area off Route 23
Schedules

The reason for scheduling groups at the Watershed this summer is to reach as many Newark residents as possible. This strategy and the release of the Study Report to the Mayor will give attention to the Watershed as never before. Once a knowledge of the land has been coupled with a demand for recreation, a longer-range planning process can begin. The schedules themselves commit people to firm dates and allow controls and checks to be made on the progress during the summer.

An initial list of groups was gathered from the Summer Recreation Directory of 1971. Only the agencies from Newark were chosen. After talking with the Mayor's Business Administrator and Joe Frisina, the Deputy Mayor, ideas about the state of recreation in Newark began to fall into perspective. Through the office heads at the ONS, I was given credibility and priority with councilmen and other governmental officials who cater to their own set of groups. These same office heads led me to agencies who deal with large numbers of individuals and groups. I then contacted Joyce Davidson who was last summer's recreation coordinator for Newark. She was most helpful in filling in where my list was deficient, giving me a background of people I would have to deal with in these groups, and expressing her opinion of groups and the inter-relationships between

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31 Agencies include Model Cities, Housing Authority, church groups, and Newark City Planning.
groups.

I had begun sending letters to groups from the very beginning in February, informing them of the Watershed and our intention to locate and schedule them at the Watershed if they were interested. It took time for people to respond; if I hadn't begun until the list was complete, there would be no recreation at the Watershed this summer. As it happened, the deadline for application proposals for use of the Watershed was not adhered to, since most groups were late and/or hesitant to assign staff and funds for summer recreation. A list of groups contacted follows.

1. Boy's Club of Newark
2. Boy Scouts of America, Robert Treat Council
3. Girl Scouts, Council of Greater Essex County
4. Catholic Youth Organization (CYO)
5. Housing Authority
6. Fuld Neighborhood House
7. The Leaguers, Inc.
8. The Newark Museum
9. Community Development Administration
10. Milt Campbell Community Center
11. West Side Community Center
12. United Community Corporation (UCC)
13. Queen of Angels Summer Program
14. Police Athletic League (P.A.L.)
15. 4-H Cooperative
16. Sherman Community Center
17. Youth Services Agency
18. Neighborhood Youth Corps
19. Newark Summer Music Project
20. Department of Baths and Pools, City of Newark
21. YMCA-YWCA of Newark and Vicinity
22. Human Rights Commission
23. Ironbound Boys Club
24. C.I.R.S.
25. Essex County Park Commission
26. Killburn Memorial Church
27. Ironbound Youth Project

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Proposals were still coming in a month after the deadline, April 30.
28. African Free School
29. Committee of United Newark (CUN)
30. F.O.C.U.S.
31. Ironbound Children's Center
32. YM-YWCA
33. Urban League
34. Senior Citizens Commission
35. AMP Theater
36. Board of Education
37. Victory House
38. Action Now
39. Vailsburg Youth
40. St. Bridgets Day Care
41. Newark Pre-School Council
42. Independence High School

Daniel Blue of the Human Rights Commission was brought in to ward off accusations that some people were recognized and contacted and others were not. Every effort was made to contact the groups listed, but not all responded. There were no conflicts in scheduling the small number of groups who responded due to the availability of sites and the small number of participants. Thus none of the proposals needed revising and no dates needed changing.33

All groups recognized the inherent benefit of recreation programs at the Watershed. But the agencies who responded needed no coaxing and, in many cases, did not attend the meetings. They were the established organizations, who have their own equipment, funding, transportation, and adequate staffing; they only needed to be assigned to the program. Marginal groups, which make up a majority of the ones contacted, were enthusiastic about participating, but are not equipped to handle the costs of a recreational proposal for the Watershed. Utilization of the Watershed facility for these agencies

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33 Copies of the proposals can be found in Appendix D, p. 207.
will depend on their receiving grants, or on the establishment of a city program in which they can participate.

Some interest groups were overlooked in this summer's Watershed recreation program. From the list of applicant groups, one would think only children need recreation. In the future the City Recreation Department should focus more attention on conservation programs for all age groups, more educational programs for young people especially, and programs specifically for the old (such as bird-watching and games) and the handicapped. A public recreation program should reach a broader range of ages, individuals and groups.

Table 1 shows information about the applicant groups scheduled for recreation at the Watershed this summer: the type and date of activity; number of participants; provisions for supervision, transportation, water, and sanitation; approval sent; watershed staff notified; map and access sent; and the site assigned.

Controls and Restrictions

Control and restriction of users of the Pequannock Watershed are necessary for several reasons. It is Newark's responsibility to maintain the quality and quantity of water, the natural state of the land, to protect the health and safety of Newark and its citizens, and to provide a means by which programs can become more responsive to the needs of the people whom they serve.

For the groups who will be using the Watershed this summer, there is more need for control than restriction. Before groups can be allowed on the land, certain checks have to be made. First, the proposals must be approved by the Office of Newark Studies staff, who
<table>
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<tr>
<th>NAME OF GROUP</th>
<th>DATES</th>
<th>ACTIVITY</th>
<th>NUMBER OF PARTICIPANTS</th>
<th>SUPERVISION</th>
<th>TRANSPORTATION ARRANGED</th>
<th>WATER &amp; SANITATION ARRANGED</th>
<th>AFF. OVAL SENT</th>
<th>WATERED STAFF NOTIFIED</th>
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<td>Boy Scouts</td>
<td>April 8-9</td>
<td>Weekend Camping</td>
<td>25</td>
<td>Scout Leaders</td>
<td>Yes</td>
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<td>Yes</td>
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<td>Newark Museum</td>
<td>April 29</td>
<td>Field Trip</td>
<td>30</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<td>Boy Scouts</td>
<td>May 19-21</td>
<td>Camporee</td>
<td>100</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<td>Girl Scouts</td>
<td>Aug. 19 or 20</td>
<td>Family Day</td>
<td>300</td>
<td>Professional Council Staff</td>
<td>Need 6-50 Passenger Bus</td>
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<td>YM-YWCA</td>
<td>July 6, 20</td>
<td>Picnicking</td>
<td>60/Day</td>
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<td>Yes</td>
<td>Yes</td>
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<td>Day Trips</td>
<td>50/Day</td>
<td>Cub Leaders</td>
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<td>Yes</td>
<td>Yes</td>
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<td>July 13-15</td>
<td>Wilderness Camping</td>
<td>11/Weekend</td>
<td>2 Leaders</td>
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<td>2 Groups</td>
<td>20-25</td>
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<td>Day Trips</td>
<td>50/Day</td>
<td>1 Adult/ 8 Children</td>
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<td>Yes</td>
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<td>Camping</td>
<td>12/Weekend</td>
<td>Minimum of 2 Supervisors</td>
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<td>Yes</td>
<td>Yes</td>
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<td>NUMBER OF PARTICIPANTS</td>
<td>SUPERVISION</td>
<td>TRANSPORTATION</td>
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<td>50/Day</td>
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<td>July 3-Aug. 25</td>
<td>Outward Bound</td>
<td>9-12 Boys Every 2 Weeks</td>
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<td>Queen of Angels</td>
<td>July 13-Aug. 3</td>
<td>Picnics &amp; Rec. Games</td>
<td>50/Day</td>
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<td>Independence</td>
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<td>Camping &amp; Hiking</td>
<td>12 Students 4 Staff</td>
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confirm the kind of activity and the proposed dates. A notice of approval is then sent to the agency involved by the staff of ONS. Arrangements are made for transportation, water and sanitation facilities; supervision is provided by the group or by anyone for the group. An appropriate site is selected for the activity(ies) and the Water Supply Staff is notified that the group is coming. Final confirmation is made when a member of the group receives a map of the Watershed with the site location clearly marked, a letter of access, and a reminder not to litter. The group shows the letter of access to a member of the Water Supply Division upon arrival at the Watershed.

The Office (ONS) makes it as convenient as possible for everyone concerned by providing additional information when needed. The Water Supply Staff receives an up-to-date list of applicants, types of activity, dates of activity, and number of participants. We require that portable toilets or a similar facility be used this summer since there are few sanitary facilities at the Watershed. Groups are told that water can be procured through the Water Supply Division. We suggest that food can be obtained by applying to the City Food Program, and that needed transportation can be arranged through the Chamber of Commerce. These are resources that groups may

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34 Refer to Appendix E, p. 230, for replies to proposals.
35 Refer to Appendix B, p. 185, for sample of letter of access.
36 Two portable toilet companies in the area are: Mr. John Portable Sanitation Units, Inc., Subsidiary of Mr. John, Inc., 450 Raritan Center, Edison, N. J. 08817, and Port-O-San Corporation, 450 Bergen Ave., Kearny, N. J. 07032. Mr. John units are cheaper, so we recommend them over the Port-O-San units.
or may not be aware of as aids to their recreation programs. Groups are told that they are not allowed to engage in certain activities without first confirming them through ONS. However, verbal commitments are not adhered to as stringently as if these rules and regulations were in writing. A group that asked to camp also used a rubber raft on one of the reservoirs. The Office had not approved boating nor had they applied for a permit from the city. Under these circumstances, the city is liable if someone drowns in its reservoir. To avoid potential difficulties such as in this example, a list of rules and regulations should be made effective as soon as possible, and certainly before another summer passes. 37

Enough staff will be hired this summer under the newly established Recreation Department to at least spot-check the provision of operable sanitation facilities, and to final-check the condition of the site after each group leaves. Adequate supervision and staffing can be inferred if these checks indicate no litter; irreparable damage to foliage, water or structures; or violations of verbal or written rules. The checks made should be recorded and kept in case the same groups would like to use the Watershed again. Land is not ruined in a day or a summer, but continued abuse by large numbers will disfigure land conditions. Groups with unsatisfactory records should be held accountable and prevented from using the area again unless faulty practices are corrected. Recorded data can also be

37 Refer to Appendix A, p. 164, for an example of rules and regulations adapted from other reservoirs in the State of New Jersey for the Newark Pequannock Watershed.
used to calculate the sustaining capacity of the land. At the end of the summer, frequency of visits multiplied by the number of participants should be compared to the condition of the site. The sustaining capacity figure can be adjusted as conditions change.

Adequate facilities are more easily determined, although there will be differences of opinion about what is adequate and what is not. A feedback evaluation form can be completed by agency staff members and returned to the ONS at the termination of the activity.\textsuperscript{38} For larger-range recreation programs at the Watershed, more rigorous restrictions should be followed.\textsuperscript{39} This is assuming that recreation facilities and locations will be more permanently established in the future. Areas can be set aside for specific purposes and approved by the State Department of Health. Health approval protects Newark and the public. Rules and regulations can be more clearly defined and more localized to particular areas within the Watershed. A demarcation map and graph system (such as that of the Tennessee Valley Authority for the Land Between the Lakes) serves the public by

\begin{itemize}
\item Refer to Appendix A, p. 166, for a sample evaluation form.
\item The State has restrictions of its own that cover many areas of recreation and recreational facilities. The list includes:
\begin{enumerate}
\item Information and Instructions to Lake Bathing Place Operators and Owners interested in receiving a certificate of compliance.
\item Lake Bathing Place Bacteriological, Sanitary and Safety Guides.
\item Requirements for Certificate of Approval for Day Camps.
\item New Jersey State Sanitary Code for Campgrounds.
\item New Jersey State Sanitary Code for Refuse Disposal.
\end{enumerate}
They may be obtained from New Jersey State Department of Health, John Fitch Plaza, P. O. Box 1540, Trenton, New Jersey, 08625.
\end{itemize}
linking sites to the facilities available.40

Controls and restrictions should be kept almost as simple as those enacted for the summer months of 1972. Further definition should be reserved for clarity, not for detailed administrative purposes.

Conclusions

Conclusions will be in the form of a list of recommendations for the present summer program and a continuing recreation program at the Newark Pequannock Watershed. Recommendations are listed in five categories: general procedures and administration, locations, transportation, and controls and restrictions.

General Procedures and Administration. The new City Recreation Department should:

1. Seek to operate and control a public recreation program at the Pequannock Watershed.
2. Make a yearly set of goals that can be reviewed by the Mayor and the City Council.
3. Continue to be informed and experiment on new recreation methods and programs.
4. Keep up contacts with other city departments which may be helpful.
5. Publicize city recreation programs at the Watershed.
6. Continue to schedule and locate recreation groups at the

40See Appendix A, p. 167, for example of map and graph system.
Watershed, the only requirement being that they be Newark agencies.

7. Provide an information service to keep agencies informed about what's happening in recreation in the City of Newark.

8. Hold a large meeting, perhaps once a year, with all interested individuals and groups, to talk about recreation in Newark. (Have an agenda and something to say.)

9. Require that recreation proposals be submitted each year to the Recreation Department for approval for use in the Watershed. (This provides an up-to-date record of what is done at the Watershed.)

10. Provide assistance to non-established recreation groups.

11. Keep in contact with the Water Supply Division to spot the good things and the problems between the Division and recreation program.


13. Meet with the participating recreation agencies at the end of the summer 1972 to see how the summer programs went.

14. Get church groups more involved in recreation by asking for proposal commitments from them.

15. Seek conservation and educational programs for all ages.

16. Sponsor or aid programs that serve the old and handicapped.

17. Include a broad range of ages in public recreation.

18. Keep a chart such as the one in the section on "Schedules" and a calendar to follow and oversee recreation at the
Watershed.

19. Keep a list of recreation agencies (see the one in Appendix A); revise and add to it.

20. Involve students from all fields from Newark schools and colleges in volunteer help (or for school credit, or for money).

21. Continue to use the Neighborhood Youth Corps, money from the Summer Support Program, and in-kind contributions of labor for Watershed recreation projects.

22. Continue to use funding sources available to Newark at present. These are listed under FUNDS in the section on "Administration."

23. Investigate other support sources as listed in the footnote under FUNDS in the "Administration" section. The extent to which Newark can use these sources should be determined by the Department of Recreation.

Locations. The new Recreation Department should:

1. Continue to use prime recreation sites at the Watershed. (They are the Charlottesburg picnic area, the open field behind the Watershed Office at Charlottesburg Reservoir, Echo Lake picnic area, the bank of Echo Lake at the pump house, Cross Castle-Hanks Pond area, Clinton Furnace, the fire tower picnic area, the Cedar Pond site, Milton Road and Reservoir Road-Oak Ridge picnic area off Route 23.)

2. Set up a temporary recreation information station near the Water Supply Office, so that its communication system can
be used.

3. Work toward making all sites more suitable for the recreation activities (i.e., get rid of the debris caused by the Cedar Pond house fire).

4. Investigate sites in the northwestern section of the Watershed, few of which have ever been explored. Since it is the area remotest from the Water Supply Office, communications would have been difficult to manage this summer. But if a more central or better communications system is established, the area around Canister Reservoir would be more acceptable for recreation. (See the map in the section on "Locations."

**Transportation.** The new Recreation Department should:

1. Look for alternative routes to the Watershed, in addition to the two known routes (Garden State Parkway to exit 153B to Route 3 to Route 46 west to Route 23 or Broad Street in Newark to Bloomfield Avenue to Pompton Avenue to Route 23).

2. Continue to use buses to transport large groups to the Watershed.

3. Get Watershed townships to repair roads within the Watershed boundaries, especially the roads that will be used as access to recreation sites (Clinton Road, Union Valley Road, Echo Lake Road, Reservoir Drive and Canister Road).

4. Provide vehicular parking close to recreation sites, as suggested on the Map in the section on "Transportation."
5. Lay gravel, stone or some other surface cover on paths and trails to prevent erosion after heavy use or long periods of use.

Controls and Restrictions.

1. Arrangements should be made for transportation, water, and sanitation facilities by the agencies until recreation has been established on the land, at which time the Recreation Department should try to provide these services.
2. Appropriate sites should be chosen by the Recreation Department for the recreation programs.
3. Water Supply Staff should be notified until communications can be handled by the Recreation Department.
4. Maps should be made available, showing routes to the Watershed and the location of recreation sites. Examples of these maps can be found in the sections on "Locations" and "Access" (Short-Range Planning). A demarcation map and graph system serves the public by linking sites to the available facilities. (Refer to Appendix A for an example of this.)
5. A letter of access should be written for every group who intends to use the land. (See Appendix B for an example of this letter.)
6. A written list of rules and regulations should be given to everyone who uses the Watershed. (Refer to Appendix A for an adapted set of rules and regulations for the Watershed.)
7. Spot-checks should be made on the provision of sanitary
facilities and a final check should be made after each group leaves the Watershed.

8. Checks should be recorded so that there is a file of uses and abuses to the land and water.

9. Groups who abuse the property should be restricted from use unless more convincing controls can be put on the group in question.

10. Number of users should be computed so that the sustaining capacity of the land can be calculated and revised. Areas can be restricted from excessive use by charging fees or operating on a limited first come, first served basis.

11. An evaluation form should be filled in by all participating agencies to check the adequacy of Watershed facilities, problems that occur, etc., so that needed changes can be brought about more immediately. (A sample of such a form can be found in Appendix A.)

12. In the future, more permanent recreation sites should be required to adhere to State Department of Health regulations.
CHAPTER III

LONGER RANGE PLANNING FOR THE WATERSHED

This chapter deals with longer range planning for the Watershed. I consider alternatives to recreational use of the land and state the objectives which Newark should expect to fulfill in developing the land. Then follows an evaluation of recreational use of the Watershed, taking into consideration demand, economic, political, social and ecological considerations. Next come discussions of longer range access to and facilities for the Watershed. The chapter ends with a model of suggested design criteria, to be used in making recreational development decisions for the Watershed.

Alternative Land Use Considerations

The Pequannock Watershed has always been used by Newark to maintain its water supply system. A final Study Report to the Mayor by the ONS is in progress to examine alternative land uses and to determine policy for these alternatives. It would be negligent of me to ignore the most critical alternatives to recreation as forces affecting development.

I will discuss land uses in general categories, such as industrial, commercial, residential, institutional, agricultural and recreational. But first, an obvious alternative is to sell the land.
Politically, it would look bad for the mayor who brought a civil suit against the former mayor for trying to sell the Watershed, to turn around and sell it himself. However, selling the land would certainly be an immediate boon to Newark's economy, solving its immediate fiscal problems. However, five years from now Newark would have the same financial problems it has today, and without the natural asset it presently owns. Also, it is probable that sale of the Watershed would be detrimental to Newark's water supply, necessitating the city to buy water to replace the volume it gets from the Watershed. The Elizabethtown Water Company is considering the connection of pipelines to Round Valley and Spruce Run Reservoirs to increase its holdings. The Passaic Valley Water Commission has excess water each year it could sell. These are both possibilities and other water companies would have to be investigated. Even so, 50 million gallons per day (a safe yield from the Watershed) can be expensive, and the effects will be more pronounced in a decade when demands for water will be even higher.

If Newark were to sell the Watershed, there is also the issue of to whom it should sell the land. If only critical lands were sold to the state to protect the water supply, the state would not pay the true market value as would a private developer, but the land would be assessed at true market value, which causes property values on the remaining land to rise. Therefore, Newark would pay higher property taxes on the land not sold. The state might lease the land it buys from Newark for recreational development, putting itself in the same opportune position as Newark before the sale. The six municipalities
of the Watershed are afraid of sale for two reasons. If the state owned the land, it would pay either little or no taxes to the townships, who would therefore lose revenue. If a private developer buys the land, he could develop it to a point that would deny the townships control over their own growth.

If the Watershed is not sold, it is possible to increase water sales. There is no more drainage left in the Pequannock Watershed to construct another reservoir, but with present volumes, water could be sold to additional towns without depleting the overall water supply. Newark takes about 50 million gallons per day, whereas the Watershed can safely yield 55 million gallons per day. Additional water could be tapped with a pipeline from the Delaware and stored at the Watershed in Dunkers Pond, but Newark would have to increase the size of its pipes downstream. The state would not look favorably on this move, because Newark could begin to monopolize water in northern New Jersey.

Other alternatives assume that Newark will maintain its ownership of the Watershed lands. Based on the present system of highways there are certain areas in the Watershed suitable for all types of development. Radical change of the highway would have adverse effects on the water supply. Commercial enterprises that rely heavily on accessibility to populated sections could locate along Route 23, as other businesses have done already. Newark owns more than 6,000 acres of unrestricted lands that could serve industrial or institutional uses. However, the sewer systems that industrial plants require are almost prohibitive for any of the six Watershed municipalities within
the near future. The market for agricultural development in this area is not large, but prime agricultural lands make up 638.4 acres within the Watershed and could be used for that purpose if the market increased. It should be noted that modern methods in agriculture can also affect the water supply.

Judging from the present zoning and Master Plans (refer to map of Master Plans on page 69) of the six townships within the Watershed, there is no desire to have the land developed substantially by any of the above mentioned uses. However, there may be a need for Newark to develop small portions of the land in some of these ways to alleviate the Watershed's tax problems.

The only land use competing with recreation in numbers of acres for the Watershed is residential use. For this reason, more time will be spent on residential use than on the other alternatives. Using natural restrictions and characteristics, land with no restriction totals 6,246.8 acres qualifying for residential development. The housing issue raises many questions for both Newark and the Watershed townships.

Newark's concern about residential development would be primarily from a sewage or septic point of view: residential development could pollute the water supply. Water supply yield may decrease if storm water runoff gets outside the drainage area. A case in point is Echo Lake, one of the five reservoirs, whose quality has been affected by a residential development within the drainage area. A larger development on Watershed land is likely to affect even more of the water.
A reciprocal argument can be taken by the six townships, none of which has adequate sewage treatment for the projected increases in population. \(^{41}\) Housing is objectionable to most of these communities because physical and social services could not keep pace with rapid increases in population. Municipal services are at their limits now. In the townships, increases in tax revenue from residential development is out of balance with municipal service costs, causing increases in property tax per capita. Most objections to residential use of Watershed land reflect the fear of the towns' residents that low-income/high-service housing may be build, raising the tax per capita.

However, there are other points of view from which residential use of the Watershed is favored. For example, the West Milford Planning Board's reasoned that low-income housing is needed: "...because of the failure of West Milford Township to provide low-cost rental housing the young, the newly-wed, and the elderly were forced to leave the town. These are the 'low-income' anticipated by the board. Furthermore, it is believed that adoption of this PUD proposal, including the 10% low-income provision, would make West Milford eligible to receive a HUD grant to build a collector sewer system. The planning board and council have both considered this tradeoff very seriously." \(^{42}\)

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\(^{41}\) Susan Stevens, "Newark Watershed Study—Housing Market Analysis," report presented to the Office of Newark Studies, (1971), p. 18. See also Appendix A, p. 168, for growth factors of each township and projections of increased growth.

The fear of West Milford residents, typical of all residents in Watershed communities, is social, as well as economic. "This is most visible in the desire to exercise the freedom to associate, i.e., the ability to segregate along both racial and class lines. In discussing a potential population influx to West Milford resulting from PUD, one resident stated the issue quite succinctly and received an ovation for his remarks.

I think that you are going to find that the industry you are going to get is going to import that type of individual that the town of West Milford doesn't want to have, and if those industries move out, we are going to be loaded with welfare based upon a hell of a lot more taxes than we're paying now. And let me tell you, we're paying a hell of a lot!"

West Milford residents are divided between what their planning board believes will help the town and their own feelings of prejudice. It is likely that the low-income housing issue will break soon, with residents reluctantly accepting this new phenomena on a token basis.

Tensions may ease on the housing front in time, and Newark may find the Watershed attractive for use as a "new town" site. It could be profitable for Newark to develop lands not critical to the water supply, and to shift property tax payments to its new residents. In a new town or PUD, lot size could be regulated for a minimum open space desired to increase the amount of land taken from Newark's tax role.

43 Ibid., p. 43.
44 The Watershed qualifies as a potential new town site as defined in the Urban Growth and New Community Development Act of 1970 (Title VII of the HUD Act of 1970). Requirements are fairly general and Newark could find reasonable ways of satisfying them.
In pursuit of ways other than clearance to alleviate some of Newark's housing problems, the City Planning Department, combined with SOM (architects), is considering a "new-town-in-town," where the priorities of Newark lie at the moment. A "new-town-out-of-town" proposal would jeopardize the success of this proposal, but this does not preclude a New Communities development interest in the Watershed ten years from now.

The theory behind new-towns-out-of-town or PUD is that they are self-sustaining. The combination of housing, commerce, industry, etc. balances revenue with services. My own view is that new towns in general do not solve urban problems, but rather confuse the issue, convincing us that we won't make the same mistakes this time. There are acres of unused land in downtown Newark with potential for development, but it is easier to "start fresh." "There will be a filling in of the bypassed land in the gray area between the cities and suburbia and a more intensive development—a redevelopment, if you will—of suburbia itself. New towns, yes, but I will wager that the ones which work out will not be self-contained and that they will not be somewhere off in the hinterland."\(^\text{45}\)

Suppose that in 15 years all racial and class conflicts have eased in the Watershed townships, Newark is well into a new community in-town development program, the new filtration plant has been installed,\(^\text{46}\) and a sewage treatment plant is built. With all of the


\(^{46}\)A new filtration plant was approved by City Council for the Watershed. It will cost $1,275,000.
amenities to sustain human life, there will still be unanswered questions: Will schools be provided? Where will police and fire protection come from? Who will build roads, install electricity and gas? Where will jobs come from? Will Newark or the Watershed communities be responsible for these services?

Residential use of Watershed land also poses procedural difficulties. If only a few residential plots were developed, how could the city select the few individuals from the many who would like a home on Watershed property? The same problem would arise if homes were rented, or if land was leased and development rights sold to individuals. Should Watershed Staff living on the land now have privileges other Newark residents cannot have? On the other hand, if the property were available to many, to how many, and to whom? And who is to say that a large enough group of people, with little contact with the city, wouldn't want to declare themselves independent, in which case Newark would lose control of the land that was its "most valuable asset."

The purity of the water source remains of vital importance. Residential developments, no matter how well designed, will affect existing natural conditions that are essential to the generation of unpolluted water.

Objectives

The objectives listed below are not mine, but those of the Office of Newark Studies. They reflect a subjective point of view and can be taken literally or not, but they are the general criteria by which policy statements in the Final Study Report will be made, and
Consort, Open Space, Agriculture
Low Density Residential >3/4 Acre
Moderate Density Residential <3/4 Acre
Multi-Unit Residential
Residential - Recreation, Lake Resort
Public Office - Industrial
Commercial
P.U.D. Requirements Met

Legend

Conservation, Open Space, Agriculture
Low Density Residential >3/4 Acre
Moderate Density Residential <3/4 Acre
Multi-Unit Residential
Residential - Recreation, Lake Resort
Public Office - Industrial
Commercial
P.U.D. Requirements Met

Master Plans of Watershed Townships

Map 5
by which the political decision makers in Newark will make decisions. I have adopted these general criteria as my own, not on political grounds, but because from Newark's standpoint at the present (based on my knowledge of the situation), they are the best basis for decision making.

The objectives are as follows:

1. The policy should not have an adverse effect on the quality or quantity of the existing water supply system.
2. The policy should result in an efficient use of the Pequannock Watershed, so that its full potential as a resource of the City of Newark may be realized.
3. The policy should produce direct benefits to the citizens of the City of Newark.
4. The policy should enable the city to decrease the amount of taxes being directly paid by Newark on Watershed property to the six municipalities.
5. The policy should not have an adverse effect on the ecology of the Pequannock Watershed.
6. The policy should not result in undesirable land use patterns or economic imbalance in the six municipalities surrounding the Watershed.
7. The policy should be in the best interest of the City of Newark and the State of New Jersey.
Evaluation of Recreational Land Use

Demand Considerations

American history is one of exploitation of the land for economic reasons. In Frederick L. Turner's book *The Frontier in American History*, he notes, "the existence of an acre of free land, in continuous recession, and the advance of American settlement westward, explain the American development."47 As early as the eighteenth century, the land not only supported the family but also served as a place for outdoor activity. "Recreation was not a widely demanded good, because of the puritanical concepts of the people who regarded hard work as virtue and leisure as something to be shunned."48 It's ironic that the activities demanded today, such as fishing, hunting, camping, sailing, gardening, etc., were common occurrences of life then. Having lost their economic function, these activities remain with us in the form of recreation.

In spite of the publicity about violence in the mass media, western movies are still a dynamic drawing card for reminiscing about a type of life that used to be, a life of struggle with the wilderness, and more, of struggle against it. The out-of-doors is as precious now as it ever was. It's a connection with the past. It's a determination to prove one's will against natural forces, forces that


48 Ibid., p. 147.
don't discriminate for one person against another. Today, as urbanization spreads, people feel a longing for the "used-to-be," or the traditional life. Outdoor recreation is a medium through which people may seek the pleasures of wilderness and at the same time gain relief from other human beings. There are many other motives for participation in outdoor recreation—the status of having recreational skills few others enjoy, the exercise, the experience of a different place, the calming effect, the wish for family participation, and so forth.

It is understandable why people want to get away for a while. "Today over 70 percent of the population live in the urbanized areas and by the year 2000 the concentration could exceed 80 percent." In determining the demand for recreation, "the most basic factor, of course, will be the number of people. Barring a war or other catastrophe, it seems very likely that the population will virtually double—from about 180 million today to approximately 230 million by 1976, and to 350 million by the year 2000." "There will be more young people. The proportion of those in the 15-24 age bracket—the most active of all—will go from the current 13 percent of the total to about 17 percent by 1976." "Between the years 1960 and 2000, participation in outdoor pursuits will nearly triple."

49 Ibid., p. 147.
51 Ibid., p. 30. 52 Ibid., p. 32.
The population of New Jersey is much more concentrated than that of the nation. It is well known that the New York-New Jersey coast is the most populated region in the nation. In New England, the estimated population of 11,840,000 in 1976 will grow to 17,165,000 by the year 2000. At present 5.25 million of New Jersey's 7.25 million live in northern New Jersey, the location of the Pequannock Watershed.

Other factors influencing demand for recreation are the affluence of our society, the increase of travel miles we are willing to spend in reaching a destination to relax, and more leisure time available to us. "There has been an upward sweep of both the real personal income per capita and the percentage of it spent on recreation." Excluding the depression, increased income has been felt for more than half a century. "In the 1920's when, after the First World War, the work week shortened, personal income increased, automobiles came into general use and the highway system was expanded."

With an improved system of roads, people can travel distances they would not have attempted before, "Americans made rapid increases so that by 1930, the average travel per person was 3,000 miles per year. Presently this value stands at 5,000 per year, and by the year

53Ibid., p. 219.


2000 it may be as high as 9,000 miles per person per year. The most intensively used recreation spots are ones that people can drive to easily. "Even on a vacation trip, more than half seek recreation one or, at the most, two day's travel from home. For weekend and day trips they travel only a few hours."58 "For the weekend or overnight outing, the median travel distance is about 90 to 125 miles. While many vacationers will travel many miles on week- or two week-long vacations, by far the greatest demands are placed on the facilities serving daily and weekend outings. Hence pressures are greatest within about 125 miles of metropolitan centers, with maximum demands at those facilities in close proximity to the central cities."59 People, then, are willing to spend a few hours of driving to relax away from an urban area. The New York-New Jersey metropolitan region is within an hour and a half of the Newark Watershed. The proposed Tocks Island Recreational development, northwest of the Watershed, is no doubt dependent on market demands from the same region.

Along with the rise in population, income and travel miles, is the increase in leisure time. "With the continual shortening of working hours, the hours of leisure available to each person are increased. Recent proposals for converting to a four-day work week indicate how strong this trend may be. Over 50 years from 1900, leisure time per capita rose about 27 percent..."60 "Much of the

60 Patterson, Op. Cit., p. 147.
extra time: [from shortening workweeks] will go to recreation; at least one-fifth of free time goes into outdoor recreation today, and we may expect at least this much in the future.61

Generally speaking, the Watershed is in an excellent location to serve both surrounding counties and the populated part of the region. I will devote the remainder of this section to Newark's demand for recreation, since serving Newark residents is a primary objective.

I began by thinking I would make a projection of the number of Newark residents who would participate in selected outdoor recreation activities if facilities were available, but found that because of lack of time and sufficient information, I am unable to make assumptions about peak use. With peak use information only can one make recommendations of facilities needed to accommodate the projected demand for recreation at the Watershed.

The Outdoor Recreation Resources Review Commission, commissioned by Congress, determined that varied demand for outdoor recreation depends on a large number of factors. Among the most important factors are age, education and income levels, race, leisure time, and the opportunity to engage in recreational activities.

Age has a sharp influence on participation in active pursuits such as cycling, hiking, horseback riding, camping, and swimming.62 About 74 percent of Newark is 44 years of age or younger, the most

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active years in life. However, 60 percent of this group are Blacks who show markedly lower rates of participation in most every outdoor recreation activity.

Activities which demand a substantial outlay of money depend on higher income people for support. Horseback riding and boating are examples of such recreation pursuits. The median income for Newark residents is $6,191, very low for 1972. "Some of the differences between income groups are due to such related factors as education, occupation, and age."

The higher the level of education, the more active adults are in swimming, playing games, sightseeing, and walking and driving for pleasure. Of all Newark adults age 25 or more only 37.5 percent have any high school education. There is little difference in sex and participation in outdoor recreation except in traditionally masculine activities like fishing and hunting.

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64 Ibid.
66 Ibid., p. 27.
68 Ibid., Op. Cit., p. 27.
69 Ibid., p. 28.
Given the opportunity, people will participate in outdoor recreation.\textsuperscript{72} New Jersey is located in the Northeast where 25 percent of the U. S. population reside and where only 4 percent of designated recreation acreage exists.\textsuperscript{73} People cannot very well enjoy outdoor recreation when it is not available for use. The fact of lack of opportunity is confirmed for Northeast New Jersey in the ORRRC Study Report 26.\textsuperscript{74} Of 15 different Northeast locations, Northeast New Jersey (includes Newark) has the lowest rate of opportunity to participate in nearly all 16 listed recreation activities.\textsuperscript{75} Reports also show that suburbanites and people who live in the country participate more than city people.\textsuperscript{76} Two points of view may develop from these just stated arguments: 1) Newark people do not like outdoor recreation and/or 2) Newark people are not given much opportunity to engage in outdoor recreation. I think the latter, but in any case, opportunity affects demand.

Lack of time was given in one study as the major reason preventing desired outdoor activity.\textsuperscript{77} (Refer to Table 2 for reasons

\textsuperscript{72}Ibid., p. 40.  \textsuperscript{73}Ibid., p. 56.
\textsuperscript{75}Ibid.
\textsuperscript{76}ORRRC, Outdoor Recreation for America, Op. Cit., p. 29.
Leisure time depends on the hours per work week and length of paid vacations. I have no information on the leisure time of Newark citizens, but in any case, it is difficult to calculate leisure time as it relates to outdoor recreation. It is known, however, that people have more leisure time and expend more of it on outdoor recreation.

Given the socio-economic make-up of Newark, I have projected preferences of Newark residents to specific outdoor recreation activities. These preferences can be found in Table 3. The purpose of the table is also to list outdoor recreation activities which are demanded by American people.

Demand for outdoor recreation will undoubtedly increase in the future, assuming that there will be increases in population, real personal income per capita, percent of income spent on recreation, travel miles, leisure time, and education levels. Standards set by the Central Planning Board of Newark indicate a shortage of 327 acres of recreation and open space to keep pace with the city's goal of 3 acres of park space for each 1,000 persons. Although these standards are questionable and depend more on how the land is administered than on how much land there is, they are low in contrast to National Recreation Association standards (6.25 acres per 1,000

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80 Newark Division of City Planning, 1964 Master Plan, Table 9.
persons) which means that the deficit is even greater.

I have not tried to estimate future demand for outdoor recreation, but even if the quality and quantity of facilities available today were sufficient on a per capita basis and were to remain constant, the estimated number of visiting occasions by persons 12 years and over will double between 1976 and 2000. All of these factors contribute to the theory that if recreation facilities (Watershed) are available, Newark residents (or anyone else in the region) will use them.

More indicative of long range demand for outdoor recreation are the four recreation proposals that have been submitted to the ONS. They include a ski lodge expansion, an arts and crafts camp, a Boy Scout camp, and an Arnold Palmer golf course. The proposals cater to special markets that will serve relatively few Newark residents although they would help relieve Newark's property tax burden. The City of Newark must initiate more public types of recreation at the Watershed than what these proposals suggest.

In preparing for public outdoor recreation participants, the heaviest use will take place on weekends. Attendance records show weekend activity at least twice as much as on weekdays. Any accommodations must be estimated on the basis of weekend participation.


82 All proposals should be thoroughly reviewed before acceptance. Design Criteria found on page 135 is useful in making a positive or negative decision.

Table 2. Factors preventing desired outdoor activity

<table>
<thead>
<tr>
<th>REASON GIVEN</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of time</td>
<td>52</td>
</tr>
<tr>
<td>Financial cost, too expensive</td>
<td>17</td>
</tr>
<tr>
<td>Ill-health, old age</td>
<td>11</td>
</tr>
<tr>
<td>Family ties</td>
<td>11</td>
</tr>
<tr>
<td>Lack of available facilities</td>
<td>9</td>
</tr>
<tr>
<td>Lack of car</td>
<td>5</td>
</tr>
<tr>
<td>Lack of equipment</td>
<td>4</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>9</td>
</tr>
<tr>
<td>Don’t know or not ascertained</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>*</td>
</tr>
</tbody>
</table>

*Adds to more than 100 percent because respondents could mention more than one factor.

Table 3. Projected outdoor recreation preferences for Newark

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>PREFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picnicking</td>
<td>1</td>
</tr>
<tr>
<td>Driving for pleasure</td>
<td>2</td>
</tr>
<tr>
<td>Swimming</td>
<td>3</td>
</tr>
<tr>
<td>Sightseeing</td>
<td>4</td>
</tr>
<tr>
<td>Walking for pleasure</td>
<td>5</td>
</tr>
<tr>
<td>Fishing</td>
<td>6</td>
</tr>
<tr>
<td>Boating</td>
<td>7</td>
</tr>
<tr>
<td>Playing games</td>
<td>8</td>
</tr>
<tr>
<td>Nature walks</td>
<td>9</td>
</tr>
<tr>
<td>Bicycling</td>
<td>10</td>
</tr>
<tr>
<td>Camping</td>
<td>11</td>
</tr>
<tr>
<td>Attending Games</td>
<td>12</td>
</tr>
<tr>
<td>Attending outdoor concerts</td>
<td>13</td>
</tr>
<tr>
<td>Hiking</td>
<td>14</td>
</tr>
<tr>
<td>Hunting</td>
<td>15</td>
</tr>
<tr>
<td>Horseback riding</td>
<td>16</td>
</tr>
</tbody>
</table>
as well.

No doubt, more detailed studies should be undertaken in making number projections of Newark participants in public outdoor recreation on peak days at the Watershed. Estimates based on surveys of Newark residents would be more accurate than comparative data on a similar condition in another American city, although both have merit.

There are a lot of intangibles in demand. People must be aware a facility exists before they will use it. Watershed recreation publicity is an aspect never to be overlooked. Newark's attitude toward the Watershed as a place of recreation is favorable under the present administration and councilmen but may not be as favorable to the next Mayor of Newark or the next City Council. Fads for different activities change with time (i.e., bicycling is a fad partially attributable to our concern for anti-pollution). Upkeep on a facility is important to some people who would rather go further to a cleaner, less congested recreation site. Less important intangibles affect demand, but Newark decision makers will determine more the extent of the Watershed's use than anything else.

Newark has just begun a public recreation program at the Watershed which should be concerned more with the opportunity factor than with any other. A public recreation program will cost money—money that Newark does not have. It is probably necessary for Newark to charge user fees to operate such a program. An expected percent of the surrounding counties and the region will participate in the program, but could be charged higher fees to control overuse. This would also subsidize, as well as give preference, to Newark residents.
Every year the Division of Water Supply has a surplus of $1 million. Total revenues from sale of water are presently about $8 million, while total costs are approximately $7 million. The surplus is turned over to the general fund, where it is used to finance operating deficits that arise in other departments. This surplus and the provision of an inexpensive and dependable water supply are the major benefits of the Watershed to the citizens of Newark in the opinion of the ONS. However, Newark pays property tax of $1.2 million per year to six townships in three counties. The rise in property tax explains why "economic benefit to Newark" is a high priority in the City's stated "objectives" for Watershed lands. (See page 70 for Objectives). As long as Newark continues to pay escalating taxes on the land, economic benefit cannot be realized. Newark's 1972 total operating budget—$84,864,406.87—and its total expenditures of $107,257,877.61, show that Newark can ill afford to pay what amounts to 1.3 percent of its revenues on property tax for Watershed land.

It would be useful to examine why Newark's payments on property taxes to Watershed communities have increased so rapidly over the past years. Every municipality provides services to a community, for which it collects revenues. The discrepancy between these two

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84 1972 figure. Refer to Table 4 for exact figures.
85 The figure for general appropriations for municipal purposes or total expenditures include capital improvements, debt service, and statutory expenditures (retirement systems and pension plan) that the operating budget does not cover. Neither figures cover water utility.
Table 4. Newark's tax payments to the Watershed municipalities

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>WEST MILFORD</td>
<td>6,281,702.30</td>
<td>6,794,778.92</td>
<td>522,634.14</td>
<td>690,884.08</td>
<td>8.31</td>
</tr>
<tr>
<td>VERNON</td>
<td>2,259,882.69</td>
<td>2,203,370.57</td>
<td>77,036.14</td>
<td>98,146.56</td>
<td>3.40</td>
</tr>
<tr>
<td>JEFFERSON</td>
<td>4,406,191.85</td>
<td>4,531,144.04</td>
<td>85,855.92</td>
<td>95,176.59</td>
<td>1.94</td>
</tr>
<tr>
<td>ROCKAWAY</td>
<td>5,609,121.28**</td>
<td>5,828,984.72**</td>
<td>28,221.39</td>
<td>85,270.64</td>
<td>1.46**</td>
</tr>
<tr>
<td>HARDYSTON</td>
<td>949,271.56</td>
<td>981,134.60</td>
<td>27,490.59</td>
<td>37,490.59</td>
<td>3.05</td>
</tr>
<tr>
<td>KINNELON</td>
<td>3,081,773.89</td>
<td>3,103,289.01</td>
<td>8,098.97</td>
<td>8,732.56</td>
<td>0.26</td>
</tr>
</tbody>
</table>

1,115,701.02 = TOTAL 1970 TAX PAYMENTS

* RESERVE for uncollected Taxes included
** 1970 figure

Townships are ordered to Newark Tax Payments
figures should be as small as possible to allow the governing bodies to operate properly. Taxpayers are overburdened if revenues far exceed expenditures, and a municipal government is constrained from providing necessary services if expenditures are far above the revenues collected. Refer to Table 4 for revenues and expenditures to Watershed communities. In New Jersey, where property tax is almost exclusively used as a means of financing municipal government, Watershed communities have relied on property tax for a major portion of their revenues. In a period of inflation, municipalities are forced to levy heavier taxes. The change in total revenue received through property tax from the six Watershed communities between 1965 and 1970 averaged an increase of 4.25 percent, and property tax generated about 80 percent of all revenues realized by these townships in 1970. Without an increase in total revenues, property tax has risen. So the increase in the cost of living has been followed by a second increase in property tax.

Population increases also contribute to increases in property tax. For this reason, Watershed communities are discouraging population growth. Over a five-year period, 1965 to 1970, all Watershed townships indicate population growth, but the townships which had the greatest percentage of population growth were also the communities with the greatest financial problems. (See Table 5 for population increases.) A report filed on Watershed communities confirms this.

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"...increases in population meant that the levels of municipal services had to increase in quantity, if not in quality as well.... The development which did occur in each locality was of a nature producing diseconomies in providing services. The cost of servicing a resident, i.e., per capita expenditure, rose an average of 67 percent in the Watershed communities. The mean expenditure in 1965, $257.87, rose to $427.17 by 1970.87

The increase of property taxes on Watershed land permits us to ask what services Newark receives in exchange for the tax benefits the Watershed provides to the townships involved. The answer is that Newark pays over $1 million in property tax each year and receives almost no benefits in return. The ten children of Watershed Staff living on Watershed property attend school in Watershed communities, and the homes of Watershed staff members are tax exempt. Newark provides all other services needed to maintain the land: trash collection, sanitation, street maintenance, etc. There are volunteer fire fighting forces from Watershed communities, but none equipped to handle forest fires; Watershed staff and a State Forest Ranger play the major role in fire fighting and prevention. Police service expense, which has increased in Watershed townships more than any other municipal expenditure, 88 does not cover the Watershed, which is patrolled by Newark employees. Costs of general government in Watershed communities also rose rapidly between 1965-1970, but administrative, legislative and judicial services are not provided

Table 5. Population increases in the Watershed municipalities, 1965-1970

<table>
<thead>
<tr>
<th>TOWNSHIP</th>
<th>TOTAL 1965 (Est.)*</th>
<th>TOTAL 1970</th>
<th>WHITE 1970</th>
<th>PERCENTAGE INCREASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>VERNON</td>
<td>2,795</td>
<td>6,059</td>
<td>6,041</td>
<td>117 %</td>
</tr>
<tr>
<td>WEST MILFORD</td>
<td>12,403</td>
<td>17,304</td>
<td>17,011</td>
<td>40 %</td>
</tr>
<tr>
<td>KINNELON</td>
<td>6,088</td>
<td>7,600</td>
<td>7,565</td>
<td>25 %</td>
</tr>
<tr>
<td>ROCKAWAY</td>
<td>15,524</td>
<td>18,955</td>
<td>18,829</td>
<td>22 %</td>
</tr>
<tr>
<td>JEFFERSON</td>
<td>11,922</td>
<td>14,122</td>
<td>14,092</td>
<td>18 %</td>
</tr>
<tr>
<td>HARDYSTON</td>
<td>2,962</td>
<td>3,499</td>
<td>3,484</td>
<td>18 %</td>
</tr>
</tbody>
</table>

Townships are ordered to Percentage Increase

*Braffman Report

Source:
Office of Newark Studies
for Newark, as Newark has no vote and cannot be represented in these communities. Thus Newark receives minimal services from and incurs minimal costs to Watershed towns.

In contrast, the Watershed townships receive two important benefits from Newark. Besides the direct tax revenue of $1.2 million, interviews with local tax assessors indicate that the Watershed raises property values of adjacent land, thus indirectly increasing the towns' tax revenues.

An assessment is an estimate of market value on a piece of real estate. Property tax is the money paid by a taxpayer on a value per dollar amount of assessed value (in this case, the true value of the land). Newark's present escalating property tax problem is a product of increases in both assessment of property and the tax rate per dollar amount of assessed value. (See Table 6 for value per $100 assessed value.) The result of these two increases has significantly changed Newark's tax payments to Watershed towns—so much so that in one case (West Milford) there was a jump of nearly $200,000 in payments over a year's period.

As far as the Watershed is concerned, valuation increases have more effect on taxes than do increases in tax rate per dollar amount of assessed value. Revaluation is based on type of land use, and vacant and farm lands were revalued higher than any other land uses. Thus the taxes on Watershed land, almost synonymous with farm land or vacant land, increased drastically over two years. (See Table 7 for

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89 Ibid. 90 Ibid.
valuation change by land use.)

The phenomena that causes property taxes to rise on vacant and farm lands also pressure development of that land. A landowner of vacant or farm land is forced to ask if he can afford it. It seems to be the need for more and more tax revenues that is forcing the issue. "The communities that already have fat tax revenues are the ones that get more industry and more taxes; the communities that have open space do not, and it is tax revenues, not open space, that they want." 91

It is likely that property taxes will continue to rise and the need to stabilize its economy will force Newark to consider liquidating part or all of the Watershed land, unless at least a portion of the property is developed. Developed properties are revenue producing and are called "ratables." Revenues are needed by all Watershed communities, but depending on the type, ratables can cause an increase in service cost that exceeds the revenues produced. In order of most severe to less need for revenues are Vernon, West Milford, Hardyston, Rockaway, Kinnelon, and Jefferson. Most essential in calculating the need for ratables requiring few services are the tax per capita and the tax per capita growth. (Refer to Appendix A, page 171, for supporting figures.) High figures indicate a need for these low service ratables. Vernon Township, on one extreme, has both a high tax per capita and a high tax per capita growth, in comparison to the correspondingly low figures for Jefferson. From Newark's

Table 6. State equalization property tax rate for 1960 and 1970

<table>
<thead>
<tr>
<th>TOWNSHIP</th>
<th>1960</th>
<th>1970</th>
</tr>
</thead>
<tbody>
<tr>
<td>HARDYSTON</td>
<td>2.09</td>
<td>3.86</td>
</tr>
<tr>
<td>ROCKAWAY</td>
<td>1.95</td>
<td>3.73</td>
</tr>
<tr>
<td>JEFFERSON</td>
<td>2.05</td>
<td>3.65</td>
</tr>
<tr>
<td>KINNELON</td>
<td>2.03</td>
<td>3.41</td>
</tr>
<tr>
<td>VERNON</td>
<td>1.78</td>
<td>3.26</td>
</tr>
<tr>
<td>WEST MILFORD</td>
<td>2.06</td>
<td>3.23</td>
</tr>
</tbody>
</table>

Figures are valued per $100 of assessed value

Townships are ordered to Tax Rate

Source:
Office of Newark Studies
Table 7. Valuation change by land use, 1968–1970

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Hardyston</th>
<th>Jefferson</th>
<th>Kinnelon</th>
<th>Rockaway</th>
<th>Vernon</th>
<th>West Milford</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm</td>
<td>7 %</td>
<td>27 %</td>
<td>11 %</td>
<td>183 %</td>
<td>36 %</td>
<td>49 %</td>
</tr>
<tr>
<td>Vacant</td>
<td>25 %</td>
<td>21 %</td>
<td>35 %</td>
<td>152 %</td>
<td>36 %</td>
<td>36 %</td>
</tr>
<tr>
<td>Commercial</td>
<td>31 %</td>
<td>38 %</td>
<td>19 %</td>
<td>20 %</td>
<td>92 %</td>
<td>47 %</td>
</tr>
<tr>
<td>Industrial</td>
<td>17 %</td>
<td>31 %</td>
<td>—</td>
<td>18 %</td>
<td>92 %</td>
<td>11 %</td>
</tr>
<tr>
<td>Residential</td>
<td>26 %</td>
<td>32 %</td>
<td>25 %</td>
<td>18 %</td>
<td>35 %</td>
<td>26 %</td>
</tr>
<tr>
<td>Apartments</td>
<td>—</td>
<td>48 %</td>
<td>—</td>
<td>- 9 %</td>
<td>19 %</td>
<td>9 %</td>
</tr>
</tbody>
</table>

Source:
point of view, however, location of developments are most beneficial in the township which has the highest tax per acre. This is not as clear-cut as it sounds, because it is possible for development to increase assessments on surrounding land to the point where the revenues produced do not equal the increase in taxes. In order of benefit to Newark, land for development lies in the townships of Kinnelon, West Milford, Jefferson, Vernon, Hardyston, and Rockaway. (Refer to Appendix A, page 171, for tax per acre.)

If Watershed property is leased for commercial recreation, the property then becomes revenue producing and can give indirect tax relief to Newark. When there is more money coming in than going out, Newark can afford to leave a larger number of acres undeveloped. This allows preservation of vital open space, more to the good of Newark's citizens. Other forms of tax relief are possible (i.e., conservation easements) through negotiations with the townships, all of which need revenues that could be acquired by ratables on Watershed land.

Political Considerations

It is difficult to achieve a clear understanding of the political aspects of the Watershed, and it is always hard to determine criteria for making a political judgment. However, attitudes that are the basis for political decisions will be discussed here, ranging from the political hierarchy of the Federal Government, to the Newark government, and finally its citizens.

Besides funding (covered in another section), the Federal government has nominal participation in recreation policy of the region, state and municipality. But from 1872, when President Grant
signed a bill that set aside as public "pleasuring ground for the people" a tract of 3,000 square miles to be known as the National Park (Yellowstone), this highest of political bodies has had definite and positive opinions about recreation for the public. In 1916 Congress set up the National Park Service, operating from the Department of the Interior. At that time outdoor recreation was a leisure time activity just as it is now, but land for recreation was abundant and there was not the concern generated by a growing population that there is now.

In 1958 Congress tried to quantify outdoor recreation by establishing the Outdoor Recreation Resources Review Commission (ORRRC) to determine recreation wants and needs of American people in the years 1976 and 2000. The ORRRC noted that the effectiveness of potential recreation areas are greatly reduced by restrictions in either location or management policies. In the case of recreational use of the Newark Watershed, the latter has more impact than the former.

The state of New Jersey takes a stronger view of the Watershed than does the Federal government for several reasons. New Jersey is the most urbanized state in the Union and is consequently concerned about what little open space it has, whereas the Federal

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93. Ibid., p. 1.
94. Ibid., p. 81.
open space is great compared to total population. The State is also more affected by services which must be provided for populated regions than is the Federal government.

New Jersey ranks seventh in the U. S. in per capita income, but last in per capita expenditure, which makes it a rich state in one sense but a very poor state in another.95 Its citizens are demanding services and influencing political decisions, but without funds the State cannot provide the wanted services. For example, the people of New Jersey voted overwhelmingly for a $60 million "Green Acres" program which established as State policy that public lands having scenic, water supply, and recreational value be kept free of any urban development. However, Commissioner Richard Sullivan of the State Department of Environmental Protection contends that the State has no money to assure the effectiveness of "Green Acres." New Jersey has far more requests to buy and lease land than it has funds. The Governor's Commission to Evaluate Capital Needs commented on the $60 million program:

It is recommended that an appropriation of $30 million be authorized and that it be devoted substantially to the matching grant program. The decision to defer the balance requested was simply a matter of the Commission recognizing urgent needs for capital funds in other areas.96

Even this reduced amount for "Green Acres" was eliminated by the legislature from the $990 million bond issues package—after the voters had approved it in 1968.97 The people of the State of New

Jersey are willing but not able, through the State, to aid in preserving the Newark Watershed and other similar land.

A policy report to the Department of Community Affairs, known as the Erber Report, studied the Newark Watershed and recommended steps the State of New Jersey should take to assure the best use of the Newark Watershed for the welfare of New Jersey residents. The document was a response to a civil suit brought against the City of Newark by Gibson, before his term as Mayor, to prevent City Council from turning over ownership of the Watership to the Municipal Utility Authority. This suit also led to the policy report being prepared presently by the Office of Newark Studies.

Recommendations from the Erber Report included the State purchase of Watershed development rights that cover hunting, fishing and other recreational activities. There would be an assurance that the State would not develop the land without "satisfying Newark that every development proposal is compatible with, and harmless to, the quality of water in the City's reservoirs."

The threat of sale has subsided, but there is strong reason to believe that the State agrees with a position advocating maintenance of open space at the Watershed and use of the land for recreational purposes. The Watershed is a crucial part of an open space reservation concept proposed by former Commissioner Robert A. Roe of the former Department of Conservation and Economic Development. Called "Skylands," the proposal investigated non-residential ratables through

\[98\text{Ibid., p. 33.} \quad 99\text{Ibid., p. 31.} \quad 100\text{Ibid., p. 31.}\]
promotion of commercial recreation, rather than of manufacturing or other processing industries for up-stream municipalities.\(^{101}\) The State recognizes the need for ratables, and cannot afford additional open space. It would like to save what it already has.

The Regional Plan Association is primarily concerned with urban problems—industry leaving, out-migration, etc.—caused by the magnetic forces of areas as far away as the Watershed. Over the last 20 years, Newark alone has lost 50,000 residents to its suburban rings. The build-up of outlying areas of metropolitan regions only undermines a regional attempt to stabilize growth in cities. The Regional Plan Association finds it essential for this primary concern to account for open space and its relation to recreation: "Large parks accessible to the big cities in the center of the Region, which will necessarily have to occur outside the boundaries of these cities, should be provided by the states, although counties containing such cities (Essex, Union, Passaic, Westchester) can fulfill part of this role for their own communities.\(^{102}\) "One of the themes of the Second Regional Plan is that life in the Region would be improved for future generations if we more sharply distinguished natural countryside from urban places and paid greater attention to conservation and ecology on the one hand and urban design on the other.\(^{103}\)

\(^{101}\) *Tid.*, p. 16.


The counties, at least those of Morris, Passaic and Sussex, (the Watershed counties), are also interested in stabilizing themselves. They have been faced with the influx of vast numbers of people whose presence has become a drain on municipal services in the counties. Rather than increase population growth by encouraging more housing, all three counties see themselves as recreation- or resort-based areas.

Morris county, an affluent suburban county, views the Watershed as "frozen" land and would consider leasing some of the land from Newark for a public park for the county. Passaic county favors either commercial or public recreation, and Sussex county, which is already the biggest recreation-resort area of the three counties, sees the Watershed as an opportunity for more commercial recreation.

The Watershed municipalities are Jefferson, Kinnelon and Rockaway in Morris County, West Milford in Passaic County, and Hardyston and Vernon in Sussex County. (See the Regional Map on page 16 for locations). The attitudes of all six townships toward the Watershed are significant, but West Milford and Vernon have more force than the others because of their access to proposed transportation routes, their high population growth, and their boundaries containing the majority of Watershed land. There are no major industrial or commercial establishments in any of these communities. The New Jersey Transportation Master Plan calls for widening Route 23 to a six-lane divided highway, which would have some effect on the towns nearby.

\[104\] Office of Newark Studies.
Proposed Route 208 would probably influence the economies of West Milford and Vernon more than other Watershed municipalities (refer to the Regional Map on page 16 for location of Routes 23 and 208). In order of growth, Vernon, West Milford, and Jefferson have the highest growth percentages of the six townships. (Refer to Table 8 for population increase.) The difference in population growth, for example, between Vernon (most growth) and Hardyston (least growth) is that Vernon is fast becoming the recreation-resort hub of the area, while Hardyston—through sheer inaccessibility and restrictive zoning—has chosen to support its rural character. West Milford and Vernon, in that order, have more than two-thirds of Newark Watershed property within their boundaries (refer to Table 9 for acreage owned by Newark in the six townships).

Since the Watershed is close to its populated sections, Jefferson would like public and commercial recreation, as well as other commercial establishments, to be set up in its town. Kinnelon land owned by Newark is undevelopable, except the commercial possibilities for areas along Route 23. Rockaway has a newly-elected mayor who would accommodate any reasonable request for development, although he favors recreation uses for the Newark-owned land. In West Milford, town officials and the community agree that recreation (public or private), commercial and industrial enterprises are needed, but disagree about housing. The planning board favors a PUD (Planned Unit

---

Table 8. Population growth in Watershed municipalities

<table>
<thead>
<tr>
<th></th>
<th>POPULATION</th>
<th>PERCENTAGE INCREASE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1960</td>
<td>1970</td>
</tr>
<tr>
<td>Morris County</td>
<td>261,620</td>
<td>323,454</td>
</tr>
<tr>
<td>Jefferson</td>
<td>6,884</td>
<td>14,122</td>
</tr>
<tr>
<td>Kinnelon</td>
<td>4,431</td>
<td>7,600</td>
</tr>
<tr>
<td>Rockaway</td>
<td>10,356</td>
<td>18,955</td>
</tr>
<tr>
<td>Passaic County</td>
<td>406,618</td>
<td>460,782</td>
</tr>
<tr>
<td>West Milford</td>
<td>8,157</td>
<td>17,304</td>
</tr>
<tr>
<td>Sussex County</td>
<td>49,255</td>
<td>77,528</td>
</tr>
<tr>
<td>Hardyston</td>
<td>2,206</td>
<td>3,499</td>
</tr>
<tr>
<td>Vernon</td>
<td>2,155</td>
<td>6,059</td>
</tr>
</tbody>
</table>

Source:
Table 9. Acreage owned by Newark in the six townships

<table>
<thead>
<tr>
<th>TOWNSHIP</th>
<th>ACRES IN TOWNSHIP</th>
<th>ACRES OWNED BY NEWARK</th>
<th>PERCENTAGE OWNED BY NEWARK</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEST MILFORD</td>
<td>56,000</td>
<td>18,000</td>
<td>36 %</td>
</tr>
<tr>
<td>VERNON</td>
<td>43,456</td>
<td>5,567.50</td>
<td>12.81 %</td>
</tr>
<tr>
<td>JEFFERSON</td>
<td>28,352</td>
<td>4,053</td>
<td>14.29 %</td>
</tr>
<tr>
<td>HARDYSTON</td>
<td>20,864</td>
<td>4,000</td>
<td>19.17 %</td>
</tr>
<tr>
<td>ROCKAWAY</td>
<td>28,800</td>
<td>2,339.53</td>
<td>8.06 %</td>
</tr>
<tr>
<td>KINNELON</td>
<td>12,608</td>
<td>184.77</td>
<td>1.46 %</td>
</tr>
</tbody>
</table>

34,143.80 = TOTAL ACRES OWNED BY NEWARK

Townships are ordered to Acres Owned by Newark

Source:
Office of Newark Studies
Development) site on Watershed land, but the community does not. Also, because they have a severe water supply problem, West Milford would be agreeable to leasing water from the Watershed reserve. Hardyston is vigorously opposed to housing at the Watershed but would agree to recreation and commercial business. It would also like to build a municipal building on Watershed land. Vernon has already established itself as a recreation-resort area. The town is growing rapidly and wants more commercial recreation.

All Watershed communities are looking for ratables and are hesitant to pick housing. They are afraid, both that Newark will make a settlement with the State to take over ownership, which would cause a loss of taxes, and also that the land will be developed for purposes detrimental to their own interest. It is ironic that at the same time taxes are being inflated on Newark-owned land, local officials are crying about the dwindling undeveloped land reserves. Recreation is an activity unopposed by any of the Watershed communities. It is the one type of land use that is acceptable and wanted by all the townships.

Newark, of course, is in the most precarious position of all of having to make a decision about the present and future use of the land. Like all cities, Newark is trying to build a better image. If you can overlook problems like the high percentage of unemployment and

106 There is no central water system in West Milford although the Municipal Utilities Authority does serve some sections. Private company wells furnish water to the rest of the Community.

and high rates of crime, Newark has some attractions—The Newark Museum, Community Center for the Arts, Symphony Hall, Metro-Liner (a PATH system with fast service to Jersey City and Manhattan), colleges, the Newark Airport, and the Robert Treat and Downtowner hotels. But these attractions are few in contrast to the every day impressions most people have of Newark—the dirty streets, foul smells on side streets, abandoned shops and apartment buildings, the suspecting looks and attitudes. There is tension even in the daylight hours produced by addicts and muggers and there is a different kind of tension caused by people wagging their tails over new-found powers and positions.

Distrust is deeply embedded in Newark politics. This is true from the top—Gibson and his City Council—to the bottom. There is dissension between the recently-elected Mayor Gibson and the City Council, a holdover from the previous administration. There are power struggles between departments. For example, recreation has been a scattered, ad hoc affair, shuttled from the Board of Education, to the Community Development Authority, to Planning, and to Public Works. This caused duplication and allowed poor lines of communication to develop. Conflicts between commuters and residents in Newark are subtle but real. Some of Gibson's advisory staff do not live in Newark because of the ratio of earnings to rent and property tax. "Gibson's aides describe it as the first major American city a majority of whose working force is composed of commuters."

The Watershed is so far removed from the rest of Newark that there is little reaction to its existence. The first Newark residents knew of the land was the attempt to sell it in the late 1960's. Gibson brought the Watershed to its present state of pending decision and was wise to investigate its potential through a non-partisan group, the Office of Newark Studies. He has said that if the study shows Newark should get out of the water business, he would recommend an outright sale of the property and its five reservoirs to another agency. The mayor also said that he thought the Watershed would be suitable for self-sustaining recreation purposes. A meeting in February, 1972 with the City Council indicated favor to Newark's retaining ownership of such a resource. The community of Newark, unaware that the land exists, have no opinion. The low profile of the Study itself has not changed the situation. When the Study is released, community and official opinions about its use will assuredly be expressed. Until that time, little has been said, and little can be known about the political status of the Watershed in Newark.

Personalities of those who have been involved with the Watershed for years must also be considered when advocating even a minor change in land use. Traditionally the Pequannock Watershed has served one purpose—supplying water to Newark and other towns. Now a number of possible additional uses are being considered. Old


110 Ibid.
Watershed management does not change over night to demands from a new administration. The Staff of the Water Supply Division live on the Watershed property and feel claim to this land which is unknown by others in Newark. Frank Yacavone, a Water Supply staff member, is well known and respected in the Watershed communities and will not give up his control of the land easily. Some people in West Milford call him the "Mayor of the Watershed" which is indicative of the auspicious position he feels he holds as Superintendent of Water Supply.

Political bodies differ in their points of view toward use of the Watershed; the Federal government having little opinion, the State and region wanting more open space, the Watershed towns fear heavy development, and Newark simply wants more benefits than it is presently getting from the land. From the political forces acting on the land, the character of the Watershed will certainly change and recreation is an accepted alternative use.

Social Considerations

Watershed communities are composed primarily of middle-class whites who work outside the town in which they reside. 67,022 of the total 67,549 population of the six Watershed municipalities are white. To these people, the Watershed means two things—taxes for their town and "frozen" land. The latter has caused older residents' hostility to Newark. They believe that the land bought by Newark should have belonged to their children, and they fear what Newark might suddenly do with it. To my knowledge, there are no other adversaries to Newark or Newark's ownership of the Pequannock
The 1970 census of population figures shows that Newark is 60 percent black and 40 percent white (refer to Table 10 for population data). The census also includes statistics that make this major American city a "national metaphor for urban decay." The unemployment rate is 14½ percent, an unacceptable level by national standards. People are aware that the Federal government is subsidizing Boeing and Lockheed while cutting back on subsistence for the 30 percent of Newark's population who are on welfare. Newark "has the highest rate of crime, birth, infant mortality, V. D., and substandard housing (one-third, or 40,000 units) in the country. The Port of New York Authority pays Newark a paltry $1 million a year for use of both the port and the airport, under a 1947 lease that still has 86 years to run. The FHA estimates that a man owning a $20,000 house earns about $8,000 a year. In Newark, a man owning a home worth $20,000 pays $1,688 in real estate taxes every year." Doctors have moved out of Newark at the rate of 100 per year. Only those whites tied to their property by mortgages now remain. A quarter of the white population is over 55 years of age. Only 32 percent are under 21. The corresponding figures for blacks are 7.5 percent and 52 percent, respectively. Between 1960 and 1970 a total of 70,000 whites moved out of Newark. "Today, most of Newark's businessmen are still 'residents of other towns'. Two-thirds of the city's

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Table 10. 1970 census of population for Newark

<table>
<thead>
<tr>
<th>RACE</th>
<th>POPULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>168,382</td>
</tr>
<tr>
<td>Other Races</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>207,458</td>
</tr>
<tr>
<td>Indian</td>
<td>507</td>
</tr>
<tr>
<td>Japanese</td>
<td>128</td>
</tr>
<tr>
<td>Chinese</td>
<td>642</td>
</tr>
<tr>
<td>Filipino</td>
<td>685</td>
</tr>
<tr>
<td>Others</td>
<td>4,615</td>
</tr>
<tr>
<td>Total of All Races</td>
<td>382,417</td>
</tr>
</tbody>
</table>

Source:
teachers also roll in from suburbia, a fact not lost on inner-city blacks during the recent teachers' strike. White collar employment fell 23.8 percent from 1950-1960. Sales employment fell 26.5 percent. And blue collar employment fell 4.6 percent. This is the direct opposite to national and regional trends during the period from 1950 to 1960, and reflects the suburbanization of Newark's prosperous income groups who continue to work in the city but choose to live elsewhere.

During his term of office, Newark's mayor has tried to reach people who haven't been reached before. He feels it is important to city residents to direct the city budget in not only a more economical fashion, but also in a way that will more directly benefit the citizens. "The Department of Education," for example, "has become so thick with unneeded bureaucrats that Gibson himself recommended a slash of $2.5 million in its proposed budget." Gibson has coaxed $7 million out of the Nixon Administration for a local Model Cities program, another $4.6 million to recruit police and sanitation workers.

The many social attitudes of a city are indicated by people's feelings about their political leaders. There are complaints that Gibson isn't making the community's feelings to be felt in the right

115 Ibid., p. 22.
116 City of Newark, Division of City Planning, Master Plan, (1964). Also refer to Table 11 for population figures as a result of suburbanization.
Table 11. Population of Newark, 1900-1970

<table>
<thead>
<tr>
<th>YEAR</th>
<th>POPULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1900</td>
<td>246,070</td>
</tr>
<tr>
<td>1910</td>
<td>347,469</td>
</tr>
<tr>
<td>1920</td>
<td>414,524</td>
</tr>
<tr>
<td>1930</td>
<td>442,337</td>
</tr>
<tr>
<td>1940</td>
<td>429,760</td>
</tr>
<tr>
<td>1950</td>
<td>438,776</td>
</tr>
<tr>
<td>1960</td>
<td>405,220</td>
</tr>
<tr>
<td>1970</td>
<td>382,417</td>
</tr>
</tbody>
</table>
Raymond Brown, keynote speaker at the 1970 Black and Puerto Rican Convention which nominated Kenneth Gibson for Mayor of Newark, is dissatisfied. Brown comments that Gibson "has been sitting on his ass playing with civics books since he took office. Meanwhile industry's moving out, housing is still in the hands of Addonizio's boys, and we are dismayed by [Gibson's police director John] Redden. The police still get away with murder."\(^{119}\)

Newark residents still have fears born in the riots of 1967, which left the people with even greater headaches. "Twenty thousand drug addicts must somehow steal half a million dollars a day to finance their disease—minus, of course, whatever they earn from pushing dope themselves. More than the black mayor, more than the white cops, more than the businessmen in their ivory towers, it is the addicts' presence on the streets and in the alleyways that dominates the lives of Newark's ghetto residents and casts a pall over the entire city."\(^{120}\)

Voices are loud from the North Ward, a neighborhood concentrated with Italian residents. Addonizio, the previous mayor, was good to this section, but Central Ward, where all Newark's ills are intensified, was hardly acknowledged. Through the present administration, more attention is focused on the Central Ward and the North Ward feels left out and bitter. "The North Ward still has its old traditions and celebrations, its institutions of the family, the church and the social club which have been at times both its strength and its weakness. It seems the Italian community is now at the beginning of a new

\(^{119}\) Ibid., p. 14. \(^{120}\) Ibid., p. 22.
trend, not fully assimilated into the mainstream, searching back for roots, more aware of Italian culture and heritage, more fiercely proud than ever to be of Italian descent—perhaps because they feel the majority look down on them."\textsuperscript{121} An Italian leader expresses his feelings, indicative of his community. "S. Adubato, former City schoolteacher and chairman of the North Ward Democratic Committee, points to statistics showing that post-high school education is actually on a decline among the whites graduating from the City's public school system, while it is rising among the blacks and Puerto Ricans. 'The white kids of Newark,' he says, 'are mistaken for white Americans. You know what they really are? They're the new niggers, the dictionary term meaning the guys on the bottom no one is concerned about.'\textsuperscript{122}

Ten percent of Newark's white population is Puerto Rican, which have become a stronger interest group in recent years. They take the position blacks took under the Addonizio administration—one of the back seat. Puerto Ricans are a growing population in Newark, language being their biggest barrier to advancement. Little is known about the Puerto Rican population, except that they are a unified group and will have more influence in the near future.

Nearly 50,000 Newark residents are over 55 years old. Retirement and welfare leave the elderly with a great deal of free time; they need recreation activity even more than do the young people. They need more than just a room or an apartment to walk across.

\textsuperscript{121}"Newark's Italians," \textit{Newark}, February, 1972, p. 20.
\textsuperscript{122}Ibid.
Robert Crawford, Commissioner of Recreation of Philadelphia, referred to the estimated 100,000 persons of retirement age in Essex County his opinion that "The (Essex County Park) Commission should provide leadership in dealing with the recreational needs of senior citizens." Unfortunately, old people have little support in Newark, only sympathy.

Considering Newark's social situation, recreation activities begin to satisfy some of the residents' needs. The present administration does not try to be partial to some residents, which overlooking others. To serve its people, a city cannot listen only to the loudest voices or be swayed by the biggest muscle, or there will always be an underdog, always a "nigger".

I didn't think it was necessary to cover all of the many interest groups in detail, but I have tried to give the reader feelings that can be transposed to a whole view of the Watershed. The Newark Watershed is 35 miles away from the city core, its existence known only to a few residents. A short while after the release of the final Watershed Study, few people will care that it exists unless there is an activity that draws them to the Watershed.

People in Newark need everyday evidence that the decision makers are concerned about them, and recreation activity has the distinct advantage of being a collective consumption good, benefiting all. "Samuelson in his theory of government expenditure, defines

collective consumption goods as those 'which all enjoy in common in
the sense that each individual's consumption of such a good leads to
no subtraction from any other individual's consumption of that
good.'\textsuperscript{124} For something to be consumed, it must be available. At
the present, Newark has ample space, but the clear land is tied up.
One-third of the total 23.6 square miles of Newark is occupied by
Port Newark, Newark Airport, and uninhabited marshland.\textsuperscript{125} Other
large areas are being cleared for the New Medical School and for
private owners whose property was destroyed in riots. It's unfor-
tunate that some of this land cannot be utilized publicly until the
owners decide about its use. A longer-range policy decision by the
City will hopefully take this factor into account. Meanwhile, vacant
land adds to frustration and dissatisfaction about the city as a
whole. The Watershed offers an opportunity for outdoor recreation
and the argument that this isn't another wasted area.

The major cities would like to avoid repetition of riots
that occurred in the 1960's. The Kerner Commission, concerned with
the reoccurrence of riots, recommended recreation as a solution to
long, hot, miserable, inactive summers for central city residents.
Recreation is not a solution to urban problems but a pacification of
the resultant frustrations. Riots are social indicators and should
be viewed as such. However, recreation, if taken apart from its
mechanistic potential, adds to the quality of life. Leisure time,
whether welfare or vacation time, can be spent constructively and

\textsuperscript{124} Patterson, \textit{op. cit.}, p. 152. \textsuperscript{125} Zelnick, \textit{op. cit.}, p. 11.
used as a positive force for individual development. Recreation does not solve the problems of school dropouts nor does it improve an inadequate school system, but it may prevent some potential dropouts and encourage others to see their lives more dynamically. Neither learning nor recreation are static and the range of experience and interaction within and without the individual person is wide.

Hopefully through recreation, people of varying backgrounds, religions, races, ages and languages come in contact with one another, when they would otherwise have not. Interaction increases understanding of others, misunderstanding being the cause of much hostility. Levels of recreation involvement differ with the interest group. "For instance, total participation in outdoor recreation generally rises as the educational level of the participants rises. The correlation here is not clear since the level of income also increases with the level of education." 126

Recreation crosses many barriers, and can affect the goals that motivate people. "If we can discover what needs and aspirations people are trying to fulfill and can recognize what may be blocking or frustrating their quest, we can understand better what provisions to make for future recreation." 127

At the Watershed, the people of Newark will have a chance to escape their city, to leave behind the ugliness and dirt for the


natural beauty of the Watershed. Summer programs can offer the children and youth an alternative to the streets. Just having the opportunity to escape, if only temporarily, makes living in any city more bearable.

Ecological Considerations

Traditionally, the Watershed has been used to serve one purpose—to supply water for the citizens of Newark and its vicinity. If Newark wishes to continue supplying good quality water to its residents, the ecological impact of further development must be considered. Almost no forces are presently acting on the Watershed land to alter its natural state, which is very important for the purity of its water. Under normal conditions, recreation alters to only a minor degree the crucial physical condition of the land.

Laws limiting man from polluting his environment have been enacted by men, but there are many who object to them. In February of this year, for example, the Senate unanimously passed a water pollution bill, only to have an overwhelming majority of the House reject it. The reason for the rejection was political: an industrial lobby against anti-pollution legislation and Presidential favoritism to business defeated the Senate bill.¹²⁸ The State of New Jersey is more effectively attempting to control pollution. "The State Department of Environmental Protection acting under the 1970 Wetlands Act for the first time, adopted a strict regulation to control two

Wetland areas in Ocean and Salem Counties totaling 31.6 square miles. State Commissioner of Environmental Protection Richard J. Sullivan said the Department considered the regulation 'not only reasonable but also effective in preserving much of our most precious real estate, the marshes.' Yet one has only to look at some of the water bodies in New Jersey to realize the ineffectiveness of such restrictions on pollution. Confined areas like the Newark Pequannock Watershed are easier to control, but ecology must be considered in planning stages, along with other development considerations.

Let us consider the positive effects of the vast undeveloped land of the Watershed.

The cooling effect of the vegetation-covered mountains on the passing air currents causes them to drop and press down as they move into the urbanized areas. The heat generated by the city areas warms the air and sends it upward, taking with it the dust-laden, noxious air of the city and providing cleaner, more breathable air for its inhabitants. The vegetation-covered uplands also regulate the flow of water into streams by absorbing and holding it in its root and leaf mass. To the extent that the Highlands are denuded and covered with roof tops and asphalts, run-off is speeded up and the cycle between dry stream beds and flash floods is accentuated. The Watershed's 35,000 acres make an important contribution to both tempered climate and balanced water flow.

The natural and man-made features and social facilities and services affected by development include wetlands, slope, vegetation, soil, climate, utilities, roads, schools, fire protection, and police

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Prime watersheds of the reservoirs are very susceptible to pollution and degradation; swamps and floodplains are less susceptible. In general, the greater the distance is development from the reservoirs, the less the water quality is affected. Slope is the basis of all natural and physical systems, including soil, erodibility, drainage and micro-climate. The steeper the slope, the greater the restrictions to development.

Vegetation is not one of the most important determinants for development, but it should be remembered that the forest cover retains ground moisture, prevents silting, and supplies food and refuge for wildlife. The Watershed forest, predominantly white oaks and chestnuts, is valueless as a timber resource, especially when 58.5 percent are damaged by gypsy moth defoliation. Measures must be taken to control this pest to prevent further damage to Watershed foliage. Ridgetops and southern slopes are usually dry and thus fire-prone, and could be cleared for use. But forest cover on steep slopes and high elevations should be maintained to control erosion and conserve water.

Soils are fourth in importance of natural restrictions to land use. Four kinds of soil—wet soils, highly erosive soils, soils with shallow bedrock, and agricultural soils—must be considered.

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131 Rutgers University Students' Report, "Watershed," prepared for the Office of Newark Studies under the direction of Mr. Roger Wells of Rahenkamp, Sachs, Wells and Associates, Inc. The following general descriptions are taken from pages 5–9 of that report.

Heavy development of the first two—wet and highly erosive soils—is most detrimental to water conservation and quality. Development of areas of stratified drift and fault lines should be restricted, to prevent landslides and to preserve their high water-bearing capacity.

Climate should only be considered for its effects on human comfort, but these effects are worth knowing. A building is robbed of heat if it is on windward-facing slopes or has a northern exposure. Frost pockets, which occur in valleys, affect recreational development less than they affect other types of land use. The necessity of such natural conditions for outdoor recreation makes most recreational activities compatible with the natural restrictions listed in this section.

For the wildlife in the Watershed, intensity of use is an important factor. The trout population in the Watershed reservoirs and streams is naturally regenerating, but trout are marketable and profitable, and the balance could be destroyed. Deer, squirrels, grouse, and lower life forms that inhabit heavily forested areas depend on the continuance of their normal life cycles on wooded lands. Restricting the numbers of visitors to recreational areas should allow preservation of this wildlife. Loud noises should also be controlled since they are destructive to wildlife and upsetting to humans.

Man-made features affected by development include physical services and social facilities and services. Physical services at the Watershed include roads and utilities—public water and sewers, and on-site sewers. Major roads are needed for parks only; minor
roads are necessary for all recreational pursuits. Maximum development of on-site sewers should be restricted in areas with limited septic capacity, which is more than 4,000 acres on Watershed property. New sewer plants would have to be built at the Watershed for any recreational development that relied on a sewer system. Only private sewer systems, each having its own treatment plant operating at maximum capacity, are in operation now at the Watershed. The New Jersey Board of Health eliminates the following site conditions for sewage disposal:

1. water tables closer than 4 feet from the surface;
2. areas sloping over 25%;
3. areas within 50 feet of flood plains;
4. areas where permeability is slower than 1 inch per 40 minutes.

The need for social services for recreational use of the Watershed is minor. Fire protection service is needed, as is some police protection, for City and State parks should be patrolled. Schools are not needed in connection with any listed recreational use although the idea is not objectionable.

If preservation of the Watershed is to be the highest goal, recreation is the use that would least affect the land. To determine the compatibility of general types of land use to natural and man-made features, a compatibility matrix has been developed by the consulting landscape architects, Rahenkamp, Sachs, Wells and Associates, Inc. (RSW) of Philadelphia. This matrix can be found in Table 12.

It is clear from the matrix that recreation is generally more compatible with natural features and requires fewer man-made services and facilities than do other land uses, excluding conservation
and agriculture (although pesticides used in agriculture do affect water quality). Nonetheless, certain land characteristics are more suited to certain kinds of recreational activity, and less suited to others. To determine suitable locations for specific kinds of recreation it is necessary to use maps that show: 1) natural restricting features (Natural Restrictions Composite—RSW), and 2) restrictions important primarily to building structures (Land Use Development Restrictions—RSW). These maps can be found on page 122. Viewed in conjunction with the matrix and an understanding of these restrictions, feasible locations become apparent. Table 13 summarizes the use restrictions for Watershed lands.

Access

Without access, benefits of an area cannot be realized. I will briefly discuss access to the Watershed on two levels: existing access that may be used more intensively in the future, and proposed access. A map of the existing and proposed transportation routes is on page 130.

Main arterial routes will determine the large-scale potential for development in the Watershed. These routes include Route 23, a four-lane divided highway which splits the Watershed north and south, and Routes 287 and 94 which run respectively east and west of the property. The proposed Route 208 through West Milford would be north of Newark-owned land and would service northern New Jersey.

There are tentative plans for widening Route 23 to accommodate projected increased traffic volume from the proposed Tocks Island
Table 12. Compatibility of natural and man-made features with potential land uses

<table>
<thead>
<tr>
<th>NATURAL DETERMINANTS (Restrictions to Land Use)</th>
<th>PHYSICAL SERVICES REQUIRED</th>
<th>SOCIAL FACILITIES &amp; SERVICES REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Drainage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slope</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soils</td>
<td></td>
<td></td>
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<tr>
<td>Climate</td>
<td></td>
<td></td>
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<tr>
<td>Utilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prime Irrigated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swamp Marsh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floodplain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-15%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25%+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest/Meadow/ *</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prime Agriculture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest Pocket</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Sewer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>On-Site Sewer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major Roads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minor Roads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School</td>
<td></td>
<td></td>
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<tr>
<td>Fire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Police</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Conservation- Water Supply Areas
Fish & Wildlife Preservation

Recreation- Public City Park
Organization
Campgrounds
Nature Center
Wilderness Areas
State Parks

Private Golf Courses
Camp Ground
Fishing
Winter Sport Facilities
Hotel Resorts
Theme Parks
Conference Center

Agriculture- Truck Farms
Tree Farms

Residential- Low Density
Medium Density
High Density

Institution- Special Use

Commercial- Co-ordinated (neighborhood)
Highway
Office/Research

Industrial- Light Industry
Heavy Industry

*COMPATIBLE +
*POSSIBLY COMPATABLE *
*NOT COMPATABLE -

*For last two columns, indicates whether required or not
Table 13. Number of acres by restriction of Watershed lands

<table>
<thead>
<tr>
<th>TYPE OF LAND</th>
<th>NUMBER OF ACRES</th>
<th>CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prime Agricultural</td>
<td>638.4</td>
<td>Class I - Soils that have few limitations restricting their use for cultivation (deep, well-drained, nearly level).</td>
</tr>
<tr>
<td>Could be used for parks, recreational gardens, camping. No development.</td>
<td></td>
<td>Class II - Soils that have some limitations reducing the choice of plants or that requiring moderate conservation practices.</td>
</tr>
<tr>
<td>Private Lands</td>
<td>4,267.6</td>
<td>Class I - Soils that have few limitations restricting their use for cultivation (deep, well-drained, nearly level).</td>
</tr>
<tr>
<td>Possible acquisition, rights-of-way (pipe line), easements. No development.</td>
<td></td>
<td>Class II - Soils that have some limitations reducing the choice of plants or that requiring moderate conservation practices.</td>
</tr>
<tr>
<td>Steep Slopes</td>
<td>2,001.6</td>
<td>25% +</td>
</tr>
<tr>
<td>Parks, camping, skiing. No development.</td>
<td></td>
<td>Floodplains and swamps.</td>
</tr>
<tr>
<td>Wetlands</td>
<td>3,108.0</td>
<td>Shallow depth to seasonal high water table, bedrock and slow permeability.</td>
</tr>
<tr>
<td>Parks, camping, light recreation.</td>
<td></td>
<td>No development.</td>
</tr>
<tr>
<td>Limited Septic Capacity Lands</td>
<td>4,306.8</td>
<td>Minimum capital investment recreation, camping, parks.</td>
</tr>
<tr>
<td>(Performance standards needed.)</td>
<td></td>
<td>Shallow depth to seasonal high water table, bedrock and slow permeability.</td>
</tr>
<tr>
<td>Non-Restrictive</td>
<td>6,246.8</td>
<td>Maximum capital investment recreation, commercial, industrial, housing.</td>
</tr>
</tbody>
</table>
Development northwest of the Watershed. This would be a commercial recreation development that could draw large numbers from the New York Metropolitan Region by the quickest route possible, Route 23. Peripheral forces supporting the proposed Route 208 include a proposed Delaware Water Gap National Recreation Area, and Vernon Township attractions such as the Playboy Club, Great Gorge and Vernon Valley Ski Slopes. All recreation areas will increase tourist trade and affect present transportation routes.

Mountain ridges have prevented the construction of easy east-west routes in the Watershed. Thus Route 23 will probably remain the only access for Newark to the Watershed. North-south routes are adequate for reaching all but the most remote areas within the Watershed, but they are secondary roads of the narrow two-lane, undivided type. The City of Newark has allowed these roads to run down to deter use of the land by "outsiders," which included Newark residents. Canistear, Union Valley, Echo Lake, Green Pond, and Cozy Lake Roads are examples requiring minimal repair; Clinton Road requires major repair.

There are two access routes to the Watershed from Newark. One is by way of Broad Street in Newark to Bloomfield Avenue, to Pomptom Avenue, to Route 23 north. The other is by way of the Garden State Parkway to Exit 153 B, to Route 3, to Route 46 west, to Route 23. From New York the easiest way is from state highway 80 to Route 23

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133 The Tocks Island Development is questionable, because ecologists are opposed to a dam which is part of the plans. The Department of the Interior thinks the development could do without the dam.
north. From West Bergen County, the best way is Route 202 to 23
north, from Morristown, Route 202 to Route 10, to Route 10 west, to
Route 53 north, to 80 west, to county road 513 (or Union Valley Road
in West Milford or Green Pond Road in Rockaway). These routes may be
used by bus, car or motorcycle.

Bus service presently exists from Newark to Butler, New
Jersey, and could be extended to the Watershed if there were enough
demand for the service. New York buses travel Route 23 to Newfound-
land, located within the Watershed. As a means of access to the
Watershed, bus service is more likely to succeed if used more speci-
fically for recreation.

With the Susquehanna and Western Railroad inoperable, no rail
service to the Watershed exists. Plans are being made for a municipal
airport in Vernon. Its effect on public recreation at the Watershed
would be minimal for, only the wealthy could afford to use the
service. Commercial recreation at the Watershed could benefit from
it, however.

Bicycling and walking could be excellent ways to travel
within the Watershed, but are almost impossible means for travelling
to and from the area. Some areas in the Watershed can only be reached
by foot, and one can hike for half a day without sighting a highway.
Both bicycling and walking are in themselves forms of recreation which
should be incorporated into a plan for the area.

Bus and car are the best links between the Watershed and
urban centers. Both public and private recreation will have to
accommodate automobiles, at least for the present; buses can be used
to transport groups. The road system should remain as it is, without widening Route 23 as proposed. Within the Watershed, municipal roads should be repaired. Bicycle paths should be constructed along present roads, and foot paths should be cleared for hikers. These could follow old wood roads now beginning to be grown over.

Since the Watershed is 35 miles from downtown Newark, transportation of groups is not a small issue. The groups using the Watershed this summer had to choose between bus or car transportation. Most groups viewed bus transportation as a major expense to their operating budgets (except for those who own their own buses). However, the most economical way of moving large numbers of people over this distance is by bus. Also if a large group decided to go by car, the parking problem would be more critical than if buses were used.

The groups who have proposed to utilize the Watershed facility this summer have all decided to use buses. Only one group per day will be allowed at any one site, and there is enough parking space at every site to accommodate the largest number of buses needed by participants. Therefore, I do not foresee a parking problem for the summer of 1972.

Parking, especially for cars, will be a major concern for public recreation at the Watershed in the future, even the near future. Unless they are with a group, people generally want to use their own cars, for the freedom only a car can afford, and for the convenience of taking picnic baskets, fishing equipment, tents, etc.

I will consider two systems of parking: 1) a central collection
point for all cars at the Watershed with an internal system that serves everyone (see map on page 131), and 2) satellite parking areas within the Watershed (see map on page 132). For the first parking scheme, a designer might investigate a large dry open lot that drains well, such as the site at Oak Ridge and Paradise Roads. Cars could park here, and transport system could collect people and disperse them wherever they would like to go. This could be achieved in any number of ways; for example, vehicles that run continually on present roads (i.e., buses), mini-cars, or dual-mode systems that run on roads or tracks. The cost of this system would involve the building of a large parking lot and the buying, operating, and maintaining of a system of internal transportation. Fees would probably have to be charged for such a system.

The second parking scheme is one of limited parking in a number of places close to the sites. This system would work smoothly if parking were located just off the road, so that a driver could tell if a site was crowded and could go on to the next location where there were similar facilities. Parking arrangements like this one would require only installation of small lots and a network of roads in good condition. This second scheme is preferable to the first because it costs less and permits people to get as close as possible to where they want to be.

In any case, it would be to Newark's benefit to have the roads within the Watershed repaired for heavier use. Newark has the right to expect the townships to keep their municipal roads in good repair in return for the taxes it pays. Also, deals could be made with ski resorts that intend to lease property from Newark. During summer
months, ski lifts could transport people from valleys to ridges where there are camp or picnic sites.

With an anticipated increase in the volume of traffic in the more distant future, alternate routes from Newark to the Watershed should be explored. In addition to the primary route by way of the Garden State Parkway to Route 3 to Route 46 to Route 23 north, there is a route by way of Broad Street to Bloomfield Avenue to Pompton Avenue to Route 23 north. Which route is faster depends on the time of day. At rush hours, Route 46 is very crowded and slow, but during off-hours is generally faster than the Bloomfield Avenue way, which has more traffic signals.

Parking problems will come with the increase of traffic volumes. It may be necessary then to exclude cars from the Watershed and begin the operation of a mass transportation system. It is possible for Newark to consider a shuttle bus service to and from the Watershed coupled with a transport system within the Watershed. A bus would have to use the same roads as cars, not substantially reducing the time of travel on overcrowded roads. An alternative may be to use the existing railroad tracks as an exclusive right of way for bus or train service to the Watershed.

The Erie Lackawanna Railroad passes through the northern portion of Newark, continues to Butler and the Susquehanna and Western Railroad goes from Butler to the Watershed and beyond (see map on page 133). These railroads follow Route 23 closely which makes it convenient to have stopping points along the way for passengers who live in the region and would rather not use their cars. The
Susquehanna operates a freight line four miles outside Jersey City to Butler, and although it does not use them, the railroad has tracks past Butler through the Watershed. Newark may find the railroad companies agreeable to plans which would involve the use of track to transport Newark residents (or New York and regional residents) to the Watershed, or the sale of the unused portion of Susquehanna track for the construction of an exclusive bus route, or revitalization of unused track for train service as an extension from Butler to the Watershed. An investigation of such possibilities should be made by Newark before a decision must be made to reduce the visitors simply for lack of parking (not to mention the inconvenience to people without an easy and efficient means of travel for recreation to the Watershed).

The Watershed is not suited to the type of transportation that is expensive to operate and must survive by the volume of its use. This kind of system would destroy scenic quality, be a tremendous waste if abandoned, and would tend to lock the Watershed into a more permanent use.

Facilities

The existing facilities described in the previous chapter (see the section on "Facilities" on page 14) cannot sustain increased use. The lack of sewage treatment facilities in the area inhibits growth and prohibits even minimal use, since inadequate sewage disposal affects water quality.¹³⁴

¹³⁴The affect will not be as critical when the new $1,275,000 filtration plant is in operation five years from now.
This limits Newark from developing the land. If septic tanks are used, locations of disposal units must be carefully picked. Including all land with restrictions, only a fifth of the Watershed is suitable for septic disposal. It is unlikely that these scattered, unrestricted areas perfectly match the desirable locations for recreation where disposal will be needed. To prevent pollution of the water supply, septic tanks will have to be located in non-restricted areas, or be limited to light use if located in restricted areas.

There are no serious limitations to water for recreation since the Watershed can provide an additional 5 million gallons per day without affecting the safe yield. However, there is no water distribution system, and pipes must be laid before any development on the land is begun. Electrical, telephone and gas lines must be installed as they are needed. At present, projections for the area do not go beyond existing service.

Most recreation locations will require drinking water, so pipes will have to be laid for both public and private recreation. Construction of sewage disposal systems should be limited to non-restricted land or have limited use until a sewage treatment plant is in operation, at which time the systems should be linked to the plant. For commercial recreation, telephone, electrical and gas lines will be needed, for which the towns will have to provide. Public recreation facilities will need some electrical and telephone service, which will have to be negotiated with the townships.

If Newark is interested in providing a place of recreation for its citizens at the Watershed, demand must be thoroughly assessed.
and a physical plan of facilities must be drawn. Since it is not
the purpose of this thesis to make a recreation plan for the Watershed,
it is unnecessary to project upon facility needs in detail, although
recreation standards exist and should be used in approximating facility
needs. 135

The land itself is a more important facility for recreation
than it is for other types of development, for which the land is a
necessity but has little meaning if other services are not provided.
Some recreational activities require many acres of land, but for most
it is not the number of acres, but how they are used that makes the
difference. Facilities and improvements are thus in many cases the
key to the effective supply of recreational activity.

Recreational Design Criteria

It is important not only to decide a land use policy or a
land use plan 136 for the Watershed but also to establish a method by
which one may determine whether or not a specific (in this case,
recreation) proposal is worthy of implementation.

The following is an outline of recommended criteria for

135 For example, Robert Buechner, National Park Recreation and
Open Space Standards, (Arlington: National Recreation and Park
Association, 1962); U. S. Department of the Interior, Bureau of
Outdoor Recreation, Outdoor Recreation Space Standards, (Washington:

136 Land use criteria was mentioned in a previous section—
"Evaluation of Recreational Land Use."
evaluating different recreational land uses for the Watershed. A model for using these criteria in the decision-making process is on page 145.

A) Maintain purity (quality) of water:

1) Zero to minimal effect;
2) Can handle by filtration;
3) Chemical and sewage seepage;
4) Direct pollution.

The reservoir water is pure and meets the standards of the Newark Water Supply Division. If Newark intends to continue supplying water to its citizens from this source, the goal should be to maintain the purity of the water supply. The costs of a more intensive use of the land as it affects the water, range from zero to direct pollution. To allow pollution beyond a level that can be corrected by filtering should not be permitted.

B) Maintain good quality and quantity of water:

1) Adhere to good performance standards;
2) Cause of flooding and/or reduction in water-holding capacity.

Criteria are closely related to anti-pollution. Preventing increases in the storm water runoff rate and soil erosion is of considerable importance to good quality and quantity of water.137 Steps should be taken to insure that these

increases are minimal when development occurs. If such steps are not taken, flooding and reduction in water-holding capacity may result, neither being acceptable for the goal considered here.

C) Newark public good:
1) Serve large number of people and interest groups;
2) Serve small number of people and interest groups.
Generally, the larger the number of Newark people and interest groups served by a proposal, the more beneficial is the use of the Watershed to Newark public good.

D) Prevent excessive use of land (land capacity):
1) No effect;
2) Minimal effect;
3) Despoiles land.
The degree of use varies from no effect to overuse. Excessive recreation use is based on the number of participants, the nature of the activity, and the land type and area. Usually the most participants to the most active recreation, in conjunction with the smallest land area and the most corrosive soil, lead to conditions that are highly unsatisfactory. Procedural steps can be either corrective or preventive to overuse. Periodic checks should be made to note any change in the state of land that can be altered before conditions worsen. Fees could be levied when too many use a particular area that begins to deteriorate. Prices must be watched however, so that an area doesn't
become exclusive for certain income groups. "In order to do this realistically an extensive cost-benefit analysis would have to be made analyzing future usage affects on expected costs and what pricing levels would lead to what usage in the future." And, rotation of activities may prevent overuse. The advantage of recreation when overuse occurs is that an area can be simply closed to use (i.e., next week) if necessary. This criteria can be extended to roads and water bodies as well.

E) Maintain natural state of land:
   1) Improving state;
   2) Static;
   3) Allow deterioration;
   4) Destructive.

Conscious maintenance of land as it exists naturally should be a goal in carrying out recreation programs at the Watershed. The range is obvious—from improvement to destruction, according to the management in control. Maintenance of the natural state of land is similar to prevention of excessive use (goal D), the former being constructive and the latter defensive.

F) Revenues for Newark, $/acre:
   1) High;
   2) Medium;

3) Low;
4) Small cost to Newark;
5) Medium cost to Newark;
6) High cost to Newark.

The more revenues received by Newark on Watershed land, the better. This criterion may conflict with public recreation, but not with private recreation. If Newark must pay for the proposal, Newark should consider this goal relative to Goal C—for example, a large amount of money should not be spent to serve a small amount of people.

G) Benefit other activities:
1) Beneficial;
2) No effect on other activities;
3) Minor conflicts;
4) Untenable situation.

Determination of the relationships between different activities is crucial. It is certainly an advantage for one activity to benefit another, but intolerable for one to completely interfere with another's function. Wildlife may be taken into account in evaluating this goal.

H) Maintain Newark control:
1) No control;
2) Some control;
3) Total control.

All criteria are based on the assumption that Newark will not sell the land. The desired amount of control varies
with the nature of the activity in respect to other goals. Generally, more control is desirable.

I) Not detrimental to health, safety and/or general welfare of six municipalities:
   1) Beneficial;
   2) No effect;
   3) Minor adverse effects;
   4) Detrimental.

Benefit need not be one-sided. There is sufficient reason to not jeopardize the position of six townships within whose boundaries the Watershed lies. If recreation is the land use, the criteria become more physical than political. Detrimental effects should be avoided.

J) Desirable ratio of public recreation to commercial recreation:
   1) Balance;
   2) Imbalance (entirely public or entirely commercial recreation).

Neither extreme satisfies Newark's present situation. The "all public recreation" extreme would be a financial drain because Newark has to subsidize public recreation, but the "all commercial recreation" extreme would be out of reach of the majority of Newark residents. The ratio of public to commercial recreation will change with time, depending on the demand, resources available, and suitable locations for particular activities. This goal should be rated
according to how it affects the balance or imbalance in each instance.

K) Safety and health of Newark and others:
1) Good health and safety;
2) Ill health and safety.

This goal is essential for well being and prevention of liability. Adherence to New Jersey Sanitary Codes,\(^\text{139}\) good sense, security measures, and restrictions foster the advisable extreme (good health and safety). Impulsion, negligence, and ignorance cause ill health and ill safety.

L) Adequate staffing and supervision:
1) Adequate;
2) Inadequate.

This goal can also be stated as a ratio: the number of staff and/or supervisors to the number of participants.

\(^{139}\)"Chapter XI: Campgrounds," in New Jersey State Department of Health, *New Jersey State Sanitary Codes*, (Trenton: New Jersey Department of Health, 1968). Other chapters include:

1. Local Boards of Health and Personnel
2. Reportable Diseases
3. Animals and Birds: Importation, Quarantine and Herd Testing Program
4. Laboratories
5. Preparation, Handling, Transportation, Burial and Disinterment of Dead Human Bodies
6. Boarding Homes for Children
7. Production, Distribution and Sale of Certified Milk, Cream and Skim Milk
8. Refuse Disposal
9. Mobile Home Parks
10. Blood Banks
The ratio varies according to the persons involved and the kind of recreation.

M) Adequate facilities for a workable recreation program:

1) All facilities needed;
2) No facilities.

For a workable and successful program of recreation, needed facilities must be provided. Optimal conditions require that either no facilities are needed, or facilities are needed and provided. Facilities include both equipment and human conveniences.¹⁴⁰

N) Good design:

1) Responsive to people concerned;
2) Useful;
3) Non-effectual to purpose.

Design should primarily serve the participants. A design that is non-effectual to its original intent (except by accident and when it can be used for another purpose) has no purpose. A set of design standards eliminates faulty

¹⁴⁰ A list of conveniences are as follows:
Buildings and shelters.
Land accommodations:
parking
roads
General accommodations:
information center
signs
maps
drinking water
toilets
dumping station
electricity
construction and an evaluation of purpose can identify and correct major defects in recreation programs.

Evaluation of design criteria outlined in this section must guide decision making in connection with recreation proposals for use of the Watershed. Criteria fall under three main categories: uncompromising positions, policy decisions, and details.

Uncompromising positions include goals A and B. If a recreation development pollutes the water, causes flooding or reduction in water-holding capacity, or any combination of these, the proposal should be unconditionally refused.

Policy decisions include goals C, D, E, F, G, H, I, and J. Policy decisions can change according to the interests of decision makers at a particular time. Also, there is a danger of imbalance in these criteria; goals affect each other and policy decisions could alter the state of the water supply (goals A and B—"uncompromising positions"). For example, if a decision is made to significantly increase Newark revenues (goal F) by allowing mainly commercial recreation (goal J) to be established on the land, only small numbers of Newark’s public (goal C) will use the land, Newark control (goal H) will be lessened, more services will be needed, which may affect the water quality (goal A). Or, if great numbers of Newark residents are served (goal C), the land could become denuded (goals D and E), affecting the quality and quantity of water (goal B). Therefore, policy decisions are instrumental for maintaining a balance of services while also protecting the water supply.

Finally, there is a category of "details," including goals K,
L, M, and N. These goals make up a necessary part of any workable recreation proposal. Standards can be set and should be adhered to by everyone who intends to use Watershed land. Standards need not be rigid or unnegotiable, but for the benefit of Newark and participants of recreation programs alike, the goals here should be seriously considered.

Decision making should proceed in the sequence given here: first, the uncompromising goals, then policy decision goals, and finally, the detailed goals. With time, effects on criteria change but the criteria themselves do not. If effects on criteria change, re-evaluation of a proposal is in order, and the decision-making procedure must be gone through again. If Newark's overall "objectives" for the Watershed land change, goals may also change, and the design criteria must be reordered. A model of the decision making process appears on the next page.

No single category of recreation activity is objectionable and each proposal presents a new situation which must be considered individually. The samples in the model are general and more detailed information should be used in making final decisions. However, this model does give at a glance an indication of the critical issues in each instance.

In judging a proposal for a small new road, goals C and F (serving a small number of people and interest groups and costing Newark money) are the critical factors. The final decision is then based on whether Newark has the money to build the road for the projected number of people the road will serve.
Table 14. Model of decision making procedure

<table>
<thead>
<tr>
<th>Uncompromising Positions</th>
<th>Policy decisions</th>
<th>Details</th>
<th>Final Decision</th>
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<tbody>
<tr>
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<tr>
<td>Goal A: Maintain Purity (Quality) of Water</td>
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<tr>
<td>Goal B: Maintain Good Quality and Quantity of Water</td>
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<td>1</td>
<td>1</td>
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<tr>
<td>Goal C: Maintain Public Good</td>
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<td>1</td>
<td>2</td>
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<tr>
<td>Goal D: Prevent Excessive Use of Land (Land Capacity)</td>
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<tr>
<td>Goal E: Maintain Natural State of Land</td>
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<td>Goal F: Revenues for Recreation</td>
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<td>Goal G: Benefit Other Activities</td>
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<tr>
<td>Goal H: Maintain Recreation Control</td>
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<td>Goal I: Not Detrimental to Health, Safety and/or General Welfare of Municipalities</td>
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<td>Goal J: Balanced Ratio of Public Spending to Commercial Recreation</td>
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<td>Goal K: Good and Safety of Neighbors and Others</td>
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<td>Goal L: Good Staffing and Supervision</td>
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<tr>
<td>Goal M: Adequate Facilities for Recreation</td>
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<td>Goal N: Good Design</td>
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<tr>
<td>Proposal 1. Small New Road</td>
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<td>2</td>
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<td>Proposal 2. Non-restricted Hunting</td>
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<tr>
<td>Proposal 3. Restricted Hunting</td>
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<td>2</td>
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<tr>
<td>Proposal 5. Ski Lodge</td>
<td>1</td>
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<td>2</td>
</tr>
<tr>
<td>Proposal 6. Restricted Swimming</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Numbers refer to the criteria range (one (1) being the most desirable and higher numbers being less desirable). Refer to the entire outline of recommended criteria.

* Does not apply.
The drawbacks to unrestricted hunting may be the deterioration of the natural state of the land (goal E), a cost to Newark to patrol and restock hunted game (goal F), cause an untenable situation (goal G) between hunters and people participating in other recreation activities because of the noise and danger (goal C), and may cause minor adverse effects on the safety of the six municipalities (goal I). All of these policy decisions being high, the final decision is that unrestricted hunting should be prohibited, although restricted hunting in the next example may be acceptable due to its less harmful effects.

Example proposal four, motor boating, may directly pollute the water with leading fuel so there is no need to investigate further. This proposal is refused unconditionally until there is a better assurance that motor boats do not pollute water (goal A).

A ski lodge is perfectly acceptable even if it serves a small number of Newark residents (goal C), a drawback offset by the high revenues Newark can receive from this commercial recreation establishment (goal F).

Restricted swimming that may affect the water, but can be handled by filtration (goal A) is an acceptable recreation activity if precautions for good health and safety are followed (goal K). Other details (goals L, M, and N) are important in this case to the safety and health of human life and should be analyzed closely before making the final decision on acceptability or non-acceptability of the proposal.

The brief explanation of the previous examples in the model
indicate that no hard and fast rules apply in making a final decision on proposals. Good sense and judgment are the best guides in making policy decisions, where subjective decisions must be made. The model is a simple tool and should be used to determine the best use of the Watershed.

Conclusions

Although it has to pay taxes on the Watershed to the six Watershed communities, Newark is in an advantageous position. Newark owns and controls the land and the water. It also has the option—if it becomes necessary—to either put most of the property under conservation easements or to lease the land to the State, in either case meaning a loss in taxes to the six townships. Newark can also play one town against another by selectively excluding some communities from favorable development.

The need for development of the Watershed is evident, considering the high taxes being levied on the land. The following list is a summary of my findings, all of which assume that it is best for Newark to maintain both ownership of the land and control of the water supply system.

1) Recreation is the best use of the Watershed at the present.
2) Demand indicates a present need for many kinds of outdoor recreation and a future increase in that need.
3) Many of the needed recreation activities require little resources and are not irrevocable uses.
4) Some areas of the Watershed are better than others for
certain recreation uses. Natural restrictions should be considered very carefully before locating activities more permanently. The suitability of some land for recreation depends on the kind and nature of the activity.

5) Recreation is the best future use for the Watershed because it is less harmful to the land and water than are other uses.

6) In general, recreation pursuits are less damaging to natural features and require fewer man-made services than do other uses.

7) Public recreation handled by the new Department of Recreation can better meet the needs of Newark citizens than is now being done.

8) Commercial recreation will ease tax pressures on Newark.

9) To alleviate the tax problems on the Watershed, Newark can: increase water rates as taxes go up; sell more water to the communities who need it (West Milford wants water desperately); lease land to the counties interested in establishing parks (which Newark citizens can also use); rent or even sell small portions of the land for private development with the requirement of minimum lot sizes to maintain open space.

10) Recreation at the Watershed should serve Newark residents first, and the region and the six townships, second.

11) When operating fees are necessary, they should reflect Newark's interest in its citizens (e.g., a 50¢ fee for
Newark citizens versus a $1.00 fee for all others).

12) Taxes paid on the Watershed by Newark are beneficial to the Watershed towns. Newark should seek a more proportionate distribution of services between the towns and Watershed land. Newark has a right, as would any private developer, to expect service for its property taxes.

13) Roads within the Watershed should be repaired to sustain heavier use in the future.

14) Evaluation of design criteria should be used to guide decision making in connection with recreation proposals for the Watershed.

15) Necessary zoning changes should be pursued. Whenever possible, however, an attempt should be made to locate land uses within the constraints of local Master Plans and zoning ordinances.

16) The success of any steps taken to fulfill the recommendations in the above list will depend on a political stand and a knowledge of the intricate combination of forces behind the management of such a large area of land.

Planners have always been faced with short-term uses and long-term implementation. The Pequannock Watershed differs from undeveloped land around it only in magnitude, but this is a crucial difference. The Watershed at present affects many lives, and if developed, will affect even more. Unlike locations for many activities, whether long- or short-term, locations for public recreation can be altered when the need arises or when there is no longer a need for a particular
activity. Thus, recreation is essentially a perpetual short-term use, and recreation planning is a continual process of revisions to a longer-range plan. A short-range plan is necessary when land can serve an immediate need and can often give a clue to a longer-range market. A short-range plan can and should be used as a test for longer-range elements (accessibility, possible routes, facilities needed, etc.).

My experiences and exposure at the Office of Newark Studies were excellent. I found it difficult, however, to remove myself from a real experience to theorize about what I had done. It would have been better if my time had been divided between the practical and academic. As it happened, I was forced to separate these two elements during one period of time to get the most of each. For the past several weeks, I have been on leave from the ONS. Luckily the person who is replacing me for this time is familiar with my job. The flow of events was much smoother while I was there, and the temptation of staying to see that the summer program worked well was strong. If field work of this nature is repeated in the future, I recommend that an academic deadline be set and the ONS informed from the beginning that someone should be assigned to take over after the student leaves. If the program between M.I.T. and ONS works well but time continues to be a problem, a month's extension of the semester may be a solution.

I recommend similar field work as a carryover into a summer job. I will return to ONS this summer as an aid to the Director of the Department of Recreation, to design shelters that can be built by the Neighborhood Youth Corps, a job program for youths 16 to 22 years of age.
MEMORANDUM

From: Gerald W. Billes

DATE: February 16, 1972

SUBJ: Preliminary Planning

This is the first of three stages to be completed:

1. Preliminary Planning
2. Building Construction
3. Implementation

On the premise that there will be an eight (8) week period (beginning about July 1 and ending about August 31) devoted to summer recreation, preliminary planning must begin immediately.

Money is scarce and depends upon an economically realistic plan for the agencies which may have interests in using the Watershed.

The process of coordination is as follows:

Send letters to all prospective agencies who may have interest in using Watershed for recreation as well as agencies presently using Watershed (through Mayor Gibson). Contents of the letter include authorization of Office of Newark Studies to handle all arrangements for use of Watershed property. If someone is presently using the Watershed, also see us for further use (if not permanently residing there).

Arrange meetings with interested people through this office.

Ask agencies to describe their function.

Discuss possible immediate uses of watershed for that agency based on resources available to them.

a. Immediacy of watershed as a priority (commitment).
b. Funds necessary.
c. Money available at present.
d. Personnel involvement (quantity, quality)

What sort of activity or facility would they (agency) like to see there.

Ask one person from each agency to be a member of a recreation committee to begin coordination toward this summer. Assess availability of agency interactions with other agencies and people.
Is money allocable to this project for anything.

Apply to Turrell Fund for planning recreation.
Board of Education Title I money.
Existent agency funds for transportation.

Begin location determinants. Outline the areas of use and their intensity of use or impact on watershed with report from landscape architects.

"Conservation Summer" used as an umbrella to sidestep other municipal guidelines. Check on health codes and suitability of water supply to swimming.

Get feedback from recreation committee on locations, transportation, and scheduling.

Present final schedule, location, and transportation information for agency approval.

ISSUES:

Liability - insurance

Food - luncheon - money for:

Temporary structures - money, trades, donated

Management of summer activities.

Use of Present Facilities at Watershed for Recreation:

Use of forest ranger, watershed staff, for information (education), tours and expeditions.

Use of lakes (reservoirs) for swimming and ice skating (with supervision).

Cross Castle may be used for groups at an open fire? (Near Hanks Pond).

Clinton Forge for something special.

Cedar Pond House could be restored and used for overnight stays at the Watershed.
Possible Activities

Picnicking and Camping
Field Sports
Fishing
Hiking and horseback riding
Ice Skating
Swimming
Water Skiing
Golf
Tennis
Nature Observation
Boating
Snow Skiing

RESULTS:

Map; showing circulation and location of activity area.
Statement on prohibitive use and intensity of use of the Watershed.
Schedule of use for the summer.
Transportation available.
Other funds that may be used for specific purposes.
On Page 1:

Under "Building Construction," add:
"(seek coordinated effort with construction unions)"

Eliminate at the bottom of the page:
"Ask one person from each agency to be a member of a
recreation committee . . . and the people." Because
of time constraints, this was not possible.

On Page 2:

Under "Issues:", add:
"Sanitation" and
"Determination of water bodies for swimming"

Under "Use of Present Facilities at Watershed for Recreation:",
eliminate:
"Use of lakes (reservoirs) for swimming and ice skating
(with supervision).", and
"Cedar Pond House could be restored and used for over-
night stays at the Watershed."

The Cedar Pond House was burned in early February.

On Page 3:

Under "Possible Activities," the following did not apply to
1972 summer recreation program and so were eliminated:
"Water skiing,
Golf,
Tennis, and
Snow skiing"
### LIST OF RECREATION AGENCIES

<table>
<thead>
<tr>
<th>Organization</th>
<th>Address</th>
<th>Contact Person</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boy's Club of Newark</strong></td>
<td>422 Broadway, Newark, NJ</td>
<td>Mr. Joseph Stevens</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mr. Lou May</td>
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<tr>
<td></td>
<td></td>
<td>Mr. Charles Messier</td>
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<td></td>
<td></td>
<td>Mr. Jim Anderson</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mr. John Williams</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mr. Milton Berry</td>
</tr>
<tr>
<td><strong>Boy Scouts of America, Robert Treat Council</strong></td>
<td>31 Central Ave, Newark, NJ</td>
<td>Mr. Joseph Merton</td>
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<tr>
<td></td>
<td></td>
<td>Mr. Harlow</td>
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<tr>
<td></td>
<td></td>
<td>Mr. William Bolan</td>
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<tr>
<td></td>
<td></td>
<td>Mr. Frank Barry</td>
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<tr>
<td></td>
<td></td>
<td>Mr. Seeger</td>
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<tr>
<td></td>
<td></td>
<td>Mr. Bernie Polite</td>
</tr>
<tr>
<td><strong>Girl Scouts, Council of Greater Essex County</strong></td>
<td>120 Valley Rd, Montclair, NJ</td>
<td>Mrs. Shirley Paulson</td>
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<tr>
<td></td>
<td></td>
<td>Ms. Mary Wilderson</td>
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<td></td>
<td></td>
<td>Mrs. Evelyn Hill</td>
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<td></td>
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<td>Ms. Connie Somerville</td>
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<td></td>
<td></td>
<td>Ms. Ana Jerres</td>
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<tr>
<td><strong>Catholic Youth Organization (CYO)</strong></td>
<td>101 University Ave, Newark, NJ</td>
<td>Mr. Downey</td>
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<tr>
<td></td>
<td></td>
<td>Mr. Patrick Donohue</td>
</tr>
<tr>
<td><strong>Housing Authority</strong></td>
<td>877 Broad St, Newark, NJ</td>
<td>Mr. John Garrett</td>
</tr>
<tr>
<td>Community Relations</td>
<td></td>
<td>Mr. George Branch</td>
</tr>
<tr>
<td></td>
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<td>Mr. Mirell Williams</td>
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<tr>
<td></td>
<td></td>
<td>Mr. Huff</td>
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<tr>
<td><strong>Fuld Neighborhood House</strong></td>
<td>71 Boyd St, Newark, NJ</td>
<td>Mr. Thad Kettles</td>
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<tr>
<td></td>
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<td>Mr. Curtis Grayson</td>
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<tr>
<td></td>
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<td>Mrs. Bell</td>
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<tr>
<td><strong>The Leaguers, Inc.</strong></td>
<td>750 Clinton Ave, Newark, NJ</td>
<td>Mrs. Gladys Little</td>
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<tr>
<td></td>
<td></td>
<td>Mr. Royal Cornwell</td>
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<td></td>
<td></td>
<td>Ms. Natalie Dickerson</td>
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<td></td>
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<td>Mr. Martin E. Rogers</td>
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<tr>
<td><strong>The Newark Museum</strong></td>
<td>43-49 Washington St, Newark, NJ</td>
<td>Ms. Ruth Strickland</td>
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<tr>
<td></td>
<td></td>
<td>Mr. Bill Mayer</td>
</tr>
<tr>
<td></td>
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<td>Mrs. Fredricks</td>
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<td></td>
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<td>Ms. Alice Blount</td>
</tr>
</tbody>
</table>
Agencies (continued)

Community Development Administration ........ Mrs. June Boxley
Bureau of Parks and Grounds ............... Mr. Bern Butler
Recreation Programming .................. Mr. Junius Williams
566 Orange Street......................
Newark, New Jersey......................
482-7640

Milt Campbell Community Center .......... Mr. Milt Campbell
284 Broadway..........................
Newark, New Jersey......................
483-0665

West Side Community Center.............. Mr. Ray Dandridge
684-686 Springfield Avenue.............. Mr. George Grant
Newark, New Jersey......................
375-5933

United Community Corporation (UCC) ...... Mr. Ted James
499 Central Avenue...................... Ms. Carolyn Williams
Newark, New Jersey......................
484-8820

Queen of Angels Summer Program .......... Mrs. Betty Macon
44 Belmont Avenue...................... Mrs. Jean Murphy
Newark, New Jersey......................
824-1313

Police Athletic League (P.A.L.) ......... Sergeant John Mosca
94 7th Avenue..........................
Newark, New Jersey......................

Police Athletic League (P.A.L.) .......... Mr. Mario Grande
19 Taylor Street.........................
Newark, New Jersey......................
484-6992

4-H Cooperative.......................... Mr. Chester Smith
Rutgers Environmental Community Academy Mr. William Wallace
601 Broad Street......................... Mrs. Carolyn Adams
Newark, New Jersey......................
375-1015

Sherman Community Center .............. Ms. Daisy Hargrave
132 Sherman Avenue....................
243-3133
Youth Services Agency
392 13th Avenue
Newark, New Jersey
642-0855 or 0856 or 0857

Neighborhood Youth Corps
850 Broad Street
Newark, New Jersey
622-1678

Newark Summer Music Project
81 North 10th Street
Newark, New Jersey
483-4635

Department of Baths and Pools,
City of Newark
City Hall
Room 309
Newark, New Jersey
643-6300

YMCA - YWCA of Newark and Vicinity
600 Broad Street
Newark, New Jersey
624-8900

Human Right Commission
City Hall
Newark, New Jersey
643-6300 ext. 281

Ironbound Boys Club
11 Providence Street
Newark, New Jersey
344-2698

North Jersey Community Union
105 Charlton Street
242-2147

C. I. R. E.
353 Springfield Avenue
824-5883
481-4700

Essex County Park Commission
115 Clifton Avenue
Newark, New Jersey 07104
482-6400
Agencies (continued)

Killburn Memorial Church
962 South Orange Avenue
Newark, New Jersey 07106
372-9732

Ironbound Youth Project
Print Shop
643 Market Street
Newark, New Jersey
589-8827

African Free School
13 Belmont Avenue
Newark, New Jersey 07013

Committee of United Newark (CUN)
502 High Street
Newark, New Jersey

F. O. C. U. S.
469 Broad Street
Newark, New Jersey 07105
624-2528

Ironbound Children's Center
146-148 Wilson Avenue
Newark, New Jersey 07105
589-6873
642-9483

YMCA - YWCA
14 Bock Avenue
Newark, New Jersey

Urban League
508 Central Avenue
Newark, New Jersey
623-1780

Senior Citizens Commission
760 Clinton Avenue
Newark, New Jersey 07018
371-9810

AMP Theater
121 Clinton Avenue
Newark, New Jersey 07114
643-7210
<table>
<thead>
<tr>
<th>Agency</th>
<th>Contact Person</th>
<th>Address</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board of Education</td>
<td>Mr. Sabby Addonizio</td>
<td>31 Green Street, Newark, NJ</td>
<td>622-6700</td>
</tr>
<tr>
<td>Physical Education Department</td>
<td>Mr. Salvatore Commisa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Jersey</td>
<td>Mrs. Denning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. McLucas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victory House</td>
<td>Miss Barbara Edwards</td>
<td>674 High Street, Newark, NJ</td>
<td>642-7986</td>
</tr>
<tr>
<td>Action Now</td>
<td>Mrs. Muriel Hodge</td>
<td>545 Central Avenue, Newark, NJ</td>
<td></td>
</tr>
<tr>
<td>Vailsburg Youth</td>
<td>Mr. Joe Trabucco</td>
<td>53 Saint Paul, Newark, NJ</td>
<td>374-4574</td>
</tr>
<tr>
<td>Mr. Robert Misurell</td>
<td>Mr. Frank Don Diego</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newark Pre-School Council</td>
<td>Mrs. Wicks</td>
<td>481-1429</td>
<td></td>
</tr>
<tr>
<td>Saint Bridgets Day Care</td>
<td>Mr. Jerry Kurtz</td>
<td>404 University Avenue, Newark, NJ</td>
<td>642-8370</td>
</tr>
<tr>
<td>Seton Hall Help Center</td>
<td>Mr. Leroy Washington</td>
<td>300 South Orange Avenue, Newark, NJ</td>
<td>624-3729, 373-5653</td>
</tr>
<tr>
<td>Independence High School</td>
<td>Mr. Robert Failla</td>
<td>179 Van Buran Street, Newark, NJ</td>
<td>589-8827</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
According to the program guidelines, the 1971 S.Y.T.P. is designed to provide free transportation services to disadvantaged youth in order that they may participate fully in employment programs and other educational, cultural, and recreational activities. The program is intended to permit these youths to benefit from exposure outside their own neighborhoods.

Requirement: 25% in-kind contribution from Newark.

For the past four years, the Department of Environmental Protection has funded a summer program to transport disadvantaged youth from the City of Newark to State Parks and other nearby recreational and cultural facilities. 141

The following is a list of the types of programs funded:
- Architecture and Environmental Arts,
- Dance,
- Education,
- Expansion Arts,
- Literature,
- Music,
- Museum Programs,
- Public Media,
- Special Projects,
- Theatre and Visual Arts.

141 From letter to Mayor Gibson from Richard J. Sullivan, Commissioner of the Department of Environmental Protection, dated February 14, 1972.
Over the years the Fund has been dedicated to support of youth programs concerned with improving the lot of the underprivileged, the handicapped and the neediest. Prosecuting this effort it has also pioneered in the granting of "seed" money to encourage and initiate experimental, innovative programs for the rehabilitation of young people—programs that were eventually incorporated into State budgets or received support from other sources once the projects proved their worth.

Federal funds are provided for both conservation and recreation purposes. The flood prevention and conservation utilization, and development of soil and water resources, funds are accessible through the Watershed Protection and Flood Prevention Act of 1954 (Public law 566, 68 Stat. 666) as amended. The Land and Water Conservation Fund is for developing outdoor recreation; roadways, trails, campsites and boating are suggested activities for assistance. This program provides up to 50% of the installation costs.

The Department of Interior publishes two booklets; one on Federal Assistance in Outdoor Recreation and the other on Private Assistance in Outdoor Recreation.

The Federal Government has a number of programs under which the States, their political subdivisions, individuals, groups and associations may qualify for assistance in outdoor recreation. This assistance involves credit, cost-sharing, technical aid, education services and research.
A number of non-profit professional societies and national organizations provide low-cost publications and other aids to the planning, development, and operation of outdoor recreation areas. This booklet lists many of these sources of assistance, including publications and other aids selected for their value to the developer or operator. Thousands of additional publications which are available on participation or improvement of skills in activities have been excluded since the goal of this publication is to provide sources of assistance to the recreation area developer or operator.
1. Building permanent structures is not permitted without authorization.

2. The posting of signs, distribution of advertisements, soliciting, selling or attempting to sell any product is forbidden without prior written authorization.

3. Hunting, trapping, and field trials, or the carrying of firearms or bows and arrows is permitted in accordance with State Fish, Game, and Shellfisheries regulations with the exception of posted special use areas and designated restricted areas.

4. The consumption or possession of alcoholic beverages is prohibited.

5. It is unlawful to abuse, mutilate, injure, remove or destroy any living plants or any structures or other physical features or properties on this area.

6. Waste material must be placed in receptacles provided. The burning or dumping of refuse is prohibited.

7. Annoying or objectional conduct is not permitted.

8. Maximum vehicular speed is 35 miles per hour except where otherwise posted. All mechanically propelled vehicles shall be restricted to and only operated on roads.

9. Parking of vehicles is restricted to designated parking areas only.

10. SWIMMING AND WADING ARE PROHIBITED.

11. Fishing is permitted subject to Fish, Game, and Shellfisheries regulations except in restricted areas.

12. All pets must be leased and under the direct control and supervision of its owner at all times.

13. All boat launching shall be limited to designated areas.

142Most rules and regulations are taken directly from those for Spruce Run and Round Valley Reservoirs as authorized by the State of New Jersey, Department of Environmental Protection.

*The rule has been either added or altered by the author.
14. The operator of any vessel shall have in his possession an annual boat launching permit and will be required to show the permit if requested by an officer of the Water Supply Division.

15. The maximum length of any boat, including sail boats, shall be 18 feet.

16. Motor boats on Reservoir water are prohibited.

17. All refuse, including garbage, cans, bottles, waste paper, etc. must be stored in a durable container with tight fitting cover for subsequent disposal on shore at designated disposal sites.

18. All water craft shall be equipped and operated in accordance with the New Jersey Boating Laws, Rules and Regulations as published by the New Jersey Department of Environmental Protection.

19. One life preserver is required for each individual occupying space in all boats. No boats are to be permitted on the reservoir unless equipped with Coast Guard approved life preservers.

20. Water craft with marine toilets are not permitted to operate on the reservoirs.

21. Swimming, diving from water craft, water skiing, aquaplaning, or the towing of surfboards or any other similar device is prohibited.

22. Ice skating, ice boating, sledding, snowmobiling, and other similar winter sports and ice related activities are prohibited at this time.

23. Ice fishing is permitted.

24. Ground fires or charcoal fire are permitted if approval is granted by the Director of City Recreation Department.

*The rule has been either added or altered by the author.
EVALUATION OF WATERSHED VISIT

Group ____________________________________________

Activity __________________________________________

Length of stay ________________________________________

Number of participants _____ Number of supervisors _____

1. Did you have enough supervisors for the size and nature of your group? If not, how many would you have liked to have?

2. Were the facilities at the Watershed adequate for your group? How could we improve them?

3. How would you change things if you were doing it again?

4. What did you like and dislike about your visit at the Watershed?

5. Did you have enough help and information from the Office of Newark Studies/City Recreation Department?
A MAP AND GRAPH SYSTEM FOR THE PEQUANNOCK WATERSHED

<table>
<thead>
<tr>
<th>Feature</th>
<th>Site 1</th>
<th>Site 2</th>
<th>Site 3</th>
<th>Site 4</th>
<th>Site 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tent Sites</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trailer Sites</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dumping Station</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primitive Camping</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Showers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toilets</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Drinking Water</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Grills</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Picnic Tables</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Launching Ramps</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swimming Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playground</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fees Charged</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hiking Trails</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>MAP LOCATION</td>
<td>E-3</td>
<td>A-4</td>
<td>B-5</td>
<td>F-2</td>
<td>C-3</td>
</tr>
</tbody>
</table>

This system was taken from the Tennessee Valley Authority; *A Map and Guide to Land Between the Lakes*, unpagged, no other information.
GROWTH FACTORS OF TOWNSHIPS

Jefferson Township

Growth Factors: Completion of Interstate 80 to improve access to southern part of the township.

Lack of central sewer and water supply facilities necessitate low density development.

Remaining seasonal homes likely to be converted to year-round use.

Residential con. 1965-69: approximately 85 units per year.

Projection: Homebuilding activity expected to increase in the immediate future. Lack of water and sewer facilities may serve to retard growth after 1975.

Rockaway Township

Growth Factors: Building ban now in effect through most of the township because of inadequate sewage treatment facilities.

Inadequate roads and infrastructure will serve to retard growth in northern part of the municipality.

Residential con. 1965-69: approximately 145 units per year.

Projection: Virtually no new building activity until sewage treatment facilities are constructed. Completion of this project appears to be about five years away. Thereafter, building activity is likely to pick up rapidly in the southern part of the township unless there are continuing controls placed on new development because of limited sewage treatment capacity.

Kinnelon Township

Growth Factors: Smoke Rise development creates favorable image, attractive to high income families.

---

Growth Factors (continued)

2-acre lot minimum has recently been applied to all undeveloped land.

Residential con. 1965-69: approximately 60 units per year.

Projection: Stable growth rate likely to be maintained during the next five years. Thereafter, growth is apt to decline because of shortage of buildable sites.

West Milford Township

Growth Factors: Lake front areas outside of the watershed are virtually developed.

Water supply and sewer problems beset several new subdivisions.

Poor access to central and northern parts of the township.

Remaining seasonal homes likely to be converted to year round use.

Amendment to permit Planned Unit Development now under consideration.

Residential con. 1965-69: approximately 195 units per year.

Projection: Continuation of currently high growth rate is uncertain. Both water supply and sewer problems and restrictive zoning controls may serve to curtail overall growth in the future. Proposed changes in the zoning ordinances, if adopted, might have a countervailing effect. However, strong local opposition is likely to prevent their enactment in the immediate future.

Hardyston Township

Growth Factors: Location, via new recreation facilities in Vernon Township provides impetus to new growth.

Land available to accommodate new development.

Lack of central sewer and water facilities precluded dense development in the near future.

Residential con. 1965-69: approximately units per year.
Projection: Growth will accelerate during the next decade. Increase in both year-round and vacation homes.

Vernon Township

Growth Factors: Major new recreation-resort activities include, the Great Gorge Ski Area, Vernon Valley Ski Area and the Playboy Club Hotel-Resort complex. Arnold Palmer Golf Range now in planning.

Heliport to be constructed to serve resort facilities.

Amendment to permit Planned Unit Development now under consideration.

Residential Con. 1965-69: approximately 200 units per year.

Projections: High construction volumes likely to continue. Increase in both year-round and vacation homes, including condominium and townhouse units.
### Table 15. Township need for ratables

<table>
<thead>
<tr>
<th>Township</th>
<th>$ Total Tax Per Capita 1970</th>
<th>Total Tax Per Capita Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vernon</td>
<td>450.</td>
<td>+8%</td>
</tr>
<tr>
<td>West Milford</td>
<td>400.</td>
<td>+8%</td>
</tr>
<tr>
<td>Hardyston</td>
<td>300.</td>
<td>+24%</td>
</tr>
<tr>
<td>Rockaway</td>
<td>335.</td>
<td>+3%</td>
</tr>
<tr>
<td>Kinnelon</td>
<td>400.</td>
<td>+1%</td>
</tr>
<tr>
<td>Jefferson</td>
<td>305.</td>
<td>-19%</td>
</tr>
</tbody>
</table>

### Table 16. Tax pressure on Newark by townships

<table>
<thead>
<tr>
<th>Township</th>
<th>$ 1971 Tax/Acre</th>
<th>Priority for locating uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinnelon</td>
<td>56.13</td>
<td>1</td>
</tr>
<tr>
<td>West Milford</td>
<td>43.15</td>
<td>2</td>
</tr>
<tr>
<td>Jefferson</td>
<td>26.38</td>
<td>3</td>
</tr>
<tr>
<td>Vernon</td>
<td>21.38</td>
<td>4</td>
</tr>
<tr>
<td>Hardyston</td>
<td>9.22</td>
<td>5</td>
</tr>
<tr>
<td>Rockaway</td>
<td>9.20</td>
<td>6</td>
</tr>
</tbody>
</table>

Prepared by Office of Newark Studies
APPENDIX B

General Correspondence
MEMORANDUM

TO: Sam Friscia, Director of Public Works
FROM: Mayor Kenneth A. Gibson
DATE: March 6, 1972

It is my desire that the Newark Watershed be utilized for city recreation activities this summer. I have, therefore, directed Terrence D. Moore, of the Office of Newark Studies to coordinate and review recreation plans of various agencies wishing to conduct programs during the months of June, July and August. Mr. Moore will also coordinate his activities closely with members of your staff in the Watershed.

Please insure that the Superintendent of the Watershed and the Director of the Division of Water Supply are notified and prepared to assist Mr. Moore in successfully completing his assignment.

I have asked Mr. Moore to discuss his activities with you in the near future. I know we can count on your cooperation.

KAG:mm
TO: All Department Heads  
FROM: Mayor Kenneth A. Gibson  
DATE: March 8, 1972

As you know, the City of Newark owns approximately 36,000 acres of Watershed property in Morris, Passaic and Sussex Counties. It is my desire that during this summer, the property will be utilized as a recreation resource to city residents. I have, therefore, directed Terrence D. Moore of the Office of Newark Studies to coordinate recreation planning in the Watershed for the months of June, July and August. Mr. Moore is Project Manager of the Newark Watershed Study which is investigating alternative land uses of the property.

Please have members of your staff who are involved in recreation planning or programming contact Mr. Moore for use of the property during the summer months. He will be responsible for reviewing plans for utilization of the property and coordinating scheduling with appropriate officials of the Water Supply Division.

No agency will be granted access to the Watershed without a review of their plans by the Office of Newark Studies staff. This is necessary to minimize the impact of recreation use on reservoirs and to insure that proper safeguards are taken to protect the property. Mr. Moore may be reached at 623-8388.

I encourage every city agency with responsibilities in the area of recreation to make use of this very beautiful and valuable resource of the City of Newark.

KAG:mm

cc: Cornelius Bodine, Business Administrator  
    Joseph Frisina, Deputy Mayor
The staff of the Newark Pequannock Watershed Study has made an attempt to contact individuals and groups who might have an interest in using the Watershed this summer (1972) for recreational purposes. Two meetings and a tour have been held to acquaint those heretofore unaware of the vast recreation potential of the Watershed as well as to bring to bear various assets and liabilities involved in its use.

Our office is now in the process of scheduling and locating groups on the Watershed for the summer of 1972. As a result of research, we have identified certain areas on the property best suited for specific purposes (picnicking, hiking, field sports, etc.) and can make these locations available for recreation use.

Proposals are necessary to facilitate the scheduling and location of groups at the Watershed to serve a greater number of people and to avoid conflict of use at any one time and place.

Upon recognition of your expressed interest, we are asking you at this time to submit a proposal to include the following items:

1) Type of activity and purpose  
2) Approximate number of participants (staff included)  
3) Day(s) activity is to commence and terminate  
4) Type of supervision  
5) Transportation?  
6) Food?  
7) Complementing activities to make the program work  
8) Other facilities necessary for the success of your program

A deadline that we have set for proposals is April 30, 1972, the due date of our final report to the Mayor. We would appreciate your

Administered for the City of Newark by Rutgers University - The State University of New Jersey
cooperation by submitting a proposal before this date.

For your information, relevant materials and minutes of previous meetings are enclosed regarding the recreational use of the Newark Watershed for the summer of 1972.

Thank you for your attention in this matter.

Sincerely,

Gerald W. Billes
Watershed Staff
The Honorable Kenneth A. Gibson, Mayor  
City of Newark  
Newark City Hall  
920 Broad Street  
Newark, New Jersey 07102

Dear Mayor Gibson:

The purpose of this letter is to inform you on the progress this office has made regarding recreational activities at the Pequannock Watershed this summer.

For the last several months, our staff has made an attempt to contact individuals and groups who might have an interest in using the Watershed this summer (1972) for recreational purposes. Two meetings and a tour have been conducted to acquaint those heretofore unaware of the vast recreation potential of the Watershed as well as to bring to bear various assets and liabilities involved in its use.

This office is now in the process of scheduling and locating groups on the Watershed for the summer of 1972. As a result of research, we have identified certain areas on the property best suited for specific purposes (picnicking, hiking, field sports, etc.) and can make these locations available for recreation use.

Proposals are necessary to facilitate the scheduling and location of groups at the Watershed to serve a greater number of people and to avoid conflict of use at any one time and place. Consequently, we asked representatives from the groups concerned to submit a proposal. A deadline was set at April 30, the original due date of our final study report to your office. It is likely that there will be a number of submittals after that date. Thus far, five (5) different agencies have responded positively by putting forward proposals for confirmation. All five were confirmed and the mechanisms necessary for the success of those programs are now in progress.

Continued.....
Recently, we have been talking to Mr. Daniel Blue, of the Human Rights Commission, who informed us of a group called the Members of the Community Relations and Service Group. We are most hopeful that cooperation can be reached to benefit the effort toward an active summer for the residents of Newark.

For your information, relevant material and minutes of previous meetings are enclosed regarding recreational use of the Pequannock Watershed for the summer of 1972.

Thank you for your attention on this matter.

Sincerely,

Gerald Billes,
Staff Assistant

GB:mthg
Encl.
Terry Moore  
Office of Newark Studies  
980 Broad Street  
Newark, New Jersey

Dear Terry:

The following names are those persons I would like to submit for inclusion on the Committee concerned with recreation at the Watershed:

Robert Misurell  
55 Ivy Street  
Newark, New Jersey  
373-1740

Joseph Trabucco  
53 Saint Paul Avenue  
Newark, New Jersey

Leroy Washington  
Seton Hall Help Center  
300 South Orange Avenue  
Newark, New Jersey  
624-3729  
373-5653

Would you please advise me as to the outcome of this referral and keep me informed as to the activities of this committee.

Thanking you in advance, I remain:

Sincerely,

[Signature]

Michael Bottone

MPB: jhc
MEMORANDUM

TO: Cooperating Agencies
FROM: Richard W. Roper, Coordinator
DATE: April 17, 1972
RE: Identification of Sites for Summer Food Program

On Saturday, April 22nd, from 10 a.m. to 4 p.m. and Monday, April 24th, from 5 p.m. to 8 p.m. at City Hall, applications for participation in the Summer Feeding Program for Children will be available. Some of you have already volunteered to help in distributing the applications on the dates specified. If others are able to provide some staff at the hours mentioned please let me know by Wednesday, April 19th, at the latest.

Over and above the commitment of staff time to assist in getting out the applications, it is essential that your agency contact those groups with whom you work to let them know when and where applications can be picked up. It is important to remember that those groups wanting to participate must provide recreational activities for the children receiving food.

If you have any questions concerning the operation of the program, please feel free to contact me at 972 Broad Street, Room 204, telephone number 624-0123.

RWR:mab

cc Neighborhood Youth Corps
Newark Housing Authority
Community Development Administration (Model Cities)
Newark Board of Education
United Community Corporation
F.O.C.U.S.
Newark Boys Club
Catholic Youth Organization
MEMORANDUM

TO: Mr. Harry Wheeler
    Mr. Richard Roper
    Mr. Sam Friscia
    Mr. Joseph Frisina
    Mr. Clyde Mitchell

FROM: Gerald W. Billes, Watershed Study Staff

DATE: April 18, 1972

SUBJ: Use of the Pequannock Watershed This Summer

Enclosed is a list of the agencies and their representatives who we have contacted about using the Pequannock Watershed this summer for recreational purposes.

This is for your information and record.

Thank you for your attention.

GWB:mm

Enclosure
MEMORANDUM

TO: Members of the Community Relations and Service Group
FROM: Gerald W. Billes, Watershed Study Staff
DATE: April 19, 1972
SUBJ: Use of the Pequannock Watershed for Recreation this Summer

The purpose of this memo is to inform you on the progress this office has made regarding recreational activities at the Pequannock Watershed this summer.

For the last several months, our staff has made an attempt to contact individuals and groups who might have an interest in using the Watershed this summer (1972) for recreational purposes. Two meetings and a tour have been conducted to acquaint those heretofore unaware of the vast recreation potential of the Watershed as well as to bring to bear various assets and liabilities involved in its use.

This office is now in the process of scheduling and locating groups on the Watershed for the summer of 1972. As a result of research, we have identified certain areas on the property best suited for specific purposes (picnicking, hiking, field sports, etc.) and can make these locations available for recreation use.

Proposals are necessary to facilitate the scheduling and location of groups at the Watershed to serve a greater number of people and to avoid conflict of use at any one time and place. Consequently, we asked representatives from the groups concerned to submit a proposal. A deadline was set at April 30, the original due date of our final study report to your office. It is likely that there will be a number of submittals after that date. Thus far, six (6) different agencies have responded positively by putting forward proposals for confirmation. All six were confirmed and the mechanisms necessary for the success of those programs are now in progress.

Enclosed is a list of the agencies and their representatives who we have contacted about using the Pequannock Watershed this summer.

Administered for the City of Newark by Rutgers University - The State University of New Jersey
summer for recreational purposes.

Thank you for your attention.

GWB:heb

cc Det. Charles Meeks
Mr. Robert Narron
Mr. Hickman Holmes
Mr. John Martin
Mr. James F. King
Det. Florencio Soto
Chief Larry Caufield
Ms. Hattie Graves
Mrs. Margretta Sumner
Mr. Antonio Perez
Mrs. Lucile A. Puryear
Lieut. Bernard Eklchik
Mr. Nathaniel Potts
Mr. Daniel Blue
Lieut. Bernheim
Mr. John Garrett
Capt. Narke
Mr. Arthur Jones
MEMORANDUM

TO: Sam Friscia
FROM: Gerald W. Billes, Watershed Staff
DATE: April 26, 1972
SUBJ: Use of the Newark Pequannock Watershed for Recreation

Presently our office has received five (5) applications for recreation use of the Watershed this summer. These applications include the kind of activity, dates, and numbers of participants as follows:

<table>
<thead>
<tr>
<th>NAME OF GROUP</th>
<th>DATES</th>
<th>ACTIVITY</th>
<th>NO. OF PARTICIPANTS*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newark Museum</td>
<td>April 29</td>
<td>Field Trip</td>
<td>20</td>
</tr>
<tr>
<td>Boy Scouts</td>
<td>May 19 thru 21</td>
<td>Overnight Camping</td>
<td>100</td>
</tr>
<tr>
<td>Girl Scouts</td>
<td>Aug. 19 or 20</td>
<td>Family Day</td>
<td>300</td>
</tr>
<tr>
<td>YM-YWCA</td>
<td>July 6, 20</td>
<td>Picnicking</td>
<td>60, 60</td>
</tr>
<tr>
<td></td>
<td>Aug. 3, 17</td>
<td>Picnicking</td>
<td>60, 60</td>
</tr>
<tr>
<td>Salvation Army Iron Boys Clubs</td>
<td>July 7, 14</td>
<td>Day Camping</td>
<td>100, 100</td>
</tr>
<tr>
<td></td>
<td>July 21, 28</td>
<td>Day Camping</td>
<td>100, 100</td>
</tr>
</tbody>
</table>

With your co-operation, we will be attempting to locate these groups to best serve their purposes. We will be in contact about locations for these agencies listed above.

* Supervision is included in the NO. OF PARTICIPANTS.

cc: Frank Yacavone

Administered for the City of Newark by Rutgers University - The State University of New Jersey
April 27, 1972

TO WHOM IT MAY CONCERN:

The bearer,

has been approved by the Office of Newark Studies to have access to the Pequannock Watershed on the following date(s),

We appreciate any cooperation that can be given to this group.

Project Manager, Newark Watershed Study
Terrence D. Moore
Office of Newark Studies

Administered for the City of Newark by Rutgers University - The State University of New Jersey
TO: Director Samuel Friscia, Department of Public Works
FROM: Kenneth A. Gibson, Mayor
DATE: May 9, 1972
SUBJ: Pilot Recreation Sites in the Pequannock Watershed

As a follow-up to my directive of March 8, 1972, regarding pilot recreation in the Pequannock Watershed, I met yesterday with staff members of the Office of Newark Studies to review potential sites. Both sites proposed by the Office of Newark Studies and those proposed by Mr. Frank Yacavone, Superintendent of the Watershed were analyzed.

Based on the types of pilot recreation activities that were outlined in your meeting at the Office of Newark Studies on Thursday, April 20, 1972, I have concluded that the following sites are most compatible for use this summer. I am attaching a map showing these locations.

1. Charlotteburg Reservoir Area - The picnic area in front of the Water Supply Office and the open field behind the Business Administrator's dwelling.

2. Echo Lake Area - The southern bank of the reservoir and the Picnic Area located on Echo Lake Road.

3. Hanks Pond Area - The western shore of the pond and Cross Castle, north, to include trails on Bearfort Mountain.

4. State Fire Observation Tower - The tower and picnic area and surrounding properties on Bearfort Mountain to the shore of Cedar Pond.

5. Cedar Pond Area - The southern shore of Cedar Pond and surrounding areas.
TO: Director Samuel Friscia

May 9, 1972

Please inform applicable staff of your department that these areas are to be designated Pilot Recreation Sites of the Pequannock Watershed. It is my feeling that the isolated nature of these locations and the scenic amenities that they offer, are conducive to such designation. Additionally, I am interested in having both fishing and boating activities for those utilizing sites on water bodies. Therefore, city-owned boats should be made available to groups wishing to undertake such activities. Additional boats will also be purchased with federal funds.

I wish to thank you for your cooperation with the Office of Newark Studies and I am sure a successful pilot recreation program will result for the residents of Newark.

KENNETH A. GIBSON
MAYOR

KAG

CC: Mr. Frank Yacavone
MAY 12, 1972

TO WHOM IT MAY CONCERN:

THIS VEHICLE IS OWNED BY A STAFF MEMBER OF THE OFFICE OF NEWARK STUDIES AND IS ON OFFICIAL BUSINESS.

TERRENCE D. MOORE,
PROJECT MANAGER
NEWARK WATERSHED STUDY

Administered for the City of Newark by Rutgers University - The State University of New Jersey
TO WHOM IT MAY CONCERN:

The bearer of this letter, or a copy, is presently assisting the Office of Newark Studies in a study of the Peguannock Watershed for the City of Newark. He and individuals accompanying him are entitled to access to any and all areas of the Watershed, including facilities and reservoirs for purposes he may deem necessary.

Any questions concerning the activities of the bearer may be made to the Project Manager of the Newark Watershed Study whose name and signature appear below.

Kenneth A. Gibson
Mayor

Project Manager, Newark Watershed Study:

Terrence D. Moore
Office of Newark Studies
972 Broad Street Room M101 Signature
Newark, New Jersey
Office Telephone 623-8388 Home Telephone 627-1308
APPENDIX C

Meetings
March 7, 1972

Dear

We, the Office of Newark Studies, are designated to give policy review to the use of the Newark Pequannock Watershed and are presently undertaking a summer recreational program for this area.

There will be a meeting on Friday, March 10, 1972 at the Office of Newark Studies, 972 Broad Street, Room M101 at 1:30 p.m. Other recreation agencies are invited. An immediate reply of your attendance or the attendance of a representative member would be appreciated.

The Agenda for the above meeting is enclosed. A field trip to the Watershed is planned for the following week (week of March 13 thru 17), in addition to other meetings in the future.

Thanking you in advance for an early reply. If there are any further questions please contact us at the above number.

Sincerely,

Gerald W. Billes

Enclosures
AGENCY INTERVIEWS

Name of Agency: __________________________

Type of Service Rendered: __________________________

Address: __________________________

Funding Source: __________________________

State: __

Federal: __

Other: __

Telephone Number: __________________________

Name of Person Interviewed: __________________________

Title: __________________________

I. A statement of educational, environmental and especially recreational programs existing presently in your agency and who benefits by these programs (i.e., teens, older people, etc.).

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

II. Could the use of "Newark Watershed" area be utilized in your recreational, educational or environmental plans? (if so, how: etc.)

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
AGENCY INTERVIEWS (Continued)

III. How many people (children, adults) do you think your agency can accommodate for an eight (8) week period from July 1 to August 31, 1972?


IV. Would funds be available for transportation to the Watershed Area?


V. Draft an initial commitment to a recreational program your agency would like to see for an 8 week summer session at the Newark Pequannock Watershed. This is to be based on funds available, staff necessary and little or no facilities provided outside of your own agency.


VI. Additional Comments:
AGENDA

MEETING: Friday, March 10, 1972
Office of Newark Studies
972 Broad Street
Room M101

Introduction and identification of agencies interested in educational, environmental and recreational use of the Watershed for the summer of 1972.

Brief comments by representatives of each agency present.

Adjournment
# The Pequannock Watershed

**LOCATION:** The Newark Watershed area is located in parts of Morris, Passaic and Sussex Counties, approximately thirty (30) miles northwest of Newark, New Jersey off Route 23. The area is about fifty (50) square miles (35,000 acres).

**DESCRIPTION:** The Watershed is virtually unpopulated except for settlements along Route 23, of which Newfoundland and Stockholm are the most prominent. Lakes, valleys, rock outcroppings and forest cover combine to give the area great scenic beauty.

Reservoirs located in the area represent one of the major sources of potable water for metropolitan northeastern New Jersey. Five major reservoirs - Cannistear, Charlotteburg, Clinton, Oak Ridge and Echo Lake contain an estimated capacity of 14 billion and supply 50 MGD to the City.

**POSSIBLE RECREATION ACTIVITIES:** Picnicking and camping, field sports, fishing, hiking and nature observation.

"Our Most Valuable Resource" - Mayor Kenneth A. Gibson

For Information Contact: Watershed Study Staff
Office of Newark Studies
972 Broad Street
201 - 623-8388
WATERSHED STUDY

AGENDA

Introduction of Staff

Introduction of Agency People and Agencies

Introduction - Mildred E. Barry

Slides - Leslie Bennett

Discussion

Site Selection

Tour - (Date and Time)

Projected Recreation Plans

Meeting Date and Time

Adjournment
NEWARK WATERSHED STUDY

MEETING: March 10, 1972, Friday 1:30 P.M.
Office of Newark Studies
Watershed Study
972 Broad Street, Room M101
Newark, New Jersey

Present:
Staff O.N.S. Agency - Members
M. Barry See Attached List
G. Billes
L. Bennett

Mr. Billes opened the meeting at 1:30 P.M. with introductions. He indicated that the main purpose of the meeting was to define recreational use of the Watershed for the summer months, June, July and August 1972.

Mrs. Barry explained the Office of Newark Studies' role concerning the Pequannock Watershed.

Following the introductions and explanation, Miss Bennett was asked to show slides of the Watershed property. She explained each slide in detail.

An open discussion followed as a sort of question and answer session. Questions concerning authorization for use of the Watershed, who would be responsible for scheduling trips, funding sources for transportation, etc., were discussed.

Mrs. Barry explained to the agency members that O.N.S. (Office of Newark Studies) had no money for transportation to the Watershed. Each agency would contact Mr. Billes at O.N.S. to arrange scheduling of trips to the Watershed. It was also stressed that each agency would have to bear their own expenses.

Some reference was made to certain agencies having access to buses that could be used for transportation to and from the Watershed. Mr. Joseph Stephen of the Boys' Clubs of Newark said that he might be able to contact certain persons who would be able to furnish buses. Mr. Billes will check with him on this.
MEETING: March 10, 1972 (Continued)

All persons in attendance agreed that their respective agency would like to tour the Watershed as soon as possible. It was agreed that Thursday, March 16th be set aside as the date of the tour. Mr. Billes would contact each agency early next week to arrange the tour.

There will be another meeting before the 1st of April, Mr. Billes will notify each agency as to the exact date and time.

The meeting was adjourned at 3:00 P.M.
1. B. Curtis Grayson
   Friendly Fuld Neighborhood Centers
   71 Boyd Street
   Newark, New Jersey

2. Mr. Birles S. Boston
   Mrs. Carolyn Adams
   4-H Cooperative Extension Service
   666 Clinton Ave., Newark

3. Joseph Stephens
   Boys' Clubs of Newark
   422 Broadway - Telephone: 483-0777
   Newark

4. Dr. Alice Blount
   The Newark Museum
   42-29 Washington St.
   Newark, New Jersey

5. Mrs. Betty Macon
   Queen of Angels Recreation Program
   44 Belmont Ave. Tel: 824-1313 or 824-1614
   Newark, New Jersey

6. George Bunch
   Newark Housing Authority
   877 Broad Street Tele: 622-1030 Ex.394
   Newark, New Jersey

7. Mario Grande
   Board of Directors, P.A.L.
   19 Taylor Street
   Newark, N.J.  Tele: 484-6992

8. Ray Dandridge Jr., Program Director
   Weside Community Center
   S.V.A.
   684 Springfield Avenue, Newark
   George Grant (Same as Above)

9. Royal Cornwell
   Leaguers Inc.

10. William J. D. Bolan
    Robert Treat Council
    Boy Scouts of America

11. Miss Shirley Paulson
    Essex County Girl Scouts
    120 Valley Road
    Montclair, N. J.
NEWARK WATERSHED STUDY

TOUR OF WATERSHED - March 16, 1972

Present:

Staff O.N.S.
T. Moore
G. Billes
L. Bennett

Agency - Members
Carolyn Adams - 4-H
Milt Campbell - Milt Campbell Center
Natalie Dickinson - Leaguers
Royal Cornwall - Leaguers
Martin F. Rogers - Leaguers
Gladys T. Little, Leaguers
Betty Macon - Queen of Angels
Mary Wilkerson - Girl Scouts
Evelyn Hill, Girl Scouts
C. Somerville - Girl Scouts
Ana Torres - Girl Scouts
Lou May - Boys' Club
Mario Grande - P.A.L.
Mr. Gigante - Human Rights Comm.

On March 16, 1972, the Office of Newark Studies sponsored a tour of the Pequannock Watershed in order to further awareness of potential recreation sites for the summer of this year.

Mr. Lou May of the Newark Boy's Club arranged transportation from the Boys Club at 422 Broadway and the tour commenced at 9:00 a.m.

The group present met at the Water Supply Office, toured Charlottsburg Reservoir, Echo Lake, Clinton Forge, Clinton Reservoir, Cross Castle and Hanks Pond. Terry Moore and G. Billes suggested a preliminary proposal for recreational use of the watershed lands by Friday, March 24, 1972.
**NEWARK WATERSHED STUDY**
**SUMMER PILOT PROGRAM**

**MEETING:** March 24, 1972

**STAFF PRESENT:**
- T. Moore
- G. Billes
- L. Bennett

**AGENCIES:**
- Girl Scouts
- Boy Scouts
- Milt Campbell Community Center
- Newark Housing Authority
- Police Athletic League

The Boy Scout representative spoke first of a desire for weekend camping serving approximately 800 boys. He expressed a concern for sanitary facilities and a water supply.

Mr. Campbell recommended weekend camping with activities such as boating, fishing, archery and nature studies. He also suggested that a program for family camping be considered. He said he felt day camping was possible but required activities such as arts and crafts which would incur expenses not really necessary under a pilot program. Mr. Campbell also suggested we consider acquisition of army surplus camping equipment, provision of guides and a tagging system for the youngsters. All present agreed that guides and counselors would have to be available, along with a first aid officer, and that a contact system be devised with the watershed patrol. Students from the N.J. College of Medicine were recommended as possible first aid personnel.

T. Moore stated that the watershed study group was presently investigating funding sources for transportation and portable sanitation facilities. He also said a water supply was available but limited to certain areas and that boats could be supplied by the watershed office. Mr. Moore also said that the city forester was anxious to guide groups to the fire tower and share his knowledge of the watershed.

Mr. Grande added that he knew of funds available through Al De Ragatis and through the Rutgers Urban Football Classic Program; while Mr. Campbell said he was expecting funds from the Dept. of Environmental Protection. Mr. Moore remarked that D.E.P. is willing to provide monies but is anxious to first see the city establish its recreation department with an executive director.

The Essex County Girl Scouts expressed interest in using the watershed in June or July for their end of season camporee.
MEETING: March 24, 1972

Mr. Billes suggested that each agency should complete their proposal for recreational use of the watershed and return it to the Office of Newark Studies as soon as possible.

The meeting was adjourned at 4:30 p.m.
NEWARK WATERSHED STUDY
SUMMER PILOT PROGRAM

MEETING: March 28, 1972 - City Hall, Newark, New Jersey

STAFF: PRESENT:
M. E. Barry
L. Bennett

Cornelius Bodine, Business Administrator
Joseph A. Frisina, Deputy Mayor
Clyde Mitchell, Neighborhood Youth Corps
Larry Strand, Neighborhood Youth Corps

On March 28, two members each from the Neighborhood Youth Corps, Mr. Bodine's office and the Office of Newark Studies met to discuss the role of N.Y.C. in the Watershed Summer Pilot Program for 1972. Clyde Mitchell, Director of N.Y.C., stated that based on the success of last summer's program, his agency is anxious to place approximately 200 young people in the Watershed to work primarily in a landscaping-conservation program this summer.

Mr. Bodine raised the question of swimming facilities. The Office of Newark Studies staff people explained that swimming in the reservoirs would not be considered until legal questions on this activity had been resolved in the six surrounding townships and at the state level.

After some discussion Mr. Mitchell explained that his agency's primary interest was a work program rather than the pure recreational interest other agencies had indicated. The problems of transportation and supervision were acknowledged at which time Mrs. Barry stressed that these aspects were the responsibility of participating agencies, not the Office of Newark Studies. She suggested that a meeting with Mr. Frank Yacovone of the Watershed staff be arranged with N.Y.C. to clarify the needs of each staff and the availability of supervisory personnel and landscaping equipment. With everyone's consent Mrs. Barry stated that she would contact Mr. Yacovone and his staff to confirm a meeting date. Mr. Frisina suggested that the Rutgers 4-H program be a source of college students as supervisors, whereupon Mr. Strand disclosed N.Y.C.'s knowledge of the group and affirmed the possibility of their involvement.

The meeting ended at 11:35 a.m.
Dear

On Tuesday May 9, 1972 at 1:00 P.M., the Watershed Staff will hold a meeting to cover the progress and present status of the Watershed Summer Recreation Program. In addition, Mr. Thomas McGill, Interim Coordinator for recreation in Newark, will discuss programs available in the city this summer.

We sincerely hope that you will be able to join us for this informational hearing.

Very truly yours,

Miss Leslie Bennett
Watershed Study Staff

Administered for the City of Newark by Rutgers University - The State University of New Jersey
NEWARK WATERSHED STUDY
SUMMER PILOT PROGRAM

MEETING: May 9, 1972

STAFF PRESENT:

M. Barry
L. Bennett
G. Billes
C. Bounds
T. McGill
T. Moore

AGENCY MEMBERS

Fern Butler - CDA (Model Cities)
Roberta Mandeville - Ironbound Boys Club.
Earl L. Huff, Community Relations & Social Services H.H.A.
J.Checkpoint - 469 Broad St. F.O.C.U.S.
Newark, Inc.
Thad Kettles - 71 Boyd St. Friendly Fuld Ctrs.
Connie Somerville - Girl Scouts 120 Valley Rd.
Montclair.
Milt loo - Milt Campbell Center.
Bob Failla - Independence H.S. - Ironbound.
Pat Lombard - Ironbound Childrens Center.
Evelyn Hall - Girl Scouts - 120 Valley Rd.
Montclair.
Terry Edel - Ironbound Childrens Center.
Terry Moore - O.N.S.

Gerald Billes opened the meeting with a progress report on recreation programming this summer in the Pequannock Watershed. He revealed that 10 proposals, including nature outings, picnics and weekend camping, had been received and approved. Mr. Billes emphasized that applications for permits not be delayed because of lack of transportation, food or sanitation facilities, as the O.N.S. was investigating sources for aid in these areas. He then turned the meeting over to Mr. Thomas McGill, interim coordinator for all city recreation programs.

Mr. McGill stated that transportation monies were expected from the State Department of Environmental Protection and the National League of Cities U.S. Conference of Mayors to be available from July 3 to September 10. In addition he said that his staff would be meeting on May 10 with representatives of the Dept. of Defense and the National Guard to discuss their offers of sanitation facilities and recreation equipment for watershed activities. Mr. McGill then described the extent of available programs investigated by his staff. When questioned on providing increased active participation programs for Newark residents, Mr. McGill responded that his task was to coordinate existing programs, rather than develop and implement new ones at this time.
He stated that interest had been expressed for drama and cultural programs and welcomed input from all agencies. Mr. Huff brought to attention the severe lack of activities for girls in many programs and asked that the recreation staff keep this in mind. Mr. McGill suggested that the agencies investigate activities sponsored by the Essex County Park Commission and revealed their expressed interest in establishing new activities requested by the public. The recommendations of the recreation staff will be presented to the Mayor on May 10, 1972.

Mr. McGill then introduced Ms. Binetta Hall coordinator of the Summer Food Program. She distributed and explained the guidelines, answering questions on the definition of vendors and eligibility requirements. Examples of eligibility requirements include facilities on site for eating, refrigeration to prevent spoilage, a person assigned to check the meals and sign for them on pick up, alternate shelter for rainy days, inspection for health and sanitation, and attendance at periodic meetings. She talked of avoiding problems that occurred in previous years with the food program such as delays in delivery of food, different package methods that cause confusion in checking, and separately wrapped packages for different parts of a single meal. Ms. Hall stated that the cut-off date for this summer's applications was May 8. Further questions about the Food Program are to be directed to her at City Hall, room E-22.

Mr. McGill and Mr. Billes adjourned the meeting at 2:35 P.M., noting that several more progress meetings would be held before June 30.
APPENDIX D

Proposals
March 23, 1972

Mr. Jerry Billes  
c/o Office of Newark Studies  
972 Broad Street  
Newark, N. J.  07102

Dear Mr. Billes:

Per our recent conversation, here are the particulars regarding the use of the water shed property at Charlotteburg on May 19-20-21, from noon on 19th - 3:00 P.M. on 21st:

A. Use of building on premises for water and sanitary.
B. Area will be used by 100 Scouts.
C. Scouts will be completely supervised by responsible adults.
D. Fires will be used for cooking - 1 per patrol.
E. Each unit will be responsible for garbage disposal and cleanliness of area.
F. No chopping of trees will be permitted by us.

Also we will adhere to any other restrictions, if any, that may be involved. If there are any, would you make copies of these available for our study and implementation.

Thank you for your kind cooperation and interest. We will give you a written report regarding our impressions of the area so you may be able to correlate feedback.

Thanks again.

Regards,

Harley R. Katz  
District Executive
Mr. Gerald Billes  
Office of Newark Studies  
972 Broad Street  
Newark, N.J.

Dear Mr. Billes:

I wish to apply for permission for our Boy Scout Troop to be granted the privilege of using the Newark Water Shed Area for camping and fishing, Saturday and Sunday, April 9th and 9th, 1972. We will provide our own transportation, tentage and other camping equipment. We will require water, permission to build cooking fires and dig our own sanitary facilities. There will be approximately twenty five scouts with adult supervision in our unit planning to attend April 9th and 9th.

It was certainly a pleasure to meet with you this morning and discuss the camping opportunities the Water Shed Area can offer both for the above weekend and future times.

We shall be happy to relate any constructive suggestions as a result of our experience in view of benefiting campers to follow in the future.

Thank you for your attention in this matter.

Very truly yours,

Herman F. Seeger
Scoutmaster, Troop 7
Memorandum To:  Mr. G. Billes
From: Mr. Sabby D. Addonizio

Attached, herewith are the proposals for the use of the Newark Watershed in Pequannock, by the Newark Board of Education, Department of Physical Education & Recreation.

For a summer program, July and August, 1972.
Proposals for use of the Newark Watershed in Pequannock for Recreation during the months of July and August, 1972.

1. Day Camp Program

(a) Fifty (50) children (boys & girls) per day from various areas in the city. Children to be picked up by bus at 8:00 a.m. and returned at 5:00 p.m.

(b) Staff for this program to be supplied by the Newark Board of Education, Department of Physical Education & Recreation. It will consist of one director and three assistants.

(c) The program and equipment to be supplied by the Newark Board of Education, Department of Physical Education & Recreation.

(d) Transportation, lunches and portable toilet facilities to be supplied by the Department of Recreation and Parks, City of Newark, New Jersey.

(e) This recreation program will be in operation on a six day per week basis, Monday through Saturday, starting July 5, 1972 and ending August 31, 1972. (approximately 22 days in July and 27 days in August.)

2. Outward Bound Program

(a) This program will be geared for boys in the Junior High Schools and Senior High Schools. It will operate on a two week period basis in four sections for a total of eight weeks. Approximately nine to twelve boys will participate every two weeks.

(b) The staff for this program to be supplied by the Newark Board of Education, Department of Physical Education & Recreation. It will consist of one teacher.
3. **PLAYDAY PROGRAM**

(a) This program will be set up for boys and girls from various playgrounds in the city. It will operate on a two day per week basis (Tuesday & Thursday.) Three or four playgrounds will participate each day. Children to be picked up by bus at the playgrounds 8:00 a.m. and returned to the playgrounds at 5:00 p.m. Approximately, twenty children from each playground will participate on a six day per week basis - Monday through Saturday.

(b) The staff for this program to be supplied by the Newark Board of Education, Department of Physical Education & Recreation, and will consist of one teacher from each playground participating. (total, Three or four daily)

(c) The program and equipment to be supplied by the Newark Board of Education, Department of Physical Education & Recreation.

(d) Transportation, lunches and portable toilet facilities to be supplied by the Department of Recreation and Parks, City of Newark, New Jersey
April 5, 1972

Mr. Gerald W. Billes
Watershed Staff
972 Broad Street
Room M-101
Newark, New Jersey 07102

Dear Mr. Billes:

Schedule of proposed watershed use is as follows:

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
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<tbody>
<tr>
<td>July 6</td>
<td>Picnicking</td>
</tr>
<tr>
<td>July 20</td>
<td>&quot;</td>
</tr>
<tr>
<td>Aug. 3</td>
<td>&quot;</td>
</tr>
<tr>
<td>Aug. 17</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

Approximately 60 children, plus counselors will attend. We will supply our own transportation, food, equipment, etc.

Sincerely,

[Signature]

Ronald F. Sargent
Youth Director and
Associate Physical Director

Young Men's and Young Women's Christian Association
Of Newark and Vicinity
Mr. Gerald Billes
Watershed Study Staff
Office of Newark Studies
972 Broad St.
Newark, N.J.

Dear Mr. Billes:

The Ironbound Boys Club is definitely interested in using the Pequannock Watershed as part of its summer day camp program. If possible we would like to use this facility each Friday during the month of July.

We will supply necessary busing, supervision as well as lunches. We would like to use this site as a picnic area as well as fishing and other recreational games.

If our request is granted please notify me as soon as possible so that we may make up our Program Schedule.

Yours truly,

[Signature]
Frank Toltl
Executive Director
PROPOSAL

to

OFFICE OF NEWARK STUDIES

from

GIRL SCOUT COUNCIL

of

GREATER ESSEX COUNTY

Shirley Paulsen
Executive Director
April 14, 1972

Mr. Gerald W. Billes
Office of Newark Studies
972 Broad Street
Room M 101
Newark, New Jersey 07102

Dear Mr. Billes:

In reply to your letter of April 5, 1972 the Girl Scout Council of Greater Essex is submitting this proposal requesting the use of the Newark Watershed Area for recreational purposes this summer 1972.

We would appreciate being informed about the possibility of transportation being provided for this project.

We will be most happy to furnish any other information necessary. Do not hesitate to contact us.

Sincerely,

Mrs. Gloria Shapiro
Community Relations

Enclosure

GS:kk

Participating Members

Comps
Kalmia
Eagle Island
South Mountain
Madeleine Mulford

United Fund of Bloomfield
Community Fund of Glen Ridge
The Red Cross and Millburn Fund
The United Campaign of Summit and New Providence
The United Community Fund of Essex and West Hudson
United Community Services of North Essex
Proposal to Office of Newark Studies:

Activity: A Family Day at the Newark Watershed for the children and their families who participate in the "Girl Scout Summer Street Scene" in Newark.

Purpose: A picnic outing as the final session of the "Summer Street Scene" sponsored by the Girl Scout Council of Greater Essex in cooperation with the Newark Housing Authority.

Numbers: Approximately 300 people.

When: Saturday, August 19, 1972 or Sunday, August 20, 1972.
Leave Newark 9:30 a.m. Return to Newark 3:30 p.m.

Supervision: Professional Council Staff assigned to the "Summer Street Scene" and adult volunteers.

Food: Picnic lunches to be provided by participants.

Plans: This family picnic day at the Newark Watershed will include games and demonstrations from the "Summer Girl Scout Scene" as well as information on the year round Girl Scout Program.

Needs:

a. Six 50-passenger buses. The whole proposal depends on being able to transport people to the watershed.

b. Use of open area for games and demonstrations.

c. Use of picnic area and nearby toilet facilities.

d. Swimming facilities and life guards if available.
April 27, 1972

Water Shed Study Staff
Office of Newark Studies
972 Broad Street
Newark, New Jersey 07102

Attn: Mr. Billes

Dear Mr. Billes:

St. Bridget's Day Care 100 would like to use the Newark Pequannock Water Shed for the purpose of a nature outing for our pre-school children and parents on June 8, 1972.

There will be approximately fifty people attending - 24 children and twenty-six adults. We will bring food but we do need grills to prepare it. We will also arrange transportation.

We will need bathroom facilities, trash cans, picnic benches and water. A tour with the State Forest Ranger would be most helpful.

We plan to use the following schedule:

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 a.m.</td>
<td>Leave St. Bridget's</td>
</tr>
<tr>
<td>10:30</td>
<td>Arrive at Water Shed and have snack</td>
</tr>
<tr>
<td>10:45</td>
<td>Play activities</td>
</tr>
<tr>
<td>12:00 - 1:00</td>
<td>Lunch</td>
</tr>
<tr>
<td>1:00 - 3:00</td>
<td>Tour, Hike, Firetower</td>
</tr>
<tr>
<td>3:00 p.m.</td>
<td>Leave Water Shed for Newark</td>
</tr>
<tr>
<td>4:30</td>
<td>Arrive at St. Bridget's</td>
</tr>
</tbody>
</table>

Thank you for your assistance.

Yours sincerely,

Edward Guarducci
Director

EG/e
CUB SUMMERTIME PROGRAM

Purpose:
To give cub scout age boys the opportunity to enjoy a day camp experience under the direction of scouting.

Program:
A one week in city program where the boys will work on the Cub achievements and electives thus stimulating Cub Scout advancement opportunities to have packs participate in the summertime program. The boys and units that participate will have a four day in city program and on field trip in each of the periods the program is run.

Time:
The program will run for three (3) one week periods beginning July 3, July 10, July 17.

Locations:
West Side Park Weequahic Park, And Branch Brook Park, Newark Watershed.

Budget:
Based on 50 boys per week.

Income - 150 boys at 10.00 = 1500.00

Expenditures:

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation</td>
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<tr>
<td>Program Supplies</td>
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<tr>
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<td>Prog. &amp; Promo.</td>
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<td>Food</td>
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</table>
ROBERT TREAT COUNCIL

HIGH ADVENTURE WILDERNESS CAMPING AND HIKING

Purpose: To give those higher ranking scouts of chartered troops attending our council long range camp and opportunity to develop their outdoor skills in controlled yet virgin environment.

Program: A three day program where scouts could camp on their own with adult leaders. The emphasis during these three days would be extensive nature study, conservation projects, sophisticated cooking techniques and hiking.

Persons: (A) A group of higher ranking scouts with two adult leaders totaling thirteen persons.

(B) A chartered troop with boys of varied age and ability with leadership from their troop and on leader provided by the scout council's camp, total persons from twenty to twenty-five persons.

Time: The program would happen on Thursday after noon July 13, 1972 and continue Saturday afternoon July 15, 1972.

This time schedule would be reported on:
July 27, 1972
August 10, 1972
August 24, 1972

Transportation: The group would leave from camp Mohican Blairs Town, N.J. and travel to the Newark Pequannock Watershed property. One bus would be needed.

Food: Food and other small or personal equipment would be provided by the scout camp, the chartered troop or the participants themselves.

Facilities: We would ask that water and sanitary facilities be provided.

Other: We would like a tour and briefing session for the benefit of the scout camp leaders designated to work with the groups using the property to be conducted by the Newark Watershed Personnel also, it is hoped that a bus can be provided for our use on the suggested dates.
April 28, 1972

Gerald W. Billes
Watershed Staff
Office of Newark Studies
972 Broad Street, Room M101
Newark, New Jersey 07102

Dear Mr. Billes:

Enclosed please find the Ironbound Children's Center After-School program's proposal for use of the Pecuannock Watershed Area during summer, 1972.

The Children’s Center operates After-school and summer programs for children 6-12 years old as well as a preschool day-care program for 3-5 year olds and a school for grades K-2.

The summer programs in the past have offered 6-12 year olds trips and in-center recreational and educational activities. This summer we are planning a similar program for approximately 50 children.

Please let us know if you need any further information. Thank you for your help.

Sincerely,

Terry Edéli
The Ironbound Children's Center plans to orient its 1972 summer program for 6-12 year old children toward outdoor activities and environmental studies. We view the use of the Pequannock Watershed area as a vital component of this program. We foresee integrating hiking, fishing, science, nature study, and wilderness skills into our use of the area for day trips once per week and for 3 weekend camping trips. The outline which is attached provides an idea of the type of activities we are planning. Each trip will offer the children a choice of several different activities and we will be receptive to their interests.

Our primary goal, however, will be to emphasize a concern and respect for our natural environment. We will stress how to enjoy and learn from our environment without destroying or disfiguring it, in fact, having as little an impact on it as possible. We will stress the relationships in the ecosystem and especially what man's influence has been. Comparisons will be made between urban environments, urban and other overused parks, and the Watershed area. We view the use of the Watershed area as a stimulus to and an important aspect of our program and we are looking forward to the opportunities it offers.

Each day visit will consist of approximately 50 people with a minimum of one adult supervisor for each 8 children.
All activities will take place in small groups and at no time will a group have more than 10 members. Transportation will be by bus provided by the Ironbound Children's Center. Food will be provided either by the children themselves or by the Center, but will be of bag-lunch type in either case. Exception will be made to this occasionally if an adequate location is found for cooking and if fires are permitted. No special facilities are required for our day activities.

Each weekend camping trip will consist of not more than 12 people, with a minimum of 2 adult supervisors. Transportation will be provided by a 12 passenger van owned by the Ironbound Children's Center. Food will be provided by both the Ironbound Children's Center and the participants on the trip. No special facilities are required for our camping trips, except adequate locations for cooking, fires.

All of our scheduled activities will be complemented by extensive pre-trip activities and after-trip studies. Trips will provide much of the material and ideas for our in-center activities in art, science, photography and language arts. Books will be written and illustrated on natural features of the Watershed, including effects of pollution, erosion, etc. Photographic essays will be assembled both on the Watershed environment and the trips themselves. Art and writing activities will center on skills, knowledge and experience gained at the Watershed. Other trips we plan to take during the summer will also complement the Watershed trips. Visits to museums, and other parks and urban environments will all
relate, either by comparison or contrast, to our Watershed trips. We view the total summer experience as an exciting and educational one for the children of Ironbound.
Day trips will be scheduled each Wednesday during the summer on the following dates:

- July 12
- July 19
- July 26
- August 2
- August 9
- August 16
- August 23
- August 30

Camping trips are tentatively scheduled for the following weekends:

<table>
<thead>
<tr>
<th>Commencing on the evening of:</th>
<th>Ending on the afternoon of:</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 21</td>
<td>July 23</td>
</tr>
<tr>
<td>August 11</td>
<td>August 13</td>
</tr>
<tr>
<td>August 25</td>
<td>August 27</td>
</tr>
</tbody>
</table>
PROJECTED ACTIVITIES

I. Hiking

Small groups of children will be taking extended day hikes. On these hikes they will be learning map skills and compass reading, pursuing nature studies, practicing wilderness skills and charting their speed, heartbeat, respiration, perspiration etc. and practicing pacing and proper care and concern for the environment.

II. Nature Study

Nature study will take place both on long hikes and more intensely in small areas. It will include the following, as well as other topics of interest as they arise.

A. Identifying rocks, plants and animals
B. Collecting plants and soil for terrarium studies at the Center
C. Studying animal traces
D. Studying Eco Systems
E. Collecting Pond water for studies at the Center
F. Studying changes (to continue into fall)
G. Studying man's influence on the area
H. Geology, erosion, etc.
I. Nature Hunts (similar to scavenger hunts)

Any collecting activities will be limited to those which would not harm or disfigure the natural environment and will be otherwise oriented to concern for environmental care.

III. Crafts

Crafts and Arts activities will be integrated into other activities. Some of our ideas at present are:

A. Blue printing of natural objects.
B. Leaf and bark rubbings
C. Drawings in pencils, chalk and crayon
D. Plaster of Paris molds of animal, plant and rock imprints
E. photography

IV. Wilderness Skills

A. Map reading and compass skills
B. Finding an imaginary lost person
C. Telling Time and Direction
D. Weather
E. Finding Shelter, Water, Food
F. Cleanliness and Hygiene
G. Proper concern for the environment.

V. Fishing
Fishing will be a high-interest activity. We will emphasize skill and conservation. Fish have a right to live too and they play an important role in ecosystems.

VI. Boating

We have no boats of our own, but if any are available for our use our children would enjoy the opportunity to learn to row.
Queen of Angels Summer Program
(Recreation & Cultural)
44- Belmoni Ave.
Phone: 624-1614 or 8241313 ~

TO: Mr. Gerald Billes
From: Betty J. Macon, Director

Mr. Billes,

Listed below are the dates and locations proposed by the Queen of Angels Summer Recreation & Cultural Program to be used for picnics and recreational games.

The areas that have not been chosen for the dates listed below will be assigned by your office. Please notify me of this assignment at your earliest convenience.

Thank you for your cooperation.

<table>
<thead>
<tr>
<th>DATES</th>
<th>AREA DESIRED</th>
<th>Number of Children</th>
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</thead>
<tbody>
<tr>
<td>July - 13</td>
<td>Echo Lake</td>
<td>50</td>
</tr>
<tr>
<td>August -3</td>
<td>&quot;please assign&quot;</td>
<td>50</td>
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<tr>
<td>August -17</td>
<td></td>
<td>50</td>
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</tbody>
</table>
INDEPENDENCE HIGH SCHOOL
179 Van Buren Street
Newark, New Jersey 07105
201-344-9431

Mr. Gerald Billes
Office of Newark Studies
972 Broad Street
Newark, New Jersey 07102

Dear Mr. Billes,

Independence High School is a school for dropouts located in the Ironbound section of Newark. We feel a real need and would like to become involved in this type of program.

Students and staff here would like to use the facilities at the watershed mainly for camping and hiking on a series of weekends during the summer. There would be 12 students with 4 staff who would participate in each of the weekends. The weekends we would like to do this are June 16, 17, 18; June 2, 3 4; June 30, July 1, 2; August 4, 5, 6, August 25, 26, 27, August 18, 19, 20. Transportation to and from the watershed would be arranged for by staff and personnel here at the school. Food would be brought with us and cooked on camping gear.

If there are any questions or any more information I can provide, please do not hesitate to contact me.

Sincerely,

Robert Failla

a division of the Ironbound Youth Project, Inc.
APPENDIX E

Replies to Proposals
March 29, 1972

Mr. Ron Sargent  
YM-YWCA of Newark and Vicinity  
600 Broad Street  
Newark, New Jersey 07102  

Dear Mr. Sargent:

In regard to your submittal of interest in using Watershed lands for your purposes this summer, we are asking for a written proposal to that effect.

We have identified certain areas on the property best suited for specific purposes (picnicking, field sports, etc.). It is necessary for you at this time to be more specific about what days you would like to schedule your activities, and approximate number of people per day or trip, whether you will be responsible for supervision, lunches or whatever else that activity requires.

Thank you for your attention in this matter.

Sincerely,

Gerald W. Billes  
Watershed Staff

GWB:mm
Mr. Harley R. Katz, District Executive
Robert Treat Council
Boy Scouts of America
31 Central Avenue
Newark, New Jersey 07102

Dear Mr. Katz:

The Office of Newark Studies has received your proposal for "overnight camping" to be conducted by the Boy Scouts at the Pequannock Watershed on May 19, May 20, and May 21, 1972. We have confirmed these dates for your planned activities.

You will be notified, in advance of your scheduled program, about the location and directions to an area best suited for your needs. Other information relevant to your proposal is available upon request.

Thank you for your response.

Sincerely,

Gerald W. Billes
Watershed Staff

Administered for the City of Newark by Rutgers University - The State University of New Jersey
Mr. Ronald F. Sargent
Youth Director and Associate Physical Director
Downtown Branch - YM-YWCA
600 Broad Street
Newark, New Jersey 07102

Dear Mr. Sargent:

The Office of Newark Studies has received your proposal for "picnicking" to be conducted by the YM-YWCA Downtown Branch at the Pequannock Watershed on July 6, July 20, Aug. 3, and Aug. 17, 1972. We have confirmed these dates for your planned activity.

You will be notified, in advance of your scheduled program, about the location of and directions to an area best suited for your needs. Other information relevant to your proposal is available upon request.

Thank you for your response,

Sincerely,

Gerald W. Billes
Watershed Staff

Administrated for the City of Newark by Rutgers University - The State University of New Jersey
Mr. Frank Toltl, Executive Director
The Salvation Army
Ironbound Boys Clubs
11 Providence Street
Newark, New Jersey

Dear Mr. Toltl:

The Office of Newark Studies has received your proposal for "day camping" to be conducted by the Ironbound Boys Club at the Pequannock Watershed each Friday during the month of July, 1972. We have confirmed these days for your planned activities.

You will be notified, in advance of your scheduled program, about the location of and directions to an area best suited for your recreational needs. Other information relevant to your proposal is available upon request.

Thank you for your response.

Sincerely,

Gerald W. Billes
Watershed Staff

Administered for the City of Newark by Rutgers University - The State University of New Jersey
Mr. Irving H. Black  
Supervisor of Science Department  
The Newark Museum  
43-49 Washington Street  
Newark, New Jersey 07101  

Dear Mr. Black:

The Office of Newark Studies has received your proposal for "a field trip" to be conducted by the members of the Newark Museum's natural science series at the Pequannock Watershed on April 29, 1972. We have confirmed that date for your planned activity.

Other information relevant to your proposal is available upon request.

Sincerely,

Gerald W. Billes  
Watershed Staff
April 21, 1972

Mr. Sabby D. Addonizio  
Board of Education  
Physical Education and Recreation Department  
31 Green Street  
Newark, New Jersey 07102

Dear Mr. Addonizio:

The Office of Newark Studies has received your proposals for a "Day Camp Program" on a six day per week basis, Monday through Saturday, starting July 5, 1972 and ending August 31, 1972, an "Outward Bound Program" on a two week period basis in four sections for a total of eight weeks (no dates given), and a "Playday Program" on a two day per week basis, Tuesday and Thursday (no dates given) all of which to be conducted by the Newark Board of Education, Department of Physical Education and Recreation at the Pequannock Watershed. We have confirmed those dates we have for your planned activity.

You will be notified, in advance of your scheduled program, about the location and directions to an area best suited for your activities. Although we are not the people who will be responsible for your needs of transportation, food, and toilet facilities we will make every effort to inform you as we become aware of resources that may be of use to you. Other information relevant to your proposals is available upon request.

Thank you for your response.

Sincerely,

Gerald W. Billes  
Watershed Study Staff

Administered for the City of Newark by Rutgers University - The State University of New Jersey
April 21, 1972

Mrs. Shirley Paulsen  
Girl Scout Council of Greater Essex County  
120 Valley Road  
Montclair, New Jersey 07042

Dear Mrs. Paulsen:

The Office of Newark Studies has received your proposal for "A Family Day at the Newark Watershed" to be conducted by the Girl Scout Council of Greater Essex County at the Pequannock Watershed on Saturday, August 19, 1972 or Sunday, August 20, 1972. We have confirmed those dates for your scheduled activity.

You will be notified, in advance of your planned program, about the location of and directions to an area best suited for your activity. Although we are not the people who will be responsible for your needs of transportation and toilet facilities we will make every effort to inform you as we become aware of resources that may be available for your use. Swimming in any of the five reservoirs or ponds on the Watershed as of this date is prohibited. Other information relevant to your proposal is available upon request.

Thank you for your response.

Sincerely,

Gerald W. Billes  
Watershed Study Staff

Administered for the City of Newark by Rutgers University - The State University of New Jersey
Mr. Gerald W. Billes
Watershed Study Staff
Office of Newark Studies
972 Broad Street
Newark, New Jersey 07102

Dear Mr. Billes:

In response to your letter of April 21, 1972, concerning the proposal submitted by the Office of Physical Education, Newark Board of Education, for a Recreation Program at the Newark Watershed July and August 1972, may I remind you of the following: at a previous meeting in my office with you, Mr. McLucas, and Mr. Addonizio, I specifically stated that the supervisors of this department would have to visit the watershed in Pequannock to get a layout of facilities in order to properly provide a recreation program.

We also stated that unless the City of Newark, through your office, supplied transportation, lunches, and portable toilet facilities, it would be impossible for our department to conduct this program.

Once again, may I reiterate that this department can only supply personnel and equipment necessary for the above mentioned recreation program.

Sincerely,

Salvatore A. Comissa, Director
Physical Education & Recreation

SAC:SDA:bd
Mr. Frank Barry  
Boy Scouts of America, Robert Treat Council  
31 Central Avenue  
Newark, New Jersey  

Dear Mr. Barry:  

We at the Office of Newark Studies are in the process of locating and scheduling groups to the Newark Pequannock Watershed for recreational purposes this summer. The Watershed is vast undeveloped land (35,000 acres) that has not been used in the past for any purpose other than water supply. An attempt is being made by this office to open this land to use by Newark residents and groups.  

It is my understanding that you are filling the position and responsibilities Mr. Katz left open after his departure from the Boy Scouts Robert Treat Council. Mr. Katz submitted to our office a proposal for a Camperee to commence on May 19 and to terminate on May 21, 1972 at the Watershed. We responded positively and have chosen a site suitable for the proposed Camperee.  

It was agreed that water could be obtained through Frank Yacavone, the Superintendent of Water Supply, and that the Boy Scouts would supply portable johns for 100 boys from:  

Mr. John  
450 Raritan Center  
Edison, New Jersey 08817  
(201) 225-2233  

If we can be of assistance please call Mr. Moore, project manager of the Watershed Study, at 623-8388. We are hoping to meet with you soon and are offering our cooperation in making an event most enjoyable for the Boy Scouts.  

Sincerely yours,  

Gerald W. Billes  
Watershed Study Staff  

Administered for the City of Newark by Rutgers University - The State University of New Jersey
Mrs. Betty Macon  
Queen of Angels Summer Program  
44 Belmont Avenue  
Newark, New Jersey

Dear Mrs. Macon:

The Office of Newark Studies has received your proposal for "Picnics and Recreational Games" to be conducted by the Queen of Angels at the Pequannock Watershed on July 15, August 3 and August 17. We have confirmed these dates for your planned activities.

You will be notified in advance of your scheduled program, about the location of and directions to an area best suited to your needs. Other information relevant to your proposal is available upon request.

Thank You for your response.

Sincerely,

Gerald W. Billes  
Watershed Staff
Mr. Bernie Polite  
Boy Scouts of America  
Robert Treat Council  
31 Central Avenue  
Newark, New Jersey  

Dear Mr. Polite:

The Office of Newark Studies has received your proposal for a "Cub Scout Field Trip Program" on July 5, July 10 and July 17, and a "Wilderness Camping Program for Boy Scouts" beginning July 13, July 27, August 10 and August 24, and ending July 15, July 29, August 12 and August 26 respectively. These programs will be conducted by the Robert Treat Council Boy Scouts at the Pequannock Watershed. We have confirmed these dates for your planned activities.

You will be notified in advance of your scheduled program, about the location of and directions to an area best suited for your needs. Other information relevant to your proposal is available upon request.

Thank you for your response.

Sincerely,

Gerald W. Billes  
Watershed Staff

Administered for the City of Newark by Rutgers University - The State University of New Jersey
May 11, 1972

Mr. Robert Failla
Independence High School
179 Van Buran Street
Newark, N. J. 07105

Dear Mr. Failla:

The Office of Newark Studies has received your proposal for "Camping and Hiking" to be conducted by staff of Independence High School at the Pequannock Watershed on weekends as follows: June 2 thru 4; June 16 thru 18; June 30 thru July 2; Aug. 4 thru 6; Aug. 18 thru 20; Aug. 25 thru 27. We have confirmed these dates for your planned activity.

You will be notified, in advance of your scheduled program, about the location of and directions to an area best suited for your recreation needs. Other information relevant to your proposal is available upon request.

Thank you for your response.

Sincerely,

Gerald W. Billes,
Watershed Staff

GMB:cy

Administered for the City of Newark by Rutgers University - The State University of New Jersey
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