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STATE OF NEW JERSEY

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# ANNUAL REPORT

*of the*

COMMISSIONER OF CONSERVATION  
AND ECONOMIC DEVELOPMENT

1954-55





**The Cover:**

*A view of the Wharton Tract along the  
Mullica River near Pleasant Mills.*

**STATE OF NEW JERSEY**

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**ANNUAL REPORT**

**o f t h e**

**COMMISSIONER OF CONSERVATION**

**AND ECONOMIC DEVELOPMENT**

**1954 - 55**



**JOSEPH E. McLEAN, Commissioner**

**Department of Conservation and Economic Development**

**State House Annex**

**Trenton 25, New Jersey**





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## Letter of Transmittal

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*To the Honorable Robert B. Meyner, Governor,  
and to Members of the Senate and General  
Assembly of the State of New Jersey:*

I have the honor to transmit this report concerning the activities of the Department of Conservation and Economic Development during the fiscal period 1954-55.

JOSEPH E. McLEAN  
*Commissioner*



# DEPARTMENT OF CONSERVATION & ECONOMIC DEVELOPMENT

COMMISSIONER'S  
OFFICE

COMMISSIONER

DIVISION OF  
ADMINISTRATION

OFFICE OF  
RENT CONTROL

DIVISION OF  
FISH & GAME

COUNCIL

DIVISION OF  
SHELL FISHERIES

COUNCIL  
ATLANTIC COAST

COUNCIL  
MAURICE RIVER COVE

DIVISION OF  
PLANNING  
&  
DEVELOPMENT

COUNCIL

DIVISION OF  
WATER POLICY  
AND SUPPLY

COUNCIL

DIVISION OF  
VETERANS SERVICES

COUNCIL

BUREAU OF  
FORESTRY

FOREST FIRE  
SECTION

FORESTS & PARKS  
SECTION

FORESTRY  
COOPERATION  
SECTION

BUREAU OF  
GEOLOGY

AERONAUTICAL  
INSPECTION  
SECTION

BUREAU OF  
AERONAUTICS

ENGINEERING  
SECTION

BUREAU OF  
PLANNING  
&  
COMMERCE

STATE  
PLANNING  
SECTION

RESEARCH  
&  
STATISTICS  
SECTION

STATE  
PROMOTION  
SECTION

BUREAU OF  
RECREATION

GRANTS & LEASES  
SECTION

ENGINEERING  
&  
CONSTRUCTION  
SECTION

POWER VESSEL  
INSPECTION &  
LICENSING  
SECTION

BUREAU OF  
NAVIGATION

PERMITS,  
LICENSES &  
EASEMENTS  
SECTION

MAINTENANCE &  
HEAVY - DUTY  
EQUIPMENT  
SECTION

BUREAU OF  
HOUSING  
  
STATE HOUSING  
COUNCIL

SPECIAL  
AGENCIES

MORRIS CANAL  
& BANKING CO.

OLD BARRACKS  
ASSOCIATION

N. J. PILOTAGE  
COMMISSIONERS

SOIL  
CONSERVATION  
COMMITTEE



### DEPARTMENTAL OFFICERS

*SEATED FROM LEFT TO RIGHT, James H. Smith, Jr., Special Assistant to Commissioner McLean; R. M. Darrow, Secretary of the Department; Chris Riley, director of the Division of Shell Fisheries; A. Heaton Underhill, director of the Division of Fish and Game; Alden T. Cottrell, Administration Director; Commissioner McLean; Theodore J. Langan, director of the Division of Planning and Development; Howard T. Critchlow, director and chief engineer of the Division of Water Policy and Supply; Salvatore A. Bontempo, director of the Division of Veterans Services. Chester K. Ligham, director of the Division of Rent Control, was not present when this picture was taken.*

## **Divisional Councils**

### **PLANNING AND DEVELOPMENT COUNCIL**

EDWARD C. ROSE, Sea Girt  
HARRY L. DERBY, Montclair  
CHARLES W. ENGELHART, Far Hills  
GEORGE F. SMITH, Metuchen  
FRANCIS V. LOWDEN, Hillside  
ROSCOE P. McCLAVE, Cliffside Park  
WAYNE D. McMURRAY, Asbury Park  
FREDERICK EHRLICH, Maplewood  
THOMAS ROY JONES, Westfield  
IRVING FITCH, Sea Isle City  
BELFORD SEABROOK, Alloway  
EUGENE L. LORA, Tenaflly

### **FISH AND GAME COUNCIL**

CHARLES M. CUBBAGE, Port Monmouth  
DAVID H. HART, Cape May  
HERMAN S. JOHNSON, Neptune  
HENRY W. JEFFERS, Jr., Plainsboro  
JAMES SALVATO, Paterson  
FRANK J. VALGENTI, Madison  
GEORGE C. ONKST, Penns Grove  
LAWRENCE BOHM, Eldora  
EARL L. McCORMICK, Bridgeton  
HENRY J. KELLY, Cranford  
HARRY FROME, Blairstown

### **WATER POLICY AND SUPPLY COUNCIL**

VINTON THOMPSON, Vincentown  
KENNETH H. MURRAY, Far Hills  
WILLIAM G. BANKS, Colts Neck  
HERBERT K. SALMON, Stanhope  
MAX GROSSMAN, Atlantic City  
AUGUST C. SCHULTES, Sr., Woodbury  
THURLOW C. NELSON, New Brunswick  
LILLIAN M. SCHWARTZ, Highland Park

### **VETERANS' SERVICES COUNCIL**

CORNELIUS KELLY, Hoboken  
JOHN F. LEAMING, Ventnor  
JAMES P. ROGERS, Orange  
THOMAS F. MURRAY, New Brunswick  
JAMES W. RYAN, Ridgefield  
MRS. RUTH C. STREETER, Morristown  
JOSEPH G. CARTY, Plainfield  
A.T. EVERETT, Short Hills  
WILLIAM G. McKINLEY, Jersey City

### **SHELL FISHERIES COUNCIL (Atlantic Coast Section)**

SYLVESTER MATHIS, Tuckerton\*  
LESLIE W. ALLEN, New Gretna  
WILLIAM DENNIS, Port Monmouth  
DORSEY LeCOMPTE, Pleasantville  
JOHN M. PANCOAST, Salem

### **SHELL FISHERIES COUNCIL (Maurice Cove Section)**

J. McFERREN FOWLER, Port Norris  
ROY YATES, Port Norris  
E. FINLEY MIXNER, Goshen  
GEORGE BERRY, Port Norris  
JOHN M. PANCOAST, Salem

\*Deceased.



## **S p e c i a l   B o a r d s   a n d   C o m m i t t e e s**

### **STATE SOIL CONSERVATION COMMITTEE**

WILLARD H. ALLEN, Princeton  
FRANKLIN C. NIXON, Vincentown  
LINDLEY G. COOK, Chester  
WILLIAM H. MARTIN, New Brunswick  
FRANK C. EDMISTER, New Brunswick  
GEORGE R. MOORHEAD, Trenton  
HERBERT W. VOORHEES, Hopewell  
VAN WIE INGHAM, New Brunswick

### **STATE RECREATION ADVISORY COMMITTEE**

THOMAS CAVANAUGH, Passaic  
GEORGE T. CRON, Elizabeth  
PROFESSOR GEORGE W. DOCHAT, New Brunswick  
EDWIN H. GOODWIN, Plainfield  
CHARLES L. JULIANA, Wildwood  
ROBERT W. SINKLER, Princeton  
MRS. KENNETH B.C. WALLACE, Newark  
MONTE WEED, Fair Lawn

### **COMMISSIONERS OF PILOTAGE**

WILLIAM A. BURRILL, E. Orange  
WILLIAM W. KUHNE, Sparta  
THOMAS L. BALL, Jersey City  
JAMES J. CROSSON, New Brunswick  
WALTER E. MALONEY, Morristown

### **STATE HOUSING COUNCIL**

RICHARD P. DONOVAN, East Orange  
CHARLES A. DOERR, Westfield  
SARGENT DUMPER, Millburn  
JOHN I. MEYERS, Bayonne  
FRANK Di BARTOLOMEO, Camden

### **EXAMINING BOARD OF WELL DRILLERS**

BENJAMIN FURMAN, Arlington  
DR. KEMBLE WIDMER, Pennington  
MEREDITH E. JOHNSON, Trenton  
AUGUST C. SCHULTES, Sr., Woodbury  
W. LUTHER STOTHOFF, Sr., Flemington  
CHARLES MOLLITOR, Bridgeboro  
MARVIN L. PARKHURST, Verona

### **ADVISORY COMMITTEE ON HOUSING**

MURRAY BISGAIER  
WILLIAM L. BRACH  
ARTHUR CHAPIN  
B. BUDD CHAVOOSHIAN  
HUGH C. CLARKE  
CHARLES DETWEILER  
C. J. FAHERTY

WILLIAM KELLY  
JOHN A. KERVICK  
COLONEL WM. C. MCKINLEY  
JOHN N. MITCHELL  
THOMAS PATTEN  
I. SAMUEL SODOWICK  
JOHN J. VOHDEN, Jr.

CARL K. WITHERS



## Foreword

The functions of most agencies of government are obvious and can be summarized in a few descriptive sentences. The New Jersey Department of Conservation and Economic Development, an offspring of the reorganization of State government in the late forties, stands out as an exception to this rule.

It is not the largest department of State government in terms of either personnel or expenditures. It is probably the largest, however, in terms of the scope and diversity of its operations. On the one hand, it is concerned with water supply, forestry, beach preservation, soil conservation, recreation, and wildlife management. On the other, it has duties in the fields of economic development, planning, geology, and aeronautics. In a sense it may be regarded as a State counterpart of the U.S. Departments of Interior and Commerce, but the analogy is not complete, for Conservation and Economic Development also has jurisdiction in matters of housing, rent control, and veterans affairs.

This annual report--- the first published since the Department was established in 1949--- represents an effort to interpret its varied responsibilities and to summarize the work of more than 25 Divisions, Bureau and Sections comprising the organization during the fiscal period 1954-55.

Generally, it was a period of change and innovation in Departmental operations--- a period characterized by the introduction of various measures to fill gaps in the overall program and to improve the quality of service.

In the category of fundamentals, the leading development was a movement to make the Department a more vigorous organization by making it a more compact administrative unit. The problem of coordination is one of the eternal problems of government. It is likely to be even more serious in the case of an executive department with so broad a range of functions as Conservation and Economic Development. Regardless of differences among constituent agencies, however, the interrelationships are of the highest consequence. When these agencies are permitted to resolve

themselves into a group of isolated units, it strikes at the vitality of the Department, impairing its ability to attain efficiency and to marshal its full resources in contending with existing problems.

With this in mind, several steps were taken during the year to create a stronger administrative framework. Leaders of the Divisions and Bureaus began meeting at regular intervals to deal with questions of mutual concern on a systematic basis. At the same time the different agencies were encouraged to consult with one another more frequently in day-to-day operations. As a further move in the direction of Departmental unity, a series of committees was formed to insure coordinated action on some of the main questions cutting across Divisional and Bureau lines.

A notable example is the Land Use Committee. This group, created in 1954 to promote the fullest possible utilization of properties administered by the Department, is composed of representatives of the Bureau of Planning and Commerce, the Division of Fish and Game, the Division of Water Policy and Supply, and the Bureau of Forestry, Parks and Historic Sites.

The significance of the committee lies in the fact that no state in the Union goes so far as New Jersey in supporting a large population on an extremely small land area. The state can ill afford the luxury of employing land for one particular purpose to the exclusion of other compatible uses. Some tracts can be utilized for a variety of purposes--- for water supply, for timber production, for hunting and fishing, and for such forms of recreation as hiking, camping and water sports. Government is under obligation to study all the potentialities of the public domain, and the work of the Land Use Committee has been dominated by this concept of multiple land use. Its findings not only will be brought into play in the management of this Department but also will be transmitted to other branches of State government.

The interest in improving the operating efficiency of the Department, of course, has not been an end in itself. It has been accompanied by--- and related to--- an interest in attending to a



multitude of needs that have arisen as the dimensions of activity in the state have expanded. The Department has been challenged at many points to extend its efforts. It has been challenged to find ways of coping with fresh problems. In launching a series of new programs and new inquiries during the year, the organization was responding to these challenges.

With the emphasis on more efficient utilization of physical resources, the focus of attention inevitably shifted to planning. The structure of our cities and of the state as a whole has become too complex to risk the waste and conflict that accompanies unplanned growth. Unfortunately, for a period of years, the State's role in planning fell far short of the need. The State planning agency had neither the staff nor the latitude that circumstances warranted.

During 1954-55 the Department moved to rectify this condition, arranging for an enlargement of the staff and a general expansion of State planning operations. The objective was to raise the quality of planning at both municipal and State levels. By participating in the Federal program of urban planning assistance (the Title VII program), it will be possible for the first time to give direct technical aid to smaller communities wrestling with the consequences of unplanned development. It also will be possible to engage in broader planning for State improvements. This will become all the more imperative as the responsibilities of State government multiply in the face of population and economic growth.

Nowhere is the need for effective State planning so dramatically illustrated as in the case of the recently acquired Wharton Tract in south Jersey. This 100,000-acre reservation exceeds the combined acreage of all other park and forest land in the state. During a period when water supply is one of the crucial elements in economic progress, the property is especially valuable because of its watersheds, which can be tapped to meet future requirements of the rapidly expanding areas of south Jersey. But the Wharton Tract is more than a valuable water reserve. It also can be converted into one of the largest playgrounds in the East, with facilities for many different types of recreation and with a capacity to accommodate thousands of visitors.

It is incumbent on the Department to formulate a comprehensive plan for development of this land that will guarantee the people of New Jersey maximum dividends on the investment. Administration of such an extensive area is anything but a simple task. The State, in fact, has never before embarked upon a venture in land management of comparable scale. That is why the Department proceeded cautiously during the past year in the preparation of a long-range program, drawing upon the advice of experts from many fields. The planning went forward with the knowledge that complete development of the reservation might require a generation and that in the process the concept of multiple land use will be put to a significant practical test.

The accent on planning for orderly and multipurpose development of land and other resources was accompanied by a heightened interest in recreation and new stress on the State's responsibility for providing public recreational facilities.

The people of New Jersey live in a complex urban environment. Their health and welfare depend upon the opportunity to engage in meaningful forms of play. In a number of ways the opportunity today is greater than ever before. During the past two decades the leisure time of the average citizen has increased sharply. There has been a general rise in income levels. More families own automobiles than ever before, and the enlargement of our highway system has brought both mountain and seashore closer to the average home.

During all this time, however, the development of forests and parks in New Jersey has been at a standstill. In 1940 approximately 575,000 persons visited the State's system of forests and parks. Although by 1954 the record of attendance had quadrupled, visitors were dependent on the same facilities that had been available 14 years earlier, and some of these were very much in disrepair.

In an effort to overcome the results of this long period of neglect, the Department projected during the year New Jersey's first major program of park development. The program, according to present plans, will be carried out over a four-year period and will cost approximately \$3 million. It provides for the rehabilitation of certain ex-

isting facilities, the construction of many new facilities, and the improvement of several areas that have been left undeveloped since the State acquired them. Additional plans call for basic improvements at the first State-developed public park on the New Jersey shore, Island Beach.

It should be emphasized that this is a minimum program. On the one hand, it will go far to relieve the congestion and extreme shortage of the facilities evident in our parks for many years. On the other, the work hardly will write the last chapter in State park development. To an extent, it will represent only a beginning, only a foundation on which New Jersey can build over the years in developing a parks system consistent with the needs of a state which is recognized as the most "urbanized" in the nation.

The Department's responsibilities in the field of recreation entail not only the operation of parks and forests but also assistance to municipalities in planning and implementing recreation programs. During 1954-55 arrangements were made to raise the level of assistance through expansion of the Bureau of Recreation. This was done in the belief that more positive State action to help and to encourage local recreation commissions would stimulate broader interest in organized recreation, thereby leading to the adoption of new programs and improvement of existing programs.

Among the principal unsolved problems that taxed the imagination of the Department during this period, none loomed larger than the shortage of water supply in New Jersey.

The facts about the water problem can be simply stated: No substantial additions to the system of supply have been made since the early thirties. Thus present demand exceeds the dependable supply during periods of light rainfall, and unless facilities are constructed to increase the volume of water for public and industrial use, there is a danger that, in the foreseeable future demand will exceed supply even during periods of normal precipitation.

It has been estimated that the industrial use of water will increase from 75 to 100 percent in the next generation. In north Jersey average daily

consumption has been moving upward at the annual rate of 11 million gallons daily since 1940, and by 1962 the area will need 100 million gallons daily more than today. The outlook is for an even greater proportionate increase in south Jersey.

Traditionally water supply in New Jersey, has been a function of the municipalities. In providing for future water needs, however, it is a question whether an adequate system can be developed without State action inasmuch as the necessary planning transcends municipal boundaries, and the financing of large-scale supply facilities on a municipal basis involves serious difficulties.

Since its establishment, the Department has operated under a mandate to conserve the water resources of the state by regulating diversions from surface and subsurface sources. The mounting shortage of supply has imposed an even greater responsibility. There has been an obligation to focus public attention on the problem and to explore all possible solutions. During the year the issue was treated as one of the most exigent facing the state. Despite a limited staff the Division of Water Policy and Supply gave the question detailed consideration. The Division also furnished pertinent data to many individuals and groups concerned with the subject. Although, at year's end, a program for resolving the crisis was yet to be adopted, there was definite gain in the fact that the alternatives had been more clearly defined and the public was becoming more conscious of the need.

The Department, meanwhile, took a fresh look at the long-standing question of developing the Delaware River basin and placed itself on record as favoring a new approach to this vital problem. The resources of the river system are of overwhelming importance to New Jersey and other states of the Delaware Valley in terms of navigation, water supply, recreation, and various other factors. The growth of the region could be seriously retarded by failure to act quickly and decisively in producing a program for developing and harnessing the Delaware.

In the planning of the program, it is essential that all the different phases of development be included and properly related to one another. Any

attempt at developing the basin through piecemeal improvements could lead only to conflict and waste and surely would diminish the potential value of the resources. In view of the magnitude of the effort required, it seems likely that successful implementation of an integrated, multi-purpose program depends upon the attainment of a close working relationship between the states and the Federal government.

In another move to find the answer to an insistent and largely unsolved problem, the Department gave top priority during the year to a reappraisal of housing conditions in New Jersey, with particular attention to the shortage of good housing for middle-income families. The new study was undertaken at the request of Governor Meyner for the purpose of pinpointing the need and determining possible ways in which the State might encourage the construction of better dwellings for families not readily served by the present market.

There was little question as to the general need. Although the investigation was still in progress at the end of the fiscal period, it was sufficiently advanced to offer ample confirmation of the gap between supply and demand. There was evidence of widespread occupancy of unsafe and unsanitary dwellings. There was evidence of overcrowding and extreme difficulties for minority groups in buying or renting decent housing at moderate prices. It was conservatively estimated that more than 200,000 additional dwelling units should be built now to enable every family to enjoy an acceptable standard of housing.

A committee of private citizens, constituting an informal task force, was asked to analyze the problem for the Department, and the group was scheduled to submit findings and recommendations after the end of the fiscal year. The committee's conclusions should serve as the basis for further public consideration of a workable program. The statute books of New Jersey are replete with measures calculated to stimulate interest in the construction of low and middle-income housing. Unfortunately, these measures have proved wholly ineffective. It is the hope of the Department that, within the foreseeable future, new modes of action can be devised to solve this, one of the

state's oldest and most fundamental problems. There is a distressing contradiction in the fact that during a period of relatively high prosperity in the world's most prosperous nation, large numbers of families are unable to obtain satisfactory living accommodations because they are priced out of the market.

Closely akin to the housing problem is the issue of rent control. The continued need for the regulation of rents obviously is a product of the continued failure to strike a proper balance between housing supply and housing needs in many areas. This failure was cast in bold relief when the question of extending rent controls arose late in 1954. In some sections the shortage of housing was so pronounced that the rate of vacancy was virtually negligible. For this reason the Department strongly urged the retention of controls.

In extending the law, the Legislature made certain changes in the original statute. Among these, the then director of the Division of Rent Control, who had been continued in that office by the Legislature, was given broader discretion in administering the law. His report on the operation of the program during the past year will be found on page 77.

This foreword could be expanded by a discussion of other notable aspects of Departmental operations. The foregoing comments are sufficient, however, to indicate the major trends in the management of the Department during the period covered by the report.

The problems analyzed here should make it very clear that the State is far from running short of challenges. It is impossible to solve all these problems in a week or a year or even several years. The solutions will come, in time, however, with a persistent effort to strengthen the machinery of State government and to adjust its role to the requirements of the second half of the twentieth century.

JOSEPH E. McLEAN  
Commissioner



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**Division    Reports**

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**DIVISION**

**OF**

**PLANNING AND DEVELOPMENT**



## **I n t r o d u c t i o n**

The Division of Planning and Development is the largest single unit within the Department and is also notable for the diversity of functions performed by its constituent agencies.

Many of these were created years ago and once operated as independent boards. In 1949 they were brought together under a single roof after New Jersey adopted a new Constitution and the Legislature passed a series of reorganization acts designed to achieve greater integration in the operation of State Government. As constituted during the past fiscal year, the Division contained the following principal units:

The Bureau of Planning and Commerce

The Bureau of Navigation

The Bureau of Forestry, Parks, and Historic Sites

The Bureau of Recreation

The Bureau of Geology

The Bureau of Aeronautics

The Bureau of Housing

Although the Division is responsible for several regulatory functions, it is predominantly a service agency. Because of the broad range of services which it performs, almost every citizen is directly affected in one way or another by its operations.

The story of these operations during 1954-55 can be told only in terms of the activities of the Division's constituent units as recounted below. To a large extent, the agencies were engaged in discharging long-established responsibilities. In several important areas, however, the existence of unsolved problems commanded major attention. This was especially true in the fields of housing, community planning and recreation, and State park development. The need for more decisive State action in these fields was generally acknowledged. The question in each case concerned the form of action that should be taken. To answer this question required research and analysis, a careful review of alternative proposals and the weighing of each proposal against available resources. Out of this process began to emerge plans for new programs to deal with the most outstanding problems. It was thus in laying the groundwork for significant courses of future action that the Division registered some of its most noteworthy accomplishments.



## BUREAU OF PLANNING AND COMMERCE

For many years New Jersey has occupied a position in the top ranks of national economic leadership. Although one of the four smallest states in the nation in area, it is eighth in population and fifth in per capita income.

The sources of its economic strength are varied. One of the most important is location. Often described as the "Crossroads of the East", the state lies between two huge metropolitan centers and in the heart of a region with greater mass purchasing power than any other area in the world. It is flanked by important natural waterways, including first-class harbors that facilitate overseas trade. New Jersey also has many natural recreational features that serve as the basis for a prosperous tourist trade. Reinforcing these natural and geographical advantages is an assortment of man-made assets. Thousands of miles of railroad trackage, a superior network of modern highways, ample airport facilities, a highly skilled labor force, and hundreds of research laboratories have all been important as factors in the state's development.

Despite these advantages and the record of past achievement, it cannot be safely assumed that the strength and prosperity of the New Jersey economy are necessarily guaranteed for an indefinite future. The state faces more intense competition from other states and other regions in attracting new industry and retaining existing industry. Together with this, population is increasing at a rapid and substantial rate. Unless the economy expands to a degree commensurate with population growth, the danger of unemployment is inescapable.

The vitality of the economy can be maintained only through organized action in many areas. The use of the state's physical resources must be carefully planned. Data on many subjects must be gathered and coordinated in order to identify and solve economic problems. The assets of the state must be widely and effectively promoted through different forms of advertising.

Under law, the Department is charged with a broad responsibility for instituting measures that will contribute to the maintenance of economic strength. It has been assigned specific functions designed to assist business and industry and to augment the wealth-producing resources of the state. These include;

- 1) Preparation and coordination of plans for developing physical assets and cooperation with local and regional planning boards in the interest of orderly community growth.

- 2) Execution of programs to advertise the agricultural, industrial and recreational features of the state, to attract new industries and stimulate the expansion of existing industries, to promote wider markets for New Jersey products and to provide technical services for business and industry.

- 3) Collection of data of economic and social significance and the development of a business information service that will aid the industries of New Jersey and encourage industries of other states to take advantage of New Jersey's facilities.

These functions are performed for the Department by the Bureau of Planning and Commerce, a service agency operating through the following constituent units: The State Planning Section, the State Promotion Section, the State Research and Statistics Section and the Standard Building Code Adoption Section.

### State Planning Section

Formal planning at the state level goes back to 1934. Since it was established, the State planning agency has operated under an official mandate to promote orderly development of the State's physical assets, and to work in close cooperation with local and regional planning agencies.

The role of planning is essentially that of promoting efficient utilization of resources by determining their most appropriate uses in advance



and coordinating scheduled improvements in such fashion as to prevent conflict and waste. In the events of recent years, the importance of the planning function has been amply confirmed.

The period since World War II has been marked by rapid and far-reaching expansion in most parts of the United States. In New Jersey, as elsewhere, the process of growth has gone forward on the broadest scale. New homes, new industries, and new commercial establishments have appeared in record numbers. On the vacant lands, which only yesterday were open rural areas encircling the city, new communities have emerged with thousands of residents. During an era of major expansion, one of the most serious challenges facing a community is to insure an orderly pattern of development. In the progress of the post-war years, this objective often has been attained only partially or not attained at all.

In many instances the utilization of land has proceeded with little attention to its most suitable uses and with conflict and waste as the inevitable result. New developments frequently have been undertaken without sufficient consideration of existing facilities and future needs and this has created multiple problems in providing and financing community services.

Many of the difficulties associated with this period can be traced only to inadequate planning. This, in turn, often has been a consequence of inadequate planning resources. Thus during 1954-55, the question of furnishing meaningful assistance to municipalities coping with planning problems was the major concern of the State Planning Section. In the interest of improving the scope and quality of municipal planning, it devoted much of its time to arrangements for State participation in a Federal program of urban planning assistance.

The program was enacted under Title VII of the Housing Act of 1954. Under this legislation, Federal grants are made available to State planning agencies on a matching basis for the purpose of providing planning assistance to municipalities with a population under 25,000. As soon as the Planning Section began to consider the program, numerous communities in New Jersey display-

ed interest. It was the subject of a conference in Trenton on March 16, 1955, attended by more than 300 persons representing municipalities from all parts of the State.

In its budget request for the year beginning July 1, 1955, the Department asked for additional funds to enlarge the scale of State planning activities, including participation in the Title VII program. The Legislature subsequently approved an increased appropriation. As the fiscal year ended, the Planning Section was proceeding with arrangements for administering the Title VII program. A survey was under way to determine the specific requirements of the 530 municipalities eligible for aid on the basis of population and to ascertain the number of those desiring help. Actually, the funds available for the program are limited in relation to overall demand. Thus there was general agreement that in the allocation of assistance, the communities showing the most acute need should be the first to receive aid.

Technical planning assistance for municipalities is only one phase of a general effort to revitalize the State planning agency. The hope is that this can be followed up with a greater amount of basic research on both State and local planning problems and that formal planning at the State level can be strengthened and better coordinated.

While laying the groundwork for an accelerated program, the Planning Section also undertook during the year an analysis of all municipal zoning ordinances on file with the state. This involved a study of 340 different codes. After the preliminary survey was completed, the results were forwarded to municipal officials to be reviewed for the accuracy and currency of the information. The release of a final report on the study was scheduled for the fiscal year 1955-56. The analysis is the first of this magnitude ever undertaken by a State planning agency, and it promises to be a valuable aid to municipalities in improving the quality of planning and zoning.

*GROWTH OF LOCAL PLANNING.* The rise of interest in county and municipal planning continued in most parts of the State. During the year, three new county boards and 25 new municipal boards were created. The following table shows



*This modern one-story building reflects the new trend in plant construction and is similar to many others that have been erected in New Jersey with the movement of industry into the open spaces.*



*This laboratory is typical of the hundreds throughout the state that have led to the description of New Jersey as the "cradle of industrial research." more than ten percent of the nation's research organizations operate in the state, spending in excess of \$150 million a year.*

the extent to which official planning at the local level has increased since the calendar year 1945:

	1945	1952	1955 (as of June 30)
Municipal Planning Boards	120	266	343
County Planning Boards	5	7	12
Zoning Ordinances	250	331	386

The momentum of the local planning movement cannot be measured alone by the number of new boards that have been organized. Steady gains in the quality and effectiveness of planning programs also have been registered by many communities. These gains should be extended as more cities and towns receive technical assistance.

## State Promotion Section

The State Promotion Section, created by the Legislature in 1937 and formerly operated as the New Jersey Council, is expected to promote, advertise and increase the wealth-producing resources of the State. It also has a duty to advance the civic and cultural activities in New Jersey. During the year, the agency conducted promotional programs in the fields of industry, agriculture, recreation, real estate, and education.

**INDUSTRIAL PROMOTION.** The key to New Jersey's traditional economic strength has been a network of highly developed manufacturing industries. It is generally assumed that an essential element in stimulating industrial growth is to give the widest possible publicity to the state's advantages as a manufacturing center. During the year the Promotion Section conducted an advertising campaign in ten major daily newspapers with a combined circulation of more than 4,600,000, reaching the reading public in New York, Ohio, California, Texas, Washington, Illinois, Indiana, Kansas, Missouri, Tennessee, and Canada. Response to the advertisements was encouraging, and led to consultations with a number of out-of-state firms that displayed interest in operating in New Jersey.

Several notable trends marked the industrial scene during the twelve-month period. In terms of

growth, more than 600 new and/or expanding industries selected sites in New Jersey for their operations. The locations of these sites vary. Some lie in the metropolitan areas, traditional centers of manufacturing; others are in the rapidly developing Delaware Valley and elsewhere in South Jersey and still others are to be found in the northern counties of Morris, Hunterdon, Sussex, and Warren. The State lost some plants during the year, but the losses were offset to an extent by the establishment of new industries. Again, it was apparent that long-term industrial growth would be contingent on the solution of such problems as the water shortage.

The volume of industrial building remained large in terms of the number of units constructed, but the size of these units tended to be smaller. Meanwhile, the availability of a greater supply of building materials for new construction exerted its influence on the prices and saleability of older industrial buildings.

The movement of commercial offices to the suburbs continued, and the year saw the establishment of additional suburban shopping centers. The construction of shopping centers slowed down, however, because the rate of return on investments in such developments is relatively low, and risk capital has therefore become tighter.

It is evident that as individual communities seek to provide a firm base for economic progress, the need for over-all planning, with a comprehensive set of zoning regulations, will increase in urgency. Programs to foster industrial expansion can easily founder on the problem of land acquisition. Sound planning is imperative to forestall a possible curtailment in the availability of large parcels in suburban areas, with the higher ultimate costs of those parcels that remain available.

As a spur to industrial growth, many communities have created planned industrial districts. Such a district is a tract of land subdivided and developed according to a comprehensive plan for the use of a group of industries.

This terminal type of development, promoting the best possible utilization of industrial land, is becoming more widespread and continues to prosper. Many companies have chosen to locate plants in these districts because they feel their environment will be protected.

**RECREATION PROMOTION.** The annual business of New Jersey's resort and tourist trade was estimated on June 30, 1955, at \$1,500,000,000. This represented a gain of almost two percent over the previous year. From all indications, this increase will continue.

The prosperity of the resort economy is an outgrowth of several factors: Among these are: (1) A 120-mile coastline with attractions geared to the capacity of family budgets of varying size. (2) An excellent balance between the seashore and mountain-lake regions. (3) New Jersey's extensive highway system. (4) The proximity of two of the world's largest metropolitan centers. (5) A broad program of resort advertising carried out with participation of both the State and private agencies.

The State's efforts to advance the resort trade has steadily expanded over the years and has been coordinated with the advertising programs of the local resorts and the New Jersey Resort Association. During 1954-55, the Promotion Section published resort advertising in six national magazines with a combined circulation of almost five million as well as in 30 metropolitan newspapers with a combined circulation of 14,700,000. Advertisements also were carried in the resort sections of newspapers appearing in New York, Ohio, Michigan, Massachusetts, Maryland, Delaware, Connecticut, Pennsylvania, Rhode Island, Illinois, and the District of Columbia. This publicity was reinforced by a series of spot radio announcements. It was also possible to arrange for the showing of "Vacation Varieties," -- a 30-minute motion picture with sound track describing the different opportunities for recreation in New Jersey-- on 75 television stations in 18 states and every region of the nation. Along with this, thousands of brochures containing specific information about New Jersey were distributed to potential visitors from other states.

A recent survey showed that 60 percent of the persons in other states requesting information on New Jersey resorts eventually came here for a vacation. The average length of their visit was 12 days and the average expenditure per party of 3.2 persons was \$256.

**AGRICULTURAL PROMOTION.** Despite New Jersey's size and prominent identification with manufacturing, agriculture has held its place in the economy, with the state ranking first among all states in the value of cash income per acre and third in cash income per farm. Its specialized products can be delivered overnight throughout an area containing more than 30 million people.

On the whole, the market in which New Jersey agriculture operates is sharply competitive. The Promotion Section supplements the work of the State Department of Agriculture and various private associations in helping farmers meet this competition.

During the year its publicity laid emphasis on the need for better packaging, labeling, and grading. Other activities included the advertising of such commodities as certified seed, eggs, and blueberries, as well as the State's auction market facilities, on radio and in trade publications; the distribution of thousands of apple and peach leaflets, and the release of specialized recipes featuring New Jersey products to the press.

**RESIDENTIAL REAL ESTATE PROMOTION.** The Promotion Section attempts to maintain and enlarge the demand for homes and home sites in the state. Its booklet, "A Guide to Fine Living in New Jersey," contains basic information of interest to potential home builders, and many copies have been made available for the use of New Jersey Association of Real Estate Boards. For the past few years all direct real estate advertising has been placed in the real estate sections of the Sunday metropolitan newspapers. As the construction of the New Jersey Turnpike and the Garden State Parkway has affected industry and commerce, it has also had an impact on the demand for homes and home sites in the State. This has shot upward and presumably will remain at a high level.



**EDUCATIONAL PROMOTION.** Every year the State receives thousands of letters soliciting information on a broad range of subjects from persons in foreign countries and all parts of the United States. Fulfilling these requests is regarded as one of the leading aspects of state promotion.

For this reason, the Promotion Section has published and distributes a 44-page pamphlet "Know Your State," a comprehensive account of life and activity in New Jersey. The agency also distributes "Facts about New Jersey," a one-page color sheet setting forth basic information in capsule form.

During 1954-55 the Promotion Section assisted more than 50 research bureaus, magazines, encyclopedia staffs, and other organizations in obtaining data and illustrations relating to New Jersey. It cooperated with the states of Maryland and Nevada in formulating programs for their respective newly established development agencies. Exhibits dealing with different aspects of activity in the state were prepared for use both in New Jersey and elsewhere, and special articles were written for newspapers in other states. Finally, the staff worked with the State Highway Department and the New Jersey Highway Authority, supplying material of interest to travelers for inclusion on road maps.

## Research and Statistics Section

For men in public life, basic information on economic and social conditions is a prerequisite to resolving complex issues and shaping public policy in accord with the general interest. To industrialists, financial houses, churches, professional builders, and scores of others, it is indispensable in reaching intelligent decisions on such questions as investment, expansion, and the location of new establishments.

To meet this demand, the State Research and Statistics Section collects and coordinates data on a variety of topics, including population, housing, income, employment, manufacturing, marketing and retail sales, taxation, and transportation facilities.

During the years of the agency's operation, its

files have continuously expanded, and the information that it has gathered is available to anyone on request. The material is of such a nature that it can be utilized in coping with a diversity of problems. It has been especially useful in throwing light on the State's economy, pointing up elements of strength and laying bare weaknesses that require special attention.

**PUBLICATIONS.** In addition to the collection of basic information, the Research and Statistics Section presents various material in published form.

In cooperation with the School of Business Administration of Rutgers University, the staff publishes *Review of New Jersey Business*, a quarterly magazine devoted to current economic activities. Included in each issue are several feature articles written by experts on different subjects. The periodical also contains regular summaries of state and national business trends, statistical data on business conditions in certain municipalities, and charts placing significant economic indicators in perspective.

The agency also contributes a regular column to the monthly magazine, *New Jersey County Government* and issues its own monthly *Economic Newsletter*, a summary and evaluation of important economic data compiled by official and private groups. Recently, the section assumed responsibility for editing *New Jersey Recreation Development*, a quarterly departmental publication that reviews recreation programs and policies in all parts of the State. In addition, the staff assembles material and prepares articles on New Jersey for such works as the *Encyclopedia Americana Annual* and *Information Please Almanac*.

**NEW INDUSTRIES AND PRIME CONTRACTORS FILES.** Two of the most important files kept by the Research and Statistics Section concern prime contracts received by New Jersey firms and the establishment of new industrial plants.

The listing of prime contracts is designed to facilitate industrial mobilization and production. Along with this file, the Section maintains a

register of small manufacturers seeking sub-contracts. As a result contractors and sub-contractors can contact one another more quickly, and thus the production process is speeded up. The records are further useful in determining the areas where contracts awarded by the Federal Government have stimulated the largest volume of industry. They also have been used by school boards that wish to apply for Federal aid on the ground that school enrollment has been substantially augmented because of Federal activities within their respective districts. The file on new industries lists new main plants, new branch plants with headquarters either within or outside New Jersey, and new plants that represent relocation of industry within the state. Data are gathered on the number of initial and potential employes of each establishment, the ratio of men to women, the size of the concern, and the nature of its products.

**POPULATION STUDIES.** Population growth and the changing geographical distribution of population figure in some of the most strategic decisions taken by public and private institutions. During a period characterized by rapid and large-scale population increases, the lack of current statistics can be a serious handicap. By 1954, the census of 1950 was, in some respects, a matter of history. Recognizing the necessity for more serviceable data, the Research and Statistics Section therefore undertook in 1954 to prepare a current estimate of New Jersey's population by cities and counties. (The total, according to the estimate, rose from 4,835,329 in 1950 to 5,252,570 in 1954.) This has been only one phase of the Section's continuing population studies. In addition, it has analyzed the state's official 1950 population as to age groups and other characteristics, and has projected the population by counties through the year 2000.

**OTHER RECENT ACTIVITIES.** Among other major activities of the Section during the year were the following:

- 1) County data sheets were printed in booklet form for general release. These contain facts and figures, gathered over a period of time, on such subjects as population, industry, types of occupation, income, housing, sales, and bank deposit.

They also include descriptions of the physical characteristics of the counties and information about county government.

- 2) A comprehensive report was prepared analyzing the economic feasibility and potentialities of operating a ferry service across Delaware Bay linking Cape May and Lewes, Delaware. The idea of such a ferry is of long standing, and completion of the Garden State Parkway renewed interest in the proposal.

- 3) A reassessment of housing conditions in New Jersey, with special attention to present needs, was completed for use by the Department in formulating recommendations for solving the problem of low and middle income housing.

- 4) The subject of foreign trade arose on several occasions in consultation with different groups. These discussions pointed up the need for more data on the present and potential importance of overseas commerce to New Jersey.

## Standard Building Code

The Department of Conservation and Economic Development is required under law to prepare and distribute a Standard Building Code of New Jersey, which municipalities may adopt by reference. Adoption of the code, of course, is optional.

Three parts of the code were distributed immediately prior to the fiscal year 1954-55 by the Bureau of Planning and Commerce. These were: Part A, containing general provisions and definitions; Part B, setting forth requirements for structural, fire and general safety with a component manual, and Part E, a plumbing code of New Jersey prepared by the State Department of Health.

During the year work continued on Part C, enumerating provisions for elevators, motor stairways (escalators) and conveyor equipment; Part D, outlining requirements for air conditioning, mechanical ventilation, and refrigeration; and Part F, specifying regulations for electrical equipment and wiring.

The building code has been adopted by the

State Department of Labor and Industry insofar as it applies to requirements for construction and equipment which that Department must enforce. As a result, demand for copies of the code has increased among engineers, contractors, architects, and industrial concerns. The Bureau has sold more than 1,000 sets of Parts A and B and approximately 500 copies of Part E. Although use of these standard regulations by municipalities is not

mandatory, scores of communities have been studying them with a view towards eventual adoption.

Along with its work on the building code, the Bureau reprinted in pamphlet form a model "New Jersey Code of Minimum Construction Requirements for One and Two-Family Dwellings." Total sales reached 1,833 copies.

## BUREAU OF NAVIGATION

The Bureau of Navigation has inherited the body of functions assigned to the former State Board of Commerce and Navigation. The most important of these are:

- 1) The administration of riparian lands.
- 2) Registering of boats and the licensing of boat operators in non-tidal waters and the enforcement of regulations for the operation of power vessels and outboard motors throughout the state.
- 3) The maintenance and improvement of the state's inland waterways and the installation of navigation aids on inland lakes.
- 4) The operation and maintenance of state-owned marinas.
- 5) Protection of the New Jersey coastline and the erection of structures to control beach erosion.

### Administration of Riparian Lands

The administration of riparian lands consists of granting and leasing riparian grounds; issuing permits for dredging and the erection and maintenance of structures on tidal waters; collection of royalties on material removed by dredging; the exercise of jurisdiction over the reclamation of land under tidewater, and prevention of the unauthorized use of riparian lands.

The riparian lands of New Jersey are those areas flowed by mean high tide. Included are all bays, inlets, and streams, where the tide ebbs and

flows, as well as the entire ocean front. Although ownership of these lands is vested in the state, they may be granted (sold) or leased to private groups and individuals, and all revenue derived from grants or leases is pledged to the support of public schools. The year 1954-55 saw the execution of 122 grants of riparian property, 13 leases, and two easements.

The Bureau of Navigation also is empowered to issue licenses that confer the authority to use riparian lands in the absence of a grant or lease. Licenses are usually granted at one fee to public utilities, municipal and county governments, and private corporations, and they carry the perpetual right for submarine cable, water main, oil pipe line and aerial crossing. During the year, the Bureau issued 121 licenses.

Although one may acquire an interest in or authority to use riparian grounds, he still must obtain a permit to build and maintain structures on this property. Likewise permits are required for all dredging in navigable waters. During the year the number of permits approved for dredging, construction, and other improvements, totaled 195. The value of the work authorized was an estimated \$13,827,841. It involved such projects as the construction of bridges, the erection of steel and timber structures other than bridges, the laying of submarine pipes and submarine cables, and commercial and maintenance dredging.



Two (two-year) commercial dredging agreements were in effect during the year, under which the State earned a royalty of three cents a yard on the material removed through dredging operations. At the end of the fiscal period, total royalties amounted to \$121,314.54, with \$78,864.54 due from the American Dredging Company and \$42,450 from the New Jersey Highway Authority.

As the financial summary at the end of the Bureau's report notes, the revenue received by the agency during 1954-55 represents an increase of 127 percent over that of 1949-50. More than 75 percent of the funds collected were derived from riparian transactions. The increase in revenue was inevitably accompanied by an expansion in the volume of business, and in view of this the Bureau recommended an enlargement of the staff for future operations. The accelerated development of property fronting on tidal waters can be traced to a number of factors, especially the construction of the Garden State Parkway, and indications are that the present high rate of development will continue.

It was impossible during the year to complete any new atlas sheets charting riparian areas. There is, however, a growing need for these maps in plotting and recording properties under tidal waters conveyed and/or leased by the State. A broad sweep of riparian land remains uncharted, while many of the older maps should be revised to reflect new data gathered in recent surveys.

## Law Enforcement

The enforcement of regulations for the operation of power vessels has assumed new importance with the upswing in boating activity during recent years. The increased activity has given rise to greater recklessness on the water and a decline in the traditional respect for the rights and safety of other sportsmen. This is especially evident in the larger number of summonses issued to violators--issued, incidentally, only after several warnings.

In the regular enforcement program during the year, organized patrols for the tidewater section were operated on Saturdays and Sundays in the following areas: Point Pleasant and Bay Head; Forked River, Seaside Park, and Long Beach;

and Atlantic City. No organized patrols were operated south of Atlantic City, and some curtailment of the Atlantic City patrol was necessary because of personnel limitations.

In the lakes region the work of the power vessel inspectors followed established patterns, and the year was marked by the following developments: Seventy-eight summonses were issued for various offenses, with fines totalling \$919. The most common violation was careless and reckless operation of power vessels. Seven major accidents occurred, and in more than one of these, both of the boats involved sank. In several instances, too, the victims required hospitalization, but fortunately, no drownings resulted from the accidents. Thirty-eight boats were reported stolen or missing during the year, and thirty-six of these were recovered by power-vessel inspectors. The inspectors also rescued at least 50 persons who had fallen into the water from canoes and other boats, usually because the craft were overloaded.

Under State law, power vessels operated on non-tidal waters must be registered and all operators of power-vessels on non-tidal waters must obtain licenses. In 1954-55 the Bureau registered some 13,000 boats and issued approximately 21,000 operators' licenses.

**NAVIGATION COURT.** During the year, New Jersey's first Navigation Court was established to hear cases involving alleged violations of regulations for the operation of power vessels. One of the principal purposes of the court, as originally conceived, was to dispose of cases of uncertain jurisdiction. At various points in New Jersey waters, county and municipal lines become blurred, and law-enforcement officers find it difficult to determine the local court of proper jurisdiction. Even though the problem of jurisdictional confusion was the most important factor in the creation of the tribunal, there were indications that many complaints regarding the operation of power vessels would be referred to the Court even when no such problem existed.

Establishment of the Court was authorized by the Legislature in December. For administrative purposes it was divided into two parts. Part I is concerned chiefly with the lakes region, and

regular sessions were scheduled at Mt. Arlington near Lake Hopatcong. Part II handles cases arising in south Jersey and the general tide-water area, and regular sessions were scheduled at Sea Isle City, Pleasantville, Seaside Park, and Middletown Township. The Chief of the Bureau of Navigation sits as magistrate of the Court.

### State Marinas

The Bureau operates and maintains four marinas, while a fifth yacht basin owned by the state has been leased to a private association. The nature and locations of these facilities are as follows:

Originally built by Middleton Township, it was transferred to the State through legislation in August 1948. Since then the Bureau has enlarged the basin to twice its former capacity. The bulkheading along the forward portion of the basin has fallen into disrepair, and an appropriation to rehabilitate it was requested during the year. This was not approved, but the Bureau planned to renew its request. The repairs will cost an estimated \$105,000.

2) Point Pleasant: This marina has 12 berths available, but it is difficult to rent them because of the occasional turbulent condition of the water at the canal entrance to the basin. The property was acquired for use as the headquarters of an



*A view of the boat basin at the Marina operated by the Bureau of Navigation in Forked River.*

1) Leonardo: At the present this marina has a capacity of 174 berths, and all of these are rented.

engineering force that had been quartered in a houseboat prior to the construction of the ex-

isting marina building in 1952. Since the facility has certain potentialities the Bureau intends to submit plans for enlarging the basin and relocating the entrance. In its long-range planning report it also will recommend construction of a single high-level bridge across the Bay Head-Manasquan Canal to replace the two existing low-level bridges, thus reducing the number of openings now required, and eliminating some of the delay for motorists. One of the existing spans, the Bridge Avenue Bridge, contributes to the turbulent condition of the water at the entrance to the basin.

3) Forked River: This was the first marina constructed and operated by the former State Board of Commerce and Navigation. It has 102 berths, and 95% of these are rented. The terminal also serves as a headquarters for the Bureau's channel-marking and maintenance crew.

4) Atlantic City: This is the latest addition to berthing facilities operated by the Bureau. It consists of 73 berths and a temporary office building for personnel. Plans call for an ultimate capacity of approximately 350 berths. The costs of the marina are being shared on an equal basis by the State and Atlantic City.

5) Fortesque: At Fortesque on Delaware Bay, the Board of Commerce and Navigation acquired property that was later designated as the Fortesque Boat Basin. It could not be regarded as a marina, for the only facilities available as late as 1952 were plank walks and stakes along the shoreline, to which boats could be tied. Since it was not considered advisable to make the expenditures necessary to provide standard facilities, the property was leased in 1952 to the Captains' and Boat Owners' Association for a twenty-year period at \$1 a year. Under the lease agreement, the association must use all rental fees to improve the basin and must furnish the Bureau with regular audits.

**IMPROVEMENTS AT MARINAS.** During the year, improvements at the Leonardo marina consisted of the addition of a gasoline service station, sidewalk paving, the paving of a parking area on the west side, and the installation of water supply facilities along with lights for the

docks. The first two piers, Nos. 5 and 6, for the Atlantic City marina were finished at a cost of \$128,289.10, and the construction of a temporary office and sanitary and water facilities was completed. The Bureau also began work on plans for a permanent administration building. The principal improvement at Forked River Marina was the expansion of the water supply system.

## Engineering Operations

**DREDGING.** During the year dredging for the maintenance and improvement of inland waterway channels was confined to four projects initiated late in the previous fiscal period. In each instance the channel was considered of major importance to citizens of the area in question. The locations and cost of these projects were as follows:

1) South Toms River	\$10,564.80
2) Barnegat Light	\$ 7,729.92
3) Ocean City	\$13,023.36
4) Sea Isle City	\$11,077.08

Meanwhile, the Bureau completed plans for seven additional dredging projects, and advertisements for bids were to be published early in the fiscal year 1955-56. These projects were:

- 1) Navesink River, Red Bank, Monmouth County
- 2) Oceanport Creek, Oceanport, Monmouth County
- 3) Little Silver Creek, Little Silver, Monmouth County
- 4) Town Neck Creek, Little Silver, Monmouth County
- 5) Waretown Creek, Ocean Township, Ocean County
- 6) West Creek, Eagleswood Township, Ocean County
- 7) Mullica River, Washington Township, Burlington County and Mullica River, Atlantic County.

In January, 1954, the New Jersey Inland Waterway, extending for a distance of 116 miles from Manasquan Inlet to Cape May Harbor, was transferred to the Federal Government and re-named the New Jersey Intracoastal Waterway. Improvement and maintenance of the waterway thus became a Federal responsibility. As a result the State is now in a better position to undertake general improvements in many of the side channels and river systems, where needed projects have been delayed.



**COAST PROTECTION.** Since 1920 the State has allocated funds for the construction of bulkheads and jetties to protect the New Jersey shoreline. These funds must be matched by the shore municipalities benefitted by the improvements.

The State's share of overall construction costs varied over the years from 40 to 70 percent until it was set at 50 percent in 1944. No change in the formula for sharing costs has been made since then. Throughout the history of the program, the policy has been to deal first with the most urgent cases of beach erosion and to undertake other projects in order of the seriousness of need. The State's annual appropriation for the program is now \$1 million, meaning that \$2 million can be

tion of funds for shore protection until December, with the result that it was impossible to finish all projects launched in the fiscal year 1953-54. The eight which were carried over and completed in 1954-55 were as follows:

1) Neptune Township	\$300,000.00
2) Keansburg and Middletown Twp	\$130,000.00
3) Long Branch	\$200,000.00
4) Atlantic City	\$260,000.00
5) Cape May City	\$100,000.00
6) Union Beach	\$ 50,000.00
7) Highlands	\$ 80,000.00
8) Ocean Township (Deal Lake)	\$ 60,000.00

Fifteen additional projects covered by the 1954-55 appropriation for beach protection were



*The battle against erosion along the New Jersey shore is illustrated by this jetty constructed on the beach at Ocean City.*

spent on beach preservation each year if State funds are fully matched by shore municipalities.

At the beginning of the fiscal year 1954-55, the Bureau was working on eight projects carried over from the previous fiscal period. A serious storm on November 6, 1953, delayed the alloca-

authorized and the status of these on June 30, 1955, was as follows:

1) Asbury Park	Advertised for bids
2) Island Beach Park	Completed
3) Manmouth County Seawall	66% complete
4) Long Branch	16% complete

5) Neptune Township	Advertisements for bids published
6) Lavallette )	(Plans prepared. Advertisements for bids to be published after the 1955 summer Season.)
7) Ship Bottom )	
8) Long Beach Township )	Completed
9) Seaside Park	Completed
10) Surf City	Plans being prepared
11) Brigantine	Advertisements for bids published
12) Atlantic City	Completed
13) Ocean City	Execution delayed pending allotment of required additional funds
14) Bradley Beach	Advertisements for bids published
15) Spring Lake	

While the Bureau proceeded with individual projects aimed at preventing further recession of the shoreline, a Federal survey of New Jersey's beach erosion problem was extended to embrace additional areas. This survey was launched in 1953 by the U.S. Corps of Army engineers for the purpose of determining the best method of preventing further erosion. If the State is willing to inaugurate the measures recommended by the engineers--- or mutually acceptable modifications of these measures--- it is entitled to Federal aid in the amount of one-third of the cost of projects undertaken to protect publicly owned shore properties. Originally the study was concerned only with the 125-mile segment of the coast between Sandy Hook and Cape May. During the year, it was extended to include the shore-fronts of Delaware Bay, Raritan Bay, and Sandy Hook Bay.

The original survey was divided on a geographical basis. Study I dealt with the area between Sandy Hook and Barnegat Inlet, and Study II with the area between Barnegat Inlet and Cape May. Study III will be concerned with Raritan Bay and Sandy Hook Bay, and Study IV with Delaware Bay. A fifth study, devoted to the problem of erosion along the bank of the Delaware River in Salem County, may be made.

Study I was completed during the fiscal year 1953-54 by the Corps of Engineers, and during the past year various aspects of the survey were reviewed by State and Federal authorities. (It was expected that the results would be transmitted to Congress early in the fiscal period 1955-56.) Meanwhile, the preliminary work for Study II was

in progress and was expected to be finished by October, 1955. A tentative report should be ready for discussion by January, 1956.

#### NAVIGATION AIDS AND SPECIAL PROJECTS.

Although the intracoastal Waterway between Manasquan Inlet and Cape May Harbor was transferred to the United States Government in January, 1954, the Bureau agreed to continue maintaining navigation aids on the waterway until June 30, 1955. For performing this function, the State received payments from the Federal Treasury at the rate of \$49,500 a year. With the expiration of the agreement at the end of the last fiscal period, the responsibility for these aids passed to the United States Coast Guard.

During the year the Bureau also maintained aids on the principal and tributary State waterways in Monmouth, Ocean, Atlantic, and Cape May Counties. The combined length of State-marked channels (apart from the Intracoastal Waterway) has increased in recent years with the rising interest in boating and the greater number of sea-shore residents. With the Intracoastal Waterway now in Federal hands, the Bureau will be able to allot more time and resources to improving aids on those navigable waters for which the State remains responsible.

A special project completed during the year was the reconstruction of the Smithfield Dam on Rancocas Creek in Burlington County. This was authorized by the Legislature, and \$25,000 was appropriated for the work.

### Fiscal Summary

During the year 1954-55, receipts of the Bureau of Navigation came to \$632,316.14. As shown in the table below, \$551,177.52 of the total was produced by riparian transactions and earmarked for the support of public schools in accord with long-standing New Jersey law. The remaining \$81,138.62 derived from other sources was credited to the General Fund of the State. Overall revenue for this fiscal period exceeded that of the year 1949-50 by 127 percent. The breakdown of receipts was as follows:

#### SCHOOL FUND INCOME

Lease Rentals	\$ 25,023.98
Annual Licenses	8,824.14
Use and occupancy	1,400.00
Interest	623.54
Royalties	48,152.47
Grants	455,911.99
Easements	50.00
One Fee Licenses	9,207.00
Guarantee Deposits	1,984.40
	\$551,177.52

#### UNAPPROPRIATED REVENUE

Power Vessel Receipts	\$41,738.00
Forked River Concessions	2,420.60
Leonardo Concessions	984.75
Atlases and Maps	98.00
Preparation of Instruments	7,350.00
Rentals Leonardo Marina	16,220.95
Rentals Forked River Marina	10,657.90
Rentals Fortescue Marina	2.00
Rentals Atlantic City Marina	815.42
Sale of Upland	450.00
Harbor Master Fines	55.00
Replacement Peterson Fence	200.00
Copies of Grants	146.00
	\$ 81,138.62
GRAND TOTAL	\$632,316.14

## BUREAU OF FORESTRY, PARKS AND HISTORIC SITES

The Bureau of Forestry, Parks and Historic Sites is a service agency constituting one of the largest branches of the Department. Its principal responsibilities are: (1) The operation of the State's forests and parks as centers of public recreation. (2) The management and preservation of important historic sites. (3) The protection of the woodlands from fire. (4) The promotion of better timber production by means of research, reforestation, and advisory services to woodlands owners. The Bureau consists of four main units: The Forest and Parks Section, the Forest Fire Service, the Forestry Cooperation Section and the Tree Expert Bureau.

Two events made the year ending June 30, 1955, as significant as any in the history of the agency. One was the projection of an extensive, long-range program for the rehabilitation and improvement of New Jersey's system of forests and parks. The other was the addition of approximately 60,000 acres to the system with the acquisition of Area A of the Wharton Tract in south Jersey and the Worthington Tract overlooking the Delaware River in Warren County.

The program to revitalize the State's forests and parks stems from a steadily rising demand for outdoor public recreation facilities that has accompanied the increase in leisure and the development of better means of transportation.

New Jersey took the first step towards creating a system of forests and parks in 1905 when it obtained the Bass River State Forest in Burlington County. By 1955 it had acquired some 84,000 acres for park purposes, not including the acreage of the Wharton Tract.

From the standpoint of the public, the usefulness of forest and park land depends upon the extent to which it has been developed and provided with basic facilities. In the past, State expenditures for this purpose have been limited. Most of the park development that has taken place in New Jersey was the work of a Federal agency, the Civilian Conservation Corps. Between 1933 and 1941 the CCC built lakes, cabins, group camps, roads and trails, and picnic areas in parks and forests throughout the state. This program came to an end when the CCC was dissolved





*This imposing sweep of land overlooking the Atlantic is part of Island Beach, which will be the first state-developed playground on the New Jersey shore.*

in 1942 upon the United States' entrance into World War II.

In the years that followed, the rate of New Jersey's population growth rose sharply, and as citizens entered the post-war period with more money to spend on leisure-time activities, the demand for an improved system of forests and parks became pronounced. By 1954 it had reached and passed the point of urgency. The planning for a broad program to meet the most essential needs was thus initiated and completed during the first half of the fiscal period 1954-55.

The Department recommended an expenditure of \$3,186,000 over a four-year period for park development. Since many of the existing facilities bear marks of serious deterioration, it was sug-

gested that a portion of the funds be used for rehabilitation. The program also set forth plans for numerous general improvements, an expansion of facilities, the construction of housing for forest and park personnel to assure better maintenance, and the development of certain areas that have remained virtually unuseable since the State acquired them. In addition to 4,500 new picnic tables and 450 new fireplaces for outdoor cooking, plans called for an increased number of such facilities as boating houses, wading pools, bath houses, and toilets.

The Legislature appropriated \$550,000 for park improvements during the fiscal year beginning July 1, 1955, the largest amount ever made available for this purpose. Specific allocations were as follows: Island Beach, \$185,000; Swartswood



Park, \$100,000; Allaire Park, \$90,000; Cheesequake Park, \$75,000; Ringwood Park, \$71,500; Stokes Forest (conservation school), \$13,500; historic sites, \$15,000.

One of the major items in the Department's long-range parks program is the development of Island Beach, a picturesque barrier overlooking the Atlantic in Ocean County and scheduled to become the first public playground on the New Jersey shore. Since it is among the few areas along the entire East Coast still in a natural state, plans also provide for the preservation of its unique flora and fauna and other features significant from the standpoint of wildlife.

The cost of overall development will be high, and the program for Island Beach therefore cannot be completed at once. The construction of the necessary access roads alone, for example, will require an estimated \$19 million (just one of several estimates). In view of the need for public recreation facilities on the shore, however, the development of this area has been assigned a high priority, and was the subject of intensive planning all during 1954-55. One of the Department's main considerations is to insure that the process of development conforms to a carefully formulated plan lest mistakes in the early stages of the work permanently impair the value of the property.

The additional land acquired during the year opens up important new possibilities in terms of the effort to expand recreational opportunities for New Jersey's growing population.

The Wharton Tract, covering more than 90,000 acres, lies in parts of Burlington, Camden, and Atlantic Counties. It is divided into two sections, Area A and Area B. On December 30, 1954, the State consummated the purchase of the 53,000 acres that comprise Area A. Early during the fiscal year 1955-56 the entire tract was expected to become part of the public domain. The State held an option on the balance--- the 30,000 to 40,000 acres constituting Area B--- and the Legislature had appropriated the necessary funds for its acquisition.\* The Wharton Tract exceeds the combined acreage of all other forests and parks in the State.

\*The purchase of Area B, giving the State title to the entire Wharton Tract, was consummated on September 29, 1955.

The State's effort to acquire this land began as early as 1914. It has long been regarded as one of New Jersey's most valuable water reserves. Even though this was the principal factor in the decision to purchase it, however, present policy calls for a program of multiple-purpose development. The Department is interested not only in its water resources but also in its potentialities for timber production, general recreation, and hunting and fishing. In addition, the Wharton Tract contains important historical features that the Department believes should be restored and preserved. Famous as a center of iron production in the eighteenth century, it contains the village of Batsto; a settlement that retains most of its pre-Revolutionary character.

The Worthington Tract, acquired on September 30, 1954, lies near the Delaware Water Gap. It consists of 6,200 acres, including some five miles of the main Kittatinny Range and some four miles of frontage on the Delaware River. It lends itself to development for types of recreation similar to those at Stokes Forest and High Point Park.

## Forests and Parks Section

The Forests and Parks Section is concerned with the actual operation of forests, parks, and historic sites. Parks are designed to provide varied opportunities for outdoor recreation. Although forests serve the same essential function, the management policy is somewhat broader. They are open to hunting, for example, and one of the policy objectives is the improvement of timber production. (Data on individual parks and forests may be found on page 23).

During the year the record of attendance at parks, forests, and historic sites was as follows:

Parks	1,954,949
Forests	514,735
Historic Sites	30,143
Total	2,499,827

It has been traditional state policy to make reasonable charges for the use of certain facilities in order to help defray the cost of operating these properties. In the fiscal period 1954-55

total revenue was \$260,232.89 or an average of approximately 9 cents a visitor.

During the year the Forests and Parks Section was concerned to a large extent with preparing the plans for rehabilitation and expansion of the State's park facilities. Other highlights of the year's activities were as follows:

Among forestry improvements, the technique of prescribed or controlled burning was applied to approximately 3,000 acres in the Pine Barrens, and brush was cut and burned on more than 17 miles of fire safety strips along roadsides. (Prescribed burning is designed both to reduce the hazard of fire and improve timber production. The hazard of fire is reduced because of the re-

## STATE PARKS

1954-55

### LOCATION AND AREA

State Parks	Initial Acquisition	County	Acres In Land	Acres In Water	Total Acres
* Allaire	1940	Monmouth	1,277		1,277
* Barnegat Lighthouse	1951	Ocean	32		32
Cheesequake	1938	Middlesex	960	15	975
* Cranberry Lake	1925	Sussex	70	129	199
- Edison	1947	Middlesex	30		30
* Farny	1944	Morris	803		803
Fort Mott	1947	Salem	104		104
Hacklebarney	1924	Morris	193		193
High Point	1923	Sussex	10,856	79	10,935
Hopatcong	1925	(Sussex	13	2	
		(Morris	78	14	107
* Island Beach	1953	Ocean	2,200		2,200
* Mount Laurel	1908	Burlington	20		20
Musconetcong Lake	1925	(Sussex	14	231	
		(Morris	14	84	343
Parvin	1931	Salem	918	107	1,025
Princeton Battlefield	1946	Mercer	40		40
Ringwood Manor	1936	Passaic	569	10	579
Saxton Falls	1925	(Morris	5	4	9
		(Warren			
Stephens	1937	(Morris	89		
		(Warren	133		222
Swartswood	1914	Sussex	185	519	704
Voorhees	1929	Hunterdon	429		429
Washington Crossing	1912	Mercer	372		372
Washington Rock	1947	Somerset	27		27
* Worthington	1954	Warren	6,200		6,200
			25,631	1,194	26,825

\*Not developed for public use.

-Edison Memorial Tower open to public. Remainder of area not developed.

moval of accumulated leaves, which in turn exposes the soil, making it possible for a larger number of seeds to germinate.)

Meanwhile, the way was cleared for the use of a limited number of prisoners in forest and parks work, including fire prevention and miscellaneous activities. Although relatively few were involved, the program was carried out on a scale sufficient to indicate its value.

On the Wharton Tract Departmental engineers and special survey crews continued a boundary survey launched 18 months ago. By the end of the year, 289 linear miles of property lines had been surveyed, and 548 concrete monuments had been set.

A series of road improvements was completed on Island Beach by the State Highway Department under the institutional roads program. (Under this program the Highway Department assumes responsibility for the maintenance and rehabilitation of roads in State parks and forests.)

The hurricane of October 15, 1954 resulted in substantial damage at scattered points in the forests and parks system and necessitated considerable repair work. The most serious damage occurred in Fort Mott State Park, where the picnic area and the pier for boats were left in a state of devastation, while the flooding of the moat area resulted in the collapse of the moat bank and adjoining tide control structure. The seawall on the Delaware River also was a victim of the storm.

In addition to this damage, fire swept the Lodge at High Point State Park during the year, and until repairs have been made, the building cannot be used. Considering the remote location, it was regarded as fortunate that the structure was not destroyed.

As preparation for the 1955 summer season, the staff repaired various park facilities and installed many new picnic tables to accommodate the increasing number of visitors to forests and parks throughout the State.

In the field of historic sites, several properties were improved, including Boudinot Hall in Elizabeth and Rockingham in Rocky Hill. In

Camden the exterior of the Walt Whitman House was painted for the centennial of the publication of Whitman's "Leaves of Grass."

Rockingham, which served as Washington's headquarters for a period during the Revolution, was damaged to some extent as a result of blasting at an adjacent quarry, and during the year the Department began negotiations looking toward the relocation of the building. Further improvements will be deferred until arrangements for this can be made.

## Forest Fire Service

The hazard of fire remains New Jersey's most serious forestry problem. The Forest Fire Service protects wooded areas throughout the State except in the most populous sections and also is responsible for the protection of marshlands along the coast. (Forest fire laws are applicable to some 3 million acres, more than 50 percent of the total land area of New Jersey.) Under the Clarke-McNary Act, Federal funds are available to the states for forest fire control, and during the past 30 years, the State Forest Fire Service has worked in close cooperation with the U.S. Forest Service.

The woodlands of the northern half of the state represent an average fire hazard. In the Pine Barrens to the south, however, fire control is a more difficult problem. The area of the Pine Barrens is virtually continuous for a distance of 120 miles in latitude and 30 miles in longitude. The forest growth is largely evergreen, and flames often advance in the tops of trees. The soil is unusually sandy, moreover, and thus is quickly dried out following rainfall by the high winds that sweep the flat terrain.

Generally, the danger of fire is most critical in March, April, May, and November. Severe droughts, of course, may create emergencies at other times. Although the duration of "peak loads" in the operation of the Forest Fire Service is only a few weeks during the average year, the organization must maintain its equipment in a state of readiness over a period of many months. Research has shown that so-called "blow-out" fires, which spread with extreme acceleration, occur under certain atmospheric conditions that prevail throughout most of the year. When these





*Members of the Forest Fire Service, using the latest techniques of fire control, are shown sanding out burning woodlands.*

conditions are brought to bear on a fire that at first has burned slowly, the flames are swept rapidly forward, and the energy thus created increases in geometric proportions, making fire control extremely difficult.

Most of the equipment used in combatting fires today has been developed over the past 20 years. One of the most important innovations has been the use of the tractor-drawn plow in establishing fire lines. Airplanes and radio also have been utilized to an increasing degree in forest fire control. The Forest Fire Service rents a plane when required and maintains a radio system consisting of 96 two-way communication stations located at key points.

**RECAPITULATION OF EVENTS: 1954-55:** During the year, 1,573 fires occurred in New Jersey, burning over 41,505 acres. The number of acres damaged by the average fire was 26, while the average cost of extinguishing a fire was \$59. The overall cost of fire suppression for the 12-month period was \$92,163.

With the increased use of the forests, the number of fires has tended to rise over the years. At the same time, however, the destruction caused by the typical fire has been steadily reduced. This was evident in the 1954-55 statistics. During the year, for example, the number of fires totalled 1,573 as compared with 860 during the average year from 1914 through 1923. On the other

hand, the acreage burned was only 41,505 in comparison with an annual average of 86,839 in the earlier period. The average number of acres damaged by each fire in 1954-55, moreover, was only 26 as compared with an annual average of 101 for the decade of 1914 through 1923.

The most disastrous event of 1954-55 was the Chatsworth fire that began on July 12, 1954, during a period of extreme drought. The fire originated in dry swampland and was accompanied by high, shifting winds that carried sparks for distances up to two miles. Approximately 19,500 acres were burned, and the estimated property damage was set at \$122,300.

The year was marked by 719 known violations of State forest fire laws, and fines resulting from these cases totalled \$12,371.24. At the same time local fire wardens issued 50,583 permits for legal burning.

Steps were taken to reduce the hazard of fire in areas of pronounced danger. Through the cooperation of railroad companies and highway departments at state, county, and municipal levels, approximately 82 miles of right-of-way were fire-proofed through a program of controlled burning during the winter months when the risk of fire is low.

## Forestry Cooperation Section

The work of the Forestry Cooperation Section is directed towards improving timber stands and increasing the yield of forest products through better forest management and reforestation. More than 90 percent of forest land of the state is privately owned. Its future productivity depends to a large extent upon proper methods of cutting trees. The Forestry Cooperation Section has attempted to encourage sound management practices by marking trees to be cut in instances where owners of the woodlands wish to avail themselves of this service. It also conducts investigations of practical problems, and the results are made available to private owners for use in managing their properties.

The State's reforestation program is more than 30 years old. Since it was inaugurated in 1923, more than 40 million trees have been made avail-

able for replanting. Thousands of these have been replanted on State-owned land and municipal watersheds, but a far greater percentage has been placed on privately owned farms in order to reutilize idle land. The trees used in the program are grown in the State nursery at Washington Crossing.

During the past year 1,393,400 were distributed among various groups and organizations cooperating in the effort. The distribution was as follows:

AGENCY	TREES PLANTED
Cities, counties and State institutions	289,500
Watersheds	60,600
Industries	9,000
Schools and Colleges	5,000
Organizations	36,900
Farmers	974,900
4-H Clubs	17,500
	1,393,400

One of the most important of the Section's new activities was its cooperation with the New Jersey Farm Bureau in a program of prescribed burning. Under the auspices of the Farm Bureau, a corporation was chartered to promote and expedite this program. The corporation carries the necessary liability insurances and acts as the paying and receiving agent for all projects.

## Tree Expert Bureau

The Bureau of Tree Experts is charged with the administration of legislation requiring the examination and certification of tree experts. The objective of the legislation is to enable the public to employ tree surgeons and arborists with the knowledge that they are competent and trustworthy. During the year the agency renewed the certificates of 64 arborists and issued three new certificates to tree experts who had passed the required examination. The fees collected for examinations and the issuance of certificates place the agency on a self-sustaining basis. Under law it may retain \$500 for operating expenses, paying into the State Treasury any revenue in excess of this amount.



## BUREAU OF RECREATION

The State Bureau of Recreation was established to aid municipalities and other political subdivisions in shaping and implementing formal recreation programs. During the year 1954-55, one of the paramount objectives of the Department was to lay the foundation for broader state assistance in developing public recreation at the community level throughout the state.

The responsibility of the community for recreation has come to receive marked emphasis with the virtually universal trend toward urbanization. Frequently, in a complex urban environment, recreational opportunities do not exist unless they are created. Thus, the operation of organized recreation programs is now accepted as a normal function of government in many municipalities. Increasingly, municipal leaders have accepted the following conclusions reached in 1934 by the National Parks Services in a report to the Land Planning Committee for the National Resources Board:

"The public recreation movement in America represents a conscious cultural ideal of the American people, just as the great system of public education represented such an idea. It takes rank with the system of public education as a necessary addition to the cultural equipment of the nation. Its supreme objective is the promotion of the general welfare through the creation of opportunities for a more abundant and happier life for everyone."

One of the conditions that have pointed up the need for carefully planned recreation programs is the increased incidence of juvenile delinquency. The problem of juvenile crime is essentially a problem in the use of leisure time. The contributions of many social institutions, such as the church, the family, and the school are necessary in dealing with it. There is general agreement that an indispensable element is the existence of opportunities for meaningful forms of play. In many instances positive action by the community is a prerequisite for these opportunities.

Apart from the problem of juvenile delinquency, there has been new emphasis on the importance of recreation in the development of personality and in general social adjustments. It is regarded

as a means of both acquiring and expressing creative impulses. This idea applies not only to children but to all age groups.

On the surface, the formulation of a recreation program would seem to involve few complications. Experience shows, however, that the task is not so simple as it may appear. Many communities interested in organized recreation find themselves in need of advice and assistance at various stages in the development of their programs as they seek to derive maximum value from available resources and to plan activities covering the broadest range of interests.

In establishing the Bureau of Recreation, the State took cognizance of a responsibility to encourage public recreation and to furnish various recreation services. In the interest of this objective, members of the Bureau staff are sent into the field to analyze local facilities and to give assistance in the organization of recreation commissions, programs and activities. The Bureau also distributes "Recreation Kits", designed to stimulate interest in the recreation movement and has commenced the publication of "New Jersey Recreation Developments," a quarterly round-up of articles, ideas, and miscellaneous information about recreation over the state.

The continuous growth of interest in public recreation has underscored its significance as a field for State action. That is why the Department gave much consideration during the past year to an expansion of the Bureau's activities. In its proposed budget for the 1955-56 fiscal period, it requested additional funds for this purpose, and the Legislature approved an increased appropriation. This will make it possible for the first time to employ the necessary personnel and to meet some of the requirements of a full-scale State recreation program.

As part of the effort to increase the scope of recreation activities, a State Recreation Advisory Commission was appointed by the Commissioner of Conservation and Economic Development. The members of the committee are representative of various groups interested in recreation and will hold regular meetings to consider problems and policies and to engage in long-range recreation planning.



## BUREAU OF GEOLOGY AND TOPOGRAPHY

The Bureau of Geology was established to aid the existing mineral industries of the State, to compile mineral statistics, and to press the search for new sources of minerals. It also assists in the solution of ground-water and well-drilling problems, revises and distributes topographic maps, and maintains the system of survey monuments set up by the New Jersey Geodetic Control Survey.

As the science dealing with the constitution and structure of the earth, geology has a direct bearing on the activities of all mineral industries, on the location and construction of highways and bridges, and on the selection of sites for industries requiring large amounts of fresh water for processing or cooling. It directly affects the lives of persons living in rural and many suburban areas because of their dependence on well-water. In any particular case, the quantity and quality of the ground-water available will be governed as much by the geology of the area as by the rainfall.

**WATER SUPPLY PROBLEM.** During the year the problem of water supply stood out as one of the dominant concerns of the Bureau. The post-war period has witnessed the tremendous growth of suburban and shore communities in New Jersey. Some of the residents of these communities have access to public water supply systems. Many others, however, must develop their own sources of supply. The need has been sufficient to require the services of more than 400 licensed well-drillers. It also has expanded the workload of the Bureau, which advises both drillers and property owners as to the depth of the water and the character of materials that must be penetrated in order to reach it. Beyond this, the agency issues permits for drilling and is responsible for the enforcement of drilling laws, while two members of the staff hold seats on the board that conducts examinations for licensed driller. (During 1954-55, the number of permits approved totalled 5,644, with fees totalling \$16,932.) The work related to residential water needs is only one phase of the Bureau's involvement in the water supply problem. Industrial concerns also are constantly seeking information with respect to the prospective water supply in areas where they are contemplating expansion or the location of new plants. One of the by-products of this time and effort devoted to

helping municipalities, industries, and individuals satisfy their water requirements is an increased knowledge of what lies below the surface.

**MISCELLANEOUS ACTIVITIES.** The Bureau's role in the search for uranium in New Jersey commanded widespread attention during the year. The greatest value of its work was in checking the findings of a veritable army of private prospectors. As it turned out, many so-called discoveries proved to be worthless, but, in at least two instances, the uranium-bearing rock appeared to be of sufficiently high grade to warrant further exploration. In the course of this work the Bureau identified one mineral containing both uranium and one or more of the rare earth metals.

At the same time the staff assisted manufacturers by directing them to the sources of such raw materials as refractory clay, highly silicious sand and quartzite, greensand, and shale or clay that can be expanded to form a light-weight aggregate for concrete.

The factors involved in the underground storage of petroleum and related products received careful consideration. A comprehensive report was written on the subject, and before the end of the year, the first permit for such an operation was issued. This action came after officials of the Bureau and of the Division of Water Policy and Supply reviewed the question with representatives of the oil company interested in the project.

In its relations with other agencies and the public, the Bureau aided the State Highway Laboratory, and the State Museum, as well as many individuals in the identification of rocks and minerals. It provided large samples of several of the state's minerals resources for an exhibit in Washington and furnished material for other exhibits.

Two important memoranda were completed, one dealing with uranium prospecting in New Jersey and the other outlining the Bureau's present activities and future plans. Work on a new report describing Cretaceous fauna was well advanced by the end of the year. It will replace a previous report on the subject that has been out of

print for several years. The Bureau published as Bulletin 63 in the Geologic Series "Petrography and Genesis of the New Jersey Beach Sands" by Robert L. McMaster. This is the first thorough study of New Jersey beach sands ever made. The monograph should prove of interest to residents of the shore and will be utilized by engineers engaged in controlling beach erosion. It also will be of value to companies producing such minerals as ilmenite, zircon, and monazite because it shows the proportions of these minerals contained in the beach sands.

In its field work, the Bureau re-mapped the geology of Round Valley, frequently proposed as a site for a water supply reservoir, and logged the cores from test boreholes at the proposed dam site. Along with this, it moved forward with the mapping of certain strata in Sussex County. Members of the staff visited mines, pits, and quarries to maintain contact with mineral producers and to observe the geology involved in their operations. A possible source of molybdenite, the ore of molybdenum, was discovered at one of these quarries. Molybdenum is important as an alloy in the hardening of steel.

## Topographic Work

The Bureau has an obligation to maintain the system of more than 8,000 monuments in New Jersey with accurately determined positions and elevations. Every three years the topographic crew inspects the monuments along the northern boundary of the State and repairs or replaces any that have been damaged. During 1954-55, some of this work was deferred because of the need to provide a system of monuments for the Wharton Tract. Sixty-eight miles of surveying was necessary, and the Bureau placed 168 monuments in the area. Meanwhile, a new survey line was established in Sussex County.

The Bureau also is responsible for the periodic revision of a series of topographic maps published on the scale of one inch to the mile. As usual, the program for the year entailed considerable work in this field. Among other accomplishments, a new edition of Topographic Atlas Sheet 25 was published, and the copy was prepared for a new edition of Atlas Sheet 26. In addition, a number of county maps were drafted

to show the correct names of all streams and lakes, and 122 case briefs on stream and lake names in Passaic County were prepared for the New Jersey Geographic Board.

The Bureau acted as agent for the U. S. Geological Survey in the sale of its large-scale (one inch equals 2,000 feet) maps and further assisted this agency by editing 15 new maps and furnishing geodetic control data.

The demand for topographic maps is considerable and seems to be on the increase. The Bureau distributed 5,716 maps during the year as compared with 5,354 in 1953-54 and 4,619 in 1952-53. Sales of maps and reports produced \$4,585 as compared with respective amounts of \$3,402 and \$3,362 for the two previous fiscal periods.

*PLANS FOR FUTURE WORK.* In view of the demonstrated need, the Bureau intends to prepare and issue the following maps and reports in the course of its future work if sufficient resources are available:

- 1) A series of reports dealing with each known and potential mineral resource.
- 2) A report describing the utilized mineral resources and giving statistics of production.
- 3) Series of geologic guide-books for each of the major highways.
- 4) A revised edition of Bulletin 50, "The Geology of New Jersey."
- 5) A report on the stratigraphy and faunas of the Silurian and Devonian formations. (This has been started.)
- 6) Reports on the micro-faunas of the coastal plain formations. (The Bureau, in cooperation with Rutgers University, has begun this work.)
- 7) A thorough investigation of the occurrence of uranium in New Jersey.
- 8) Series of county or quadrangular maps showing the geology at a scale of not less than one mile to an inch.
- 9) A relief map of the state on the scale of one inch equals four miles.
- 10) A mineral resource map of the state.

14) A new edition of Bulletin 46, "Work of the New Jersey Geodetic Control Survey."

15) History and work of the New Jersey Geological Survey.

16) A new report on the Triassic formations of New Jersey.

11) A new edition of the county and municipality map.

12) A map showing the drainage basins.

13) A series of county reports giving bench mark elevations. (Such a series has been started.)

## BUREAU OF AERONAUTICS

The Bureau of Aeronautics administers a State code designed to foster the progress of aviation in New Jersey and to regulate aeronautical operations in the interest of public safety. In pursuit of the first objective, the Bureau engages in planning and research and cooperates with other states and the Federal government in an effort to attain a sufficient degree of uniformity in regulations to encourage the growth of the aviation industry. In the interest of safety, it has set standards for all airports, and established air routes and traffic patterns. Rules and regulations are enforced by air-inspectors with the cooperation of local, Federal, and other State authorities. Violations are subject to action in State courts.

**ENFORCEMENT ACTIVITIES AND INVESTIGATIONS.** In the furtherance of safety, one of the principal duties of the Bureau is to license all airports, landing fields, and landing strips and to make periodic inspections of these facilities. Before a new airport may be licensed, it must conform to standard specifications set for such features as runway length, width, and glide approaches. The periodic inspections are made to insure continued maintenance of these standards. Under State law, landing areas for rotary-type aircraft (heliicopters) also must be licensed, and criteria for heliports have been established.

During the year the Bureau completed 188 field inspections. In addition to regular physical surveys, 12 aerial flight checks were made, and 36 detailed engineering inspections were conducted. Members of the staff held conferences with persons interested in the standards set for heliports, and while these specifications have

been criticized in some quarters as too stringent, an increasing number of operators are coming to regard them as consistent with requirements for public safety.

In four cases, violations of air traffic regulations resulted in court action against the offenders. In seven other instances pilots received warnings from the Chief of the Bureau. Two cases were reported and processed through the Bureau by the Civil Aeronautics Administration. In one of these the license of the pilot was revoked, and in the other a suspension of the license was ordered.

Along with its regular enforcement program, the Bureau investigates for the Commissioner of Conservation and Economic Development all civil air accidents regardless of the degree of seriousness and prepares an analysis of the factors involved. During 1954-55, it conducted inquiries in 59 mishaps. The rate of injuries and fatalities was unusually low. Only two persons were killed as a result of the 59 mishaps, and only six were seriously injured. The record of property damage to aircraft was as follows: Total loss, 14; major damage, 35; minor or no damage, 12.

Almost half (29) of the accidents occurred while planes were in the act of landing. In 31 instances, errors on the part of the pilot proved to be a causal factor, and in some accidents, more than one cause was evident. The statistical analysis of the causes of all accidents investigated was as follows:

Pilot error.....	31
Other personnel.....	1

Power plant.....	8 (1 military)
Airframe.....	2
Landing gear.....	6
Equipment or accessories.....	1
Related equipment.....	1
Weather.....	4
Airport terrain.....	0
Stall.....	3
Fire on ground.....	0
Fire in flight.....	0
Propeller accident .....	1
Collision, 2 or more	
aircraft.....	6
(1) Mid-air.....	2 (1 military)
(2) Ground.....	4
Miscellaneous.....	5
Undetermined.....	9 (3 military)

**MAJOR DEVELOPMENTS IN NEW JERSEY AERONAUTICS.** The trend of aeronautics in New Jersey in recent years has generally paralleled that of the nation as a whole. The most notable development has been the changing status of commercial airports. For many years operators of these fields were involved in a multiplicity of activities, such as flight training, barnstorming, occasional sales and minor airport repairs. Today they are chiefly concerned with air transportation—the movement of passengers, air mail, and air freight.

The actual number of airports, landing fields, and landing strips in New Jersey has not increased to any large extent, but existing facilities have been improved and expanded. As of June 30, 1955, the tabulation of airports and operators licensed was as follows:

Airports, landing fields, and landing strip....	77
Private Aviation Facilities.....	44
Landing Strips (Helicopter).....	5
Fixed Base Operator Licenses.....	113
Special Landing Strips (Crop Dusting).....	10

In the field of airport development, there were these important activities during the year:

The New York Port Authority continued to enlarge Teterboro Air Terminal and to add to the facilities at Newark Airport. Expansion, was under way at Monmouth County Airport, and airport officials expected the cooperation of several

political subdivisions in dealing with related zoning questions. A private civic association assumed responsibility for Ocean City Airport and undertook a program of expansion. The Woodbine Municipal Airport likewise was transferred to private hands, and Mercer County Airport finally succeeded in its bid to obtain scheduled service.

The problem of air traffic density continued to occupy the Bureau's attention. The density, especially in the metropolitan areas of the State, at times exceeds the rate of acceptance for New Jersey's airport and air navigational facilities.

**FEDERAL AIRPORT PROGRAM.** The Federal Airport Program, consisting essentially of joint Federal-municipal efforts to increase the nation's airport facilities, was enacted by Congress in 1946. The original plan called for a capital outlay of \$500 million a year over a seven-year period, with the municipalities matching Federal grants dollar for dollar. New Jersey participated in the program from its inception. Between 1947 and 1954, its share of Federal grants for airport construction totalled \$5,316,000.

In 1953, the National Administration ordered a reexamination of the program, and it was suspended except in cases where work was already in progress. Then, during the fiscal year 1954-55 the Federal Government allocated \$22 million for the program. New Jersey shared in this to the extent of \$260,000, the funds being used for improvements at Mercer County and Newark Airports. Towards the end of the past year, there were indications that Congress would extend legislation for Federal participation in airport construction and that funds for this purpose would be substantially increased over the next few years. With this in view, the Bureau began a canvass of eligible airports to determine their needs during the fiscal period 1955-56.

**AIR MARKERS.** Air markers painted on the tops of large buildings, which identify cities and towns and are easily visible from the air, have proved to be a valuable aid to pilots. With the cooperation of the New Jersey Department of Defense, seven new markers were established on National Guard Armories in various municipalities during the year and nine existing markers on

armories were repainted by National Guard personnel. In addition, 11 new markers were established on other buildings either through contract or the work of volunteers, and eight existing markers were repainted on the same basis.

*CIVIL AIR DEFENSE.* Civil air defense ranks as one of the Bureau's major responsibilities. While the subject has received much consideration and various steps have been taken to set in

motion an effective civil air defense program, the consensus of the staff is that at its present stage of development, the program is hardly complete. The Bureau keeps an up-to-date roster of planes based at the different airports in the state. It also has released plans for the utilization of these aircraft in the event of an emergency. For the program to become truly effective, however, civil defense workers at the local level must become more familiar with the use and value of light aircraft as an arm of civil defense.

## BUREAU OF HOUSING

The Department of Conservation and Economic Development is responsible for the administration of State laws pertaining to housing. Prior to the fiscal year 1954-55 this responsibility was assigned chiefly to the Housing Section, a unit attached to the office of the Director of the Division of Planning and Development.

During the year, as the question of New Jersey's housing requirements received new and special emphasis, the Housing Section was raised to the level of a Bureau. Under this status the agency continued to administer the existing housing laws, while assisting the Division of Veterans Services in the sale of dwelling units built under the veterans emergency housing program. At the same time, in the face of a continuing shortage of low and middle-income housing the Bureau was assigned the task of organizing comprehensive studies to determine specifically New Jersey's housing needs as well as possible measures for dealing with them.

*ADMINISTRATION OF HOUSING LAWS.* The various State housing laws administered by the Bureau have been passed over the period of the past 20 years.

The agency is directly responsible for supervising the operation of limited dividend projects as authorized by the State Housing Act and the Limited Dividend Corporation Act of 1949. These are projects built by private corporations with the agreement that moderate rentals will be charged

in return for certain tax benefits conferred by the local governing body.

College Towers Apartment in Jersey City, scheduled for occupancy early in 1956, is the first and thus far the only development of this kind undertaken in New Jersey. It consists of four buildings with accommodations for 320 families. Monthly rentals will range from \$83.50 to \$90 for a five-room unit, and occupancy is limited to families with incomes not exceeding \$7,500. College Towers is a cooperative type of project, insured under Section 213 of the National Housing Act and receiving a partial tax abatement from Jersey City.

The Bureau also is expected to maintain a record of slum clearance and urban redevelopment in New Jersey, and each redevelopment agency contains one member appointed by the State. As of June 30, 1955, there were redevelopment agencies in Bayonne, Elizabeth, Jersey City, and Passaic. In addition, local housing authorities had been designated as redevelopment agencies in Asbury Park, Atlantic City, Camden, Edison Township, Harrison, Hoboken, Long Branch, Newark, New Brunswick, Paterson, Perth Amboy, Phillipsburg, Plainfield, Princeton, Trenton and Union City.

All of these cities had received or were to receive preliminary assistance from the Slum Clearance and Urban Renewal Division of the Housing and Home Finance Agency under the

National Housing Act. Redevelopment programs in Newark, Jersey City, and Perth Amboy had progressed to the point where sites had been cleared, and the construction of new buildings on these sites could begin.

In the meantime, the sale of veterans housing became one of the paramount activities of the Bureau. The operation of the veterans housing program is a function of the Division of Veterans Services. In the liquidation of the program, however, the Bureau conducts the sale of the dwelling units for Veterans Services. (For a more detailed discussion of this program, see the report of Veterans Emergency Housing Section under the Division of Veterans Services.)

**DATA AND PUBLICATIONS.** For the past 15 years the Bureau has compiled a record of the new dwelling units constructed and the dwelling units demolished in each of New Jersey's 567 municipalities. This data is available to anyone on request. Copies of the following materials also are available for distribution: 1) Housing laws from 1929 to the present. 2) Status of Low-Rent Housing Projects in New Jersey. 3) Semi-Annual Reports on Sales of Veterans Housing Projects. 4) Veterans Housing Projects in New Jersey. 5) Special forms for the creation of local housing authorities.

## Study of Housing Problem

During and after World War II one of the most serious problems facing New Jersey was an acute shortage of housing. In recent years the volume of building activity has been substantial. At first glance it might appear that the long-standing housing problem is on its way to solution.

Further investigation, however, casts serious doubts on this conclusion. It is questionable, in fact, whether the construction of recent years has been more than sufficient to meet the requirements of population growth and new family formation.

The Housing Census of 1950 disclosed that 58,000 of the dwelling units occupied in New Jersey were dilapidated to the extent that they either should be removed or extensively rebuilt.

An additional 108,141 units were found to be substandard-- that is, lacking bathing and toilet facilities and piped running water. As the Department began its reappraisal of the problem, there were reliable indications that most of these units were still occupied in 1955.

There were further indications that even with the use of dilapidated and substandard housing, a basic shortage remained. This was reflected in the overcrowding and the low vacancy rates evident in many areas. Housing specialists frequently cite a vacancy rate of five percent as necessary to afford a reasonable choice in the selection of dwelling units and to assure normal bargaining between landlord and tenant. During the year the Department made a survey of conditions in 12 counties prior to the extension of rent control legislation. In few instances was the vacancy rate found to be as high as five percent.

Some of the victims of the problem are families who would be eligible for low-rent public housing if the existing number of units was sufficient to accommodate them. Many of the families who experience difficulty in renting or buying adequate housing, however, are in the middle income range-- too high on the income scale to meet the eligibility requirements of public housing projects but not high enough to be able to satisfy their needs in the present market.

The issue was pointed up by Governor Meyner in his annual message to the Legislature in the following passage:

Population growth has pointed up the widespread inadequacies in lower and middle income housing. The recent survey of housing shortages illustrates our postwar failure to provide sufficient housing. Slum clearance has not kept pace with the spread of slum blight. We are in the process of studying new approaches toward the housing problem. The heart of the issue is selecting the best method of securing low-interest capital for lower and middle-income housing. I am having studied programs adopted by other states to accomplish this purpose, and recommendations should be forthcoming at a later date.

The study that Governor Meyner requested covered a broad range of topics related to housing. It was concerned with such basic questions as: What is the precise gap between the State's housing needs and the existing supply? What is the general income range of families whose requirements are not readily served by the present market? What are the possible methods whereby the State, working in cooperation with private enterprise and civic-minded groups, might encourage the construction of an adequate supply of housing for middle-income families?

As the search for a fresh approach to the housing problem got under way, an informal advisory committee of private citizens with experience in the housing field was requested to review the various phases of the question. It was also asked to submit findings and recom-

mendations that might be used as the basis for further consideration of a workable program.

In the course of the study a state-wide conference on housing was called by the Governor and attracted approximately 400 persons, comprising a representative cross-section of individuals and groups interested in the housing issue. This was the first Governor's conference on housing to be held in New Jersey. Many aspects of the question was explored at the meeting, including such matters as finance, the relation of housing to health, and the special difficulties of minority groups in renting standard housing at moderate prices.

The study continued after the conference, and the advisory committee planned to submit a report early in the fiscal year 1955-56.

**DIVISION**

**OF**

**WATER POLICY AND SUPPLY**





## Introduction

The nature of a state's or nation's water resources is a major determinant of the welfare and opportunities of its citizens. For the people of New Jersey this has been placed in bold relief during recent years. Moving in a steadily ascending curve, the domestic and industrial demand for water has focused attention anew on the critical interrelationships between water supply and public health, between watersheds and the long-term prosperity and stability of the economy. As a public issue, the conservation and development of water resources has assumed here some of the significance that it has always held for areas with sparse rainfall.

Under the impact of these events the role of the Division of Water Supply has grown in importance. The Division serves as trustee of the State's water resources, regulating the use, development, and diversion of both surface and sub-surface waters.

It is empowered to allocate the sources of supply, to approve (or disapprove) the diversion of water for public and other uses, and to pass on water contracts executed by two or more municipalities. It may require the inter-connection of water systems and the interchange of water between systems. In the interest of protecting subsurface water resources, it licenses well-drillers and issues permits for the drilling of wells.

The Division is actually engaged in supplying water only in the sense that it operates and maintains the Delaware and Raritan Canal as a source of water for industrial and public use.

As part of the general effort to protect the state's water supply, its staff conducts various scientific studies, including the systematic gaging of stream flow, rainfall, and underground water levels. The Division also maintains continuous records of water consumption and water yields throughout the state.

In addition to activities concerned with the conservation of water, the agency exercises general supervision over flood control. Its authorization is necessary for the construction and maintenance of dams and the erection of all other structures along streams that affect the passage of flood waters.

Attached to the Division is a nine-man unsalaried board, the State Water Policy and Supply Council. The Council is empowered to conduct quasi-judicial hearings on questions of water supply whenever such hearings are required by law or seem desirable from the viewpoint of the public interest. It also advises the Division on the various phases of the agency's operations.

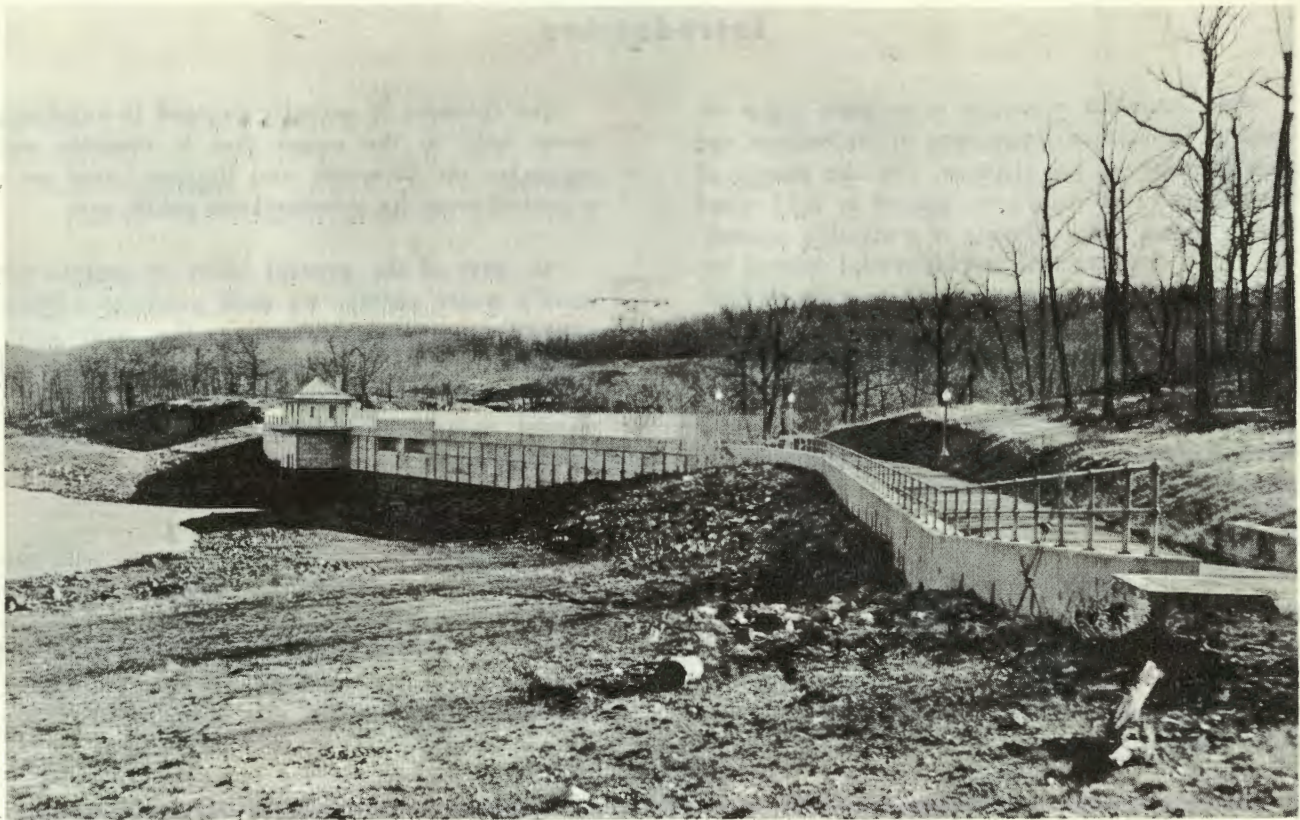
## Water Conservation

**WATER SUPPLY AND DIVERSION GRANTS.** In the conservation of water resources, nothing is more essential than prudent control over the diversion of waters from rivers and streams or subsurface sources. This has therefore become one of the Division's major activities.

In the exercise of this control, many factors must be weighed. If, for example, a municipality wishes to divert additional water from a river or stream, it is not enough merely to examine this from the standpoint of obtaining the maximum volume at the least possible cost. The future needs of residents both within and adjacent to the

drainage area must be taken into account. The effect on recreational opportunities must be studied. Consideration must be given to maintaining the low flows of the stream during periods of dry weather through compensation releases of stored water.

Similarly, in the development of subsurface water supplies it is necessary to consider the effect of the proposed diversion on underground water levels and adjacent wells and, in coastal areas, to examine the danger of salt water contamination of well fields. In the past the uncontrolled sinking of wells has depleted sub-



*Split Rock Reservoir on the Rockaway watershed is the latest water supply reservoir of any size built in the North Jersey metropolitan area. It was completed in 1948.*

surface water resources in some areas of the state and ruined them in others.

Permits now must be approved by the Water Policy and Supply Council for all diversion of surface and subsurface waters for public use. Permits also are required for the diversion of subsurface waters for private or industrial use if the amount involved exceeds 100,000 gallons and the supply is tapped in an area of the state where there is the danger of an overdraft.

During the year 1954-55, the Water Policy and Supply Council acted on 77 applications for water supply, conducting 83 public hearings. It granted diversion rights involving a total volume of 54.148 million gallons of water daily. Of this total 50.835 million gallons daily were for public water supply, 0.593 million gallons daily for industrial use, and 2.720 million gallons daily for irrigation. No diversion rights were granted for water to be used in operating air conditioning

facilities. The two largest grants were those awarded to the Hackensack Water Company and Commonwealth Water Company. The former received permission to divert an additional 5 million gallons daily from subsurface sources, and the latter was authorized to divert an additional 11 million gallons daily from the Passaic River.

In each case of diversion from subsurface sources, the Council insists upon the practice of maximum conservation. For public water supply systems this means that water services must be metered. Industrial users are required to recirculate or return water to the ground if this is feasible. Subsurface water may be diverted for purposes of irrigation only after the failure of the existing surface sources. Diversion grants for irrigation, moreover, are issued for limited periods, after which they are subject to review and modification if deemed necessary in the public interest.

Only two of the applications handled during the year were for the diversion of water from surface sources. One was that of the Commonwealth Water Company, which sought permission to divert an average of 11 million gallons daily from the Passaic River at Millburn in Essex County. As mentioned above, this was approved by the Council. A maximum diversion of 80 million gallons daily will be allowed during periods of high flow, but no diversion will be permitted between June 1 and September 30 in any year nor when the net flow downstream below the point of diversion is less than 75 million gallons daily. This grant is subject to review and modification after 20 years.

The other application came from the North Jersey District Water Supply Commission and requested authorization to divert water from the South Branch of the Raritan River in Hunterdon County in order to develop a regular additional water supply of 70 million gallons daily. The water would be pumped into the proposed Round Valley reservoir. Hearings on the application were still in progress at the end of the fiscal year.

In addition to the review of applications for water diversion grants, 55 new licenses were issued for well-drillers, and 5,644 well-drilling permits were authorized. This action was taken in cooperation with the State Geologist.

**STREAM GAGING AND SUBSURFACE WATER INVESTIGATIONS.** During the year the Division continued the systematic gaging of stream flow under a cooperative agreement with the United States Geological Survey. The cost is shared equally by the State and Federal governments. The records obtained are essential for the determination of the dependable yield of streams, maximum flows and the minimum natural flow. Such data, in turn, are fundamental in designing waterworks, dams, bridges, flood control works and related structures. Since the natural factors governing stream flow vary from day to day and from year to year, stream gaging is a continuous operation, and the records obtained become more valuable as they extend over longer periods.

In 1954-55, gaging stations for continuous measurements of stream flow were maintained at eighty locations. The stations were equipped with

automatic gages which recorded the height of water at all times at carefully selected points, and from these records the rate of flow was computed. The data were published to show not only the daily flows along with monthly and annual averages but also peak hourly discharges when such information was of special significance.

The State also maintains an agreement with the U.S. Geological Survey for the study of subsurface water. (Here again the costs are shared equally by the State and Federal Governments, and the Federal agency makes available trained personnel and other assistance.)

During the year more than 300 well gaging observation stations were maintained in selected areas to determine the effects of pumping on ground water levels. Eighty-five of these stations were equipped with automatic recorders to obtain daily measurements of the fluctuations in levels. Periodic measurements were made at other points. The effect of pumping on the quality of the water was checked by sampling and analyses, particularly in critical areas where salt water intrusion is a hazard.

The purpose of this work is to evaluate the subsurface water resources of the state so as to guide further development intelligently. The studies provide data concerning the movement of underground water that may be safely withdrawn from various formations without depleting the supply or increasing the danger of salt water intrusion. The information is essential not only in the consideration of applications for diversion grants but also in the operation of public and industrial well fields.

In addition to this research an investigation of subsurface water resources along the Delaware River has been under way for several years, extending from Mercer to Salem Counties in New Jersey, and encompassing the parallel area of Pennsylvania as well as one county in Delaware. It has been conducted under a cooperative agreement involving the U.S. Geological Survey, the three states in question, and the Interstate Commission on the Delaware River Basin (Incodel).

The study has indicated the need for continued



interstate cooperation to preserve this abundant source of underground water so essential to communities and industries on both sides of the river. The investigation is especially important in light of the proposed dredging of a 40-foot channel in the Delaware between Philadelphia and Trenton and the possible effects of the project on the availability and quality of the underground waters. At the end of the fiscal year a report on the progress of the inquiry was under preparation.

Meanwhile, in cooperation with the U.S. Geological Survey and Rutgers University, the Division proceeded with an experiment in water supply and forestry conservation at Lebanon State Forest in Burlington County. This was launched with a view towards increasing the productivity of the surrounding area. Much of this consists of scrub oak that has little commercial value, and the soil is matted down with leaves, which by their very nature, permit the loss of an estimated 30 percent of the rainfall through evaporation. Two experimental areas have been selected. One of these is being denuded through a program of prescribed burning and then planted with pine trees. The other area is being allowed to continue in its natural state. Gaging stations have been established to record the flow in the streams running through the two areas, and observation wells have been drilled to check on the ground water levels in each.

**WATER CONSUMPTION.** The following tabulation shows the comparative consumption of water supplied by public systems for the calendar years 1950 through 1954.

	1950	1951	1952	1953	1954
Northern Metropolitan Dist.	361.89	393.37	405.47	420.01	413.37
Southern Metropolitan Dist.	74.31	75.06	76.99	78.41	80.03
Seashore Area	40.36	43.58	45.51	47.24	48.02
Rest of State	43.81	45.93	46.03	47.50	50.33
Total	520.37	557.94	574.00	593.16	591.75

The statistics on consumption for the North Jersey Metropolitan District represent the com-

bined draft on the 36 public water supply systems serving the area. Contrary to the general upward trend of previous years, the combined consumption fell off slightly in 1954. This was attributable, in part, to restrictive measures imposed by some of the local systems to conserve the supply during periods of inability to meet demand because of lack of adequate storage and other facilities. Curtailed operations in the woolen industry also contributed to the reduction.

## Dams and Stream Encroachments

The erection of dams and other structures on inland streams is regulated in the interest of flood control and the protection of lives and property in the valley below. The aim is to protect these structures from failures that would release impounded waters or interfere with the safe passage of floods. Permits are therefore required for the construction of dams and stream encroachments, and these are issued only after plans and specifications meet the engineering requirements of the Division. Especially in the case of a dam, the staff makes inspections on the site before granting a permit, and frequently this is followed by inspections during the course of construction, as well as periodic checks on maintenance after the structure is completed.

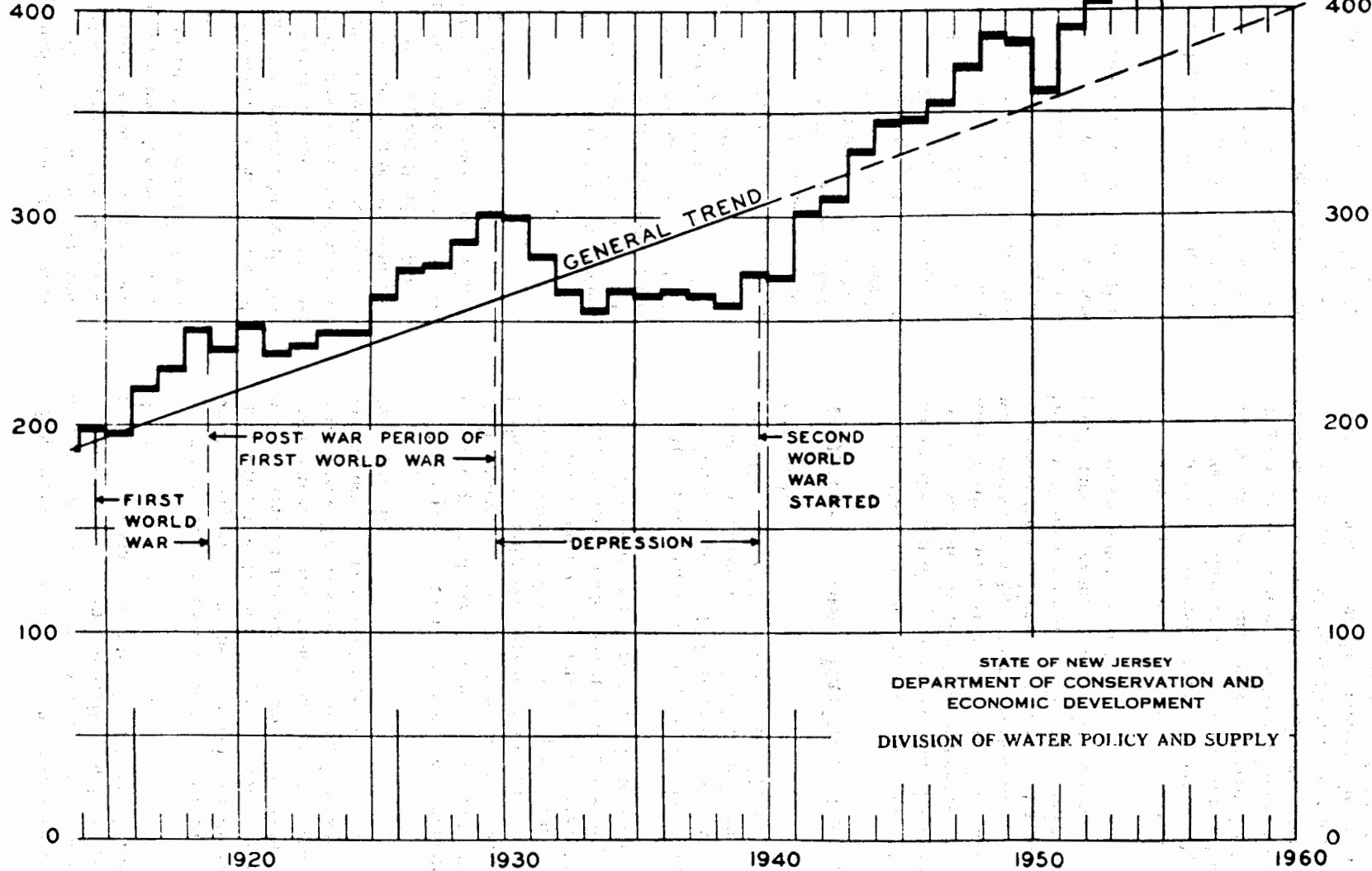
(The Division of Water Policy and Supply and the Bureau of Navigation exercise concurrent jurisdiction in navigable waters. The former examines proposed projects from the standpoint of flood control. The latter is concerned with the effects of any construction on navigation.)

During the year, the Division issued ten permits for the construction or reconstruction of dams and made 40 inspections in connection with new or existing dams. A total of 216 permits were granted for various forms of stream encroachments, including 95 bridges, 17 channel improvements, 46 stream crossings by public and private utilities, 8 fills, and 33 stream encroachment lines. The engineering staff completed 80 inspections of conditions affecting stream encroachments, and two public hearings were held on applications for permits to build dams and stream encroachments.

MILLION  
GALLONS  
USED  
DAILY  
400

## WATER CONSUMPTION NORTH JERSEY DISTRICT

MILLION  
GALLONS  
USED  
DAILY  
400



In administering legislation regulating stream encroachments, the Division has accumulated considerable data regarding floods and high waters, physical surveys of streams and adjacent properties, and technical procedures for the review of applications. This information is available to any citizen upon request.

The wording of the encroachment law has led to some confusion in interpretation. Since the intent is obviously to protect the public against undue interference with the passage of flood waters, the Division has attempted to attain that objective insofar as possible. Any construction or the placement of fills within the natural flood plains of streams therefore is discouraged except at points where existing encroachments make strict adherence to this rule impracticable.

**FLOOD CONTROL.** The Division has a general concern with the problem of flood waters as a result of its control over the erection of dams and other structures along rivers and streams. Over the years it has cooperated with municipalities and counties in the study of flood dangers.

Although the threat of floods exists at various points in New Jersey, it has been most serious as a rule in the basin of the Passaic River. This region, lying on the periphery of the New York-New Jersey metropolitan area, is already highly developed and is expanding. The value of the property exposed to the danger of floods is thus considerable. In view of the continuing hazard, the Governor's Passaic Valley Flood Control Committee was appointed to study possible measures that would succeed in bringing the river under control and meet with acceptance throughout the valley. Division engineers were asked to serve as technical advisors for this special project.

At the request of the committee, the Division completed during the year a report intended to serve as a general guide for developing an acceptable and practical blueprint for coping with the problem. In the study, the engineers reviewed the effectiveness of all flood control plans proposed thus far for the Passaic Valley. The Division also supervised the work of Russell S.

Wise, consulting engineer to the committee, and administered his contract with the State for investigations as to the feasibility of increasing the flood-carrying capacity of the lower Passaic River.

In the same field the staff completed a report on flood control for Fleischer Brook, a waterway in Bergen County that is part of the Passaic River Basin. This is one in a series of studies of small streams in the northern metropolitan area of New Jersey. The Division is making these surveys in cooperation with local agencies as time and funds permit.

The report on Fleischer Brook was prepared at the request of the Borough of East Paterson. It incorporates proposals formulated by a neighboring community, the City of Garfield, to provide a master plan for flood control improvements and the establishment of encroachment lines that would preserve lands essential to the safe passage of flood waters and regulate private building.

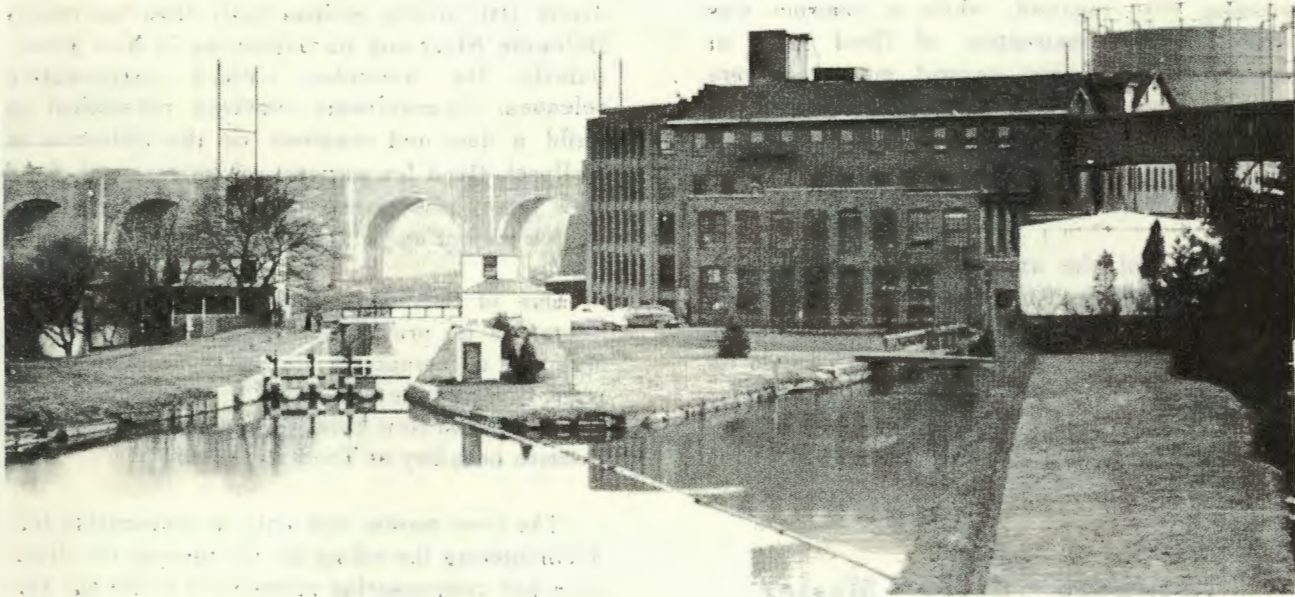
At the request of the City of Plainfield and the Borough of North Plainfield, the Division resumed a comprehensive flood control study of Green Brook halted in 1951 because of insufficient personnel.

## **Delaware and Raritan Canal**

The Delaware and Raritan Canal stretches across the central region of the state for a distance of 60 miles, linking New Brunswick on the Raritan River with Trenton on the Delaware. It was completed in 1834 as the nation entered the heyday of the canal era. Approximately 100 years later, with its volume of traffic diminished to the point that operating deficits had become prohibitive, the waterway was closed.

The State Board of Conservation and Development became custodian of the property in 1934 and from that time until the latter part of World War II, use of the canal was extremely limited. In 1944, however, it was designated as a source of industrial water supply, and the State decided upon a program of rehabilitation. Carried out under the direction of the Division, the program consisted of the reconstruction of dilapidated





*A section of the Delaware and Raritan canal at New Brunswick is shown here with the Johnson and Johnson Company plant in the background. The firm is one of many that look to the canal for the water that they require in their operations.*

locks, control structures and aqueducts, and the dredging and walling of the canal to assure continuous delivery of water over its entire length. The Division remains responsible for the maintenance and continued improvement of the canal and for its operation as a source of water supply.

Since the early post-war period the potable use of water from the canal has rapidly increased and by the fiscal year 1954-55 had reached the figure of more than 30 million gallons daily. Revenue from the sale of water during this 12-months period totalled \$83,123 as compared with \$76,478 during the previous year.

Among important water-use agreements executed during the fiscal year were the following:

1. A twenty-year contract with Rutgers University for the withdrawal of 800,000 gallons daily. (This will be used in cooling the new university library, and the water will be returned

to the canal after circulation in a closed system.)

2. A twenty-year contract with the Elizabethtown Water Company for an additional seven-and-one-half million gallons daily.

3. Approval of application from Johnson and Johnson for permission to tap the canal at points in addition to its point of intake at New Brunswick. (This application was approved on the condition that the total volume of water withdrawn does not exceed the amount authorized under the existing contract.)

4. A twenty-year contract with the Lambertville Water Company for the withdrawal of 200,000 gallons daily.

Apart from the execution of contracts for the use of water, the Division issued permits for cable and gas pipeline crossings, and Rutgers University received permission to use a section of canal property as an access road to a group of dormitories. The Lambertville Sewerage Authority was granted a fifty-year lease on land where it is

constructing a treatment plant. When this plant goes into operation in the near future, it will eliminate a source of pollution.

Among canal improvements, flood gates at Lambertville were rebuilt, and those at Washington Crossing were repaired, while a contract was awarded for reconstruction of flood gates at Kingston. At Trenton several measures were taken in connection with the construction of the Trenton Freeway, including the erection of a new spillway at Cherry Tree Lane to provide flood control below the conduit of the Freeway.

Because of the steadily mounting demands upon the canal as a source of potable water supply, the Division recommended an extension of the rehabilitation program, at least to provide for the complete enclosure of those sections running through Trenton and Lambertville. This is considered desirable as a sanitary measure.

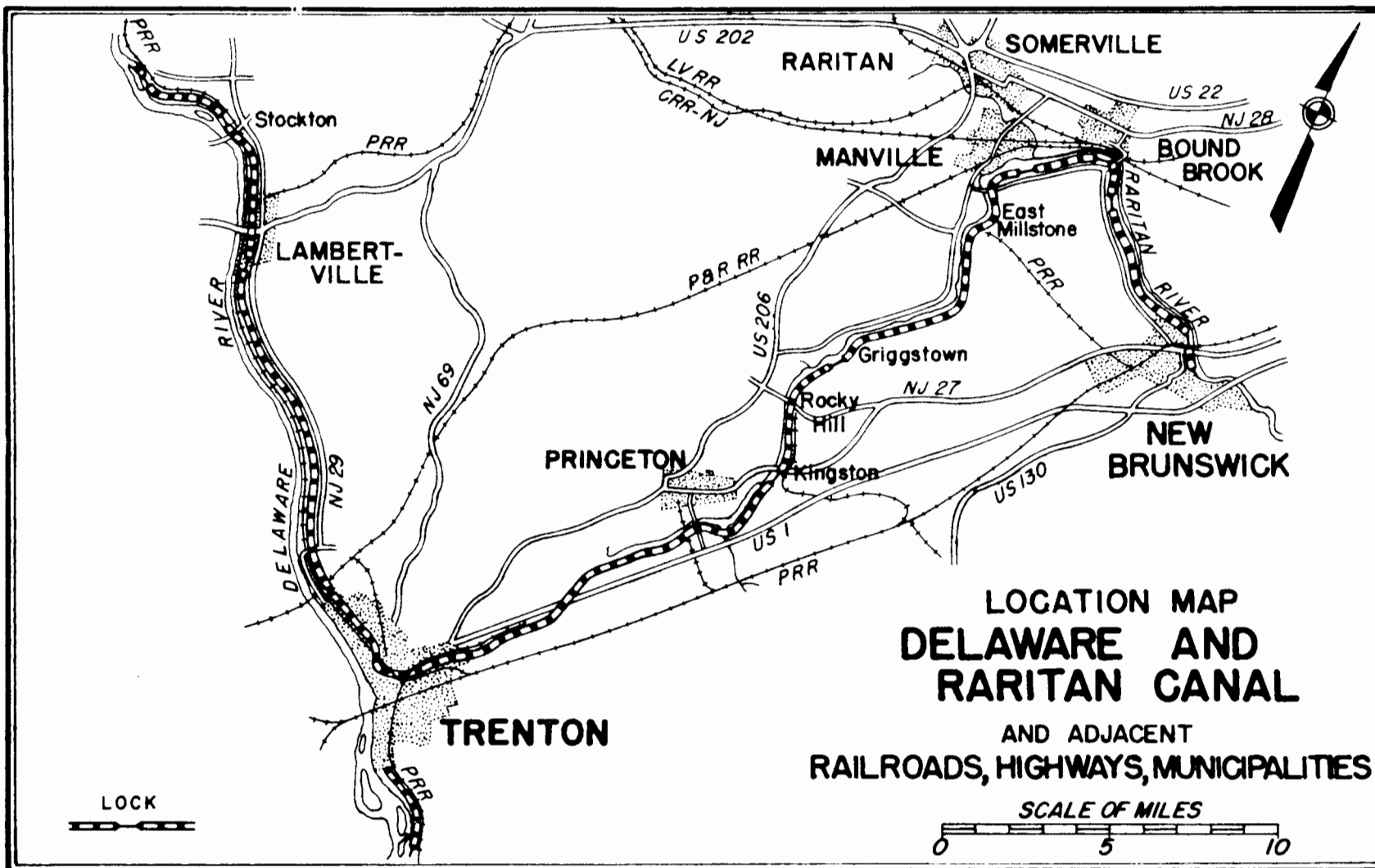
## Delaware River Master

In a decision on June 7, 1954, the United States Supreme Court amended the 1931 decree setting terms for the withdrawal of water from the Delaware River by Pennsylvania, New Jersey, and New York City. The tribunal retained jurisdiction of the case and designated the chief hydraulic engineer of the U.S. Geological Survey as River Master with the responsibility of administering certain terms of the decision.

In amending its 1931 ruling, the court authorized the City of New York to divert 360 million gallons of water daily from the West Branch Delaware River in addition to the 440 million gallons daily that the city was granted under the earlier decree. New Jersey obtained the right to divert 100 million gallons daily from the (main) Delaware River and its tributaries in New Jersey outside the watershed without compensating releases. Pennsylvania received permission to build a dam and reservoir on the Delaware at Wallpack Bend for purposes of water supply, and New Jersey was given the option to participate in such a project up to 30 percent of its benefits.

One of the most important conditions of the decree is its provision that New York City must maintain a guaranteed minimum flow of the Delaware River at the Montague, N. J. gaging station just below the New York-New Jersey-Pennsylvania common boundary at Tri-State Rock.

The river master not only is responsible for administering the ruling as it concerns the diversion and compensation releases of water but also is expected to promote the conservation of water resources. Along with this he is to compile information on the needs of the area as well as the impact of events upon the uses of the waters of the Delaware. From time to time he must submit reports to the Court, the Governors of the States in the Delaware basin, and the mayor of New York City. Officials of the governments concerned meet periodically with the river master, and the Division of Water Policy and Supply represents New Jersey at these conferences.





**DIVISION**

**OF**

**SHELL FISHERIES**





## Introduction

Approximately 75,000 acres of natural shellfish grounds lie beneath the tidal waters of New Jersey. They are distributed over an area that extends from Raritan Bay on the north, down the Atlantic Coast, to the head of Delaware Bay on the south. They serve as the basis for an industry capitalized at more than \$50 million, with a gross product of several million dollars a year.

Owned outright by the State, the shellfish-producing resources consist of the natural clam and oyster bottoms and some 45,000 acres of oyster planting grounds in the bays and sounds of the coastal counties. Seed oysters originating in the natural bottoms are removed and transported to the planting grounds because the salinity of the water is higher in the latter areas and the oysters thus grow to marketable size in two to three years.

The Division of Shell Fisheries was created because the vitality of these resources is constantly threatened by one force or another, and without continuing protection and careful cultivation, they might be permanently exhausted.

Under law, any citizen of New Jersey, properly licensed, may remove shellfish from the natural bottoms during the open season. Likewise, any citizen may acquire, through a lease agreement,

the right to use the oyster planting grounds. All such leases and licenses are granted by the Division through its citizens councils, and the agency operates patrols in the shellfish-producing areas to enforce regulations against the unlawful removal of clams and oysters. The revenue derived from the leasing of oyster planting grounds and other sources is almost sufficient to defray the expense of protecting the oyster beds and of carrying out measures to increase their productivity.

Apart from its police function, the Division conducts a continuing program of surveying and mapping the planting grounds under lease. It has also coordinated its operations closely with those of the Oyster Research Laboratory at Rutgers University in an effort to improve the conditions of the natural beds.

As now constituted, the Division consists of two parts, the Maurice River Cove Section and the Atlantic Coast Section. The establishment of separate units within the Division was authorized by the Legislature, and the reorganization became effective on January 1, 1955. Attached to each section is a advisory council. The members, appointed by the Governor and confirmed by the Senate.

### Maurice River Cove Section

The Maurice River Cove Section has jurisdiction over an area that embraces most of Delaware Bay and its tributaries, extending from the entrance to Hope Creek, a point near the head of the bay in Salem County. This is the center of oyster production in New Jersey. In the area as a whole, it is estimated that the investment in oyster planting grounds, planting stock, boats and boat facilities, and shucking houses runs as high as \$50 million. The value of the planting

grounds alone has been reckoned at \$27 million and during an average year, the industry employs from 2,550 to 4,000 persons at one time or another.

**SHELL-PLANTING PROGRAM.** Because of the heavy capital investment in the oyster industry and its importance as a source of livelihood for many families, any decline in the productivity of the natural beds may culminate in a

serious economic disturbance. Several years ago concern over a drop in oyster seed production prompted the enactment of legislation requiring oyster dealers in the Maurice River Cove section to return a certain percentage of oyster shells to the state each year. The shells are replanted on the natural beds, where oyster larvae may cling to them during the spawning season and mature.

The replanting program is a cooperative venture involving the State and private oyster men. The State pays for the loading and storage of the shells. The oystermen provide funds for the actual replanting of the shells. During 1954-55, a total of 283,637 bushels of shells was returned to the natural beds at a cost of \$11,345 to the State. The views of three groups, the Oyster Research Laboratory, the small oystermen (tongers) and the larger dealers (represented by the New Jersey Oyster Growers and Dealers Association) were considered in selecting the areas where shells would be replanted.

#### *CLOSING OF NATURAL OYSTER BEDS.*

On the one hand, the replanting program has been a significant step forward in the effort to preserve the oyster seed beds. On the other, it has not been sufficient thus far to prevent a continuing decline in their productivity during recent years.

The Oyster Research Laboratory estimates the requirements of the oyster industry in Delaware Bay at 750,000 to 1,000,000 bushels a year. During the spring of 1954, the industry produced only 200,000 bushels.

In the months that followed, the condition of the beds showed no improvement. In fact, studies conducted during the fall and winter revealed that they had barely held their own. Generally, productivity had declined to the point where there was more than a remote danger that the beds would be unable to recover through the natural reproduction of seed.

Under these circumstances the Oyster Research Laboratory and the Maurice River Cove Council recommended that Delaware Bay and its tributaries be closed indefinitely to the taking of seed oysters. This recommendation was made, in

part, because of the encouraging results obtained from the experimental closing of one of the natural bottoms, Shell Rock Bed, for a period of two years. When this bed was closed in 1953, it showed an oyster content of 65 percent. By the spring of 1955 it had recovered to the extent that its oyster content had risen to 85 percent. During the same two-year period most of the adjacent beds showed a continued loss of vitality. The oyster content of one bed for example, fell from 58 percent to 29 percent.

The Commissioner of Conservation and Economic Development thus accepted the recommendation of the Council and Research Laboratory, and an order closing the natural seed beds in the Delaware Bay area was issued on March 31, 1955. (Another order was issued subsequently, closing the beds on the Atlantic Coast.) The short-term problems that such action might create for some of the persons dependent on the oyster industry were carefully and sympathetically considered. Overbalancing this, however, was the fact that unless extraordinary measures were taken to rehabilitate the beds, a much larger number of persons would suffer in the long run, and damage to the industry might be permanent.

#### **Atlantic Coast Section**

The Atlantic Coast Section of the Division is in charge of the coastal waters, extending from Raritan Bay to the southern tip of Cape May County. As the Maurice River Cove Section is the center of the oyster industry, the coastal area specializes in the production of clams. During 1954-55, the Division issued 7,689 clambers' licenses. While much of the production is commercial, clamming also is a popular sport, and this accounts for many of the licenses granted each year to both residents and non-residents of New Jersey.

Although the oyster industry holds second place in this area, there is general agreement that the yield of the natural oyster beds could be substantially increased through more intense cultivation. With this in mind the Division planted several thousand bushels of shells in the Mullica River and Great Egg Harbor Bay during the spring. This was a move in the general effort to



*A typical view of the "oyster fleet" operating in Delaware Bay.*



*These empty oyster shells from the shucking houses have been stored at Bivalve. A large percentage of the shells are returned to the natural grounds to provide beds for oyster larvae.*

increase the productivity of the beds along the coast.

Meanwhile, the Atlantic Coast Council was exploring the question of a special shell tax. The revenue produced by the levy would make it possible to plant a much larger number of shells, and this would lead to a considerably increased volume of marketable oysters within a few years.

In another development, the enforcement of regulations against the unlawful exploitation of shellfish grounds along the coast was bolstered with the acquisition of four 29-foot patrol boats. Heretofore shellfish protectors in this region operated in garveys and small boats with out-board motors. Since the new craft were acquired, coastal waters have been divided into four patrol areas, and there has been a general improvement in the efficiency of law enforcement.

## Report of New Jersey Oyster Research Laboratory

*(The following report, submitted by the New Jersey Oyster Research Laboratory of Rutgers University, summarizes its findings and activities during the year 1954-55, especially with respect to the rehabilitation of the natural beds. The Division of Shell Fisheries works in close cooperation with the Laboratory)*

**THE BACKGROUND: 1952-54.** The investigations of the oyster Research Laboratory from the spring of 1952 to the spring of 1954 led to the following preliminary conclusions on the production of seed oysters in Delaware Bay.

1. The primary cause of failures in reproduction on the natural seed beds is a shortage of parent oysters.
2. No evidence could be found to support the opinion of many oystermen that the decline in stocks was due to river pollution or unusual mortalities.
3. On the contrary, the pattern of decline strongly indicated over-dredging of the natural beds as the principal cause.
4. Experimental transplantations of heavy sets from the "clam line" area to the natural

seed beds were living and growing well. This promised to provide a source of economical and readily available oysters to build up the depleted stocks of the natural seed beds.

5. A second obvious way to build up the seed bed stocks is through natural reproduction on the beds. Experimental closing of one natural bed, Shell Rock, for two years had indicated that this bed was slowly improving. Many oystermen had freely predicted that closing of the bed would send it into a precipitous decline due to fouling and "lack of cultivation".

**ADVANCES IN FISCAL YEAR 1954-55.** In the fiscal year 1954-55 the experimental work begun in the preceding two years was continued, though with some shift of emphasis. Detailed observations of setting and survival of oyster spat (young oysters) throughout the leased grounds and natural seed beds were continued for the third successive year. Changes in condition of the seed beds were determined by extensive samplings throughout the fall and winter. The statistical treatment of data on the natural beds instituted in 1953-54 was extended and improved. Such treatment and extensive samplings, though time-consuming and demanding of personnel, are essential in accurate evaluation of changes in the beds. Three activities of particular interest will be summarized below. These are the 1954 larval study, the experimental closing of Shell Rock Bed and certain transplantation experiments.

The laboratory staff made an extensive study of the distribution of oyster larvae during the reproduction season in 1954. It was the major program of research, and more than 1000 larval samples were collected and analyzed. From this emerged a clear-cut answer to the question of long-range migration of oyster larvae. The larvae did not move great distances from the areas in which they were produced. The large broods of larvae were correlated with the known concentrations of spawning oysters. This study proves that one cannot depend on movements of oyster larvae from the leased grounds to repopulate up-bay seed beds. The two-week period in which the larvae are free swimming is undoubtedly the most critical in the entire life of the oyster, and a detailed knowledge is basic to the best use of available cultch, the wisest placement of stocks of



spawning oysters and the establishment of management practices for the natural seed beds. Extensive larval studies are therefore again in progress in the 1955 season.

The results of the two-year experimental closing of Shell Rock Bed were extremely encouraging. When closed in 1953, the main portion of the bed was 65% oyster. By the fall of 1954 this increased to 89%. Meanwhile the adjacent Cohansey Bed, under normal dredging pressure, declined from 58% to 26% in oyster content. Detailed studies of setting spat survival and the resulting populations make it possible to assess the value of several factors in the improvement of Shell Rock. The excellent survival of the light-to-moderate sets since 1952, in the absence of heavy dredging, has made a major contribution to the bed improvement.

The Shell Rock experiment is of the greatest importance. It demonstrates unequivocally for the first time that a natural bed in decline can be improved and recovered through reduction of dredging. From this experiment the laboratory has obtained information for guidance in the rest of the rehabilitation program. It has also provided the greatest known concentration of native spawning oysters in the Bay. Thus Shell Rock has become the beach-head for the repopulation of the natural seed beds.

The 1952 and 1953 "clam line" transplants to the natural seed beds have lived and grown well. Through funds made available by the Director of the Division one deckload of the transplants to Shell Rock was replanted on the Laboratory ground in the leased area in May of this year. For comparison one deckload of shell Rock natives was planted in an adjoining section of the ground. Studies of these two populations are expected to provide answers to many old questions as to the value of the controversial "clam line" sets to the oyster industry.

Also with funds made available by the Director of the Division approximately 14,000 bushels of natural oysters from the area below the "clam line" were moved to a newly-established sanctuary on the up-bay movement. Thus the spawn from these parents have a greater probability of remaining in the seed bed area.

The transplantations have been designed either to (a) increase stocks of oysters on the natural seed beds or (b) provide alternate sources of seed oysters, thus relieving some of the pressure on the seed beds.

*NEW ACTIVITIES: 1954-55.* Population studies of the natural beds in the fall and winter of 1954-55 indicated that the seed beds had barely maintained themselves although only 200,000 bushels of oysters had been removed in the spring of 1954. The seed beds appeared to be dangerously close to the level below which they could not be expected to recover through their own natural reproduction. The laboratory recommended therefore that they be closed to all dredging in the spring of 1955. It is still too early to judge the results of this action in detail, but at this date test shells indicate that the increased number of spawners is reflected by a greatly increased set this year as compared with 1954.

In June, 1954, as a part of the seed beds program the Oyster Culture Houseboat Laboratory "Cynthia" was overhauled and placed in service on the Mullica River with one summer investigator aboard. An over-all survey of the oyster-producing areas was carried out for this season. In June, 1955, a two-man summer staff took up the continuation and intensification of this area study. The Mullica is of particular interest as an area in which consistently good oyster sets have been obtained and which has a great potential for seed production. Compared with Delaware Bay it is a "vest-pocket sized" area, which may provide the answers to basic problems in oyster ecology with a comparatively small drain on resources of the laboratory.

Samples of small but concentrated populations of oysters from polluted areas of the Navesink and Shrewsbury Rivers were obtained in the fall of 1954. The Rutgers oceanography class made a current and exchange study of the Navesink as a class exercise and, with the cooperation of shell fisheries protectors, some preliminary setting observations are now being made.

Late in 1954 *Dermocystidium marinum*, the serious fungus parasite of the Gulf Coast and the

Chesapeake Bay, was reported in Delaware Bay. A large-scale outbreak of this oyster disease could easily set the rehabilitation program back several years. In view of the large-scale importations in recent years of seed oysters from areas of known infection, it is imperative to study the viability of the fungus in New Jersey waters and the susceptibility of New Jersey oyster stocks. One research assistant was assigned to full-time work on this problem starting June, 1955.

**THE WORK AHEAD.** The results in the past year have given the first definite promise that the natural seed beds of Delaware Bay can be brought back into high productivity. The central problem here is to increase the spawning population to a level where it can produce annually the three-quarters to one million bushels of seed

oysters required by the Delaware Bay industry. It now appears that the level to be attained is approximately three times the present level. Studies of setting, survival and growth must be carefully made to determine the amount of seed that may safely be removed each year while the total oyster population is being increased. This is a question of slowly building up "capital" by a minimum withdrawal of "interest" until the "income" is large enough to support its owner adequately. At this time it seems also that the seed-producing potential of other tidewater areas of the state has not been fully developed. Studies of such areas as the Mullica, the Navesink, Shrewsbury, Metedeconk and Manasquan should be made with a view toward establishment of an integrated state-wide seed production program.

## Statistical Summary

### Maurice River Cove Section

Number of leases issued	166
Number of acres under lease	37,251
Number of lessees	172
Number of Documented Boats Licensed (Av. Ton. --36)	83
Number of Un-Documented Boats Licensed	5
Total Tonnage (Gross)	3,181
Number of Tongers Licensed	316
Number of Convictions for Law Violations	5

### Atlantic Coast Section

Number of leases issued	436
Number of acres of leased land	4,049
Number of lineal feet leased	59,700
Number of Clammers' Licenses (Resident) issued	7,485
Number of Clammers' Licenses (Non-Resident) issued	204
Number of Sea Clam Boat Licenses (Comm.) issued	14
Number of Sea Clam Boat Licenses (Non-Comm.) issued	3
Number of Tongers' Licenses issued	185
Number of persons convicted of Shell Fisheries Violations	69



**DIVISION**

**OF**

**FISH AND GAME**



## Introduction

The forms of recreation based on fish and wildlife resources are widely regarded as an important means of adjustment to life in a modern industrial society. Official wildlife agencies have been created because it is obvious that only by means of human action can the supply of fish and game be maintained at a level sufficient to meet the demands of a growing population. The activities of government in this field are designed to protect the existing supply by instituting conservation measures and to expand the opportunities for hunting and fishing by scientific management of available resources.

The State Division of Fish and Game pursues these objectives through four basic programs: (1) Enforcement of state laws to preserve fish and wildlife. (2) Conservation education. (3) Wildlife management. (4) Fisheries management.

Separate administrative units have been established to conduct each of these programs. Closely associated with the Division in its various operations is the State Fish and Game Council, a non-salaried group whose members represent all section of New Jersey.

Despite considerable progress in augmenting the supply of fish and game in the state, the pressure upon these resources is rising and will become more acute in the foreseeable future. One of the fundamental problems arises from the fact that no other state supports so large a population on small a land area. Meanwhile, industrial growth is rapid and extensive. Population is increasing at a high rate. In the wake of this, the flight to the suburbs continues unabated, and the cultivation of farm land is becoming more intense.

Such changes are largely a measure of New Jersey's progress. Inevitably, however, the effect on fish and wildlife is detrimental, for their habitats are seriously disrupted. The difficulty of maintaining an adequate supply of fish and game thus increases, with the danger that the cost of hunting and fishing will rise to a point where it will be beyond the range of the average citizen.

This problem can be solved. The prerequisites for a solution, however, are a high level of planning and full public understanding and support of measures aimed at the conservation of fish and wildlife resources.

## Law Enforcement

The enforcement of State laws regulating hunting and fishing is assigned to two units, the Warden Service and the Coastal Patrol. The former has jurisdiction over the entire land area of the state as well as over inland streams and lakes. The latter is a separate agency that operates in the waters along the Atlantic Coast from the New York State line to the southern tip of Cape May County and from the entrance of Delaware Bay to Trenton Falls in the Delaware River.

A major development in the law enforcement program during the period 1954-55 was the reorganization of the Warden Service. In the interest of more efficient operations, the State was divided into two law enforcement districts (north and south),

where formerly there had been four districts. At the same time two new positions above the rank of warden were created in an attempt to improve services and to increase the incentive for personnel. Finally, 14 wardens were transferred. The needs of all counties were carefully analyzed before this step was taken, and each man was assigned to an area where it appeared that his abilities could be utilized to the greatest advantage.

The curtailment of hunting and fishing that has attended suburban expansion and the industrialization of former woodland areas in metropolitan north Jersey over the past decade has transformed the activities of the Warden Service in that region. On the one hand, the

scope of law enforcement has been sharply reduced. On the other, the need for information services and public relations has increased. For this reason, a metropolitan office of the Service was established during the year at 517 South Livingston Avenue in Livingston (Essex County) to handle requests for information and to perform related services. The office is open 12 hours each day, seven days a week.

**STATISTICAL SUMMARY.** The following licenses for resident and non-resident hunting and fishing were issued during the calendar years 1953 and 1954:

	1953	1954
Resident Hunting	149,028	154,594
Resident Fishing	135,493	141,327
Resident Bow and Arrow	10,915	15,135
Non-Resident Hunting	1,635	1,742
Non-Resident Fishing	10,205	10,021
Non-Resident Bow and Arrow	37	71
Special One-Day Non-Resident Hunting	209	463
Resident Trout Stamps	73,741	78,382
Non-Resident Trout Stamps	3,346	2,838
Total	384,609	404,573

During the fiscal period 1954-55, the Division filed 1,236 cases charging violation of State Fish and Game laws. This represented a decrease of 409 over the previous year. The alleged offenses were as follows:

License Violations.....	389
Fishing Violations.....	154
Hunting Violations.....	354
Deer Violations.....	69
Firearms Violations.....	215
Trapping Violations.....	14
Miscellaneous Violations.....	41
Total	1,236

(In the disposition of cases, 57 defendants were found not guilty, and 13 appeals were taken. Forty-two licenses were revoked, and 21 offenders received jail sentences. Fines totalled \$41,497.)

**HUNTER SAFETY PROGRAM.** Recent legislation provides that a new applicant between the ages of 14 and 21 must pass a four-hour hunter safety course in order to obtain a hunting license. The Division worked during the year with the National Rifle Association in organizing this program, and more than 500 trained instructors certified by the association were authorized to conduct the required examination. All instructors volunteered their services. They were assisted by members of the Warden Service and other personnel of the Division in setting up machinery for the program.

## Conservation Education

The conservation of fish and wildlife together with other natural resources depends in the final analysis upon genuine public understanding of the problems involved. State-wide education of youths and adults in the principles of conservation therefore has always been treated as one of the paramount responsibilities of the Division. Its Public Relations and Conservation Education Unit has attempted to develop through a variety of media a realistic appreciation of measures designed to protect soil, water resources, and forests as well as the State's supply of fish and game.

During the year the agency carried its message to an estimated 1,067,241 youths and adults. The following details illustrate the scope of the program:

1) Nineteen exhibits were displayed for a period of 71 days.

2) The Division's "Conservation Caravan" visited scores of camps attended by Boy Scouts, 4-H Club members and other youths, spending 58 days on the road.

3) More than 90 conferences were conducted and 273 lectures were given at the request of groups interested in conservation.

In addition to these activities a series of radio and television shows was produced, and numerous press releases were issued to point up particular problems in conservation and wildlife and fisheries management. The staff of the Conservation Education Unit also cared for more than



60 birds and wild animals that were shown to the public on television and in various exhibits. The circulation of the Division's monthly periodical, *New Jersey Outdoors*, continued to rise and had reached a figure of 11,640 by June 30, 1955.

As in the past the educational program called for emphasis on safety practices in the handling of firearms. These were demonstrated in lectures, movies, and exhibits, especially in the schools and at meetings of Boy Scout groups. With the cooperation of the Sporting Arms and Manufacturer's Institute, the Division distributed films on firearms safety to 144 organizations with a combined membership of approximately 42,000 persons.

## Wildlife Management

The Division's Wildlife Management Program involves these major activities:

- 1) Scientific research on problems in wildlife conservation.
- 2) Operation and maintenance of public shooting and fishing grounds.
- 3) Continuing efforts to restore the habitats of wildlife.
- 4) Production and liberation of birds to increase the natural supply.
- 5) Trapping of animals that constitute a nuisance or pose a threat to life and property.

**RESEARCH AND EXPERIMENTAL ACTIVITIES.** The investigations conducted by the Division during the year, were carried out in cooperation with the U.S. Fish and Wildlife Service under the Pittman-Robertson Act. This measure, enacted by Congress a number of years ago, provides for Federal grants in aid to States for wildlife management. The amount of aid depends upon such factors as the State's area and population.

Among the achievements in 1954-55 was the completion of a survey undertaken to gather statistical data on the game harvest in New Jersey. The success of the survey means that it can be adopted as a regular activity of the Division. In the meantime, special studies at

two of the Division's public shooting and fishing grounds, Tuckahoe and Colliers Mill, continued and were expanded in scope.

Another research project-- a cooperative study, with the Division of Fish and Game, the U.S. Bureau of Entomology, and New Jersey Agricultural College participating-- provided further data on the production and control of mosquitoes. One of the reasons for the Division's interest in this topic is the necessity for extreme care in spraying lakes and marshlands to control the production of mosquitoes lest the insecticide destroy whatever fish and wildlife may be present.

**SHOOTING AND FISHING GROUNDS.** The public shooting and fishing grounds owned by the State have been acquired over the years with funds derived from the sale of hunting and fishing licenses. The combined acreage of these grounds exceeds 100,000 as of June 30, 1955.

During the year the Division went forward with the acquisition of additional land, purchasing 4,600 acres in Manchester Township, Ocean County. One tract of 2,300 acres contains a considerable portion of the north branch of Hurricane Brook, while another 2,300 acres were acquired at Pasadena. The land at Pasadena adjoins the Greenwood Tract Public Shooting and Fishing Grounds.

In addition to actual purchases, the Division investigated and searched titles to 18 other tracts.

As the year ended, a long-range schedule was projected for the acquisition of more land for shooting and fishing. The pressure on the existing public grounds during the year itself was greater in all parts of the State than at any previous time. There was general agreement that this will become more intense and can be met only through far-sighted planning in all phases of wildlife management.

During the year the development of previously acquired public grounds progressed at many points. Improvements included the construction of a 30-acre impoundment for water-fowl on the Hainesville grounds and two other impoundments on the Roy grounds. The Division also:



1) Provided 333 foodpatches for wildlife on public shooting and hunting grounds and planted 260 acres with alfalfa, rye, corn, soy beans, buckwheat and perennials.

2) Cleared 172 acres.

3) Assisted sportsmen in conducting 28 field trails.

4) Observed the migratory habits of waterfowl during the spring and fall while trapping and banding ducks during the winter.

5) Conducted the annual nest survey of clapper rail.

The Division also worked in cooperation with private landowners who have opened their properties to the public for hunting. Some 475 food patches were planted on areas other than public shooting and fishing grounds during May and June, and the Division made food patch mixture and other plants available to "cooperators," who offered to do the planting themselves.

In another phase of the movement to restore game habitats, the agency distributed 210,150 shrubs and trees among 121 private land-owners participating in the cooperative program. The seedlings were planted in accord with plans drawn up in advance on the basis of a careful investigation of the areas where they were to be cultivated.

In addition to its work with private groups and individuals, the Division worked in conjunction with the U.S. Fish and Wildlife Service in opening a section of the Brigantine Wildlife Refuge to duck hunting.

**GAME FARM PRODUCTION.** The State's game farms produce pheasants and quail, which are liberated to supplement the supply derived from natural reproduction and to assure ample breeding stock during the spring. The program also provides hunters with a large number of birds of high quality during the upland small game season.

Together with the operation of the game farms, the Division distributes day-old quail and pheasant chicks to be raised by members of New Jersey 4-H Clubs. After the birds grow to proper

size, they are purchased by the Division from the boys and girls and released along with the birds raised at the game farms.

During the past year 63,298 pheasants were liberated, including 41,212 produced at State farms and 22,086 raised by 4-H Club members.

The quail liberated numbered 28,654. Of the total, the farms produced 24,925, and the remaining 3,725 were raised by the youths participating in the program.

The Division also purchased and liberated 4,682 cottontail rabbits.

Meanwhile, all game farms were undergoing renovation. The rehabilitation of the facilities was designed to reduce labor costs, to increase production, and to improve the general quality of the birds.

**DEER MANAGEMENT.** During the recent past the number of deer in New Jersey has steadily risen, and the present deer population of the state is estimated at 40,000. Deer management therefore is one of the Division's leading activities.

It involves, among other things, a continuing effort to prevent deer from causing damage to crops and other private property or becoming a danger to citizens on the highways. During the past year thousands of feet of fencing were distributed for this purpose, and large quantities of an application repellent to deer were distributed among owners of property who reported damage or faced the risk of it. In many instances the Division itself sprayed land with this application to forestall depredations.

Members of the staff received 146 complaints of deer damage in the southern part of the State and visited 119 areas of damage in northern New Jersey during the year. Fifty-three deer were trapped and moved to remote woodlands.

In the hunting of deer, the regular (firearm) season lasts for six days. It is preceded by a special bow-and-arrow season of 18 days. Results by counties during the 1954 season were as follows:



County	Firearm	Bow & Arrow	Illegal
Atlantic.....	283	5	---
Bergen.....	69	10	9
Burlington.....	445	4	4
Camden.....	69	---	3
Cape May.....	46	1	---
Cumberland.....	176	---	11
Essex.....	63	6	3
Gloucester.....	32	5	---
Hudson.....	---	---	---
Hunterdon.....	516	40	42
Mercer.....	130	36	9
Middlesex.....	24	2	---
Monmouth.....	98	18	1
Morris.....	889	81	8
Ocean.....	289	10	16
Passaic.....	173	8	6
Salem.....	2	---	3
Somerset.....	506	57	---
Sussex.....	537	17	30
Union.....	2	1	---
Warren.....	427	19	16
	4,776	320	161

(In addition 1,571 deer were killed out of season by trains, automobiles, and persons engaged in illegal hunting.)

The Division allotted to 135 sporting clubs 19,101 pounds of prime venison from deer either illegally shot or killed by trains and automobiles. (The venison is sold only to certified sportsmen's

clubs, and any profits derived from the occasions at which it is served must be used in the interest of conservation.) The income from this, together with the sale of hides, totalled \$8,134.70.

**HUNTING ACCIDENTS.** Fifty-six persons were wounded by firearms during the hunting season of 1954-55. Only three of the accidents proved fatal. In five instances, the wounds were accidentally self-inflicted.

As to the types of hunting in which accidents occurred, the breakdown was as follows: Waterfowl, three; small game, 36; deer, 17.

**TRAPPING OF WILD ANIMALS.** In discharging its responsibility for the protection of the public, the Division maintains facilities and personnel for trapping birds and animals whenever they become a nuisance or a threat to property.

During the period of this report state trappers were incorporated in the Division's principal wildlife unit, while simultaneously their activities were expanded and closely coordinated with those of the wildlife managers. Their duties were extended to include the removal of beaver, deer, squirrels, rabbits, and raccoons as well as participation in such activities as wildlife surveys, the distribution of game, and public demonstration programs.



The trappers were able to give valuable aid to farmers and other land-owners in rural areas during the year, capturing 4,162 predatory birds and animals. In the same period 1,092 complaints were filed in the metropolitan regions of the state, resulting in trapping of 2,376 squirrels, 292 raccoons, 110 'possums and 92 skunks and rabbits. In addition to the work of the trappers, members of Warden Service captured several thousand predatory birds and animals.

## Fisheries Management

The Division's fisheries program consists of the stocking of rivers and streams with trout and other fish, research and experimentation, and measures to conserve and increase the state's fishing resources. In implementing this program, the agency operates both a hatchery and a fisheries laboratory. Federal grants in aid are available under the Dingell-Johnson Bill to support research and conservation measures:

**STOCKING OF RIVERS AND PONDS.** The State hatchery at Hackettstown, established in 1912, is generally conceded to be the largest facility of its kind in the world. Few outdoor activities hold greater attraction for sportsmen than trout fishing. Without the hatchery there would be no trout fishing and no trout fishermen in New Jersey. The supply obtained through natural reproduction is negligible. Virtually all of the trout landed during the season originate at the hatchery and have been fed into the streams and lakes of the state.

During 1954-55 the hatchery stocked 542,198 trout, varying in length from seven to 18 inches and averaging 10 inches at the time of distribution. The number was among the largest on record, and this was all the more unusual in view of the adverse conditions under which production took place. During much of the period, the level of the water was extremely low, with the result that the staff faced difficulties in controlling temperature and oxygen content. An increase in temperature gives rise to heavy blooms of algae that cause an excess of oxygen during the day and a deficiency at night. Fish are endangered when the oxygen content is excessive as well as when it is deficient. Through the use

of a black dye known as migrosine, the staff succeeded in controlling the spread of algae and thus prevented any serious losses. (Migrosine also has been employed in the control of aquatic weeds, and without it, a number of ponds in the state could not be successfully stocked with trout.)

Although lake and stream conditions were fair at the beginning of the season, the level of the water soon began to drop and by June was extremely low. A fall in the water level creates difficulties in stocking fish as much as in producing them at the hatchery. There is an inevitable effect on the temperature of the lake or stream, and if this rises beyond a certain point, the trout's chances of survival are slight; especially if the rise occurs before they have an opportunity to adjust to the water.

During the past season the distribution crew carried thermometers and other equipment to test the conditions of streams and lakes before releasing the fish. In many instances the water in which they were transported from the hatchery to the stream was "tempered" to prepare them for actual stream conditions and thus to facilitate adjustment. By the use of this technique, it was possible to continue stocking trout until the end of June.

Meanwhile, after a careful study of lakes and streams throughout the State, certain changes in the stocking program were ordered to achieve greater uniformity in the number and size of the trout distributed and in the frequency of distribution.

In another operation at the hatchery, unusually low temperatures during the spring interfered with spawning of bass and the hatching of bass eggs. On the whole, however, the size as well as the number of bass available for stock was considered good.

The following table gives a statistical view of hatchery operations during this period:



Species of Fish	Size in Inches	(Raised: July 1, 1954, to June 30, 1955)	Distributed	Estimated Number on Hand
Brook Trout	1-14	996,145	466,145	530,000
Brown Trout	1-18	874,628	332,628	542,000
Rainbow Trout	1-18	571,565	179,065	392,500
Largemouth Bass	2-12	322,080	114,580	207,500
Smallmouth Bass	1-14	28,560	8,650	20,000
		2,793,068	1,101,068	1,692,000

Amount permanent improvements, 12 new reinforced concrete ponds for raising trout were completed at the hatchery during the year, each 15 by 160 feet, with a depth of four to seven feet. They replace four of the old trout ponds built in 1913. The construction of another pond, 125 by 900 feet and six to 10 feet in depth, was 90 percent complete at the end of the fiscal period, while work was under way on two new bass ponds. One of the latter will be 200 by 1,000 feet, with a depth of six to 11 feet; the other, 75 by 200 feet, with a depth of six to 10 feet.

#### OPERATION OF FISHERIES LABORATORY.

The Division undertook varied projects in the field of fisheries research and experimentation during the year. Some of these were financed entirely by the State; others were supported by Federal funds made available under the Dingell-Johnson bill. The most important of the projects were:

- 1) A survey of tidal areas of five south Jersey rivers-- the Cohansey, Maurice, Great Egg Harbor, Tuckahoe and Mullica--- was completed. The survey, directed by Dr. James R. Westman of Rutgers University, was designed, among other things, to throw further light on the nature of the fish population in these waters.
- 2) Four additional New Jersey lakes were surveyed to ascertain their potentialities for fishing as well as the types of fishing for which they are best suited. This brought to 116 the total number of lakes surveyed by the Division.
- 3) The Division continued to work in co-operation with the Knee Deep Hunting and Fishing



Club in stocking Lake Hopatcong with trout. This is the first major test of the potentialities for trout fishing in Hopatcong. During the year the lake was stocked with 6,500 trout, nine to 12 inches in length. Half of these were furnished by the club, the other half by the Division. All were tagged before being released, and the club assumed responsibility for collecting the tags. A report on the progress of the experiment was to be issued at the end of the 1955 season.

4) The Division obtained excellent results from measures designed to combat acid conditions in certain waters that pose a threat to the survival of stocked trout. Several lakes that had been alkalized and fertilized were drained during the year, and there were indications that the carrying capacity of acid waters in general might be increased ten-fold by use of the technique. The Division therefore planned an expansion of this program.

5) Plans were completed for an annual creel census on representative lakes.

6) Experiments in the control of aquatic weeds continued for the third year. (These submerged plants can jeopardize fish by shutting off light and oxygen and by causing stagnation of the water.) While no final recommendations had been submitted at the end of the year, the staff had screened all known herbicides to determine the conditions under which particular chemicals could be used successfully.

7) A three-year marine inventory, designed to ascertain the extent of salt water fishing in New Jersey, was completed, and the Division was preparing a report on the findings.

8) The Division continued its fisheries management studies, essentially a testing of the various management techniques that can be successfully employed in New Jersey. This included the use of techniques for manipulation of fish populations in order to improve bass fishing in the following lakes:

Weequahic Park Lake, Essex County; Upper Echo Lake, Union County; Surprise Lake, Union County; Bear Pond, Sussex County; Verona Park Lake, Essex County.

Another experiment involved the stocking of "cold water" lakes with fingerling trout in an attempt to learn whether they could attain suf-

ficient size to be caught by sports fishermen. The results were generally unfavorable, and it was decided to experiment with slightly larger trout in the future.

9) Studies dealing with the stocking of warm-water fish were under way, and this project was divided into several parts. One phase consisted of an evaluation of the equipment used in salvaging fish. (Salvage operations, the transfer of fish from one body of water to another, are undertaken when emergency conditions have arisen in a particular lake or pond and threaten the survival of the fish. The Division also salvages fish from large water reservoirs, where sport fishing is forbidden.) In order to test the equipment, the fish that had been salvaged were marked either by tagging or fin-clipping. Panfish were stocked in small ponds in various parks, while game fish were transferred to public lakes.

In another phase of the project experimental ponds were selected to study the survival rate of bass produced at the State hatchery. These fish also were marked before being released.

10) As in the past the Fisheries Laboratory devoted considerable time and effort to the problem of pollution. In two cases the Division brought court actions to prevent further pollution of certain waters. In both instances the findings of the courts favored the State. Representatives of the Division also conferred with officials of the State Health Department to discuss the problem and to consider means of coordinating the activities of the two agencies in coping with it.

**FEDERAL DISTRIBUTION OF FISH.** During 1954-55 the U.S. Fish and Wildlife service distributed fish to be used in stocking private farm ponds. The distribution was as follows:

Largemouth Bass	13,467
Bluegill Sunfish	44,802
Brook Trout	1,800
Total	60,069

**COMMERCIAL FISHING.** The Division issues licenses for commercial as well as for sports fishing. During the past year, licenses were granted as follows:

Atlantic Ocean	36
Sandy Hook and Raritan Bay	73
Total	109



The Division also licensed 56 boats for menhaden fishing within the three-mile limit and granted 74 licenses for the netting of food fish between the two and three-mile limit. In addition 851 licenses were issued for the use of various types of nets in the tidal waters of the state.

Information on commercial fishing is compiled by the U.S. Fish and Wildlife Service in cooperation with the Division. The statistics are kept on a calendar-year basis.

In 1954 the aggregate weight of fish caught in commercial operations in New Jersey was 402,834,343 pounds as compared with 433,349,160 pounds in the previous year. A reduction in menhaden landings accounted for more than 80 percent of the decline. During the month of December, 1954, the total weight of all fish and shellfish caught by commercial fishermen was 2.8 million pounds, almost 15 percent lower than the figure for the corresponding month of 1953.

The breakdown of 1954 landings was as follows:

## NEW JERSEY LANDINGS FOR THE CALENDAR YEAR 1954

Species	Number
Amberjack.....	---
Anglerfish .....	994
Bluefish .....	641,741
Butterfish .....	1,339,286
Carp .....	2,539
Catfish and bullheads .....	433
Cod .....	179,496
Croaker .....	273,131
Cunner .....	486
Cusk .....	100
Drum, black .....	505
Eels:	
Common .....	5,864
Conger .....	28,514
Flounders:	
Gray sole .....	23,174
Yellowtail .....	1,502
Blackback .....	13,973
Dab .....	142
Fluke .....	5,919,381
Frigate mackerel (Boohoo).....	---





Grunt .....	1,158	Thimble-Eye Mackerel .....	36,000
Haddock .....	1,052	Tilefish .....	98,738
Hake:		Trashfish <sup>2</sup> .....	345,743
Red (Ling) .....	212,725	Tuna and tunalike fishes:	
White .....	39,777	Bluefin .....	2,284
Herring, sea .....	314,083	Bonito .....	59,763
Hickory shad .....	408	Little (Albacore) .....	21,650
King mackerel .....	275	White perch .....	6,537
King whiting .....	50,856	Whiting .....	2,032,036
Mackerel .....	328,575	Yellow perch .....	---
Menhaden <sup>3</sup> .....	360,010,797	Unclassified .....	33,869
Mullet .....	344	Crabs:	
Pilotfish .....	---	Hard .....	82,910
Pollock .....	6,323	Soft or peelers .....	808
Scup or porgy .....	10,960,571	Horseshoe Crabs .....	---
Sea bass .....	4,373,105	Oyster crabs .....	299
Sea robin .....	1,114	Lobsters .....	495,241
Sea trout or weakfish .....	1,490,090	Clams:	
Shad .....	628,069	Hard .....	715,868
Sharks .....	12,248	Soft .....	1,100
Skates .....	1,376	Surf .....	6,828,907
Spanish mackerel .....	---	Conchs .....	100,634
Spot (Lafayette or goodies) .....	158,438	Oysters .....	4,521,842
Striped bass .....	38,729	Scallops .....	136,692
Sturgeons .....	5,062	Squid .....	221,390
Swellfish (Puffers) .....	4,749	Turtles .....	371
Tautog (Blackfish) .....	20,476		402,834,343



**DIVISION**

**OF**

**VETERANS' SERVICES**



## Introduction

On June 30, 1955, the State completed 27 years of active assistance to veterans of the nation's wars. For 16 years this was a function of the office of the Adjutant General. With World War II drawing to an end, however, a special agency was needed to contend with the problems of returning servicemen, and this led to the creation of the Division of Veterans Services in 1944.

The Division has a responsibility under law to coordinate information on veterans affairs, to assist ex-servicemen and/or their dependents in obtaining all State and Federal benefits to which they may be entitled, and to administer the programs of aid for New Jersey veterans enacted by the State Legislature.

As presently organized, the Division consists of three principal units: The General Services Section, the Veterans Guaranteed Loan Section, and the Veterans Emergency Housing Section. The Veterans Service Council, a citizens

group associated with the Division is appointed by the Governor and advises both the Governor and the Legislature on matters pertaining to veterans affairs.

During the year 1954-55 special efforts were made to strengthen the administrative machinery of the organization. This was essentially a move to attain greater efficiency in normal operation by means of closer coordination among the several sections. On October 15, 1954, a directive calling for reorganization of the Division was issued by the Commissioner of Conservation and Economic Development, and one of the salient features of the reorganization plan was the establishment of distinct units for accounting and administration. The creation of an Administration Section was expected to promote better utilization of personnel and therefore to enable the Division to serve the needs of veterans more thoroughly and expeditiously.

## General Services Section

New Jersey is one of 41 states with official agencies established for the specific purpose of assisting veterans. The decision to create the Division of Veterans Services was prompted by several factors. First, the various programs for veterans undertaken by the State required a special administrative framework. There was also the need for a medium through which the veterans of New Jersey could obtain advice and active support in pressing their claims for benefits available under Federal law, and thus, in a sense, the Division emerged as an organization supplementing the activities of the U.S. Veterans Administration.

The majority of the functions of assistance carried out by the Division are assigned to the General Services Section. It administers the special benefits that the State awards to veterans who, as a result of service in the armed forces, are victims of double amputations, paraplegia (paralysis of the lower half of the body), hemiplegia (paralysis of one side of the body), or

osteocondritis (a disease of the bone and cartilage). An ex-serviceman suffering from one of these disabilities is entitled to \$500 a year from the State in addition to whatever Federal benefits he may receive. (In the case of osteocondritis the award is made only if the victim has lost permanent use of both legs.

The Section also administers the program for blind veterans and the education of war orphans. A blind veteran is entitled to \$500 a year, and State contributes \$500 for a period of four years to the education of a child whose parent was killed while on duty in the armed forces.

In addition to representing New Jersey veterans in their claims against the Federal government, the General Services Section aids them in obtaining reemployment rights guaranteed by Federal legislation. Offices for the purpose of maintaining liaison with the U.S. Veterans Administration are operated in Newark and Philadelphia.



Finally, the Section disseminates information through various media to acquaint veterans with all significant developments affecting their interests and to clarify provisions of State and Federal legislation concerning former servicemen.

**STATE AWARDS TO VETERANS.** The following table shows the action taken during the past fiscal year on claims for State benefits awarded to war orphans and to veterans with the disabilities listed above:

Filed	39
Disallowed	12
Approved	27
Discontinued	16
Reinstated	1

The payments to veterans eligible for State awards during the same period were as follows:

Victims of Paraplegia, Hemiplegia, Osteochondritis and Amputees	\$ 98,398.34
Blind Veterans	25,662.56
War Orphans Education	3,157.85
	\$122,218.75

From the time of the inception of the program at the end of the war through June 30, 1955, 425 claims had been filed for State veterans awards. Of the total 315 had been approved, and 110 had

been found insufficient to warrant payments. Overall payments in the history of the program had reached a figure of \$722,052.40 by the end of the fiscal year 1954-55.

**ASSISTANCE WITH CLAIMS.** More than 99 percent of the monetary benefits received by New Jersey veterans since World War II have been paid by the Federal government. In addition to the liaison offices in Newark and Philadelphia, the Division operates field offices in various parts of the state to help ex-servicemen prepare their applications and to obtain the quickest possible action on their claims. From the time of the organization of the Division in 1944 through June 30, 1955, the agency had given active assistance to veterans in recovering monetary benefits totalling \$37,385,562. This included \$1,561,806.88 recovered during the past fiscal year.

**EMPLOYMENT PLAN.** The Division not only assists veterans in obtaining reemployment rights guaranteed under law but also conducts an employment plan designed to encourage the hiring of veterans. Enrolled in this are a large number of employers who have signified an interest in helping veterans solve their employment problems. Each year the Division mails questionnaires to members of the plan, requesting information on such matters as the number of veterans that they have employed and especially the number of disabled veterans. During the past year, 61 percent of the questionnaires were returned, and, 15,831 veterans, including 490 disabled ex-servicemen, had been hired during the period between March 1, 1954, and February 28, 1955, by the employers who responded.

## Veterans Guaranteed Loan Section

As a phase of the State's effort to aid veterans in readjusting to civilian life, the Legislature in 1945 approved the Veterans Loan Act and created the Veterans Guaranteed Loan Fund. The step was taken to make it easier for former servicemen to borrow money for business purposes and for the purchase of household furnishings. Under the legislation the Division was to act as guarantor of veterans' notes rather than to engage in any actual lending operations.



The program, insofar as veterans of World War II are concerned, expired on June 30, 1951. Veterans of the Korean emergency remain eligible, however, and the Legislature at its 1955 session extended the program through June 30, 1958. The ceiling on household furnishing loans is \$1,000, while a veteran may borrow up to \$3,000 for business purposes.

#### RECENT OPERATION OF PROGRAM.

During the year 1954-55, the Division agreed to underwrite 484 household furnishings and 26 commercial loans. The combined value of the former was \$525,130 as compared with a figure of \$68,000 for the latter.

The face value of all notes outstanding on June 30, 1955, was \$1,858,219.55. The unpaid balance on these notes was \$662,667. Many had matured and therefore could be considered in default. In numerous instances, however, lending institutions were cooperating with veterans by permitting them to make small monthly remittances instead of asking for payment from the Division in keeping with its responsibility as guarantor. This procedure received the approval of Division officials because after a bank has called upon the Division to take over a veteran's note, his credit standing is seriously impaired.

As the year drew to a close, the scope of the program had been considerably reduced, with only a few banks interested in making loans under the Veterans Loan Act. Some 300 lending institutions in the State showed no inclination to continue participation in the program.

**ACTION ON NOTES IN DEFAULT.** In the history of Veterans Loan Act, from the date of its passage by the Legislature through June 30, 1955, the number of loans declared in default and taken over by the Division totalled 3,676. The breakdown was as follows:

Type of Loan	Number	Cost to State
Business	2,589	\$3,636,374.20
Household Furnishings	1,087	423,127.48
Total	3,676	\$4,059,501.68

(Included in the total were 91 notes declared in default during the past fiscal year, which cost

the State \$54,146. The number was slightly higher than the figure for the preceding fiscal period.)

Actually, the 3,676 notes on which the Division had been forced to make payment constituted a relatively small percentage of all veterans' notes executed since 1945. In terms of number, they represented only 12.7 percent of the total. Viewing the question from another standpoint, the cost of relieving banks of these notes was only 8.7 percent of the combined value of all veterans' notes. The record had been more satisfactory than was expected when the Veterans Loan Act was adopted and was viewed with favor by the state's banking institutions.

After the Division relieves a bank of a veteran's note, the matter is first placed in the hands of the Veterans Loan Authority. Through its staff of collectors, the authority attempts to work out an acceptable arrangement with the veteran for discharging his debt. If this method fails, the claim is referred to the office of the Attorney General for appropriate legal action.

Of the \$4,059,501.68 disbursed in payment for veterans' notes, the Veterans Loan Authority and the Attorney General's office had succeeded in collecting \$1,152,894.93 by June 30, 1955. The amount recovered thus was 28.4 percent of the total. The balance on 359 of the notes had been paid in full.

#### Total Loans Made To Veterans Of World War II and Korean Emergency

WORLD WAR II		
Total Loans Made	NUMBER	AMOUNT
Business	16,371	\$38,287,056.47
Household	11,180	7,197,590.00
TOTAL	27,551	\$45,484,646.47

#### PRESENT EMERGENCY

Loans made to June 30, 1955		
Business	71	\$ 186,900.00
Household	1,171	911,250.00
TOTAL	1,242	\$ 1,098,150.00

TOTAL LOANS MADE TO  
VETERANS OF WW II AND  
PRESENT EMERGENCY      28,793    \$46,582,796.47

Household	1,087	423,127.48
TOTAL	3,676	\$ 4,059,501.68

LOANS PURCHASED TO JUNE 30, 1955  
(WW II and Emergency)  
Business      2,589    \$ 3,636,374.20

TOTAL COLLECTIONS ON  
PURCHASED LOANS TO  
JUNE 30, 1955      \$ 1,152,894.93



*These dwelling units are examples of the types of permanent housing constructed under the veterans emergency housing program.*



## Veterans Emergency Housing Section

At the end of World War II a large percentage of New Jersey veterans and their families encountered serious difficulties in obtaining satisfactory housing. In face of the shortage, many were forced to double up with friends and relatives. Others found it necessary to accept crowded quarters with sub-standard facilities. In still other cases, veterans were separated from their families because of the problem.

Such was the background of the State's emergency veterans housing program, launched in 1946. In order to finance it, the Legislature appropriated \$6,000,000 from the Post-War Reserve Account of the General Fund and authorized a \$35 million State bond issue.

Altogether 7,733 units were constructed to relieve the shortage. They were distributed among 126 municipalities in 18 counties and included projects at Rutgers University and the State's teacher colleges at Trenton, Montclair, and Glassboro.

Some of the units were "conversions," apartments in older buildings that had been rehabilitated for the use of veterans. More than half were temporary in the sense that they were built with the understanding that they would be removed at the end of the program. The remaining units were of a permanent character. The number of each type was as follows:

Temporary	4,104
Permanent	2,724
Municipal Conservions	535
Private Conversions	370

In the case of the permanent units the municipalities assumed the obligation of furnishing land, grading it, and providing streets and sidewalks as well as certain utility lines. The average construction cost of the permanent dwellings was \$8,000 each. The State agreed to pay up to \$5,600 of this, and the municipalities were asked to cover the balance through the issuances of bonds or through other means. The overall investment

in veterans housing was \$52,041,024.84, including \$14,453,902.84 invested by municipalities.

Some of the dwellings were constructed on public lands; others were built on sites leased from private owners. Some were multi-family dwellings; others were individual houses. The Division estimates that 75,000 veterans and members of their families will have lived in the dwellings at one time or another before the program is liquidated. At the height of the operation, approximately 25,000 persons occupied veterans housing.

The administration of the program was first assigned to the Public Housing and Development Authority. After the State government was re-organized in 1949, the functions of the authority relating to veterans housing were transferred to the Division of Veterans Services.

Under existing procedures, the managing agents of the projects are appointed by the municipalities and are subject to the supervision of the Division in the collection of rentals and the maintenance of the housing.

### *RENTALS FROM VETERANS HOUSING.*

From the inception of the program through June 30, 1955, the net rentals returned to the State Treasurer for veterans housing totalled \$6,563,288.

During the fiscal period 1954-55, the "shelter rent" was \$2,500,000. Deducted from this were payments to the municipalities in lieu of taxes, payments to the municipalities for debt service and the costs of management and maintenance. After these deductions, the Division made a net return to the State Treasurer of \$759,502. The income for the year was 13.5 percent lower than that of the previous year. The difference is explained by the fact that the number of units decreased 23.5 percent as a result of sales.

*SALE OF VETERANS HOUSING.* The State embarked upon the veterans housing program with the understanding that it would be of limited duration. Originally this was set at five years. After that time all units were to be sold, and the temporary structures were to be removed. Meanwhile, however, the Legislature authorized several

extensions of the program that had the effect of setting the overall duration at eight years in the case of permanent housing and nine years in the case of temporary dwellings. In taking this action the Legislature stipulated that the extensions must be requested by the governing bodies of the municipalities concerned. Otherwise the units must be sold upon the expiration of the contracts executed between the State and the municipalities for operation of the projects.

Sales of veterans housing began as early as the fall of 1952. Receipts from the sales as of June 30, 1955, totalled \$1,833,395.69, not including \$550,327.44 for private conversions paid in the form of rent return. The number of units disposed of by this same date was 1,819, leaving 5,914 yet to be sold. The net proceeds of the sales were divided between the State and the municipalities on the basis of their respective investments.

Prior to the sale of the permanent housing the Division arranges for the property to be appraised both as to its value and a fair economic rent. Veterans occupying permanent structures

are given the opportunity of purchasing the dwellings before other offers are considered. Under the regulations, veterans living in multi-family projects may form cooperatives for the purchase of the property if 65 percent of the occupants agree to participate. None of the projects had been sold on this basis, however, up to the end of the past fiscal year.

After the appraisals of the units are approved, rentals are increased in order to arouse interest among prospective buyers. (This assumes that the occupants themselves do not wish to take advantage of their priority and make no arrangement to purchase the dwellings.) The standard rental for veterans housing is \$45 a month for an apartment with two bedrooms. In preparation for sales this is raised from \$25 to \$40 a month. In a number of instances where this policy has been followed, the housing commanded prices substantially in excess of the appraised value.

Under existing legislative provisions governing extensions, the indications are that the veterans housing program will be completely liquidated sometime in 1959.

**DIVISION**

**OF**

**RENT CONTROL**





## Introduction

The State rent control act became effective on August 1, 1953, upon the expiration of Federal controls. Under this legislation the rule of local option prevailed. The governing body of each municipality was to decide whether local conditions warranted the existence of controls.

The original act was scheduled to expire on December 31, 1954. On December 22, however, the Legislature amended the statute and provided for the extension of controls through June 30, 1956.

Several important amendments were adopted in conjunction with the extension of the act. First, the director of the Division of Rent Control was given broader authority in drafting regulations for decontrol. Along with this the Division was invested with the power to review cases arising at the county level.

Under previous law, a landlord or tenant with a supposed cause of action first presented his case to one of the county rent control boards created to administer the program. Its decision then might be appealed to the county rent control review board. As a final resort the case might be carried to the county district court.

Under the amended legislation, a landlord or tenant who has appeared before either the county rent control agency or review board and is dissatisfied with its verdict may present his appeal to the State Division of Rent Control. Hearers have been appointed to review all cases, and they submit their findings and recommendations to the Director of Division, who issues final orders. These orders still may be appealed to the county district court of the county in which the case originates.

## Summary of Operations

### *EXTENT OF RENT CONTROL COVERAGE.*

The measure extending controls also provided that they should be limited to those municipalities where they remained in effect on December 20, 1954. It further stipulated that if the governing body of any municipality votes to abolish controls, they are not to be restored.

In 1953 when the State adopted rent controls, 83 municipalities were covered under the law. On June 30, 1955, controls were still maintained in 59 municipalities located in 11 counties. (Tables showing the cities and towns under control at each stage appear on pages 81 and 82.)

Among the 59 municipalities retaining controls as of June 30, 1955, all major cities were represented. The combined population of the areas subject to regulation was 2,465,927 or some 50.9 percent of the population of the state. The number of dwelling units involved totalled 498,000, and on the basis of the 1950 Housing Census, this meant 70 percent of all rental units in the state.

### *REVISION OF RENT CONTROL REGULATIONS.*

One of the major actions taken after the extension of the rent control law was the revision of administrative regulations. This was necessary for several reasons. One was the Legislature's desire for gradual decontrol, which was evident in its decision to broaden the Division's authority in drafting decontrol regulations. Another objective was to set uniform rates and standards for increases and reductions in rental prices.

The nature of the revisions was discussed at a series of conferences early in 1955, and the Division invited the opinions of groups and individuals affected by the act. A tentative set of new regulations was then prepared, and a public hearing was called in February, 1955, in order for landlord and tenant representatives to express their views of the proposed revisions. After taking into consideration the criticisms and suggestions offered at the hearing, the Division placed the revised regulations in final form, and they became effective on June 15, 1955.

In drafting new rules for adjustments, the Division was conscious of the need to furnish incentive for the rehabilitation of housing. Thus a new, uniform formula for granting increases was introduced, taking account of such factors as increased costs, major and minor improvements, better services and repairs. The formula was specifically designed to encourage landlords to renovate their properties and to replace obsolete fixtures.

The regulations provide that approval for an increase in rent shall be granted only if the landlord is performing required services. In the absence of this, his application may be dismissed. Before it is dismissed, he must be given a reasonable period of time to improve his service. When improvements are made under such circumstances, however, the landlord may not amend his application to include the costs without the consent of the tenant although they may be included in another application filed a year hence.

No automatic increases are permitted. In order to raise his rent, a landlord must serve an application under oath to the tenant, file it with the proper officials, and obtain an order authorizing the adjustment.

The revised regulations also set limitations on the rate of increase that may be granted. As a rule, this is 15 percent for accommodations in buildings with one to four dwelling units and 10 percent for housing in buildings with more than four units. (Under the revised regulations, housing space in buildings with one to four units is treated differently because experience has shown that the costs of operation are higher and the problems of management more personal.) Generally, the rental for a particular unit may not be raised more than once during any 12-month period.

When a landlord intends to ask for an increase in excess of the limitations mentioned above because of major improvements, he must apply to the rent control agency for an opinion before proceeding with the work. The tenant has a right to object to the undertaking. His consent is not necessary, however, if the landlord can demonstrate that the work is necessary for the preser-

vation of the property.

One of the objectives of the revised regulations is to permit landlord and tenant to adjust differences themselves within the framework of safeguards provided. Thus they may enter into a voluntary arrangement for a higher rental price on the basis of a lease. The agreement, which is subject to the approval of the rent control agency, either must cover at least a two-year period or run until September 30, 1957, whichever is shorter. The rate of increase must not exceed 15 percent and may not be as high as 15 percent if a smaller increase will produce a fair rent as based on a prescribed formula. Such an agreement gives the tenant a degree of security that will extend well beyond the stipulated expiration date of the present law.

As the regulations authorize upward adjustments in rents, they also provide for decreases under certain conditions. A county rent control agency--- either upon its own initiative or upon the application of a tenant--- will order a reduction in any instance where accommodations have seriously deteriorated as a consequence of inadequate maintenance or represent a hazard to the health and safety of the occupant. Before the reduction takes effect, the landlord is entitled to reasonable period of time to renovate the property.

**DECONTROLS.** Under the rent control act, certain types of housing are automatically exempt. Included are public housing, hotel accommodations, dwellings not rented during the period of Federal rent controls and housing owned by Federal, State or local governments. In addition, the Division has lifted controls on rooming houses in some areas. The revised regulations also permit the decontrol of accommodations in one-to-four-family dwellings if the lawful rent was at least \$125 a month on March 1, 1955, and in dwellings with more than four families if the lawful rent was at least \$150. (In Essex and Hudson Counties, the rental must be \$150 for units in one-to-four-family dwellings and \$200 for units in dwellings with more than four families. Wherever the amount of rental is used as a basis for decontrol, moreover, the landlord and tenant must execute a lease at a fair rent for two years

**MUNICIPALITIES WHERE RENT CONTROL WAS IN EFFECT  
WHEN STATE RENT CONTROL ACT WAS ORIGINALLY ADOPTED**

COUNTY	MUNICIPALITY	COUNTY	MUNICIPALITY
Atlantic	Atlantic City Margate City Pleasantville Ventnor City		Harrison Hoboken Jersey City Kearny North Bergen Secaucus Union City Weehawken West New York
Bergen	Bergenfield Carlstadt Cliffside Park Dumont East Rutherford Edgewater Emerson Fairlawn Fairview Fort Lee Hackensack Leonia Little Ferry Lodi New Milford North Arlington Palisades Park Paramus Ridgefield Park River Edge Ridgefield	Mercer	Ewing Twp. Hamilton Twp. Lawrence Twp. Trenton
		Middlesex	Carteret East Brunswick Highland Park Metuchen New Brunswick Perth Amboy Piscataway Twp. Raritan Twp. South Plainfield Woodbridge
Burlington	Burlington (City)	Morris	East Hanover Twp. Dover Hanover Twp. Lincoln Park
Camden	Camden Oaklyn Runnemede Somerdale	Passaic	Passaic Paterson
Essex	Belleville Caldwell (Twp.) Caldwell (Boro) East Orange Irvington Newark Nutley Orange	Somerset	Bound Brook Manville Raritan Somerville South Bound Brook
Hudson	Bayonne East Newark Guttenberg	Union	Elizabeth Hillside Linden Rahway Roselle Union Twp.

MUNICIPALITIES WHERE RENT CONTROL WAS IN EFFECT ON  
JUNE 30, 1955

COUNTY	MUNICIPALITY	COUNTY	MUNICIPALITY
Atlantic	Atlantic City Margate City Ventnor City	Hudson	Bayonne East Newark Guttenberg Harrison Hoboken Jersey City Kearny North Bergen Secaucus Union City Weehawken West New York
Bergen	Bergenfield Cliffside Park Edgewater Fairlawn Fairview Fort Lee Hackensack Leonia Little Ferry Lodi New Milford North Arlington Palisades Park Paramus Ridgefield Park Ridgefield	Mercer	Ewing Twp. Hamilton Twp. Trenton
Burlington	Burlington (City)	Middlesex	East Brunswick Highland Park New Brunswick Perth Amboy South Plainfield Woodbridge
Camden	Camden Oaklyn Runnemede Somerdale	Morris	Lincoln Park
Essex	East Orange Irvington Newark Nutley Orange	Passaic	Passaic Paterson
		Union	Elizabeth Hillside Linden Rahway Roselle Union Twp.



or until September 30, 1957. If the tenant refuses to sign a lease, the landlord must agree to permit him to continue to occupy the dwelling unit under the same conditions.) Finally, the Division has decontrolled all housing constructed since February, 1947.

After the extension of the rent control act, the problem of decontrol was examined in detail and will continue to receive major attention. As a matter of policy, the Division decided late in the fiscal year against proceeding further with the removal of controls until current housing conditions could be more clearly established. The agency took up this question with the U.S. Bureau of the Census and arranged for its assistance in a survey of housing conditions, particularly the rate of vacancy, in four leading cities-- Newark, Trenton, Camden, and Jersey City. The results of the survey were expected to be available early in the fiscal year 1955-56. Unless the study indicates a much higher rate of vacancy than has existed during the recent years, the Division would not be inclined to order further decontrols without setting up strong safeguards against automatic liquidation of controls. The circumstances may be such as to warrant a policy under which the governing bodies of the municipalities still subject to controls might submit recommendations for partial decontrol in their respective jurisdictions.

*ADMINISTRATION OF LAW.* In addition to revising rent control regulations the Division was occupied during the latter half of the fiscal

year in forming an organization adequate to exercise the broader powers conferred on the agency when the Legislature extended the rent control act. By the end of the year the Review Section of the Division had been established and had accepted cases involving 1,001 dwelling units.

During the year the county rent control agencies received 72,562 applications for various types of action. By the end of the fiscal period 80,071-- including those pending at the beginning of the year-- were processed. This involved:

1. The disposition of 64,923 applications for increases in rentals:

Granted	52,620
Denied	12,303

2. The disposition of 3,536 applications for reductions in rentals:

Granted	2,016
Denied	1,520

3. The disposition of 3,969 applications for the decontrol of housing space:

Granted	3,113
Denied	856

4. The disposition of 952 applications for the eviction of tenants:

Granted	641
Denied	311

The average monthly increase in rent approved was \$5.15, and the average monthly reduction was \$4.64.



**DIVISION**

**OF**

**ADMINISTRATION**



## General

The Administrative Division is the service agency of the Department and is, in fact, an adjunct to the Office of the Commissioner, assisting in the internal operation of the organization.

It performs a series of staff functions for the Department as a whole, acting in accordance with a Legislative directive that staff functions be consolidated wherever possible. These functions include public relations, centralized purchasing, fiscal control and personnel administration.

In the field of public relations the Department issues several regular publications and distributes brochures and various other literature. It also meets a relatively heavy demand for lectures on various subjects dealing with conservation and economic development. During the year 1954-55 the public relations unit of the Division prepared and produced 30 telecasts, most of which were 30-minute programs, with Departmental personnel participating. In addition, a 15-minute weekly radio series, *Jersey Review*, was launched in January, 1955, and was carried by 15 radio stations. The series was designed to familiarize the public with all phases of the Department's operations. Editorial work included the preparation of 35 special articles for magazines and the feature sections of newspapers and the writing and processing of 300 press releases.

The annual report of the Administrative Division is concerned largely with the financial operation of the Department during the fiscal period under consideration. In the pages that follow, an effort has been made to present as simply as possible a statement of the appropriations, expenditures, and receipts of the organization as a whole and its constituent agencies.





**Fiscal Report**

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**Department of Conservation**

**and**

**Economic Development**

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**1954-55**





## Summary

### STATE APPROPRIATIONS, APPROPRIATED RECEIPTS, SPECIAL FUNDS, FEDERAL FUNDS

	Available for Expenditure	Expended	Returned to State Treasury	Reappropriated or in Funds
Division of Planning and Development	\$ 8,246,348.77	\$ 6,084,174.42	\$ 29,842.62	\$ 2,132,331.73
Division of Water Policy and Supply	389,024.57	282,123.78	1,744.07	105,156.72
Division of Shell Fisheries	243,262.67	241,210.81	2,051.86	
Division of Fish and Game	1,952,333.75	1,539,042.13		413,291.62
Division of Veterans Services	606,898.57	474,946.73	5,897.75	126,054.09
State Rent Control Office	126,790.00	67,025.75		59,764.25
Division of Administration	219,920.12	216,963.05	2,957.07	
Morris Canal and Banking Company	32,642.00	30,398.52		2,243.48
Total State Appropriations, Appropriated Receipts, Special Funds, Federal Funds	\$ 11,817,220.45	\$ 8,935,885.19	\$ 42,493.37	\$ 2,838,841.89

### RECEIPTS PAID TO THE STATE TREASURY (Not appropriated for expenditure by the Department)

	Paid to School Fund	Returned to State Treasury
Division of Planning and Development	\$551,177.52	\$ 312,110.34
Division of Water Policy and Supply		260,483.74
Division of Shell Fisheries		108,858.12
Division of Veterans Services		2,162,413.82
Total Unappropriated Receipts	\$551,177.52	\$2,843,866.02



# Division of Planning and Development

## APPROPRIATIONS

	Available for Expenditure	Expended	Returned to State Treasury	Reapprop- riated
<b>GENERAL OPERATIONS</b>				
Bureau of Forestry, Parks and Historic Sites - Forests, Parks and Historic Sites Section (Including \$2,185.00 Wharton Tract receipts)		\$ 782,150.66		\$85,380.14
Forestry Cooperation Section		77,943.14		
Forest Fire Section		361,233.75		
		<u>1,221,327.55</u>		
Bureau of Navigation		294,234.33		
Bureau of Planning and Commerce		229,789.03		
Bureau of Geology and Topography		54,579.21		
Bureau of Aeronautics		40,184.28		
Bureau of Housing		20,840.00		
Bureau of Recreation		2,239.27		
Soil Conservation Committee		2,684.25		
Director's Office and Administration		209,826.97		
Board of New Jersey Pilot Commissioners (Receipts from pilots' fees)		14,778.87		
	<u>\$2,202,379.52</u>	<u>\$2,090,483.76</u>	<u>\$26,515.62</u>	<u>\$85,380.14</u>
<b>STATE AID EXPENDITURES</b>				
Bureau of Navigation				
Beach Protection (Including \$617,630.27 from municipalities)	2,150,752.50	994,053.45		1,156,699.05
Inland Waterways	298,097.11	62,256.21		235,840.90
Atlantic City Marina	56,500.00			56,500.00
	<u>\$2,505,349.61</u>	<u>\$1,056,309.66</u>		<u>\$1,449,039.95</u>
<b>CAPITAL EXPENDITURES</b>				
Bureau of Forestry, Parks and Historic Sites				
Purchase of Land	3,000,000.00	2,436,163.25		563,836.75
<b>FEDERAL FUNDS</b>				

Bureau of Forestry, Parks and Historic Sites				
Federal Forest Fire Fund	124,583.64	109,927.93		14,655.71
Federal Forest Nursery Fund	14,528.37	11,836.00		2,692.37
Federal Farm Forestry Fund	23,462.81	6,736.00		16,726.81
Federal Reimbursement for Expenditures				
on Behalf of the Pequest Watershed Project	6,994.34	3,667.34	3,327.00	
Bureau of Navigation				
Federal Aid for Maintenance and Operation of				
Aids to Navigation in the Intracoastal Waterway	51,837.50	51,837.50		
Bureau of Aeronautics				
Federal Airport Grant Fund	317,212.98	317,212.98		
Total Appropriations -				
Division of Planning and Development	\$8,246,348.77	\$6,084,174.42	\$29,842.62	\$2,132,331.73

### UNAPPROPRIATED RECEIPTS

	Paid to School Fund	Paid to State Treasury
Bureau of Forestry, Parks and Historic Sites -		
Forests, Parks and Historic Sites Section		
Permits, rents, fees, sales of commodities and services		\$195,575.02
Forestry Cooperation Section		
Sale of tree seedlings		11,990.15
Tree Expert Bureau funds in excess of \$500.00		204.18
Forest Fire Section		
Fines		12,422.87
Right of Way Agreement with American Telephone and Telegraph Company		2,400.00
		<u>\$222,592.22</u>
Bureau of Navigation		
Marina Rentals -		
Leonardo		16,220.95
Forked River		10,657.90
Fortescue (leased)		2.00
Atlantic City		815.42
Marina Concessions -		
Forked River		2,420.60
Leonardo		984.75
Preparation of instruments		7,350.00
Atlases and maps		98.00
Sale of upland		450.00
Power vessel licenses		41,738.00
Harbor Master fines		55.00
Miscellaneous		346.00
		<u>\$81,138.62</u>
Riparian Rights -		



Atlases and maps		98.00
Sale of upland		450.00
Power vessel licenses		41,738.00
Harbor Master fines		55.00
Miscellaneous		346.00
		<hr/>
		\$81,138.62
Riparian Rights -		
School Fund Income Account		
(Lease rentals, license fees)	84,024.13	
School Fund Investment Account		
(Grants, easements, one-fee licenses)	465,168.99	
Guarantee Deposits		
(To be refunded when terms of lease have been met.)	1,984.40	
Bureau of Geology		
Sale of geologic maps and reports		4,353.82
Bureau of Aeronautics		
Sale of licenses		621.00
Bureau of Planning and Commerce		
Sale of bulletins, pamphlets, etc.		3,404.68
Total Unappropriated Receipts -		<hr/>
Division of Planning and Development	\$551,177.52	\$312,110.34

DIVISION OF PLANNING AND DEVELOPMENT	28'340'340'11	28'084'114'43	258'843'03	23'133'331'13
Local Appropriations -				
Federal Wildlife Game Land	311'313'00	311'313'00		
Bureau of Aeronautics				
Vids to Navigation in the International Waters	21'831'20	21'831'20		
Federal Aid for Maintenance and Operation of				
Bureau of Navigation				
On behalf of the Federal Waterway Project	0'001'34	3'001'34	3'331'00	
Federal Reimbursement for Expenditures				
Federal Public Property Land	33'403'81	0'130'00		10'130'81
Federal Forest National Land	14'250'31	11'830'00		3'003'31
Federal Forest State Land	131'283'04	100'051'02		14'020'11
Bureau of Forestry Parks and Historic Sites				
Federal Lands				
Bureau of Land	3'000'000'00	3'430'163'32		203'830'10
Bureau of Forestry Parks and Historic Sites				
CIVILIAN EXPENDITURES				
	23'202'340'01	21'020'300'00		21'440'030'02



# Division of Water Policy and Supply

## APPROPRIATIONS

	Available for Expenditure	Expended	Returned to State Treasury	Reappro- priated
General Operations	\$239,356.52	\$237,612.45	\$1,744.07	\$
Repair, Rehabilitation and Improvement of the Delaware and Raritan Canal	105,990.86	44,511.33		61,479.53
Flood Control in the Passaic, Morris Areas	43,677.19			43,677.19
Total Appropriations - Division of Water Policy and Supply	<u>\$389,024.57</u>	<u>\$282,123.78</u>	<u>\$1,744.07</u>	<u>\$105,156.72</u>

## UNAPPROPRIATED RECEIPTS

	Paid to State Treasury
Well Drillers' License Fees	\$ 2,225.00
Well Drilling Permit Fees	15,720.00
Penalties for Illegal Well Drilling	220.00
Delaware and Raritan Canal - Rentals of Dwellings and Land	16,719.40
Delaware and Raritan Canal - Sale of Water	83,123.64
Excess Diversion of Water	142,475.70
Total Unappropriated Receipts - Division of Water Policy and Supply	<u>\$260,483.74</u>



# Division of Shell Fisheries

## APPROPRIATIONS

	Available for Expenditure	Expended	Returned to State Treasury
General Operations	\$243,262.67	\$241,210.81	\$ 2,051.86

## UNAPPROPRIATED RECEIPTS

	Paid To State Treasury
Atlantic Coast Section -	
Clamming Licenses	\$22,455.00
Non-resident Clamming Licenses	918.00
Commercial Sea Clam Licenses (Boat)	700.00
Non-commercial Sea Clam Licenses (Boat)	30.00
Tonging Licenses	1,387.50
Leases (Oyster Beds)	8,644.65
Lease Transfer Fees	110.00
Survey Fees	258.50
Fines	1,360.00
Sale of Maps	4.00
	<hr/> \$35,867.65
Maurice River Cove Section -	
Oyster Boat Licenses	\$ 9,618.00
Tonging Licenses	2,370.00
Leases (Oyster Beds)	55,876.00
Lease Transfer Fees	199.00
Survey Fees	785.00
Fines	210.00
Shell Tax	3,932.47
	<hr/> 72,990.47
Total Unappropriated Receipts - Division of Shell Fisheries	<hr/> \$108,858.12



# Division of Fish and Game

(The Fish and Game Division is supported entirely from receipts and Federal Funds. Although moneys are appropriated in the regular manner unexpended funds do not lapse but carry over.)

	Balance 7/1/54	Receipts 7/1/54-6/30/55	Total	Expended	Transfers	Balance 7/1/55
General Fund				\$1,142,960.25		
Federal Aid to Fisheries (Reimbursable by 75% from Federal Government)				41,701.69		
Less Reimbursement due to Public Shooting Fund					- 60,000.00	
Total General Fund and Federal Aid to Fisheries	\$288,475.09	\$1,155,462.49	\$1,443,937.58	\$1,184,661.94	-\$60,000.00	\$199,275.64
Public Shooting and Fishing Grounds Fund				293,552.41		
Federal Aid to Wildlife				60,827.78		
Plus Reimbursement due from General Fund for Game Management on Open Lands for 1954-55					+ 60,000.00	
Total Public Shooting and Fishing Grounds Fund and Federal Aid to Wildlife	\$223,269.50	\$ 285,126.67	\$ 508,396.17	\$ 354,380.19	+\$60,000.00	\$214,015.98
TOTAL DIVISION OF FISH AND GAME FUNDS	\$511,744.59	\$1,440,589.16	\$1,952,333.75	\$1,539,042.13	.00	\$413,291.62

## ANALYSIS OF RECEIPTS

### GENERAL FUND AND FEDERAL AID TO FISHERIES

Hunters' and Anglers' Licenses

\$1,022,139.55

Fines

41,622.00

Other Receipts

64,739.06

Federal Aid to Fisheries

26,961.88

\$1,155,462.49

### PUBLIC SHOOTING AND FISHING GROUNDS FUND AND FEDERAL AID TO WILDLIFE

Hunters' and Anglers' Licenses

127,206.70

Recoveries, Sales, Rental of Equipment, Rents

5,393.57

Transfer from General Fund for Deer Management 1953-54

5,369.14

Transfer from General Fund for Game Management on Open Lands

60,000.00

Federal Aid to Wildlife

87,157.26

285,126.67

TOTAL DIVISION OF FISH AND GAME RECEIPTS

\$1,440,589.16



# Division of Veterans' Services

## APPROPRIATIONS

	Available for Expenditure	Expended	Returned to State Treasury	Reappropriated
General Operations	\$229,059.18	\$223,203.09	\$5,856.09	
Veterans Aid -				
Payments to Blind Veterans	25,620.90	25,620.90		
Payments to Paraplegic, Hemiplegic, Amputee, Osteochondritic and Quadriplegic Veterans	93,065.06	93,023.40	41.66	
Veterans Orphan Fund	3,157.85	3,157.85		
	<u>\$121,843.81</u>	<u>\$121,802.15</u>	<u>\$ 41.66</u>	
Guranteed Loan Fund Income Account	56,426.98	54,793.27		1,633.71
Veterans' Emergency Housing Fund Operating Account	199,568.60	75,148.22		124,420.38
	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
Total Appropriations - Division of Veterans Services	\$606,898.57	\$474,946.73	\$5,897.75	\$126,054.09

## UNAPPROPRIATED RECEIPTS

	Paid to State Treasury
Sales of Temporary Housing Units	\$ 182,172.26
Sales of Permanent Housing Units	1,184,738.94*
Rentals of Temporary Housing Units	550,911.90
Rentals of Permanent Housing Units	244,590.72
	<u>                    </u>
Total Unappropriated Receipts - Division of Veterans Services	\$2,162,413.82

### VETERANS' EMERGENCY HOUSING FUND

	Cash	Bond	TOTAL
Capital Improvements	\$4,461,019.96	\$33,289,504.26	\$37,750,524.22
Administrative Expenses	174,679.03	672,592.97	847,272.00
Insurance	6,855.63	34,895.30	41,750.93
Debt Service	1,233,025.00		1,233,025.00
Unissued Bonds		1,000,000.00	1,000,000.00
Balance for Operating Expenses	124,420.38	3,007.47	127,427.85
	<u>\$6,000,000.00</u>	<u>\$35,000,000.00</u>	<u>\$41,000,000.00</u>

### VETERANS EMERGENCY HOUSING CONTINGENCY TRUST FUND

June 30, 1955 balance held in escrow by State Treasurer -  
Investment plus cash balance on hand \$743,686.80

\*Paid to State Treasury subject to withdrawals per original Veterans' Emergency Housing contracts between the State and municipalities participating in the program.



# State Rent Control Office

## APPROPRIATIONS

	Available for Expenditure	Expended	Returned to State Treasury	Reappropriated
General Operations	\$ 126,790.00	\$ 67,025.75		\$59,764.25

## DIVISION OF ADMINISTRATION APPROPRIATIONS

	Available for Expenditure	Expended	Returned to State Treasury	Reappropriated
General Operations	\$219,920.12	\$216,963.05	\$ 2,957.07	

## MORRIS CANAL AND BANKING COMPANY APPROPRIATIONS (Payable from Morris Canal Fund)

	Available for Expenditure	Expended	Returned to Fund
General Operations	\$ 32,642.00	\$ 30,398.52	\$ 2,243.48

## RECEIPTS

	Applied to Loan Reduction	Paid to Morris Canal Fund
Rentals from Canal property	\$	\$10,243.30
Recreational uses (Parking, boats, food, charcoal)		29,957.47
From cottage owners for watchman's services		520.00
Sale of land	2,148.00	
Total Receipts - Morris Canal and Banking Company	\$2,148.00	\$40,720.77



