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INVENTORY OF NEW JERSEY SOIL AND WATER CONSERVATION NEEDS

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State Soil Conservation Committee
NEW JERSEY DEPARTMENT
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Trenton, N. J.

June, 1962

**Inventory of New Jersey
Soil and Water Conservation Needs**

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INVENTORY OF NEW JERSEY SOIL AND WATER CONSERVATION NEEDS

The Inventory was made under the supervision of the State Soil and Water Conservation Needs Committee representing the following agencies and organizations with conservation responsibilities and interests:

United States Department of Agriculture

Agricultural Marketing Service

Agricultural Stabilization and Conservation
Service

Economic Research Service

Farmers Home Administration

Forest Service

Soil Conservation Service (Chairmanship)

United States Fish and Wildlife Service

United States Geologic Survey

United States Weather Bureau

New Jersey Department of Agriculture

Rural Advisory Council

State Soil Conservation Committee

New Jersey Department of Conservation and
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Bureau of Forestry

Division of Fish and Game

Division of Water Policy and Supply

Rutgers, the State University

Agricultural Experiment Station

Agricultural Extension Service

New Jersey Agricultural Stabilization and Conservation Committee

New Jersey Association of Soil Conservation District Supervisors

New Jersey Farm Bureau

New Jersey State Grange

Publication of the Inventory

by

STATE SOIL CONSERVATION COMMITTEE

**NEW JERSEY DEPARTMENT OF
AGRICULTURE**

PREFACE

New Jersey is one of the most prosperous states in the Nation despite its comparatively small land area. The reasons for its economic standing are many, but paramount is its wealth in natural and human resources. Among these are: diversified and productive land; a moderate climate; high quality and inexpensive water for potable, industrial and irrigation uses; a highly skilled labor force; proximity to markets and excellent transportation facilities. Unfortunately, some of the natural resources are limited and in many instances are being wasted as the area experiences growth in terms of population and industrial development.

Space and land are limited resources and will present many problems in New Jersey. We are told that by the year 1975 we must find living space, employment opportunities and recreational areas for an additional 1.8 million people.

The responsibility for intelligent action on these problems does not depend solely upon legislative measures nor rest with the professional resource planners. Each citizen will be called upon to determine how the resources in his own community are to be used in the best interest of all concerned. His action on such widely diversified programs as zoning ordinances, regional plans, adequate water supplies, recreational facilities and similar projects will greatly influence the future of New Jersey.

The State Soil Conservation Committee of the New Jersey Department of Agriculture, which published the report, believes that this inventory will provide the members of the Legislature, the professional conservationists and citizens with essential background information on New Jersey's needs for soil and water conservation through 1975.

The Soil Conservation Committee wishes to thank the members of the county and State Soil and Water Conservation Needs Committees for preparing the report. Special appreciation is expressed to Dr. Linwood L. Lee, Assistant State Conservationist, Soil Conservation Service, United States Department of Agriculture, for his leadership in compiling and editing the manuscript.

GRANT F. WALTON

Executive Secretary

STATE SOIL CONSERVATION COMMITTEE

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HIGHLIGHTS OF THE INVENTORY

New Jersey is one of the 13 original states. For more than three centuries the demand for land and water has shown a steady increase. During this period the needs of a growing population and an expanding industry have been met. However, these resources of land and water are not inexhaustible. Future development should be carried out in accordance with a carefully prepared plan of conservation. To prepare and carry forward such a plan, we must inventory and analyze the kind, extent and potentiality of land and water resources.

The Inventory of New Jersey Soil and Water Conservation Needs provides basic information for the development of a well planned program. The highlights of the State Inventory are pointed out in the following summary.

Reduction in Agricultural Land Use—1958-1975

In New Jersey, the use of land for industry, urban expansion and other nonagricultural pur-

poses is increasing at an accelerated rate. It is estimated that by 1975 the present (1958) acreage of cropland, pasture land, woodland and other nonurban land (3,931,000 acres) will be reduced by at least 267,000 acres or 6.8 per cent. This figure represents a net statewide reduction. New Jersey is the most urbanized state in the Union.

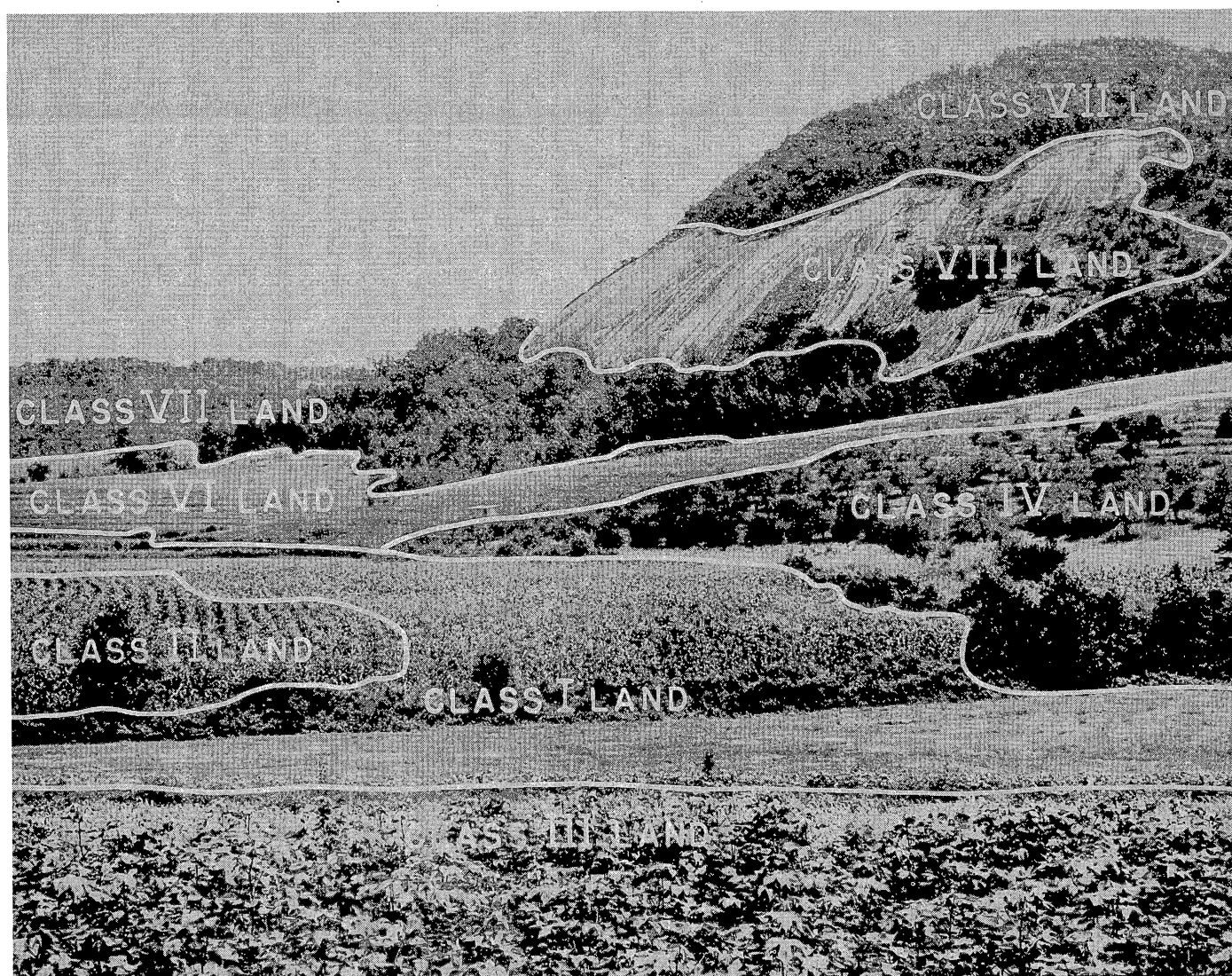
Present and Expected Uses for Cropland, Pasture, Woodland and Other Land in 1958 and 1975

(a) *Cropland* (Table 1, Figure 1)—It is estimated that the acreage of cropland will be reduced by 14 per cent (142,000 acres) from 1,006,000 acres to 864,000 acres. The greatest losses are expected in the counties adjacent to the metropolitan areas.

(b) *Pasture* (Table 1, Figure 1)—Pasture is expected to decline 8 per cent from the existing 202,000 acres to 185,000 acres, a loss of 17,000 acres. Similar information by counties is shown in Table 9.



Rurbanization: Farmland for housing, roads and industry. New Jersey is the most rurbanized state in the Nation.



Land capability classes: The use and treatment of land in accordance with its needs.

(c) *Forest and Woodland* (Table 1, Figure 1)—A decline of 68,000 acres (3 per cent) from 2,148,000 in 1958 to 2,080,000 in 1975 is expected in the land areas devoted to forest and woodland.

(d) *Other Land* (Table 1, Figure 1)—It is expected that there will be a reduction of 40,000 acres (7 per cent) from 575,000 acres of other nonurban land in 1958 to 535,000 acres in 1975.

Present and Future Uses by Land Capability Classes

The use of inventory acreage, by land capability classes and subclasses in 1958 and estimated for 1975 is shown in Table 2 and Figure 2.

To aid in the interpretation of detailed soil maps and to provide generalizations for planning, the soils of the State and Nation have been grouped into eight Land Capability Classes.¹

These groups are graded from Class I to Class VIII, according to increasing number and degree

of limitations and hazard of soil damage. At the same time the range of soil uses for agriculture decreases from Classes I to VIII.

In New Jersey, land in the first three classes is used for the production of a wide range of farm crops. These classes differ in their needs for conservation measures. Class IV land is limited in crop adaptation and subject to considerable hazard of crop loss or of damage to soil where cultivated. The Class V separation was not used in this New Jersey Inventory. Classes VI and VII are primarily suitable for pasture land, woodland or wildlife but may be adapted to some special crops such as cranberries and blueberries. Land in Class VIII is not suitable for productive agriculture or woodlands but may be used for wildlife or recreation.

Estimated Needs for Conservation Treatment By Land Uses (1975)

(a) *Cropland* (Table 4, Figure 3)—By 1975 it is estimated that the total area of cropland will be 864,000 acres, of which 801,000 (92.7 per cent) will require treatment. Of the total area of crop-

¹For a more thorough explanation of the Land Capability Classification System, see Appendix 3, pages 57-60.

land having a conservation problem, 353,000 acres have a dominant problem of erosion of which 69.6 per cent (246,000 acres) will require treatment. There are also 234,000 acres on which the dominant problem is excess water; 144,000 acres (61.5 per cent) of this need treatment. Unfavorable soil conditions exist on 214,000 acres, 144,000 (67.2 per cent) of which require treatment.

(b) *Pasture* (Table 5, Figure 4)—It is estimated that the total area of pasture in 1975 will be 185,000 acres. Of this total area, 40,000 acres do not require treatment or are not feasible to treat. The amount of pasture land needing treatment is 145,000 acres. Of this, 68,000 acres require establishment or re-establishment of vegetation. Another portion, 19,000 acres, needs protection of vegetative cover. The remaining portion, 22,000 acres, needs management for excess water.

(c) *Forest and Woodland* (Table 6, Figure 5)—In 1975 it is estimated that the total area of forest and woodland will be 2,080,000 acres. The areas requiring treatment by establishment and reinforcement of timber stand total 818,000 acres. Another 135,000 acres require improvement of timber stand. A total of 1,040,000 acres needs protection from fire, 412,000 acres from insects and disease, and 97,000 acres from animals, including rodents. It is estimated that 17,000 acres require erosion control and 700 acres establishment of shelterbelts and windbreaks.

(d) *Other Land* (Table 7, Figure 6)—The total acreage of other nonurban land in 1975 is estimated as 534,800 acres, of which 472,000 acres have been treated or are not feasible to treat. This leaves 53,500 acres requiring treatment, 20,400 acres of which are in farms. Land on which the dominant problem is erosion by water or wind or both is estimated as 95,800 acres, 86,100 acres of which are adequately treated or not feasible to treat. The balance needing treatment is 9,700 acres, 5,000 acres of which are farm land.

The dominant problem of excess water is present on 332,000 acres, 303,600 acres of which have been adequately treated or are not feasible to treat. The balance needing treatment is 28,400 acres, of which 10,700 acres are farm land.

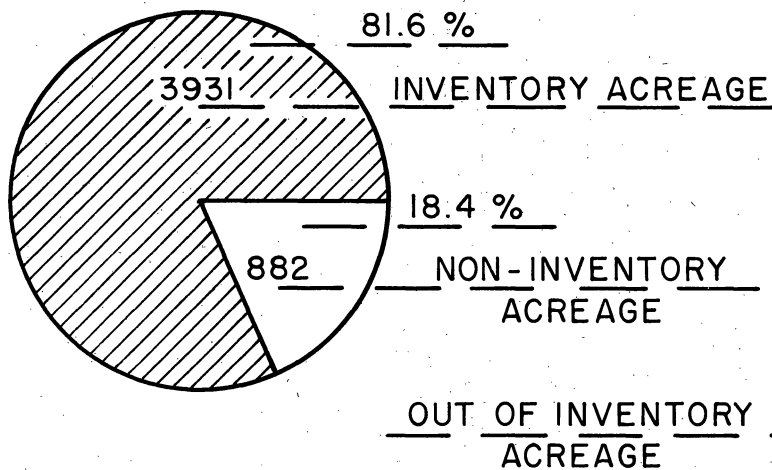
Unfavorable soil is a dominant problem on 97,700 acres, 82,300 acres of which are adequately treated or not feasible to treat. The remainder needing treatment is 15,400 acres, 4,700 acres of which are agricultural land.

Watershed Project Needs

There are 32 watersheds in New Jersey requiring project action. The greatest need is to reduce the hazard by water management. This can be accomplished by the drainage of 148,200 acres of land on 2,999 farms, by irrigation of 83,300 acres on 1,677 farms, and by protection against flood water and sediment damage on 59,000 acres on 1,569 farms.

USE OF INVENTORY ACREAGE NEW JERSEY

THOUSAND ACRES



THOUSAND ACRES

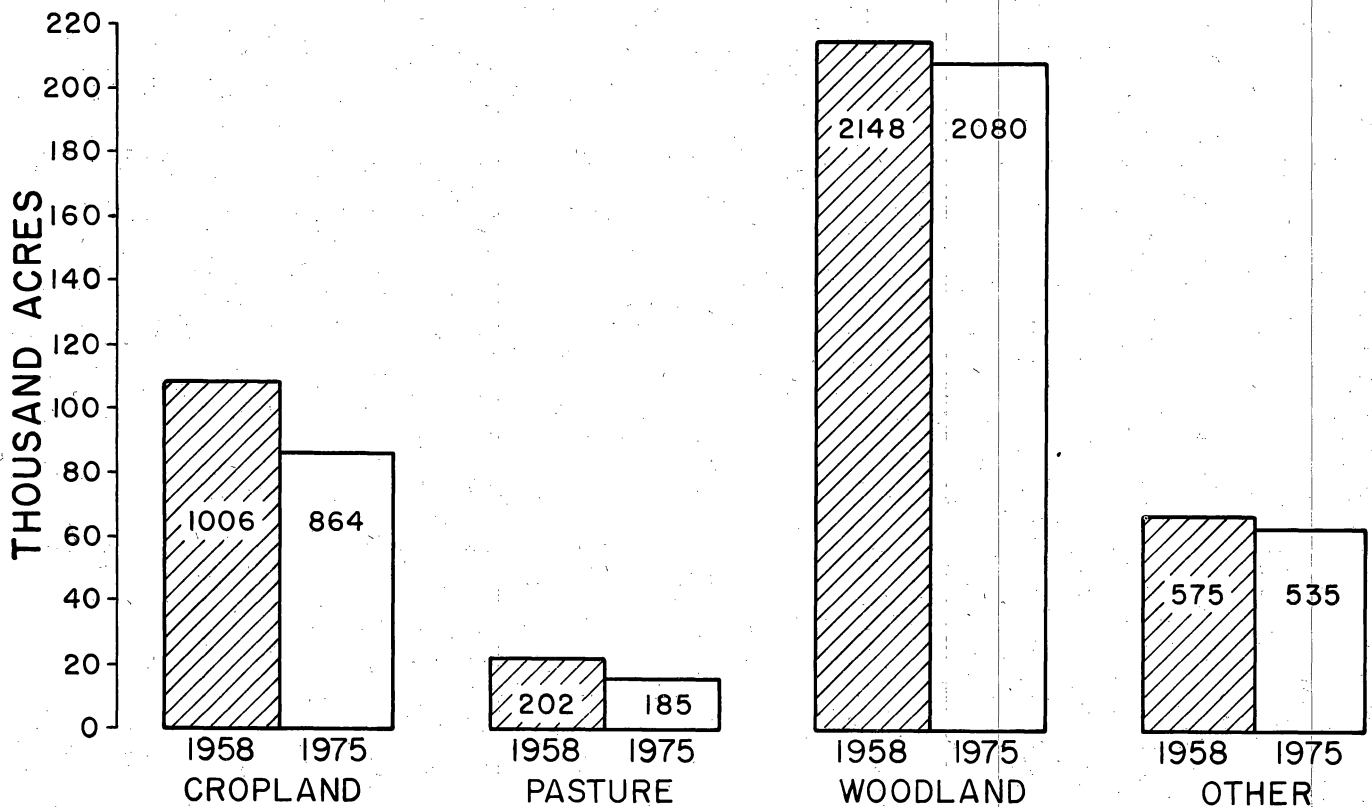
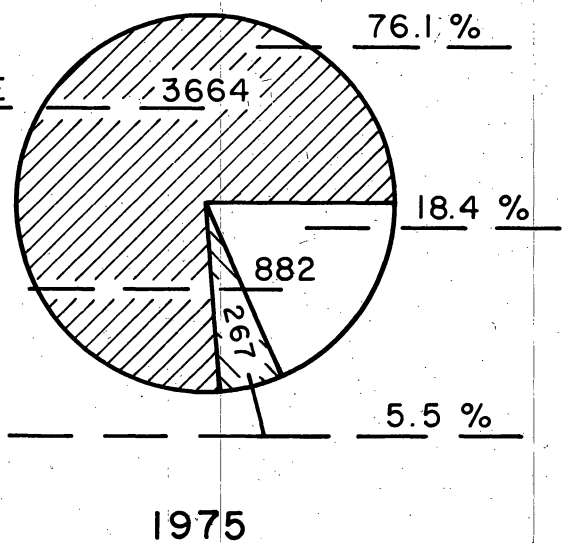


FIGURE 1

USE OF INVENTORY ACREAGE BY CAPABILITY CLASSES NEW JERSEY

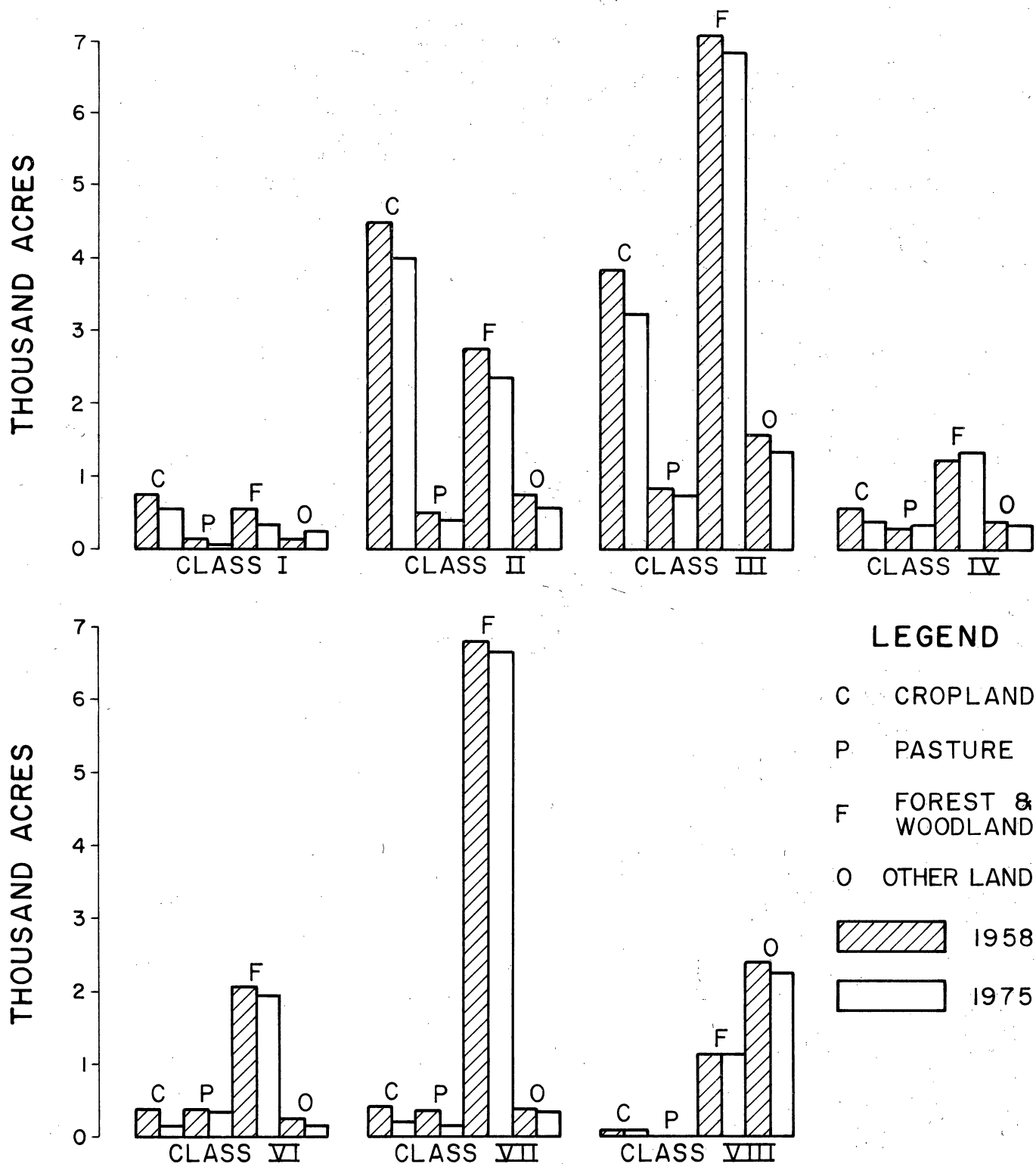
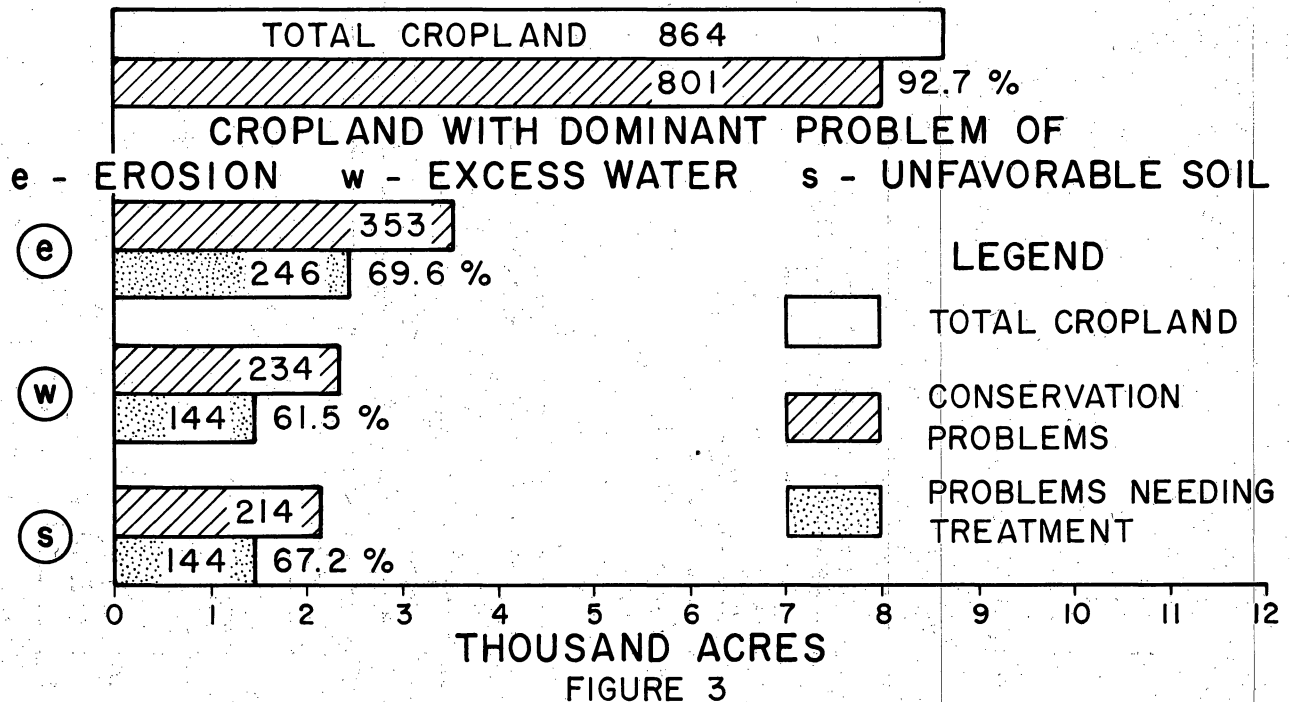


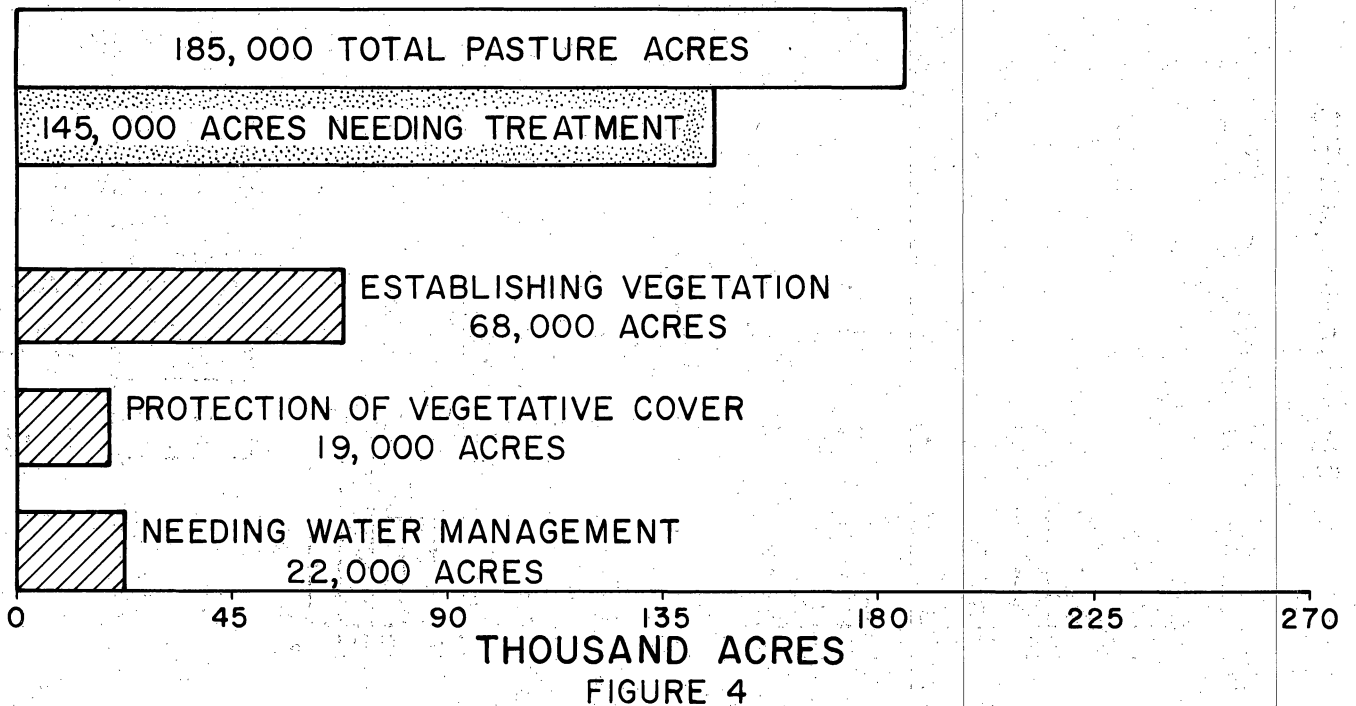
FIGURE 2

ESTIMATE OF NEEDS FOR CONSERVATION TREATMENT ON EXPECTED ACREAGE (1975) NEW JERSEY

CROPLAND



PASTURE



ESTIMATE OF NEEDS FOR CONSERVATION TREATMENT ON EXPECTED ACREAGE (1975) NEW JERSEY

FOREST AND WOODLAND

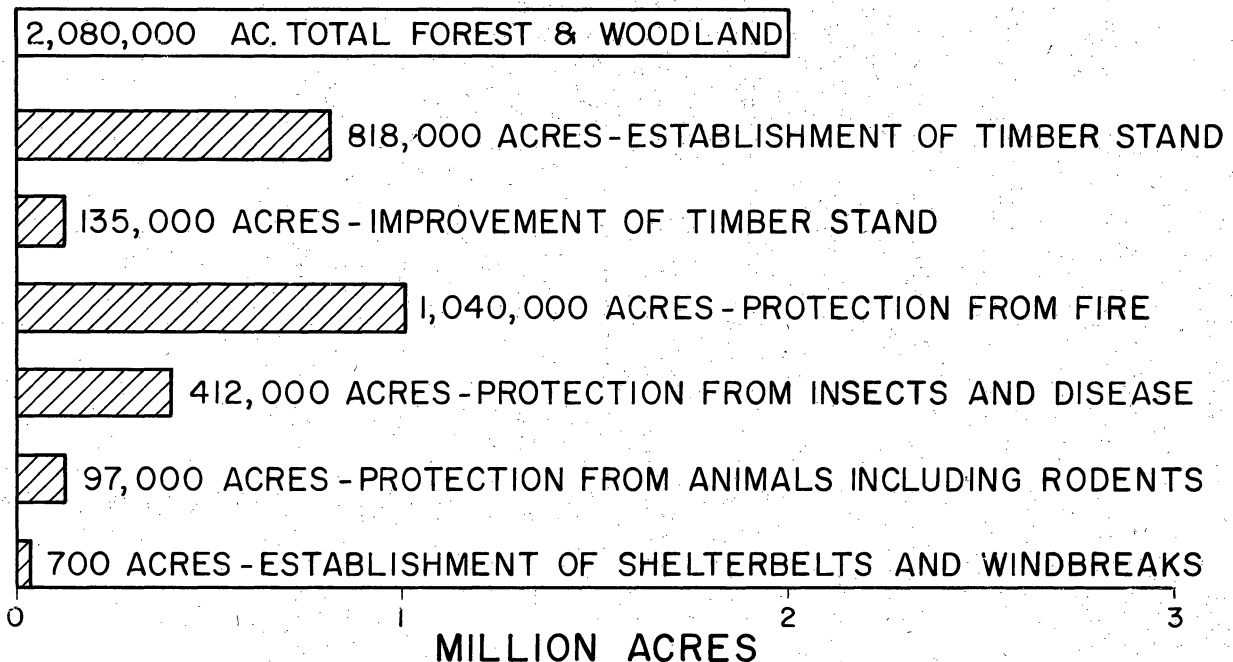


FIGURE 5

OTHER LAND

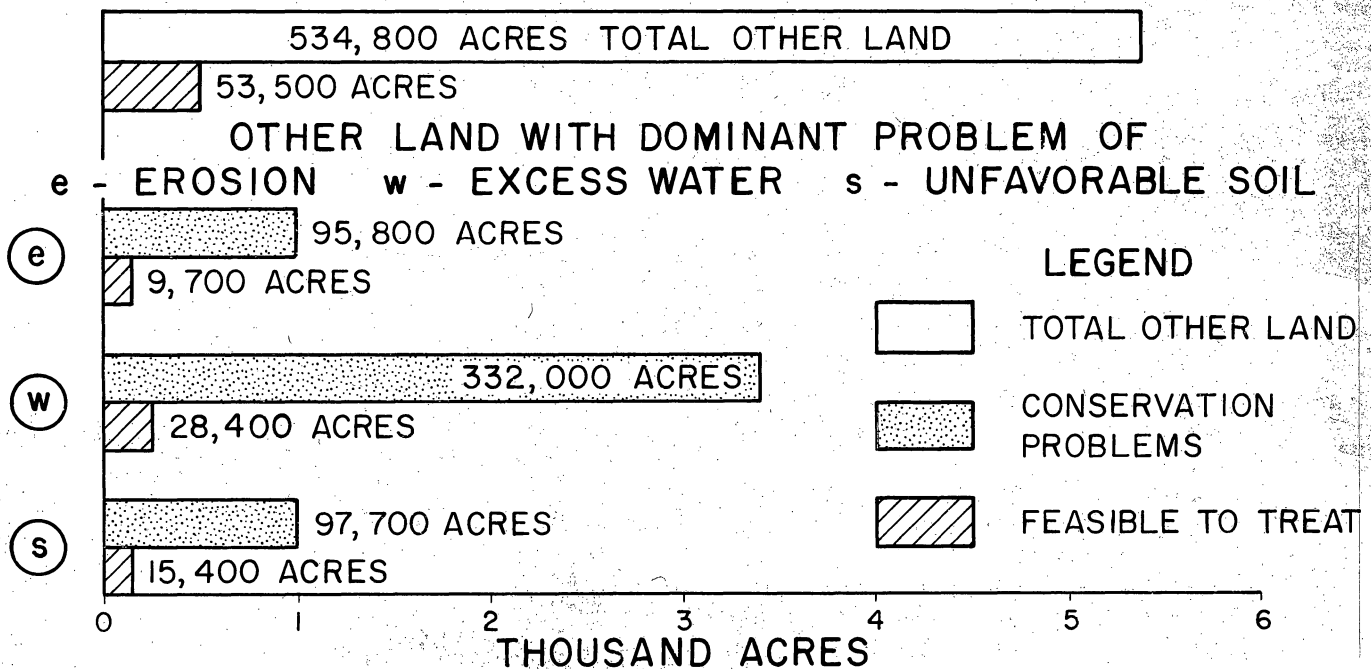


FIGURE 6

32 SMALL WATERSHEDS NEED PROJECT ACTION NEW JERSEY

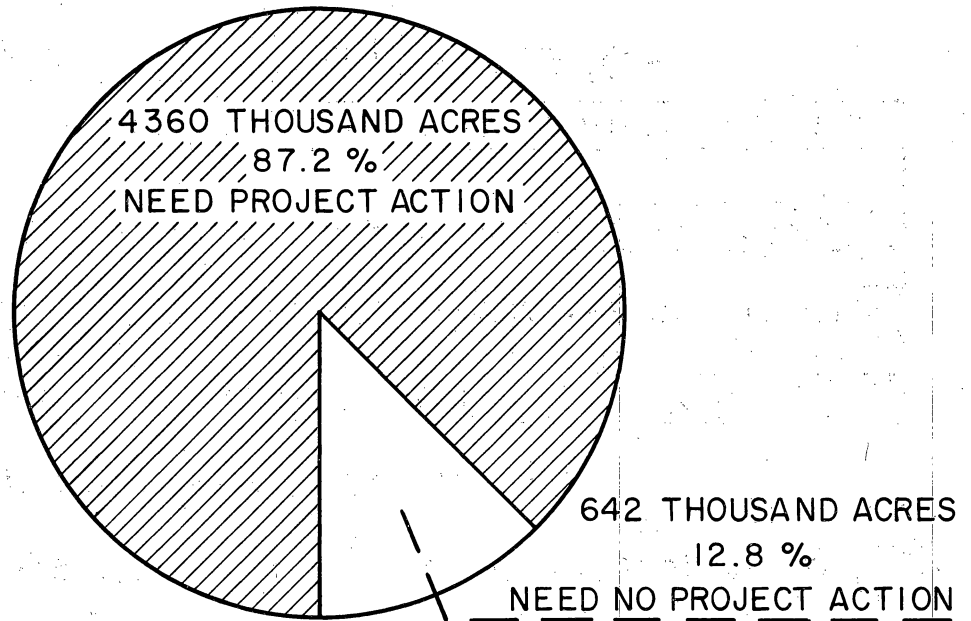


FIGURE 7



Erosion: In New Jersey soil washing causing soil erosion is a serious and widespread problem.

INTRODUCTION

The Inventory of New Jersey Soil and Water Conservation Needs was developed as part of the National Inventory of Soil and Water Conservation Needs established by the Secretary of Agriculture (Appendix 1). Data for this report were developed in accordance with the objective, policies and procedures, and within the assumptions, established for the National Inventory.

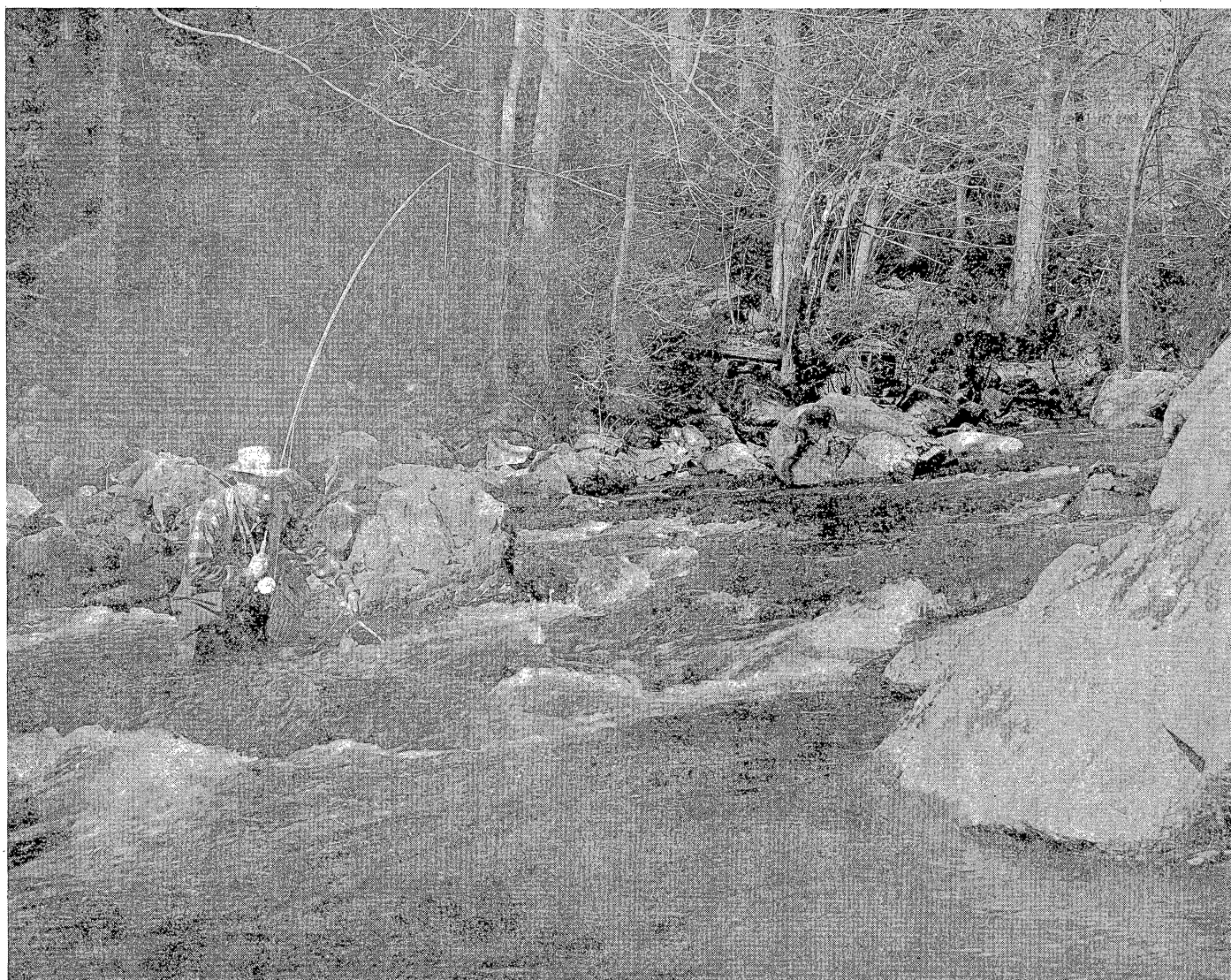
The United States Department of Agriculture, other Federal agencies, State agencies, and organizations require current information on conservation needs that will aid in carrying out their responsibilities to provide adequate conservation of soil and water resources. There is need for a systematic collection of facts for each county in the United States, for subdivisions of the Virgin Islands and Puerto Rico, and for watersheds and river basins regarding the soil and water resources of each area. Such a study should also include an analysis of the problems of natural re-

sources use, and an estimate of the areas needing treatment so that public services may be maintained and improved. The purpose of this inventory is to assemble such facts for New Jersey.

Soil, water and forest conservation is the protection, use, maintenance and improvement of these resources to best serve both private and public interest in providing adequate food, fiber, forest products, recreation and wildlife resources now and in the future. Conservation of soil, water and plant resources is accomplished by making adjustments in land use; protecting land against soil deterioration; rebuilding eroded and depleted soils; stabilizing run-off and sediment-producing areas; improving cover on crop, forest, pasture and wildlife land; retaining water for farm use; reducing water and sediment damage; and managing, distributing and disposing of water through the drainage or irrigation of land in



Recreation: Ever increasing population—more demand for recreation.



The sportsmen enjoy the recreational areas.

existing farms. Areas with excess or inadequate water were considered as needing conservation treatment when such measures were essential to solve land use or management problems of farms, to develop new land, or to make more intensive use of land in production.

For the purpose of this Inventory, conservation needs were expressed in terms of the acres that require treatment to maintain production in line with the national interest. Consideration was given to regional and local conditions and the needs of the people for family income. Inventory estimates were made in accordance with these national and state assumptions:

Basic Assumptions

1. The population of the United States will increase from 162 million in 1953 to 210 million in 1975. The projected increase in population, accompanied by a moderate rise in per capita consumption of farm products, will increase requirements in 1975 to about 40 per cent above 1953.

Since production is in excess of use, an increase in farm output of around 30 per cent will meet projected requirements.

2. The total acreage of crops in the United States, including cropland pasture, will be about 6 per cent greater in 1975 than in the period 1951-53.

3. With the expected cropland acreage and fuller adoption by farmers of available technical knowledge in crop production, it appears that market demands in 1975 can be met if certain adjustments are made. Significant shifts will be required in the crops grown. There will also be need for shifts in major land uses, including such changes as the clearing, draining and irrigating of land for cropland and pasture, reforestation of less productive croplands, and loss of agricultural lands to nonagricultural uses.

4. The projected increase of population and growth of the Nation's economy will expand the demand for timber products. The 1975 demand

for wood products (industrial wood and fuel wood) may be as much as 30 per cent above 1952 consumption. To meet these timber requirements, more intensive management of all available commercial forest land will be needed. It will be imperative that commercial forest lands presently non-stocked or poorly stocked be restored to productive conditions. The more critical problems will relate chiefly to increasing the growth of softwood saw-timber and the improvement of productivity of farm and other small forest land ownerships.

5. In New Jersey the demand for timber products will expand at a comparable rate to the expected expansion in population and industry. Far better management of available forest land will be needed if the demand for timber and other forest products in New Jersey and the United States is to be met.

6. Demands for recreation facilities and for wildlife will increase more rapidly than the increase of population—throughout the United States, but especially in New Jersey. In this State the demands will force additional acquisition and development of public and private lands. This acquisition will reduce private ownership of cropland, pasture and forest. The Green Acres Program will also accelerate the acquisition of land for recreation.

7. There will be increased national competition for available water supplies to meet the water requirements of the increased population which will be accompanied by expansion of industry, intensified agriculture and other uses. This will result in an expansion of water resource development.

8. Water resource development in New Jersey will be above the national average to meet the water requirements of the increased population, expanded industry and greater use of irrigation.

9. Land owners and operators will be expected to spend no more on conservation measures than will yield a reasonable return to their capital and labor.

10. The public will provide expenditures for soil and water conservation measures, in addition to expenditures by land owners and operators,

when deemed necessary in the public interest to prevent serious permanent damage to soil and water resources.

The Inventory covers two major types of estimates: (1) An inventory of land use, conservation problems, and acreage needing treatment on the inventory acreage, and (2) an inventory of watershed project needs on the total acreage.

The inventory acreage includes all land except: (1) Urban and built-up areas as defined on page 18, and (2) land owned by the Federal Government other than cropland operated under lease or permit. The Inventory was developed from basic data regarding (1) present acreage in major uses and (2) acreage of each land use classified by physical problems affecting its use (Appendix 2). The estimates of needs for conservation treatment, for each major land use, were based on acreages expected for 1975 and the condition of the land or of the vegetative cover as of January 1, 1958, with due regard to the basic economic framework and the locally applicable information and experience in solving conservation problems.

The inventory of watershed project needs is an estimate of the nature and scope of water-management problems that if met would require watershed projects of a type and size that qualify for assistance under Public Law 566, as amended. All lands were included without regard to type of ownership. The data were summarized by watershed-planning units for the states and the nation.

The National Soil and Water Conservation Needs Committee developed the policies, procedures and national economic assumptions under which the New Jersey Inventory was developed. It furnished guidance so the Inventory would be compatible with inventories for other states. It has reviewed and approved the data on which this report is based. The New Jersey Soil and Water Conservation Needs Committee acted in a similar capacity with the County Needs Committees.

A County Soil and Water Conservation Needs Committee with agency representation similar to that of the State Needs Committee developed the Inventory for each county. After review and approval, data from county inventories were combined to form the State Inventory.

LAND USE—PRESENT AND EXPECTED CHANGES BY CAPABILITY

The County Needs Committees were responsible for determining the basic data on land use for the Inventory of Soil and Water Conservation Needs. These estimates of land use are summarized in tables 1, 2, and 3. Data by counties are given in tables 10 to 13. The estimates of land use were based on soil-survey data provided by the Soil Conservation Service, on other basic information supplied by the Forest Service, and on that available from other State and Federal agencies. The inventory was begun in August 1956 and completed in April 1961 in New Jersey.

The Inventory Acreage

Inventory acreage was the acreage remaining after deducting the following from the county's total land area: Federal land, urban and built-up areas, and water areas less than 40 acres in size or streams less than one-eighth of a mile wide. This was the acreage for which the County Needs Committees estimated changes in land use expected to occur by 1975.

The approximate land area shown in the 1954 Census of Agriculture of the county was used as the total land area of the county. The land areas reported by the Bureau of the Census do not

include permanent inland water surface, such as lakes, reservoirs and ponds having 40 acres or more of area; streams, sloughs, estuaries and canals one-eighth of a statute mile or more in width; deeply indented embayments and sounds and other coastal water behind or sheltered by headlands or islands separated by less than one nautical mile of water; and islands less than 40 acres.

The approximate land areas as given in the 1954 Census of Agriculture were adjusted for some counties to exclude areas inundated by the construction of new reservoirs, lakes or ponds of 40 acres or more in size since 1949 when the last adjustment in the land area of counties was made by the Bureau of the Census.

The acreage of Federal land was subtracted from the total land area in arriving at the acreage that was included in the Inventory.

Urban and built-up areas as defined for the Inventory included cities, villages, other built-up areas of more than 10 acres, industrial sites, railroad yards, cemeteries, airports, golf courses, shooting ranges, etc.; and institutional and public administrative sites and similar types of areas. The area devoted to roads and railroads was included in the urban and built-up areas.

Table 1. Land Area of New Jersey and Use of Inventory Acreage, 1958 and Expected, 1975

Item	1958 acreage ^{1/}	1975 acreage
	1,000 acres	1,000 acres
Inventory acreage:		
Cropland	1,006	864
Pasture	202	185
Forest and woodland	2,148	2,080
Other land	575	535
Total inventory acreage	3,931	3,664
Noninventory acreage:		
Federal land	85	3/
Urban and built-up area	774	3/
Water areas ^{2/}	23	3/
Total noninventory acreage	882	3/
Total land area	4,813	3/

^{1/} The Conservation Needs Inventory was begun in August 1956 and completed in April 1961 in New Jersey.

^{2/} Of less than 40 acres in size and streams less than 1/8 mile in width. Water areas of 40 acres in size or streams 1/8 mile in width and over are not included in total land area.

^{3/} Not available.

Table 2. Use of inventory acreage, New Jersey, 1958 and expected, 1975 ^{1/}

Item	Cropland	Pasture	Forest-Woodland	Other Land	Total
	<u>1,000 acres</u>	<u>1,000 acres</u>	<u>1,000 acres</u>	<u>1,000 acres</u>	<u>1,000 acres</u>
II E					
Use in 1958	205.1	19.4	87.9	31.1	343.5
Use in 1975					
Cropland	167.4	2.5	1.8	.1	171.7
Pasture	2.7	13.1	.1	-	15.9
Forest-Woodland	.7	.2	71.3	4.0	76.1
Other Land	3.5	.5	.6	21.5	26.1
Out of inventory	30.9	3.1	14.0	5.7	53.7
Urban-built up	29.8	3.1	8.9	5.5	47.2
II W					
Use in 1958	98.4	15.0	68.2	20.9	202.6
Use in 1975					
Cropland	87.6	.9	3.8	-	92.4
Pasture	1.1	12.1	.2	-	13.5
Forest-Woodland	.8	.2	58.8	4.6	64.3
Other Land	2.1	.4	.6	13.5	16.6
Out of inventory	6.8	1.4	4.7	2.8	15.8
Urban-built up	6.7	1.4	3.7	2.8	14.6
II S					
Use in 1958	136.7	12.5	113.2	20.6	282.9
Use in 1975					
Cropland	118.2	1.0	13.0	-	132.2
Pasture	.8	9.6	.1	-	10.5
Forest-Woodland	.9	.2	93.8	2.2	97.1
Other Land	1.9	.2	2.3	15.1	19.5
Out of inventory	14.8	1.4	4.1	3.3	23.6
Urban-built up	14.8	1.4	4.1	3.2	23.4
III E					
Use in 1958	176.8	24.6	69.0	50.8	321.2
Use in 1975					
Cropland	136.7	1.0	.9	.4	139.0
Pasture	8.2	20.5	.1	-	28.8
Forest-Woodland	.7	.2	60.5	6.1	67.4
Other Land	4.8	.9	.6	36.8	43.1
Out of inventory	26.4	2.0	6.9	7.6	42.9
Urban-built up	26.2	2.0	6.9	7.6	42.7
III W					
Use in 1958	137.3	44.8	401.9	68.4	652.4
Use in 1975					
Cropland	109.1	3.0	6.2	1.0	119.3
Pasture	3.0	36.0	.1	-	39.1
Forest-Woodland	2.6	.8	383.3	8.4	395.2
Other Land	8.0	2.4	2.1	54.7	67.3
Out of inventory	14.6	2.7	10.2	4.2	31.6
Urban-built up	14.5	2.5	10.1	4.2	31.3
III S					
Use in 1958	64.9	4.8	230.9	25.2	325.8
Use in 1975					
Cropland	57.1	.5	3.0	.2	60.8
Pasture	.1	3.8	-	-	3.9
Forest-Woodland	.8	.1	221.4	.1	222.4
Other Land	.7	.1	.7	22.7	24.2
Out of inventory	6.2	.3	5.8	2.3	14.6
Urban-built up	6.2	.3	5.8	1.7	14.1

Table 2. Use of inventory acreage, New Jersey, 1958 and expected, 1975 (continued)

Item	Cropland	Pasture	Forest-Woodland	Other Land	Total
	<u>1,000 acres</u>	<u>1,000 acres</u>	<u>1,000 acres</u>	<u>1,000 acres</u>	<u>1,000 acres</u>
IV E					
Use in 1958	43.8	12.7	35.4	19.6	111.5
Use in 1975					
Cropland	31.6	-	.3	-	31.9
Pasture	3.3	11.3	-	-	14.6
Forest-Woodland	.3	.4	31.9	3.0	35.6
Other Land	3.3	.3	.2	13.9	17.7
Out of inventory	5.4	.6	3.0	2.6	11.7
Urban-built up	5.4	.6	3.0	2.6	11.7
IV W					
Use in 1958	5.6	9.9	26.8	14.3	56.7
Use in 1975					
Cropland	3.9	.1	-	-	4.0
Pasture	.5	8.4	-	-	8.8
Forest-Woodland	.1	-	26.0	2.6	28.7
Other Land	.6	.8	-	10.5	12.0
Out of inventory	.6	.7	.7	1.3	3.2
Urban-built up	.5	.5	.6	.7	2.3
IV S					
Use in 1958	4.3	1.4	63.6	11.2	80.6
Use in 1975					
Cropland	3.5	.2	-	-	3.7
Pasture	.2	1.1	-	-	1.4
Forest-Woodland	-	-	62.6	3.2	65.8
Other Land	.1	-	.2	7.6	7.9
Out of inventory	.5	-	.9	.4	1.8
Urban-built up	.5	-	.9	.3	1.7
VI E					
Use in 1958	10.7	6.0	27.8	3.8	48.3
Use in 1975					
Cropland	7.0	.2	-	-	7.2
Pasture	1.6	5.1	-	-	6.6
Forest-Woodland	.4	.3	26.5	.9	28.1
Other Land	.5	-	-	2.6	3.1
Out of inventory	1.3	.4	1.3	.3	3.3
Urban-built up	1.3	.4	1.3	.3	3.3
VI W					
Use in 1958	9.7	14.8	25.1	6.0	55.6
Use in 1975					
Cropland	6.8	.1	.1	-	7.0
Pasture	1.0	12.3	-	-	13.2
Forest-Woodland	.1	.1	24.2	.4	24.8
Other Land	.4	.6	.1	5.0	6.0
Out of inventory	1.5	1.7	.7	.6	4.5
Urban-built up	1.3	1.2	.7	.3	3.4
VI S					
Use in 1958	8.3	6.8	152.4	9.5	176.9
Use in 1975					
Cropland	6.0	-	-	.1	6.1
Pasture	1.3	5.8	.1	.2	7.3
Forest-Woodland	.1	-	146.9	3.0	149.9
Other Land	.3	.5	.1	4.9	5.7
Out of inventory	.5	.5	5.4	1.4	7.8
Urban-built up	.3	.3	5.0	1.1	6.8

Table 2. Use of inventory acreage, New Jersey, 1958 and expected, 1975 (continued)

Item	Cropland	Pasture	Forest-Woodland	Other Land	Total
	<u>1,000 acres</u>	<u>1,000 acres</u>	<u>1,000 acres</u>	<u>1,000 acres</u>	<u>1,000 acres</u>
VII E					
Use in 1958	3.8	1.9	22.2	2.5	30.4
Use in 1975					
Cropland	1.9	-	-	-	1.9
Pasture	.5	1.2	-	-	1.7
Forest-Woodland	.9	.5	21.2	.4	23.0
Other Land	.1	.1	.2	1.9	2.2
Out of inventory	.6	.1	.8	.2	1.6
Urban-built up	.6	.1	.8	.2	1.6
VII W					
Use in 1958	7.4	11.6	204.9	13.1	236.9
Use in 1975					
Cropland	5.4	.1	.6	-	6.0
Pasture	1.1	9.2	-	-	10.3
Forest-Woodland	.4	.6	199.4	1.8	202.2
Other Land	.1	1.4	.5	10.4	12.4
Out of inventory	.4	.3	4.5	1.0	6.1
Urban-built up	.4	.2	2.7	.4	3.7
VII S					
Use in 1958	17.8	10.8	454.3	24.1	507.1
Use in 1975					
Cropland	11.5	.1	.1	-	11.6
Pasture	.3	6.0	.1	-	6.4
Forest-Woodland	3.3	3.5	441.0	1.4	449.2
Other Land	.9	.8	1.9	20.4	24.1
Out of inventory	1.7	.5	11.3	2.3	15.8
Urban-built up	1.7	.5	10.8	2.1	15.1
VIII W					
Use in 1958	5.5	1.2	12.8	224.8	244.3
Use in 1975					
Cropland	5.5	-	-	.2	5.7
Pasture	-	.3	-	.2	.5
Forest-Woodland	-	-	12.5	.3	12.8
Other Land	-	.4	-	216.4	216.8
Out of inventory	-	.5	.3	7.7	8.5
Urban-built up	-	-	.3	7.3	7.6
VIII S					
Use in 1958	.1	.2	103.0	2.4	105.6
Use in 1975					
Cropland	-	-	-	-	-
Pasture	-	-	-	-	-
Forest-Woodland	.1	.1	102.9	.2	103.2
Other Land	-	.2	-	2.0	2.1
Out of inventory	-	-	.1	.2	.3
Urban-built up	-	-	.1	.2	.3
I					
Use in 1958	69.7	3.9	46.3	6.0	125.9
Use in 1975					
Cropland	55.0	.5	7.7	-	63.3
Pasture	-	2.5	.2	-	2.8
Forest-Woodland	.1	-	31.1	.3	31.5
Other Land	3.0	.1	.3	4.5	7.9
Out of inventory	11.6	.8	7.0	1.1	20.4
Urban-built up	11.4	.8	2.2	1.1	15.4

Table 2. Use of inventory acreage, New Jersey, 1958 and expected, 1975 (continued)

Item	Cropland	Pasture	Forest-Woodland	Other Land	Total
	<u>1,000 acres</u>	<u>1,000 acres</u>	<u>1,000 acres</u>	<u>1,000 acres</u>	<u>1,000 acres</u>
II					
Use in 1958	440.2	46.9	269.2	72.7	829.0
Use in 1975					
Cropland	373.2	4.4	18.6	.1	396.3
Pasture	4.6	34.9	.4	-	39.8
Forest-Woodland	2.4	.6	223.9	10.7	237.5
Other Land	7.5	1.2	3.6	50.0	62.3
Out of inventory	52.5	5.9	22.8	11.8	93.0
Urban-built up	51.3	5.9	16.6	11.5	85.3
III					
Use in 1958	378.9	74.2	701.8	144.5	1299.4
Use in 1975					
Cropland	302.9	4.5	10.1	1.6	319.1
Pasture	11.3	60.2	.2	-	71.8
Forest-Woodland	4.1	1.0	665.1	14.6	684.9
Other Land	13.4	3.5	3.4	114.2	134.5
Out of inventory	47.2	4.9	22.9	14.1	89.2
Urban-built up	46.9	4.8	22.9	13.4	88.1
IV					
Use in 1958	53.7	24.0	125.9	45.2	248.7
Use in 1975					
Cropland	38.9	.3	.3	-	39.6
Pasture	4.0	20.8	-	-	24.8
Forest-Woodland	.4	.5	120.5	8.8	130.1
Other Land	4.0	1.1	.4	32.0	37.5
Out of inventory	6.5	1.3	4.6	4.3	16.7
Urban-built up	6.4	1.1	4.5	3.7	15.7
VI					
Use in 1958	28.7	27.5	205.3	19.2	280.7
Use in 1975					
Cropland	19.8	.3	.1	.1	20.3
Pasture	3.9	23.1	.1	.2	27.2
Forest-Woodland	.6	.4	197.6	4.3	202.8
Other Land	1.2	1.1	.2	12.4	14.9
Out of inventory	3.3	2.6	7.4	2.3	15.6
Urban-built up	2.9	1.9	7.0	1.8	13.6
VII					
Use in 1958	29.0	24.3	681.4	39.8	774.4
Use in 1975					
Cropland	18.7	.1	.6	-	19.4
Pasture	1.9	16.4	.1	-	18.4
Forest-Woodland	4.6	4.6	661.6	3.6	674.4
Other Land	1.1	2.3	2.6	32.7	38.7
Out of inventory	2.7	.9	16.5	3.5	23.6
Urban-built up	2.7	.8	14.2	2.7	20.4
VIII					
Use in 1958	5.6	1.5	115.8	227.1	350.0
Use in 1975					
Cropland	5.5	-	-	.2	5.7
Pasture	-	.3	-	.2	.5
Forest-Woodland	.1	.1	115.4	.5	115.9
Other Land	-	.6	-	218.4	219.0
Out of inventory	-	.5	.4	7.9	8.9
Urban-built up	-	-	.4	7.5	7.9

Table 2. Use of inventory acreage, New Jersey, 1958 and expected, 1975 (continued)

Item	Cropland	Pasture	Forest-Woodland	Other Land	Total
	<u>1,000 acres</u>	<u>1,000 acres</u>	<u>1,000 acres</u>	<u>1,000 acres</u>	<u>1,000 acres</u>
I - IV					
Use in 1958	942.5	1149.0	1143.2	268.3	2503.0
Use in 1975					
Cropland	770.1	9.7	36.8	1.7	818.3
Pasture	19.8	118.5	.8	.1	139.2
Forest-Woodland	6.9	2.1	1040.6	34.5	1084.1
Other Land	27.9	5.8	7.7	200.8	242.2
Out of inventory	117.7	13.0	57.3	31.3	219.3
Urban-built up	116.0	12.6	46.2	29.7	204.4
VI - VII					
Use in 1958	57.7	51.7	886.6	59.1	1055.2
Use in 1975					
Cropland	38.5	.4	.7	.1	39.7
Pasture	5.7	39.5	.2	.2	45.5
Forest-Woodland	5.2	5.0	859.1	7.9	877.2
Other Land	2.3	3.3	2.8	45.1	53.6
Out of inventory	6.0	3.5	23.9	5.8	39.2
Urban-built up	5.6	2.7	21.2	4.4	34.0
VIII					
Use in 1958	5.6	1.5	115.8	227.1	350.0
Use in 1975					
Cropland	5.5	-	-	.2	5.7
Pasture	-	.3	-	.2	.5
Forest-Woodland	.1	.1	115.4	.5	115.9
Other Land	-	.6	-	218.4	219.0
Out of inventory	-	.5	.4	7.9	8.9
Urban-built up	-	-	.4	7.5	7.9
UNCLASSIFIED					
Use in 1958	.1	-	2.4	20.5	23.1
Use in 1975					
Cropland	.1	-	-	.2	.3
Pasture	-	-	-	-	-
Forest-Woodland	-	-	2.4	.1	2.5
Other Land	-	-	-	20.1	20.1
Out of inventory	-	-	.1	.2	.2
Urban-built up	-	-	.1	.2	.2
TOTAL					
Use in 1958	1005.8	202.2	2148.0	575.1	3931.2
Use in 1975					
Cropland	814.2	10.1	37.4	2.2	864.0
Pasture	25.5	158.2	1.0	.4	185.2
Forest-Woodland	12.2	7.2	2017.5	42.9	2079.6
Other Land	30.2	9.7	10.5	484.4	534.8
Out of inventory	123.7	17.0	81.7	45.2	267.5
Urban-built up	121.6	15.3	67.8	41.8	246.5

1/ The Conservation Needs Inventory was begun in August 1956 and completed in April 1961 in New Jersey.

Table 3. Use of inventory acreage, by land capability classes and subclasses, New Jersey, 1958^{1/} and expected, 1975

CLASS	CROPLAND		PASTURE		FOREST-WOODLAND		OTHER LAND		TOTAL	
	1958 2/	1975	1958	1975	1958	1975	1958	1975	1958	1975
	1,000 Acres	1,000 Acres	1,000 Acres	1,000 Acres	1,000 Acres	1,000 Acres	1,000 Acres	1,000 Acres	1,000 Acres	1,000 Acres
I	69.7	63.4	3.9	2.7	46.5	31.3	6.1	8.0	126.2	105.4
II	440.5	396.7	47.2	40.2	269.1	237.8	72.9	62.1	829.7	736.8
E	205.2	171.9	19.7	16.0	87.9	76.4	31.0	26.1	343.8	290.4
W	98.5	92.5	15.0	13.6	68.1	64.4	21.1	16.6	202.7	187.1
S	136.8	132.3	12.5	10.6	113.1	97.0	20.8	19.4	283.2	259.3
III	379.1	319.3	73.7	71.3	701.9	685.0	144.7	134.8	1299.4	1210.4
E	176.8	139.1	24.4	28.6	69.0	67.4	51.0	43.2	321.2	278.3
W	137.4	119.4	44.8	38.9	402.0	395.3	68.4	67.3	652.6	620.9
S	64.9	60.8	4.5	3.8	230.9	222.3	25.3	24.3	325.6	311.2
IV	53.5	39.5	24.1	24.9	126.2	130.3	45.2	37.4	249.0	232.1
E	43.8	32.0	12.6	14.5	35.6	35.6	19.6	17.7	111.6	99.8
W	5.5	3.9	10.0	9.0	26.8	28.8	14.3	11.8	56.6	53.5
S	4.2	3.6	1.5	1.4	63.8	65.9	11.3	7.9	80.8	78.8
I-IV	942.8	818.9	148.9	139.1	1143.7	1084.4	268.9	242.3	2504.3	2284.7
VI	28.8	20.4	27.6	27.5	205.3	202.7	19.1	14.8	280.8	265.4
E	10.7	7.2	6.0	6.8	27.9	27.9	3.7	3.2	48.3	45.1
W	9.9	7.1	14.8	13.4	25.0	24.9	6.0	5.9	55.7	51.3
S	8.2	6.1	6.8	7.3	152.4	149.9	9.4	5.7	176.8	169.0
VII	29.0	19.5	24.4	18.4	681.5	674.3	39.8	38.8	774.7	751.0
E	3.8	1.8	2.0	1.6	22.2	23.0	2.4	2.2	30.4	28.6
W	7.4	6.1	11.6	10.3	205.0	202.2	13.2	12.3	237.2	230.9
S	17.8	11.6	10.8	6.5	454.3	449.1	24.2	24.3	507.1	491.5
VI-VII	57.8	39.9	52.0	45.9	886.8	877.0	58.9	53.6	1055.5	1016.4
VIII	5.5	5.7	1.4	.4	115.7	115.8	227.2	218.8	349.8	340.7
W	5.4	5.7	1.1	.4	12.8	12.7	224.8	216.7	244.1	235.5
S	.1	-	.3	-	102.9	103.1	2.4	2.1	105.7	105.2
VIII	5.5	5.7	1.4	.4	115.7	115.8	227.2	218.8	349.8	340.7
UNCLASSIFIED	-	.2	-	-	2.4	2.5	20.5	20.0	22.9	22.7
TOTAL	1006.1	864.7	202.3	185.4	2148.6	2079.7	575.5	534.7	3932.5	3664.5

^{1/} The Conservation Needs Inventory was begun in August 1956 and completed in April 1961 in New Jersey.

^{2/} Variances from Table 2 are due to statistical summarization to nearest tenths.

The acreages of water areas of less than 40 acres in size and streams less than one-eighth of a mile wide were determined from the soil surveys and from other sources of information. This acreage was subtracted from the land area of the county to arrive at the acreage included in the Inventory.

Land Groups Included in the Inventory

Land groups included in the Inventory acreage were cropland, pasture, forest and woodland, and other land. Separate estimates were made for (1) forest and woodland in farms or operated for the production of forest products and (2) other forest and woodland. Other land was subdivided into land in farms and not in farms.

The following definitions of land use were used in making the Inventory:

Cropland

Cropland is land currently tilled including cropland harvested, crop failure, summer fallow, idle cropland, cropland in cover crops or soil-improvement crops not harvested or pastured, rotation pasture, and cropland being prepared for crops or newly seeded crops. Cropland also includes land in vegetables, fruits and nuts including those grown on farms for home use. All tame hay and harvested salt hay was included as cropland.

Pasture

Pasture is land in grass or other long-term forage growth that is used primarily for grazing. Pasture includes grassland, nonforested pasture and other grazing land with the exception of pasture in the crop rotation. It may contain shade trees or scattered timber trees with less than 10 per cent canopy, but the principal plant cover is such as to identify its use primarily as permanent grazing land.

Forest and Woodland

Forest and woodland includes (a) lands which are at least 10 per cent stocked by forest trees of any size and capable of producing timber or other wood products, or capable of exerting an influence on the water regime; (b) lands from which the trees described in (a) have been removed to less than 10 per cent stocking and which have not been developed for other use; and (c) afforested (planted) areas.

In farms or operated for production of forest products.—Forest and woodland which is part of a farm, and all other forest and woodland which is producing or physically capable of producing usable crops of wood, is economically available now or prospectively and is not withdrawn from timber utilization.

Other forest and woodland.—Forest and woodland not a part of a farm, which is withdrawn from timber utilization by public agencies, corporations, or private persons, or incapable of yielding usable wood products because of adverse site conditions or so physically inaccessible as to be unavailable economically in the foreseeable future.

This will include forest land set aside for special uses other than timber production, such as State parks, monuments, natural areas and game preserves.

Other Land

Other land is defined as farmsteads, idle land, wildlife areas, and other areas not classified into cropland, pasture, forest and woodland, or urban and built-up areas. Idle land includes land formerly used for crops and pasture, now abandoned and not yet reforested or put to other use.

In farms.—A farm as defined for the Inventory is a unit of one or more tracts of land under one management, some portion of which normally is used for the production of field crops, pasture, or range, other than for use of the producer's family. It includes forest and woodland or other land commonly considered as part of such a unit.

Not in farms.—Such uses as crossroad filling stations, rural nonfarm residential sites, country churches and school grounds, except where any of these uses occur in built-up areas of 10 acres or more, as well as tracts of any size of open, idle, rural nonfarm land were classified as other land not in farms.

Estimating the Present Use of Land

For guidance of the County Needs Committees, the State Needs Committee provided data from several sources about the land use groups.

Soil-survey data, which represented a 2 per cent sample of the entire area, were developed by the Soil Conservation Service showing the acreage and capability (Appendix 3) and also estimated land use as of 1958 for cropland, pasture, woodland and other land.

The Forest Survey figures, prepared and published by the Forest Service, showed forest and woodland acreages. In mapping forest land use for this Inventory, the Soil Conservation Service used essentially the same definition as that used by the Forest Service in making forest surveys.

Data from the 1954 Census of Agriculture, which was supplied to county committees, included total land area, acres of cropland, pasture and other land in farms and not in farms.

Each County Needs Committee, after considering the estimates of land uses provided by the State Committee, estimated the acreage which it believed most accurately represented the present acreage in each of the land uses in the county.



Contour cultivation saves tons of soil on cultivated land in New Jersey.

Estimated Expected Changes in Land Use by 1975

After the estimates of present land use had been approved by the State Needs Committee, the County Needs Committee estimated the changes in land use that were expected to occur in the county by 1975. The estimates of changes in land use took into consideration the physical capabilities of the land; present land use and trends in land use; expected demands on the land for agricultural, forest, and other products and services as reflected in the economic framework; and the need for farming systems that are economically feasible to farm owners and operators. It was recognized that demands on the land for agricultural production and other purposes as well as size of farm unit and other factors might tend to keep some land in uses not now considered as the most desirable from the physical standpoint.

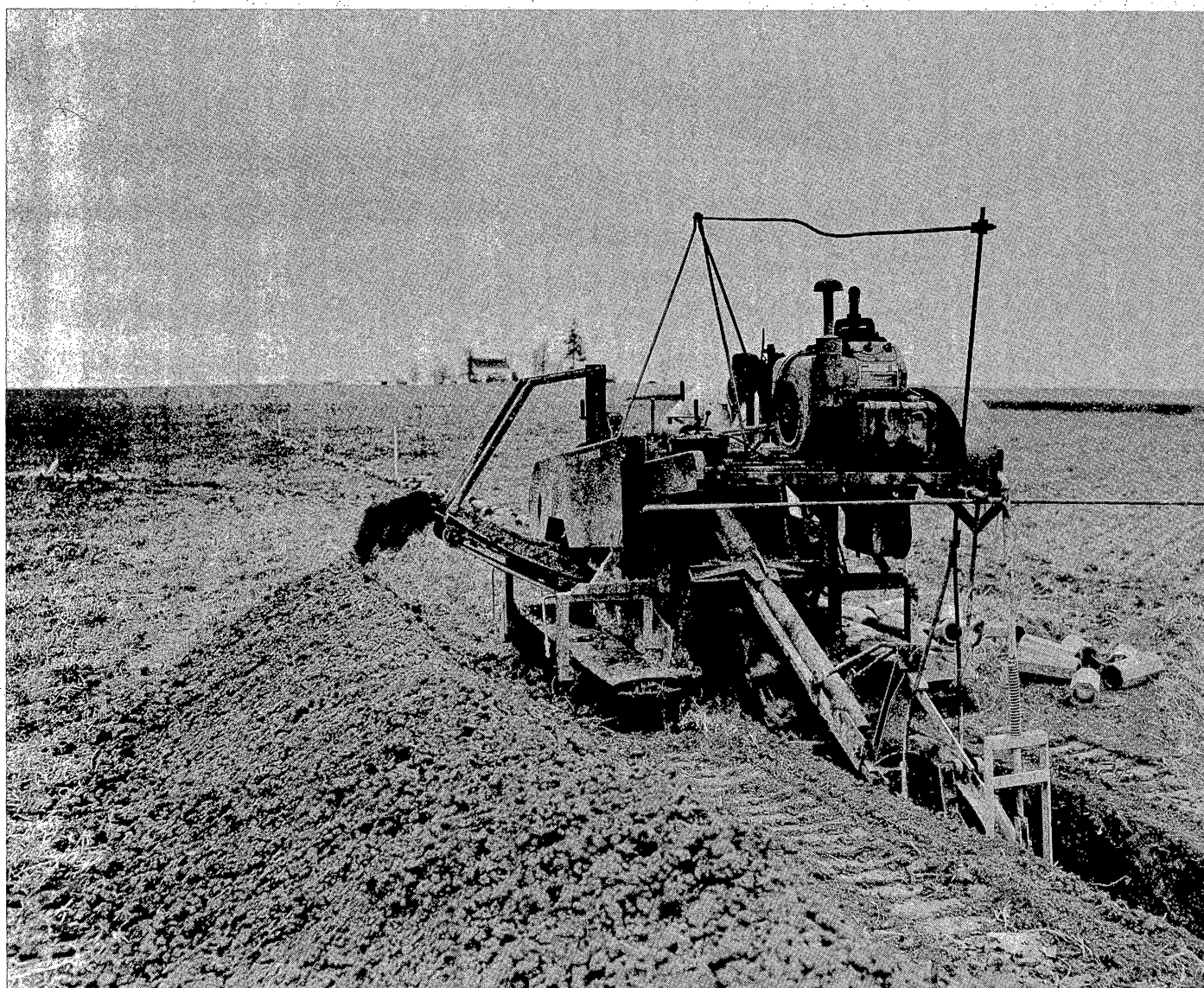
The estimates of land use changes were made by land-capability units. Information on land capability was based on the soil-survey data for the county. A land-capability unit is a group of soils that are nearly alike in potential for agricultural

use, plant growth, and response to similar treatment and management. In the system of classification, the soils are grouped into eight land-capability classes according to the intensity of soils problems. Class I land has no problems that limit use. The remaining classes are divided into subclasses by types of dominant problems and into units by differences that cause secondary problems or require different kinds of treatment.

These steps in classification are reflected in the symbol of the land-capability unit, with a Roman numeral indicating the class, a lowercase letter for the subclass, and an Arabic numeral for the unit; for example, IIIe5. Dominant problems indicated by lowercase letters are erosion by "e", excess water by "w", and unfavorable soil conditions by "s". Secondary problems were not indicated by the land-capability symbol and were recognized by interpreting the soil conditions. This identification of the kind of land and problems needing treatment was used in estimating land use changes. For further explanation of the land-capability classification see page 57 of the appendix.

Estimates of land use changes were made by land-resource units and then added together to give county totals. A land-resource unit is a geographical area of land, at least several thousand acres in extent, characterized by a particular com-

bination or pattern of soils (including slope and erosion), water resources, land use and types of farming. Such a unit may occur in one continuous area or in segments.



Tile drainage gets rid of surplus water on cultivated land.

NEEDS FOR CONSERVATION TREATMENT

Conservation needs for cropland, pasture, forest and woodland and other land were estimated in acreages having conservation problems and acreages needing treatment.

The problems for cropland and other land are related primarily to the conservation of the soil resource; therefore, land-capability units, singly or in groups, were the basis for these estimates. The problems on pasture and forest and woodland are related to the conservation of the plant cover as well as to the conservation of the soil resource; therefore, the estimates for these land uses were based on the actual condition of the vegetative cover and were made with no direct reference to land-capability units.

The acreage needing treatment for each land use takes into account the treatment needed for acreage coming into such land use from other uses by 1975. For example, the acreage of pasture needing establishment or reestablishment (Table 5 and Figure 4) includes the acreage coming from other uses into pasture.

Cropland

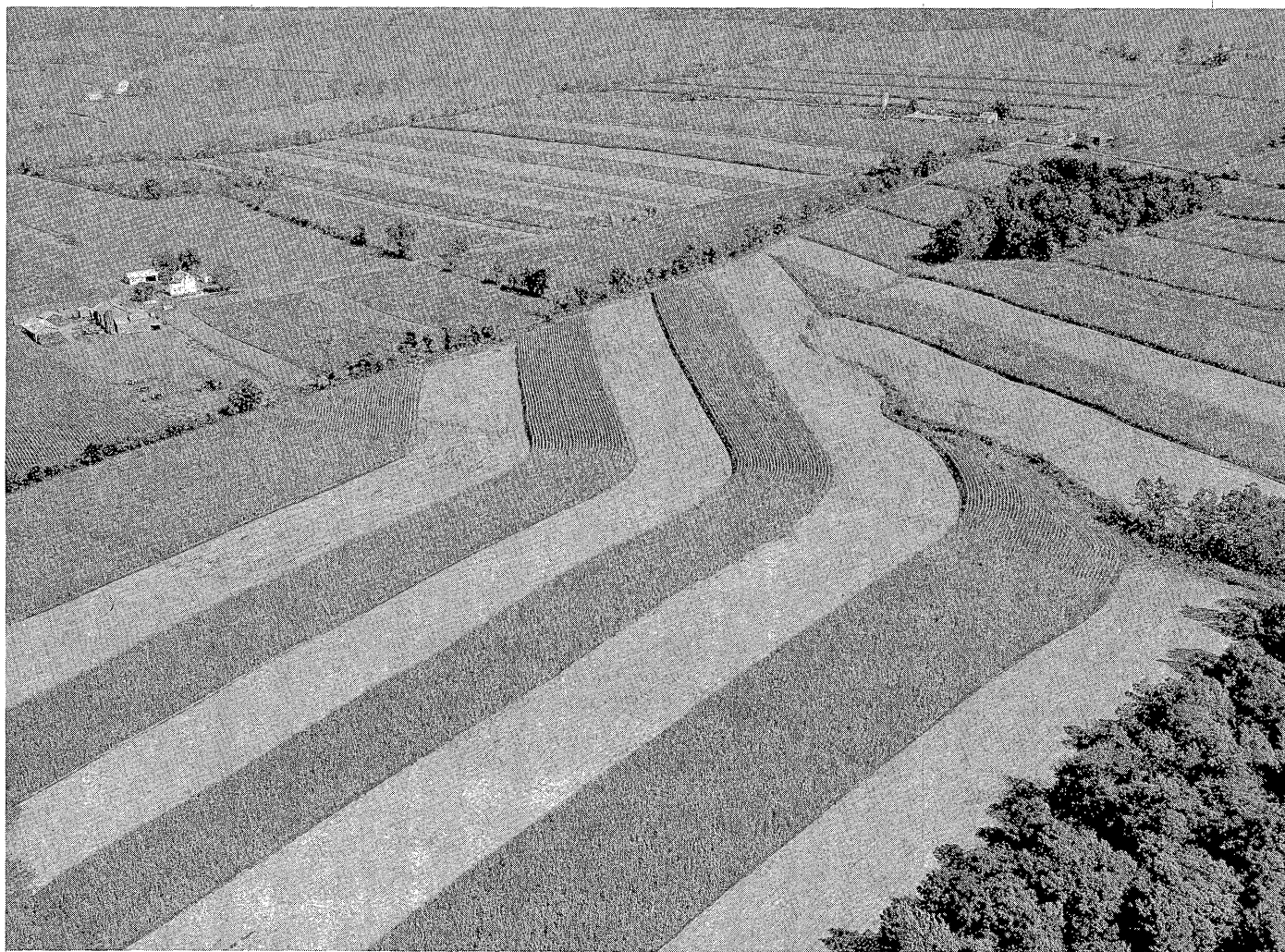
Cropland was divided into four groupings on the basis of problems that limit use:

No Problems That Limit Use

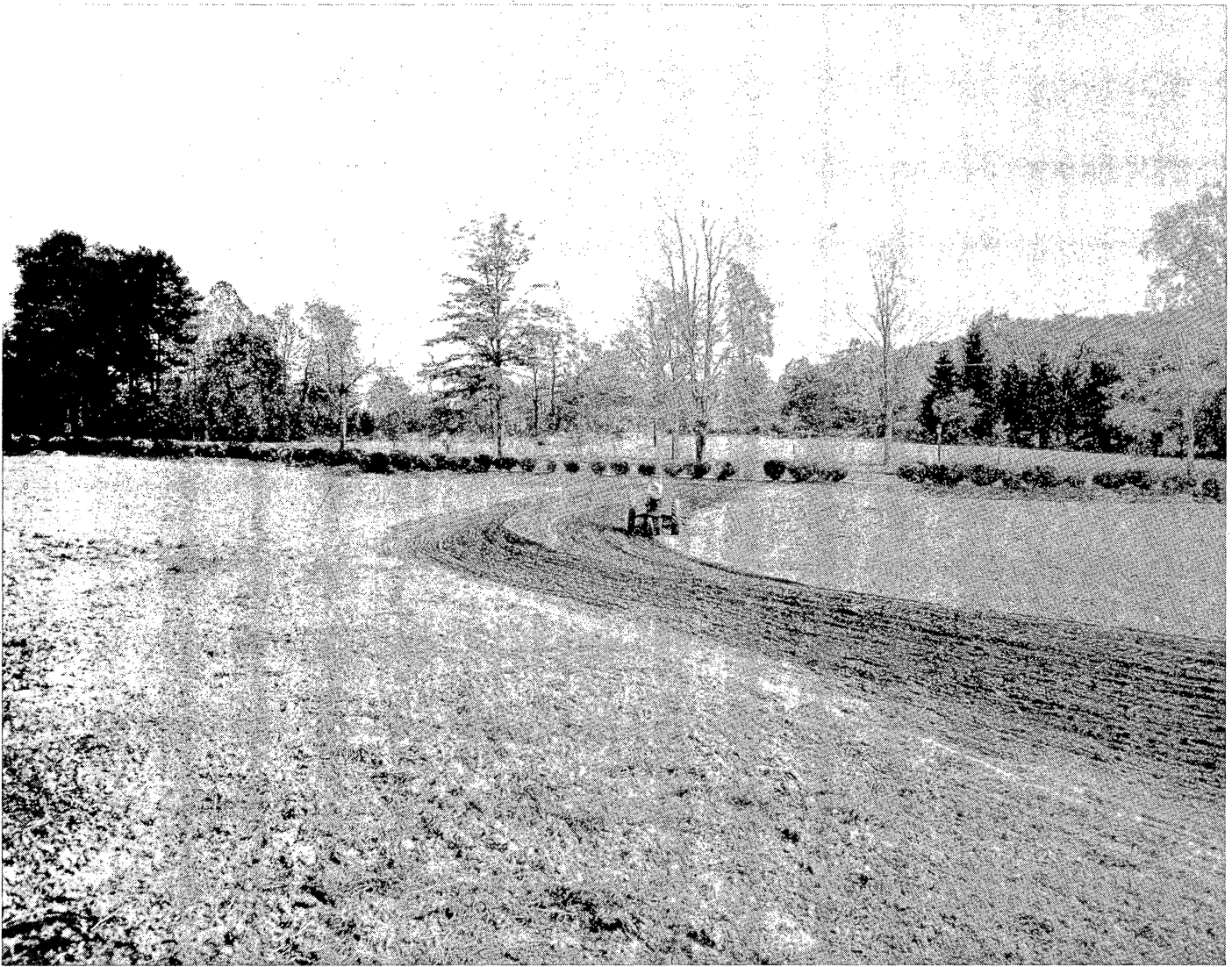
This is Class I land without special potential or actual conservation problems, except those related to the restoration and maintenance of fertility and tilth which may be solved by the methods generally recommended and used in the community. There are 63,000 acres of land of this type. It requires no special conservation treatment except good soil management and the maintenance of fertility.

Water or Wind Erosion

Both erosion that has occurred and erosion that will likely occur under expected use were considered. Soil erosion by water and wind is a



Stripcropping: Alternate strips of grass and cultivated crops on the contour—a very important erosion control in New Jersey.



Terraces slow up runoff and reduce soil erosion on sloping land.

dominant problem on 353,000 acres of cropland. Included in this total is land with a dominant problem of erosion and with secondary problems of excess water and unfavorable soil. Conservation treatment has been applied, or is not feasible, on 107,000 acres. Treatment is needed to protect 246,000 acres. A dominant problem of erosion alone is present on 211,000 acres. Treatment has been applied or is not feasible on 66,000 acres. The remaining 145,000 acres require treatment.

On the 9,600 acres of land that have a dominant problem of erosion and a secondary problem of excess water caused by a high water table or temporary flooding, 3,500 acres have been treated or are not feasible to treat, and 6,100 acres require treatment.

A dominant problem of erosion by wind and water and a secondary problem of unfavorable soil exists on 112,000 acres of land. On 50,000 acres, conservation treatment has already been applied or is not feasible. Treatment is needed on 62,000 acres.

Excess Water

Excess water caused by a high water table or by temporary flooding that prevents or limits use of conservation farming systems is a dominant problem on 234,000 acres. This area includes land with secondary problems of soil erosion and unfavorable soil conditions. Treatment is required on 144,000 acres and 90,000 acres have already been treated or are not feasible to treat.

Excess water alone is a dominant problem on 116,000 acres. Conservation treatment is not feasible or has been applied on 38,000 acres and 78,000 acres still require treatment.

A dominant problem of excess water and a secondary problem of erosion occurs on 5,300 acres. Of this, 700 acres have been treated or are not feasible to treat. Treatment is still needed on 4,600 acres.

A rather extensive area of 112,000 acres of land has a dominant problem of excess water and a secondary problem of unfavorable soil. Conservation treatment has been applied or is not feasible on 50,000 acres and 62,000 acres require treatment.

Table 4. Estimate of needs for conservation treatment on expected cropland acreage,
New Jersey, 1975

Type of problem	Total acreage	Acreage adequately treated or treat- ment not feasible	Acreage needing treatment and feasible to treat
	<u>1,000 acres</u>	<u>1,000 acres</u>	<u>1,000 acres</u>
Land with no problems that limit use	63.0	-	-
Land on which the dominant problem is erosion by water or wind or both:	358.0	112.0	246.0
No serious secondary problem	211.0	66.0	145.0
Secondary problem of excess water	9.6	3.5	6.1
Secondary problems caused by unfavorable soil conditions	132.0	37.0	95.0
Land on which the dominant problem is excess water:	234.0	90.0	144.0
No serious secondary problems	116.0	38.0	78.0
Secondary problems of erosion by water or wind	5.3	.7	4.6
Secondary problems caused by unfavorable soil conditions	112.0	50.0	62.0
Land on which the dominant problems are caused by unfavorable soil conditions:	214.0	70.0	144.0
No serious secondary problem	13.6	9.0	4.6
Secondary problems of erosion by water or wind	199.0	61.0	138.0
Secondary problem of excess water	1.6	.3	1.3
Total acreage of cropland	864.0	267.0	534.0

Table 5. Estimates of needs for conservation treatment on expected acreage of pasture,
New Jersey, 1975

Item	Pasture
	<u>1,000 acres</u>
Total area	185.0
Area not needing treatment or not feasible to treat	40.0
Area needing treatment	145.0
Type of problem and area affected:	
Establishment or reestablishment of vegetation	69.0
Improvement of vegetative cover	76.0
Protection of vegetative cover from:	
Erosion	19.0
Water management	
Excess water	22.0

Unfavorable Soil Conditions

Unfavorable soil conditions, such as acidity, low fertility, stoniness, shallowness to rock or some other condition that limits root development, or low moisture-holding capacity, are a dominant problem on 214,000 acres. This includes land with a secondary problem of soil erosion and excess water. Of the total, 70,000 acres have been treated or are not feasible to treat and 144,000 acres require treatment.

Unfavorable soil condition is the only dominant problem on 13,600 acres of land. Treatment is needed on 4,600 acres and 9,000 acres have been treated or are not feasible to treat.

Soil erosion is a secondary problem on a rather extensive area of 199,000 acres. Of this total, 61,000 acres have been treated or are not feasible to treat, and 138,000 acres require treatment.

A secondary problem of excess water occurs on 1,600 acres, and only 300 acres have been treated or are not feasible to treat. The remaining 1,300 acres need treatment.

Table 4 and Figure 3 show the cropland acreages in each group for each problem that needs conservation treatment.

On some land, none of the conditions are serious enough to impose limits or hazards, but most of the land has one or more of the problems. Any of these problems may be dominant. The dominant problem may occur alone or may be accompanied by one of the others. The Inventory does not take into account combinations of more than two problems.

Pasture

The conservation needs on pasture land were estimated in acres needing treatment or problems related to the establishment and maintenance of cover.

The total acreage needing treatment and feasible to treat is shown by problem areas in Table 5 and Figure 4. The estimates of acreages needing establishment or re-establishment do not duplicate those needing improvement; however, acreages estimated for any of the other problems may duplicate some of the other acreages.

It is estimated that in 1975 the total acreage of pasture land in New Jersey will be 185,000 acres. Of this total 40,000 acres do not require treatment or are not feasible to treat. Treatment is required on 145,000 acres.

Establishment or Re-establishment of Vegetation

This category includes the acreage expected to be converted from other uses into pasture plus pasture land in such poor condition in 1958 that it needs to be completely re-established. There are 68,000 acres of land that require establishment or re-establishment of vegetation in New Jersey.

Improvement of Vegetative Cover

The acreage on which the vegetative cover was inadequate in 1958 but which could be restored to satisfactory condition by improvement measures short of complete re-establishment is 76,000 acres. In New Jersey, improvement measures included liming and fertilizing, use of herbicides and over-seeding.

Protection of Vegetative Cover

The 1958 acreage which needs protection from erosion totaled 19,000 acres. This included gullied or other seriously washed and windblown areas which need control measures to prevent further deterioration. This acreage does not include any pasture on which woody and noxious plants would be eradicated in the establishment or re-establishment of the pasture.

Water Management

The 1958 acreage on which excess water prevents the adequate establishment, maintenance, and use of desirable vegetative cover is estimated at 22,000 acres.

Forest and Woodland

The conservation needs on forest and woodland were estimated in acres needing treatment for problems associated with the development and management of the forest and soil resources.

Forest land withdrawn from timber utilization or incapable of yielding usable wood products because of adverse site conditions or so physically inaccessible as to be unavailable economically in the foreseeable future was not considered in estimating conservation needs. Only measures necessary for the protection of such areas for watershed, wildlife or recreational uses or for the protection of adjacent productive forest and woodland were considered.

Table 6 and Figure 5 show the acreage of forest and woodland estimated as needing treatment in each of the problem groups. Most New Jersey woodlands need treatment of one or more kinds that are considered feasible.

Establishment and Reinforcement of Timber Stand

The acreage is made up of three components: (1) Land expected to shift to forest and woodland from other uses by 1975; (2) land classified as forest and woodland in 1958 but which was less than 10 per cent stocked or stocked with undesirable trees (poor species or poor sprouts of desirable species); and (3) land in forest and woodland in 1958 more than 10 per cent stocked which needed reinforcement.

Planting plays a small role in this establishment. Only a few acres will change from cropland or pasture to woodland by 1975, and reinforcement planting is not usually recommended in New Jersey.



Nearly half of New Jersey is still in forest.

Most of the needed effort is on measures designed to favor the establishment and dominance of desirable natural reproduction. These measures include (1) prescribed burning to prepare seedbeds for natural pine reproduction in the pine region, (2) the use of chemicals in mistblowers or injectors to control undesirable competitors and permit the establishment and dominance of such valuable species as the pines, oaks, yellow-poplar, white-cedar, or sweetgum, and (3) similar treatments. Research in New Jersey has shown that such measures will greatly improve the composition, growth and quality of the next forest crop.

Improvement of Timber Stand

About 135,000 acres can and should have timber stand improvement treatments. Estimates were limited to acreages and timber types expected to return investment costs within 15 to 20

years. In New Jersey research has shown that appreciable improvement in composition, growth and quality is restricted to relatively few, partly grown stands. Only comparable stands where such changes could be expected were included in the estimates.

Owners interested in these or other forestry measures should contact the Bureau of Forestry, New Jersey Department of Conservation and Economic Development. Foresters of the Department will advise owners on techniques, marketing, planting stock and methods, and services available from the Department or private individuals.

Protection of Timber Stand

Fire. Additional protection from fire is needed in the pine region of southern New Jersey. In view of large fires there in recent years, protection on about 1,040,000 acres is still considered in-

adequate to meet the fire situation in the worst years and under critical conditions. However, the situation should improve. Recent use of aircraft in dropping retardants will help suppression forces on the ground. But in both private and public holdings fuel reduction and other presuppression measures are still needed in this flammable section.

Insects and disease. Protection from insects and diseases more nearly approaches adequacy, but it is still short—by an estimated 412,000 acres in 1958. Throughout the State, present detection and control are considered adequate for minor outbreaks, but not for suppressing major infestations of native insects, such as sawflies, or of introduced diseases, such as the chestnut blight.

Animals. About 97,000 acres need protection from animals, and such protection is considered feasible and practical under good forest manage-

ment. Most of the need is in permitting desirable reproduction to outgrow severe deer browsing, although domestic animals are a problem in limited areas. Rodent damage is usually negligible.

Erosion Control

Relatively little acreage needs to be planted in New Jersey to control erosion, but in many woodlands, particularly those of northern New Jersey, water-disposal measures are needed to control logging-road and skid-trail erosion. In the whole state 17,000 acres need at least one of these two treatments.

Establishment of Shelterbelts and Windbreaks

On 700 acres windbreaks and shelterbelts are feasible to influence wind currents and thus reduce soil blowing, control snow-drifting, conserve moisture, and protect buildings, fields, gardens and feed lots.



Wildlife plantings for food and cover mean more game for New Jersey sportsmen.

Other Land

Other land was divided into groupings identical to those for cropland. However, the estimates shown in tables 7 and 11 do not show the subgroupings of secondary problems. Such estimates were developed by County Needs Committees and summarized for the State, but were not considered to be of sufficient importance to include in these tables.

In estimating acreages needing treatment and feasible to treat (tables 7 to 13), it was recognized

that other land is not subject to the problems that accompany tillage, and that some of the acreage had such a low potential for productive use that treatment was not economically feasible. Problems on other land affecting nearby cropland, pasture, or forest and woodland were considered in the estimates for those land uses.

Table 7 records the estimate of needs for conservation treatment on expected acreage of other land in New Jersey in 1975.

Table 6. Estimate of needs for conservation treatment on expected acreage of forest and woodland, New Jersey, 1975

Item	Acreage
	<u>1,000 acres</u>
Total area	2,080.0
Area needing treatment by:	
Establishment and reinforcement of timber stand	818.0
Improvement of timber stand	135.0
Protection of timber stand from:	
Fire	1,040.0
Insects and disease	358.0
Animals including rodents	97.0
Erosion control	17.0
Establishment of shelterbelts and windbreaks	0.7

Table 7. Estimate of needs for conservation treatment on expected acreage of other land, New Jersey, 1975

Type of problem	Total acreage	Acreage adequately treated or treatment not feasible	Acreage needing treatment and feasible to treat	Acreage needing treatment in farms
	<u>1,000 acres</u>	<u>1,000 acres</u>	<u>1,000 acres</u>	<u>1,000 acres</u>
Land with no problems that limit use	9.3	-	-	-
Land on which the dominant problem is erosion by water or wind or both	95.8	86.1	9.7	5.0
Land on which the dominant problem is excess water	332.0	303.6	28.4	10.7
Land on which the dominant problems are caused by unfavorable soil conditions	97.7	82.3	15.4	4.7
Total acreage of other land	534.8	472.0	53.5	20.4

INVENTORY BY COUNTIES

The land areas of the counties, use of inventory acreage by land-capability classes, and needs for conservation treatment in acres for the dominant problems on cropland, pasture, forest and woodland and other land are summarized in tables 8 through 13.

Conservation needs on cropland and other land

were based on problems caused by erosion, excess water and unfavorable soil. Conservation needs for pasture and forest and woodland were based on problems related to the establishment, improvement, and protection of vegetative cover, and water management. All estimates are in acres.

Table 8. Land area in state and use of inventory acreage by counties, New Jersey, 1958^{1/}

County	Inventory acreage							Noninventory acreage				
	Cropland	Pasture	Forest and woodland		Other land		Total	Federal land	Urban and built-up areas	Water ^{3/} areas	Total	Total land area
			In farms ^{2/}	Other	In farms	Not in farms						
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
Atlantic	29.5	.5	224.4	3.0	4.5	51.9	313.8	12.1	41.2	.9	54.2	368.0
Bergen	5.0	1.5	25.0	5.0	.9	8.0	45.4	-	103.7	-	103.7	149.1
Burlington	107.3	22.6	302.4	1.0	5.0	37.7	476.0	18.1	28.7	1.3	48.1	524.2
Camden	23.0	1.0	58.9	.5	1.5	10.8	95.7	-	45.6	.1	45.7	141.4
Cape May	15.5	1.0	75.0	.3	21.7	41.5	155.0	.2	15.7	-	15.9	170.9
Cumberland	106.4	5.7	128.8	2.4	32.9	24.7	300.9	-	18.4	2.5	20.9	321.9
Essex	1.0	.2	9.8	2.2	.4	2.5	16.1	-	65.8	-	65.8	81.9
Gloucester	87.2	4.0	74.2	1.5	12.5	10.6	190.0	-	19.4	1.1	20.5	210.6
Hudson	-	-	-	-	-	3.0	3.0	-	25.8	-	25.8	28.8
Hunterdon	109.8	21.7	84.4	.6	17.3	33.7	267.5	-	10.2	.7	10.9	278.4
Mercer	54.9	11.0	37.9	.2	2.2	5.1	111.3	-	34.5	.1	34.6	145.9
Middlesex	46.5	2.4	47.7	1.4	7.0	10.9	115.9	5.4	78.2	.3	83.9	199.7
Monmouth	89.4	20.7	107.0	1.1	16.0	2.9	237.1	14.8	52.6	.7	68.1	305.3
Morris	34.6	4.8	157.6	16.4	4.0	30.5	247.9	6.4	40.8	3.9	51.1	298.9
Ocean	27.3	3.1	275.0	1.0	4.2	43.9	354.5	25.5	29.2	-	54.7	409.0
Passaic	2.5	.5	70.0	5.0	.6	3.1	81.7	-	40.0	2.5	42.5	124.2
Salem	84.6	13.1	69.6	1.0	15.0	22.2	205.5	1.7	14.6	2.2	18.5	224.0
Somerset	61.9	20.3	45.8	-	5.0	36.4	169.4	.8	25.5	.8	27.1	196.5
Sussex	47.1	48.8	184.9	21.8	8.0	12.5	323.1	-	9.8	5.0	14.8	337.9
Union	1.2	.2	-	3.5	.3	2.0	7.2	-	58.7	-	58.7	65.9
Warren	71.0	19.0	101.4	.2	8.3	14.1	214.0	-	15.7	1.3	17.0	231.0

The totals shown will not always equal the sum of the individual figures due to the process of rounding off figures to the nearest tenth of a thousand.

1/ The Conservation Needs Inventory was begun in August 1956 and completed in April 1961 in New Jersey.

2/ Or operated for the production of forest products.

3/ Of less than 40 acres in size and less than 1/8 mile in width. Water areas of 40 acres in size or 1/8 mile in width and over are not included in total land area.

Table 9. Use of inventory acreage by land capability classes and subclasses, by counties, New Jersey

1958¹ and 1975

Class and subclass	Cropland		Pasture		Forest-Woodland		Other land		Total	
	1958	1975	1958	1975	1958	1975	1958	1975	1958	1975
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
ATLANTIC COUNTY										
I	.1	.6	-	-	12.9	7.7	-	.1	13.0	8.4
II	14.0	14.8	-	-	22.7	15.3	1.9	2.1	38.6	32.2
E	1.8	2.1	-	-	12.4	6.9	.7	.7	14.9	9.7
W	2.1	2.3	-	-	6.3	5.0	.1	.2	8.5	7.5
S	10.1	10.4	-	-	4.0	3.4	1.1	1.2	15.2	15.0
III	12.5	17.1	.4	.4	104.9	99.9	4.6	4.6	122.4	122.0
E	-	.1	-	-	1.3	1.1	-	.1	1.3	1.3
W	5.1	8.3	.3	.3	72.1	68.8	.7	.9	78.2	78.3
S	7.4	8.7	.1	.1	31.5	30.0	3.9	3.6	42.9	42.4
IV	1.0	1.0	-	-	20.4	20.4	5.7	5.7	27.1	27.1
E	.3	.3	-	-	-	-	-	-	.3	.3
S	.7	.7	-	-	20.4	20.4	5.7	5.7	26.8	26.8
I-IV	27.6	33.5	.4	.4	160.9	143.3	12.2	12.5	201.1	189.7
VII	1.9	1.5	.1	.1	64.9	64.6	.8	1.0	67.7	67.2
W	-	.5	-	-	32.5	32.0	-	-	32.5	32.5
S	1.9	1.0	.1	.1	32.4	32.6	.8	1.0	35.2	34.7
VII	1.9	1.5	.1	.1	64.9	64.6	.8	1.0	67.7	67.2
VIII	-	-	-	-	1.6	1.6	40.8	39.8	42.4	41.4
W	-	-	-	-	1.6	1.6	40.8	39.8	42.4	41.4
VIII	-	-	-	-	1.6	1.6	40.8	39.8	42.4	41.4
UNCLASSIFIED	-	-	-	-	-	-	2.6	2.6	2.6	2.6
TOTAL	29.5	35.0	.5	.5	227.4	209.5	56.4	55.9	313.8	300.9

BERGEN COUNTY

I	.2	.1	-	-	.5	.1	.1	-	.8	.2
II	1.3	1.0	.1	-	3.0	1.0	1.5	1.0	5.9	3.0
E	.8	.6	-	-	1.5	.5	1.0	.6	3.3	1.7
W	.4	.3	.1	-	1.0	.3	.5	.4	2.0	1.0
S	.1	.1	-	-	.5	.2	-	-	.6	.3
III	2.0	1.2	.3	.3	8.0	6.2	2.5	2.2	12.8	9.9
E	1.0	.6	.1	.1	2.0	1.0	.5	.4	3.6	2.1
W	.7	.4	.2	.2	5.0	4.2	1.5	1.3	7.4	6.1
S	.3	.2	-	-	1.0	1.0	.5	.5	1.8	1.7
IV	1.0	.2	.3	.3	10.0	9.5	.9	.8	12.2	10.8
E	.6	.1	.1	.1	4.0	3.7	.2	.1	4.9	4.0
W	.3	.1	.2	.2	4.0	3.8	.4	.4	4.9	4.5
S	.1	-	-	-	2.0	2.0	.3	.3	2.4	2.3
I-IV	4.5	2.5	.7	.6	21.5	16.8	5.0	4.0	31.7	23.9
VI	.4	-	.6	.3	5.0	4.8	.3	.2	6.3	5.3
E	.2	-	.1	-	1.0	.9	.1	-	1.4	.9
W	.1	-	.2	.1	1.0	1.0	.2	.2	1.5	1.3
S	.1	-	.3	.2	3.0	2.9	-	-	3.4	3.1
VII	.1	-	.2	.1	3.0	2.9	2.1	1.8	5.4	4.8
E	-	-	-	-	.5	.4	.1	-	.6	.4
W	.1	-	.1	.1	.5	.5	2.0	1.8	2.7	2.4
S	-	-	.1	-	2.0	2.0	-	-	2.1	2.0
VI-VII	.5	-	.8	.4	8.0	7.7	2.4	2.0	11.7	10.1
VIII	-	-	-	-	.5	.5	1.5	.5	2.0	1.0
W	-	-	-	-	-	-	1.0	.2	1.0	.2
S	-	-	-	-	.5	.5	.5	.3	1.0	.8
VIII	-	-	-	-	.5	.5	1.5	.5	2.0	1.0
TOTAL	5.0	2.5	1.5	1.0	30.0	25.0	8.9	6.5	45.4	35.0

BURLINGTON COUNTY

I	8.0	5.8	.4	.3	.7	.5	.4	.6	9.5	7.2
II	50.1	42.5	5.8	4.2	29.6	27.9	7.7	8.3	93.2	82.9
E	27.8	23.4	2.1	1.0	15.4	14.5	4.1	4.3	49.4	43.2
W	8.1	7.3	1.2	1.0	7.1	7.1	1.4	1.3	17.8	16.7
S	14.2	11.8	2.5	2.2	7.1	6.3	2.2	2.7	26.0	23.0

Table 9. Use of inventory acreage by land capability classes and subclasses, by counties, New Jersey
1958¹ and 1975 (continued)

Class and subclass	Cropland		Pasture		Forest-Woodland		Other land		Total	
	1958	1975	1958	1975	1958	1975	1958	1975	1958	1975
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
BURLINGTON COUNTY (continued)										
III	39.6	35.8	10.4	9.1	140.8	138.5	14.5	11.4	205.3	194.8
E	12.3	10.9	2.0	1.9	6.4	6.4	3.3	2.2	24.0	21.4
W	21.0	19.3	7.2	6.3	73.9	72.1	6.3	5.3	108.4	103.0
S	6.3	5.6	1.2	.9	60.5	60.0	4.9	3.9	72.9	70.4
IV	1.1	1.1	.5	.5	13.1	12.9	.4	.4	15.1	14.9
E	1.1	1.1	.5	.5	1.3	1.3	.4	.4	3.3	3.3
S	-	-	-	-	11.8	11.6	-	-	11.8	11.6
I-IV	98.8	85.2	17.1	14.1	184.2	179.8	23.0	20.7	323.1	299.8
VI	2.6	2.1	2.7	2.8	7.6	7.8	.4	.4	13.3	13.1
E	.7	.3	.4	.6	4.2	4.4	.2	.2	5.5	5.5
W	1.9	1.8	2.3	2.2	3.4	3.4	.2	.2	7.8	7.6
VII	5.6	4.5	2.8	2.8	110.3	110.8	8.1	8.0	126.8	126.1
E	.9	-	.3	.5	2.1	2.7	.3	.3	3.6	3.5
W	.7	.7	1.3	1.3	24.4	24.3	.3	.3	26.7	26.6
S	4.0	3.8	1.2	1.0	83.8	83.8	7.5	7.4	96.5	96.0
VI-VII	8.2	6.6	5.5	5.6	117.9	118.6	8.5	8.4	140.1	139.2
VIII	.2	.2	-	-	1.3	1.3	9.7	9.5	11.2	11.0
W	.2	.2	-	-	1.3	1.3	9.7	9.5	11.2	11.0
VIII	.2	.2	-	-	1.3	1.3	9.7	9.5	11.2	11.0
UNCLASSIFIED	-	-	-	-	.1	.1	1.7	1.7	1.8	1.8
TOTAL	107.2	92.0	22.6	19.7	303.5	299.8	42.9	40.3	476.2	451.8
CAMDEN COUNTY										
I	1.0	.5	-	-	.7	.4	.3	.3	2.0	1.2
II	8.8	7.3	.2	.1	7.1	6.2	2.3	3.5	18.4	17.1
E	2.8	1.9	.1	-	2.9	2.4	1.0	1.5	6.8	5.8
W	1.4	1.2	-	-	.7	.8	.5	.6	2.6	2.6
S	4.6	4.2	.1	.1	3.5	3.0	.8	1.4	9.0	8.7
III	9.9	7.8	.4	.1	24.3	23.2	4.3	5.2	38.9	36.3
E	1.7	.5	.1	-	.6	.2	.6	.9	3.0	1.6
W	4.5	3.8	.3	.1	13.0	12.9	1.6	1.7	19.4	18.5
S	3.7	3.5	-	-	10.7	10.1	2.1	2.6	16.5	16.2
IV	.4	.3	-	-	4.6	7.6	3.7	.8	8.7	8.7
E	.2	.1	-	-	.2	.2	.2	.3	.6	.6
S	.2	.2	-	-	4.4	7.4	3.5	.5	8.1	8.1
I-IV	20.1	15.9	.6	.2	36.7	37.4	10.6	9.8	68.0	63.3
VI	.3	.3	.1	.1	.6	.7	.1	.2	1.1	1.3
E	.1	.1	-	-	.3	.4	-	.1	.4	.6
W	.2	.2	.1	.1	.3	.3	.1	.1	.7	.7
VII	2.6	2.1	.1	-	21.4	20.9	1.0	1.5	25.1	24.5
E	.1	-	-	-	.2	-	.1	.2	.4	.2
W	-	.1	.1	-	9.8	9.4	.1	.4	10.0	9.9
S	2.5	2.0	-	-	11.4	11.5	.8	.9	14.7	14.4
VI-VII	2.9	2.4	.2	.1	22.0	21.6	1.1	1.7	26.2	25.8
VIII	-	-	-	-	.3	.2	.2	.2	.5	.4
W	-	-	-	-	.3	.2	.2	.2	.5	.4
VIII	-	-	-	-	.3	.2	.2	.2	.5	.4
UNCLASSIFIED	-	-	-	-	.3	.3	.5	.5	.8	.8
TOTAL	23.0	18.3	.8	.3	59.3	59.5	12.4	12.2	95.5	90.3
CAPE MAY COUNTY										
I	6.1	8.0	.2	.4	11.8	7.4	.1	.3	18.2	16.1
II	7.5	11.2	.6	.8	35.3	29.7	.9	1.3	44.3	43.0
E	1.0	.8	-	-	.4	.2	-	-	1.4	1.0
W	2.3	4.0	.3	.5	9.5	6.5	.1	.5	12.2	11.5
S	4.2	6.4	.3	.3	25.4	23.0	.8	.8	30.7	30.5
III	1.3	1.4	.3	.2	19.8	19.8	.5	.5	21.9	21.9
E	-	-	-	-	.8	.8	-	-	.8	.8
W	.8	.8	.2	.2	14.9	14.9	-	-	15.9	15.9
S	.5	.6	.1	-	4.1	4.1	.5	.5	5.2	5.2

Table 9. Use of inventory acreage by land capability classes and subclasses, by counties, New Jersey
1958^{1/} and 1975 (continued)

Class and subclass	Cropland		Pasture		Forest-Woodland		Other land		Total	
	1958	1975	1958	1975	1958	1975	1958	1975	1958	1975
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
CAPE MAY COUNTY (continued)										
I-IV	14.9	20.6	1.1	1.4	66.9	56.9	1.5	2.1	84.4	81.0
VII	.7	.7	-	-	8.6	8.6	.1	.1	9.4	9.4
W	.7	.7	-	-	8.6	8.6	.1	.1	9.4	9.4
VII	.7	.7	-	-	8.6	8.6	.1	.1	9.4	9.4
VIII	-	-	-	-	-	-	57.9	56.9	57.9	56.9
W	-	-	-	-	-	-	57.9	56.9	57.9	56.9
VIII	-	-	-	-	-	-	57.9	56.9	57.9	56.9
UNCLASSIFIED	-	-	-	-	-	-	3.8	3.8	3.8	3.8
TOTAL	15.6	21.3	1.1	1.4	75.5	65.5	63.3	62.9	155.5	151.1
CUMBERLAND COUNTY										
I	11.0	12.8	.2	.2	8.7	6.6	.6	.9	20.5	20.5
II	55.1	55.8	1.9	1.8	44.3	41.9	2.9	4.5	104.2	104.0
E	17.0	17.1	.8	.8	8.6	8.2	.7	1.0	27.1	27.1
W	12.8	13.1	.5	.4	7.1	6.9	.7	.7	21.1	21.1
S	25.3	25.6	.6	.6	28.6	26.8	1.5	2.8	56.0	55.8
III	34.0	34.4	1.7	1.9	45.7	44.1	5.5	5.8	86.9	86.2
E	8.5	8.5	.6	.7	3.2	2.7	.5	.8	12.8	12.7
W	11.0	11.7	1.0	1.1	25.6	24.9	2.3	2.1	39.9	39.8
S	14.5	14.2	.1	.1	16.9	16.5	2.7	2.9	34.2	33.7
IV	.4	.5	.1	.1	2.9	2.6	.8	.9	4.2	4.1
E	.4	.5	.1	.1	.9	.8	.1	.1	1.5	1.5
S	-	-	-	-	2.0	1.8	.7	.8	2.7	2.6
I-IV	100.5	103.5	3.9	4.0	101.6	95.2	9.8	12.1	215.8	214.8
VI	.3	.2	-	-	.1	.1	-	-	.4	.3
E	.1	-	-	-	.1	.1	-	-	.2	.1
W	.2	.2	-	-	-	-	-	-	.2	.2
VII	1.1	1.1	1.8	1.7	27.3	27.2	1.0	1.1	31.2	31.1
E	-	-	.1	.1	.3	.3	-	-	.4	.4
W	.5	.5	-	-	15.0	15.0	.3	.3	15.8	15.8
S	.6	.6	1.7	1.6	12.0	11.9	.7	.8	15.0	14.9
VI-VII	1.4	1.3	1.8	1.7	27.4	27.3	1.0	1.1	31.6	31.4
VIII	4.5	4.5	-	-	1.6	1.6	45.9	45.9	52.0	52.0
W	4.5	4.5	-	-	1.6	1.6	45.9	45.9	52.0	52.0
VIII	4.5	4.5	-	-	1.6	1.6	45.9	45.9	52.0	52.0
UNCLASSIFIED	-	-	-	-	.6	.6	1.0	1.0	1.6	1.6
TOTAL	106.4	109.3	5.7	5.7	131.2	124.7	57.7	60.1	301.0	299.8
ESSEX COUNTY										
I	.1	.1	-	-	.1	-	-	-	.2	.1
II	.4	.4	-	-	.9	.7	.3	.3	1.6	1.4
E	.3	.3	-	-	.5	.3	.2	.2	1.0	.8
W	.1	.1	-	-	.3	.3	.1	.1	.5	.5
S	-	-	-	-	.1	.1	-	-	.1	.1
III	.3	.3	.1	.1	1.0	.9	.7	.7	2.1	2.0
E	.1	.1	-	-	.4	.3	.2	.2	.7	.6
W	.2	.2	.1	.1	.5	.5	.5	.5	1.3	1.3
S	-	-	-	-	.1	.1	-	-	.1	.1
IV	.1	-	-	-	2.0	1.9	1.0	1.0	3.1	2.9
E	.1	-	-	-	1.0	1.0	.7	.7	1.8	1.7
W	-	-	-	-	.6	.6	.3	.3	.9	.9
S	-	-	-	-	.4	.3	-	-	.4	.3
I-IV	.9	.8	.1	.1	4.0	3.5	2.0	2.0	7.0	6.4
VI	.1	-	.1	-	3.0	2.7	.3	.3	3.5	3.0
E	.1	-	.1	-	1.0	.9	-	-	1.2	.9
W	-	-	-	-	.5	.5	.3	.3	.8	.8
S	-	-	-	-	1.5	1.3	-	-	1.5	1.3
VII	-	-	-	-	5.0	4.8	.1	.1	5.1	4.9
E	-	-	-	-	2.0	2.0	-	-	2.0	2.0
W	-	-	-	-	-	-	.1	.1	.1	.1

Table 9. Use of inventory acreage by land capability classes and subclasses, by counties, New Jersey
1958^{1/} and 1975 (continued)

Class and subclass	Cropland		Pasture		Forest-Woodland		Other land		Total	
	1958	1975	1958	1975	1958	1975	1958	1975	1958	1975
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
ESSEX COUNTY (continued)										
S	-	-	-	-	3.0	2.8	-	-	3.0	2.8
VI-VII	.1	-	.1	-	8.0	7.5	.4	.4	8.6	7.9
VIII	-	-	-	-	-	-	.5	.5	.5	.5
W	-	-	-	-	-	-	.5	.5	.5	.5
VIII	-	-	-	-	-	-	.5	.5	.5	.5
TOTAL	1.0	.8	.2	.1	12.0	11.0	2.9	2.9	16.1	14.8
GLOUCESTER COUNTY										
I	8.2	7.5	.1	-	3.7	3.3	.8	.6	12.8	11.4
II	47.0	50.5	1.1	.4	25.4	15.0	5.9	5.3	79.4	71.2
E	15.9	14.6	.4	.1	5.0	4.5	2.0	1.6	23.3	20.8
W	9.5	9.2	.2	.2	3.8	3.2	1.1	1.2	14.6	13.8
S	21.6	26.7	.5	.1	16.6	7.3	2.8	2.5	41.5	36.6
III	28.2	26.1	1.6	.6	22.3	19.4	8.2	7.2	60.3	53.3
E	10.6	9.5	.6	.1	2.6	1.9	2.2	1.7	16.0	13.2
W	8.4	7.6	.9	.5	11.1	10.8	3.7	3.6	24.1	22.5
S	9.2	9.0	.1	-	8.6	6.7	2.3	1.9	20.2	17.6
IV	.9	1.1	.1	.1	2.0	1.6	.6	.3	3.6	3.1
E	.9	1.1	.1	.1	1.1	.6	.4	.3	2.5	2.1
S	-	-	-	-	.9	1.0	.2	-	1.1	1.0
I-IV	84.3	85.2	2.9	1.1	53.4	39.3	15.5	13.4	156.1	139.0
VI	1.2	1.1	.4	.2	2.1	1.5	.9	.8	4.6	3.6
E	.5	.3	.1	.1	1.2	.8	.2	.2	2.0	1.4
W	.7	.8	.3	.1	.9	.7	.7	.6	2.6	2.2
VII	1.5	1.3	.7	.4	18.9	18.0	2.3	2.1	23.4	21.8
E	.3	.3	.1	-	.8	.7	.2	.2	1.4	1.2
W	.4	.3	.2	.1	11.0	10.6	.7	.6	12.3	11.6
S	.8	.7	.4	.3	7.1	6.7	1.4	1.3	9.7	9.0
VI-VII	2.7	2.4	1.1	.6	21.0	19.5	3.2	2.9	28.0	25.4
VIII	.1	.1	-	-	1.3	1.1	3.4	3.4	4.8	4.6
W	.1	.1	-	-	1.3	1.1	3.4	3.4	4.8	4.6
VIII	.1	.1	-	-	1.3	1.1	3.4	3.4	4.8	4.6
UNCLASSIFIED	-	-	-	-	.2	.2	.9	.8	1.1	1.0
TOTAL	87.1	87.7	4.0	1.7	75.9	60.1	23.0	20.5	190.0	170.0
HUDSON COUNTY										
VIII	-	-	-	-	-	-	3.0	2.2	3.0	2.2
W	-	-	-	-	-	-	2.0	1.2	2.0	1.2
S	-	-	-	-	-	-	1.0	1.0	1.0	1.0
VIII	-	-	-	-	-	-	3.0	2.2	3.0	2.2
TOTAL	-	-	-	-	-	-	3.0	2.2	3.0	2.2
HUNTERDON COUNTY										
I	.1	.1	.2	.1	-	-	.1	.1	.4	.3
II	30.6	24.5	5.7	6.9	4.6	7.3	8.9	8.8	49.8	47.5
E	17.7	14.9	3.0	3.6	2.3	3.8	4.6	4.4	27.6	26.7
W	9.9	7.9	2.7	2.9	2.1	2.7	2.4	3.2	17.1	16.7
S	3.0	1.7	-	.4	.2	.8	1.9	1.2	5.1	4.1
III	58.4	34.1	7.8	14.4	18.4	25.2	27.4	30.6	112.0	104.3
E	44.3	30.0	6.3	12.4	12.2	14.8	16.9	16.9	79.7	74.1
W	13.8	3.9	1.5	1.9	6.2	10.4	10.5	13.7	32.0	29.9
S	.3	.2	-	.1	-	-	-	-	.3	.3
IV	17.1	10.6	4.3	5.7	7.6	9.9	10.5	10.3	39.5	36.5
E	14.4	8.8	3.6	5.0	5.0	5.8	6.9	7.7	29.9	27.3
W	2.7	1.8	.7	.7	2.6	4.1	3.6	2.6	9.6	9.2
I-IV	106.2	69.3	18.0	27.1	30.6	42.4	46.9	49.8	201.7	188.6
VI	3.5	1.9	2.6	2.8	22.2	22.2	2.6	3.1	30.9	30.0
E	1.0	.4	.1	.3	1.6	1.6	.1	.5	2.8	2.8
W	.3	.2	1.6	1.1	2.3	2.6	1.5	1.8	5.7	5.7
S	2.2	1.3	.9	1.4	18.3	18.0	1.0	.8	22.4	21.5

Table 9. Use of inventory acreage by land capability classes and subclasses, by counties, New Jersey
1958/ and 1975 (continued)

Class and subclass	Cropland		Pasture		Forest-Woodland		Other land		Total	
	1958	1975	1958	1975	1958	1975	1958	1975	1958	1975
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
HUNTERDON COUNTY (continued)										
VII	.1	-	.9	.7	32.0	31.6	1.3	1.2	34.3	33.5
E	.1	-	.1	.1	1.0	.9	.1	.2	1.3	1.2
W	-	-	-	-	8.2	8.2	.1	-	8.3	8.2
S	-	-	.8	.6	22.8	22.5	1.1	1.0	24.7	24.1
VI-VII	3.6	1.9	3.5	3.5	54.2	53.8	3.9	4.3	65.2	63.5
UNCLASSIFIED	-	-	-	-	.1	.2	.1	-	.2	.2
TOTAL	109.8	71.2	21.5	30.6	84.9	96.4	50.9	54.1	267.1	252.3
MERCER COUNTY										
I	1.7	1.3	1.0	.7	.1	-	.2	.2	3.0	2.2
II	30.3	23.6	4.8	4.7	7.0	6.1	1.5	2.0	43.6	36.4
E	19.9	14.5	2.4	2.4	3.0	2.4	.6	.8	25.9	20.1
W	9.3	8.4	1.9	1.9	3.7	3.5	.9	1.1	15.8	14.9
S	1.1	.7	.5	.4	.3	.2	-	.1	1.9	1.4
III	18.4	16.3	3.4	2.9	13.3	12.4	4.1	4.8	39.2	36.4
E	10.1	8.7	1.5	1.4	1.9	1.8	1.1	1.3	14.6	13.2
W	7.5	6.9	1.8	1.4	11.4	10.6	3.0	3.4	23.7	22.3
S	.8	.7	.1	.1	-	-	-	.1	.9	.9
IV	2.3	1.2	.4	.9	4.2	4.2	.3	.6	7.2	6.9
E	1.6	.8	.3	.5	1.3	1.2	-	.4	3.2	2.9
W	.6	.3	.1	.3	2.8	2.9	.3	.2	3.8	3.7
S	.1	.1	-	.1	.1	.1	-	-	.2	.3
I-IV	52.7	42.4	9.6	9.2	24.6	22.7	6.1	7.6	93.0	81.9
VI	2.3	1.2	1.5	2.1	11.6	11.3	.3	.7	15.7	15.3
E	.1	-	-	.1	.1	.1	-	-	.2	.2
W	2.2	1.2	1.5	1.9	5.0	4.9	.2	.5	8.9	8.5
S	-	-	-	.1	6.5	6.3	.1	.2	6.6	6.6
VII	-	-	-	-	2.0	2.0	.8	.7	2.8	2.7
E	-	-	-	-	.5	.5	-	-	.5	.5
W	-	-	-	-	.8	.8	.8	.7	1.6	1.5
S	-	-	-	-	.7	.7	-	-	.7	.7
VI-VII	2.3	1.2	1.5	2.1	13.6	13.3	1.1	1.4	18.5	18.0
UNCLASSIFIED	-	-	-	-	-	-	.1	.1	.1	.1
TOTAL	55.0	43.6	11.1	11.3	38.2	36.0	7.3	9.1	111.6	100.0
MIDDLESEX COUNTY										
I	14.8	12.8	-	-	1.1	.7	.2	-	16.1	13.5
II	14.3	13.4	.8	.6	8.2	6.0	4.4	2.0	27.7	22.0
E	7.0	6.6	.3	.2	2.8	2.0	1.1	.3	11.2	9.1
W	4.8	4.7	.2	.2	4.5	3.3	1.5	.8	11.0	9.0
S	2.5	2.1	.3	.2	.9	.7	1.8	.9	5.5	3.9
III	15.9	14.5	1.1	1.1	22.9	21.4	6.8	6.0	46.7	43.0
E	7.8	6.8	.4	.4	2.4	2.1	1.3	.8	11.9	10.1
W	6.1	5.8	.7	.7	18.3	17.2	4.4	4.1	29.5	27.8
S	2.0	1.9	-	-	2.2	2.1	1.1	1.1	5.3	5.1
IV	.6	.5	.1	.1	6.5	6.3	1.0	.8	8.2	7.7
E	.4	.4	-	-	1.1	1.1	.2	.1	1.7	1.6
W	-	-	.1	.1	4.8	4.6	.6	.6	5.5	5.3
S	.2	.1	-	-	.6	.6	.2	.1	1.0	.8
I-IV	45.6	41.2	2.0	1.8	38.7	34.4	12.4	8.8	98.7	86.2
VI	.3	.3	.4	.3	3.0	3.1	.5	.4	4.2	4.1
E	.3	.3	.2	.2	.1	.2	.1	-	.7	.7
W	-	-	.2	.1	2.7	2.7	.4	.4	3.3	3.2
S	-	-	-	-	.2	.2	-	-	.2	.2
VII	.6	.6	-	-	6.3	6.3	2.4	2.1	9.3	9.0
E	.5	.5	-	-	.2	.3	.1	-	.8	.8
W	.1	.1	-	-	3.6	3.6	1.2	1.1	4.9	4.8
S	-	-	-	-	2.5	2.4	1.1	1.0	3.6	3.4
VI-VII	.9	.9	.4	.3	9.3	9.4	2.9	2.5	13.5	13.1
VIII	.1	.1	-	-	.1	.2	.7	.6	.9	.9
W	.1	.1	-	-	.1	.2	.7	.6	.9	.9

Table 9. Use of inventory acreage by land capability classes and subclasses, by counties, New Jersey
1958^{1/} and 1975 (continued)

Class and subclass	Cropland		Pasture		Forest-Woodland		Other land		Total	
	1958	1975	1958	1975	1958	1975	1958	1975	1958	1975
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
MIDDLESEX COUNTY (continued)										
VIII	.1	.1	-	-	.1	.2	.7	.6	.9	.9
UNCLASSIFIED	-	-	-	-	.9	.9	1.8	1.8	2.7	2.7
TOTAL	46.6	42.2	2.4	2.1	49.0	44.9	17.8	13.7	115.8	102.9
MONMOUTH COUNTY										
I	6.4	3.9	.3	.3	.1	.1	.4	.4	7.2	4.7
II	44.2	26.5	5.6	4.9	12.7	11.2	4.0	4.0	66.5	46.6
E	24.9	14.9	2.0	1.8	7.1	6.2	2.3	2.3	36.3	25.2
W	6.5	3.9	.8	.7	2.0	1.8	.5	.5	9.8	6.9
S	12.8	7.7	2.8	2.4	3.6	3.2	1.2	1.2	20.4	14.5
III	31.8	19.2	9.0	8.0	46.6	41.1	7.8	7.8	95.2	76.1
E	12.4	7.5	2.6	2.3	5.1	4.5	1.7	1.7	21.8	16.0
W	13.1	7.9	5.3	4.7	23.0	20.3	3.8	3.8	45.2	36.7
S	6.3	3.8	1.1	1.0	18.5	16.3	2.3	2.3	28.2	23.4
IV	1.4	.9	.9	.8	4.5	3.9	.5	.5	7.3	6.1
E	1.3	.8	.9	.8	1.5	1.3	.4	.4	4.1	3.3
S	.1	.1	-	-	3.0	2.6	.1	.1	3.2	2.8
I-IV	83.8	50.5	15.8	14.0	63.9	56.3	12.7	12.7	176.2	133.5
VI	3.0	1.8	3.3	2.9	8.3	7.3	.9	.9	15.5	12.9
E	1.1	.7	1.2	1.1	5.5	4.8	.2	.2	8.0	6.8
W	1.9	1.1	2.1	1.8	2.8	2.5	.7	.7	7.5	6.1
VII	2.6	1.4	1.7	1.6	33.7	29.6	2.9	2.9	40.9	35.5
E	1.1	.6	.3	.3	2.4	2.1	.2	.2	4.0	3.2
W	.4	.2	1.1	1.0	9.5	8.3	.5	.5	11.5	10.0
S	1.1	.6	.3	.3	21.8	19.2	2.2	2.2	25.4	22.3
VI-VII	5.6	3.2	5.0	4.5	42.0	36.9	3.8	3.8	56.4	48.4
VIII	.1	.1	-	-	2.0	2.0	.6	.6	2.7	2.7
W	.1	.1	-	-	2.0	2.0	.6	.6	2.7	2.7
VIII	.1	.1	-	-	2.0	2.0	.6	.6	2.7	2.7
UNCLASSIFIED	-	-	-	-	.1	.1	1.9	1.9	2.0	2.0
TOTAL	89.5	53.8	20.8	18.5	108.0	95.3	19.0	19.0	237.3	186.6
MORRIS COUNTY										
I	1.3	.9	-	-	.3	.2	.6	.5	2.2	1.6
II	20.1	18.2	1.5	1.4	7.7	8.7	10.4	5.4	39.7	33.7
E	9.3	8.3	.4	.4	4.3	4.4	5.9	3.1	19.9	16.2
W	8.8	8.3	.9	.8	3.4	4.1	4.0	2.3	17.1	15.5
S	2.0	1.6	.2	.2	-	.2	.5	-	2.7	2.0
III	9.8	8.9	1.7	1.8	24.7	25.6	5.8	2.7	42.0	39.0
E	7.3	6.7	.3	.3	6.5	7.0	3.3	2.0	17.4	16.0
W	2.5	2.2	1.4	1.5	18.2	18.6	2.5	.7	24.6	23.0
IV	1.7	1.5	1.1	1.0	9.1	10.0	5.4	3.3	17.3	15.8
E	1.6	1.4	.1	.2	3.1	3.5	2.4	.8	7.2	5.9
W	.1	.1	1.0	.8	4.0	4.5	3.0	2.5	8.1	7.9
S	-	-	-	-	2.0	2.0	-	-	2.0	2.0
I-IV	32.9	29.5	4.3	4.2	41.8	44.5	22.2	11.9	101.2	90.1
VI	1.6	1.5	.6	.6	65.1	66.0	4.7	1.9	72.0	70.0
E	-	-	.1	.1	1.2	1.5	.6	.3	1.9	1.9
W	-	-	-	-	-	-	.2	.1	.2	.1
S	1.6	1.5	.5	.5	63.9	64.5	3.9	1.5	69.9	68.0
VII	.3	.2	.1	.1	51.9	52.2	3.8	2.2	56.1	54.7
W	.2	.2	.1	.1	16.1	16.4	3.3	2.0	19.7	18.7
S	.1	-	-	-	35.8	35.8	.5	.2	36.4	36.0
VI-VII	1.9	1.7	.7	.7	117.0	118.2	8.5	4.1	128.1	124.7
VIII	-	-	-	-	15.2	15.2	-	-	15.2	15.2
W	-	-	-	-	1.6	1.6	-	-	1.6	1.6
S	-	-	-	-	13.6	13.6	-	-	13.6	13.6
VIII	-	-	-	-	15.2	15.2	-	-	15.2	15.2
UNCLASSIFIED	-	-	-	-	-	-	3.6	3.6	3.6	3.6
TOTAL	34.8	31.2	5.0	4.9	174.0	177.9	34.3	19.6	248.1	233.6

Table 9. Use of inventory acreage by land capability classes and subclasses, by counties, New Jersey
1958^{1/} and 1975 (continued)

Class and subclass	Cropland		Pasture		Forest-Woodland		Other land		Total	
	1958	1975	1958	1975	1958	1975	1958	1975	1958	1975
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
OCEAN COUNTY										
I	.4	.3	-	-	-	-	-	-	.4	.3
II	8.1	6.0	.2	.2	23.8	21.4	.4	.6	32.5	28.2
E	6.9	4.9	.1	.1	13.5	11.3	.3	.5	20.8	16.8
W	.6	.5	-	-	6.8	6.8	-	-	7.4	7.3
S	.6	.6	.1	.1	3.5	3.3	.1	.1	4.3	4.1
III	13.9	12.5	2.0	1.6	136.7	132.4	6.9	6.9	159.5	153.4
E	1.4	.9	.1	.1	4.6	3.8	1.6	1.4	7.7	6.2
W	7.0	6.6	1.4	1.1	66.7	64.4	3.6	3.9	78.7	76.0
S	5.5	5.0	.5	.4	65.4	64.2	1.7	1.6	73.1	71.2
IV	.1	-	-	-	13.3	13.2	-	-	13.4	13.2
E	.1	-	-	-	.3	.2	-	-	.4	.2
S	-	-	-	-	13.0	13.0	-	-	13.0	13.0
I-IV	22.5	18.8	2.2	1.8	173.8	167.0	7.3	7.5	205.8	195.1
VI	.1	.1	.1	.2	1.9	1.9	-	-	2.1	2.2
E	-	-	-	-	1.8	1.8	-	-	1.8	1.8
W	.1	.1	.1	.2	.1	.1	-	-	.3	.4
VII	4.8	2.9	.7	.5	100.3	94.7	3.1	3.4	108.9	101.5
E	-	-	-	-	.1	.1	-	-	.1	.1
W	.4	.4	.1	.1	20.7	20.6	-	-	21.2	21.1
S	4.4	2.5	.6	.4	79.5	74.0	3.1	3.4	87.6	80.3
VI-VII	4.9	3.0	.8	.7	102.2	96.6	3.1	3.4	111.0	103.7
VIII	-	-	-	-	.1	.1	37.0	33.5	37.1	33.6
W	-	-	-	-	.1	.1	37.0	33.5	37.1	33.6
VIII	-	-	-	-	.1	.1	37.0	33.5	37.1	33.6
UNCLASSIFIED	-	-	-	-	-	-	.4	.4	.4	.4
TOTAL	27.4	21.8	3.0	2.5	276.1	263.7	47.8	44.8	354.3	332.8
PASSAIC COUNTY										
I	.2	.2	-	-	.2	.2	-	-	.4	.4
II	1.3	1.1	.1	-	1.5	.7	.3	-	3.2	1.8
E	.9	.8	-	-	.5	.1	.1	-	1.5	.9
W	.3	.2	.1	-	.8	.4	.1	-	1.3	.6
S	.1	.1	-	-	.2	.2	.1	-	.4	.3
III	.7	.6	.2	.1	7.5	6.3	2.0	1.5	10.4	8.5
E	.4	.4	-	-	4.0	3.0	.5	.3	4.9	3.7
W	.3	.2	.2	.1	3.0	2.9	1.0	.9	4.5	4.1
S	-	-	-	-	.5	.4	.5	.3	1.0	.7
IV	.2	.1	.1	.1	5.5	5.4	.8	.4	6.6	6.0
E	.2	.1	-	-	3.0	2.9	.3	.2	3.5	3.2
W	-	-	.1	.1	2.0	2.0	.2	.1	2.3	2.2
S	-	-	-	-	.5	.5	.3	.1	.8	.6
I-IV	2.4	2.0	.4	.2	14.7	12.6	3.1	1.9	20.6	16.7
VI	.1	-	.1	.1	20.3	20.2	.3	.2	20.8	20.5
E	.1	-	-	-	2.3	2.2	.2	.1	2.6	2.3
W	-	-	.1	.1	3.0	3.0	.1	.1	3.2	3.2
S	-	-	-	-	15.0	15.0	-	-	15.0	15.0
VII	-	-	.1	.1	30.0	29.8	.2	.1	30.3	30.0
E	-	-	-	-	5.0	4.9	-	-	5.0	4.9
W	-	-	.1	.1	5.0	5.0	.1	.1	5.2	5.2
S	-	-	-	-	20.0	19.9	.1	-	20.1	19.9
VI-VII	.1	-	.2	.2	50.3	50.0	.5	.3	51.1	50.5
VIII	-	-	-	-	10.0	9.9	.2	.2	10.2	10.1
S	-	-	-	-	10.0	9.9	.2	.2	10.2	10.1
VIII	-	-	-	-	10.0	9.9	.2	.2	10.2	10.1
TOTAL	2.5	2.0	.6	.4	75.0	72.5	3.8	2.4	81.9	77.3
SALEM COUNTY										
I	8.6	7.5	.3	.1	4.6	3.4	.7	3.1	14.2	14.1
II	45.0	46.4	4.8	3.4	22.4	20.9	3.8	5.2	76.0	75.9
E	16.6	17.0	1.8	1.0	3.0	2.5	1.4	2.3	22.8	22.8

Table 9. Use of inventory acreage by land capability classes and subclasses, by counties, New Jersey
1958¹ and 1975 (continued)

Class and subclass	Cropland		Pasture		Forest-Woodland		Other land		Total	
	1958	1975	1958	1975	1958	1975	1958	1975	1958	1975
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
SALEM COUNTY (continued)										
W	12.6	13.1	1.6	1.3	4.6	4.3	1.1	1.2	19.9	19.9
S	15.8	16.3	1.4	1.1	14.8	14.1	1.3	1.7	33.3	33.2
III	28.7	26.6	4.4	4.4	25.4	26.8	6.6	7.3	65.1	65.1
E	7.6	7.4	1.1	1.0	1.8	1.9	.6	.8	11.1	11.1
W	14.2	12.8	3.2	3.3	17.2	18.2	3.7	4.0	38.3	38.3
S	6.9	6.4	.1	.1	6.4	6.7	2.3	2.5	15.7	15.7
IV	.4	.3	.2	.1	.8	.9	.1	.1	1.5	1.4
E	.4	.3	.2	.1	.8	.9	.1	.1	1.5	1.4
I-IV	82.7	80.8	9.7	8.0	53.2	52.0	11.2	15.7	156.8	156.5
VI	.6	.2	.5	.7	1.6	1.8	.1	.1	2.8	2.8
E	.2	.1	.2	.2	.8	.8	.1	.1	1.3	1.2
W	.4	.1	.3	.5	.8	1.0	-	-	1.5	1.6
VII	1.0	.1	2.6	.2	14.9	17.8	1.0	1.4	19.5	19.5
E	.2	-	.1	.1	.4	.6	-	.1	.7	.8
W	.4	.1	.2	.1	8.7	9.0	.3	.4	9.6	9.6
S	.4	-	2.3	-	5.8	8.2	.7	.9	9.2	9.1
VI-VII	1.6	.3	3.1	.9	16.5	19.6	1.1	1.5	22.3	22.3
VIII	.4	.7	.2	.4	1.2	1.4	24.1	23.4	25.9	25.9
W	.4	.7	.2	.4	1.2	1.4	24.1	23.4	25.9	25.9
VIII	.4	.7	.2	.4	1.2	1.4	24.1	23.4	25.9	25.9
UNCLASSIFIED	-	.2	-	-	.1	.1	.9	.7	1.0	1.0
TOTAL	84.7	82.0	13.0	9.3	71.0	73.1	37.3	41.3	206.0	205.7
SOMERSET COUNTY										
I	.1	-	.9	.5	.1	-	-	-	1.1	.5
II	12.9	7.3	5.7	3.1	3.9	3.6	5.3	3.3	27.8	17.3
E	5.1	2.5	2.0	.7	.7	.7	1.1	.8	8.9	4.7
W	1.6	.8	2.0	1.3	1.0	1.3	1.0	.3	5.6	3.7
S	6.2	4.0	1.7	1.1	2.2	1.6	3.2	2.2	13.3	8.9
III	36.1	24.0	5.1	4.2	6.0	7.8	23.2	18.5	70.4	54.5
E	27.3	17.4	2.6	2.3	2.7	2.9	12.6	9.6	45.2	32.2
W	8.8	6.6	2.5	1.9	3.3	4.9	10.6	8.9	25.2	22.3
IV	10.2	7.8	4.7	4.0	4.9	4.0	8.5	7.6	28.3	23.4
E	8.6	6.7	.6	.7	3.3	2.6	4.6	3.7	17.1	13.7
W	.8	.5	4.1	3.3	1.6	1.4	3.9	3.9	10.4	9.1
S	.8	.6	-	-	-	-	-	-	.8	.6
I-IV	59.3	39.1	16.4	11.8	14.9	15.4	37.0	29.4	127.6	95.7
VI	2.5	1.8	3.7	2.8	9.2	6.1	1.8	1.5	17.2	12.2
E	1.0	.7	-	.1	.7	.8	.7	.8	2.4	2.4
W	1.5	1.1	3.6	2.7	.3	.2	1.0	.7	6.4	4.7
S	-	-	.1	-	8.2	5.1	.1	-	8.4	5.1
VII	.1	.1	.1	.1	21.6	19.1	1.8	1.5	23.6	20.8
E	.1	.1	-	-	-	-	.5	.4	.6	.5
W	-	-	-	-	10.6	8.6	-	-	10.6	8.6
S	-	-	.1	.1	11.0	10.5	1.3	1.1	12.4	11.7
VI-VII	2.6	1.9	3.8	2.9	30.8	25.2	3.6	3.0	40.8	33.0
UNCLASSIFIED	-	-	-	-	-	-	.8	.8	.8	.8
TOTAL	61.9	41.0	20.2	14.7	45.7	40.6	41.4	33.2	169.2	129.5
SUSSEX COUNTY										
I	.2	.2	-	-	-	-	-	-	.2	.2
II	13.9	13.8	3.6	3.3	1.2	1.4	1.2	1.1	19.9	19.6
E	6.0	6.0	1.7	1.4	.7	.8	.3	.3	8.7	8.5
W	2.4	2.4	1.1	1.1	.3	.3	.6	.6	4.4	4.4
S	5.5	5.4	.8	.8	.2	.3	.3	.2	6.8	6.7
III	14.9	15.1	18.0	15.8	21.1	19.9	7.8	8.8	61.8	59.6
E	4.9	4.7	3.4	3.0	6.3	6.2	1.2	1.0	15.8	14.9
W	9.0	9.6	13.8	12.1	12.3	11.5	6.3	7.5	41.4	40.7
S	1.0	.8	.8	.7	2.5	2.2	.3	.3	4.6	4.0
IV	8.3	7.3	8.3	8.0	8.6	9.0	3.3	2.5	28.5	26.8

Table 9. Use of inventory acreage by land capability classes and subclasses, by counties, New Jersey
1958 and 1975 (continued)

Class and subclass	Cropland		Pasture		Forest-Woodland		Other land		Total	
	1958	1975	1958	1975	1958	1975	1958	1975	1958	1975
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
SUSSEX COUNTY (continued)										
E	6.1	5.2	4.4	4.4	4.1	4.5	1.8	1.4	16.4	15.5
W	.6	.6	2.5	2.4	2.5	2.6	1.2	.9	6.8	6.5
S	1.6	1.5	1.4	1.2	2.0	1.9	.3	.2	5.3	4.8
I-IV	37.3	36.4	29.9	27.1	30.9	30.3	12.3	12.4	110.4	106.2
VI	6.1	5.2	8.6	9.2	35.5	36.1	3.8	2.5	54.0	53.0
E	2.6	2.3	2.4	2.6	2.6	2.7	.3	.3	7.9	7.9
W	.2	.2	1.9	1.9	1.3	1.4	.2	.1	3.6	3.6
S	3.3	2.7	4.3	4.7	31.6	32.0	3.3	2.1	42.5	41.5
VII	3.5	1.6	9.3	8.5	79.6	81.3	3.5	4.2	95.9	95.6
E	.2	.1	.8	.4	5.0	5.7	.6	.4	6.6	6.6
W	2.3	1.2	7.1	7.1	12.7	13.3	1.8	2.3	23.9	23.9
S	1.0	.3	1.4	1.0	61.9	62.3	1.1	1.5	65.4	65.1
VI-VII	9.6	6.8	17.9	17.7	115.1	117.4	7.3	6.7	149.9	148.6
VIII	-	-	1.1	-	60.6	60.6	.9	1.3	62.6	61.9
W	-	-	.9	-	1.0	1.0	.5	.8	2.4	1.8
S	-	-	.2	-	59.6	59.6	.4	.5	60.2	60.1
VIII	-	-	1.1	-	60.6	60.6	.9	1.3	62.6	61.9
TOTAL	46.9	43.2	48.9	44.8	206.6	208.3	20.5	20.4	322.9	316.7

UNION COUNTY

I	.2	.1	-	-	.1	.1	-	-	.3	.2
II	.6	.3	.1	.1	.6	.5	.4	.1	1.7	1.0
E	.4	.2	-	-	.2	.1	.1	-	.7	.3
W	.2	.1	.1	.1	.3	.3	.3	.1	.9	.6
S	-	-	-	-	.1	.1	-	-	.1	.1
III	.2	.1	.1	.1	1.3	1.2	.7	.2	2.3	1.6
E	.1	-	-	-	.1	-	.2	.1	.4	.1
W	.1	.1	.1	.1	.4	.4	.4	-	1.0	.6
S	-	-	-	-	.8	.8	.1	.1	.9	.9
IV	.1	-	-	-	.5	.5	.4	.2	1.0	.7
E	.1	-	-	-	.1	.1	.2	.1	.4	.2
W	-	-	-	-	.1	.1	.2	.1	.3	.2
S	-	-	-	-	.3	.3	-	-	.3	.3
I-IV	1.1	.5	.2	.2	2.5	2.3	1.5	.5	5.3	3.5
VI	.1	-	-	-	.4	.4	.5	.4	1.0	.8
E	.1	-	-	-	.2	.2	.2	.2	.5	.4
W	-	-	-	-	.1	.1	.2	.1	.3	.2
S	-	-	-	-	.1	.1	.1	.1	.2	.2
VII	-	-	-	-	.6	.6	.2	.2	.8	.8
E	-	-	-	-	.3	.3	.1	.1	.4	.4
W	-	-	-	-	.1	.1	-	-	.1	.1
S	-	-	-	-	.2	.2	.1	.1	.3	.3
VI-VII	.1	-	-	-	1.0	1.0	.7	.6	1.8	1.6
VIII	-	-	-	-	-	-	.1	.1	.1	.1
W	-	-	-	-	-	-	.1	.1	.1	.1
VIII	-	-	-	-	-	-	.1	.1	.1	.1
TOTAL	1.2	.5	.2	.2	3.5	3.3	2.3	1.2	7.2	5.2

WARREN COUNTY

I	1.0	.7	.3	.1	.8	.6	1.6	.9	3.7	2.3
II	35.0	32.1	4.6	4.3	7.2	12.3	8.9	3.3	55.7	52.0
E	23.1	20.5	2.6	2.5	3.1	4.6	3.5	1.4	32.3	29.0
W	4.8	4.7	1.3	1.2	2.8	5.5	4.2	1.5	13.1	12.9
S	7.1	6.9	.7	.6	1.3	2.2	1.2	.4	10.3	10.1
III	22.5	23.3	5.7	4.2	11.2	12.9	4.8	2.1	44.2	42.5
E	19.0	18.4	2.7	2.6	4.1	5.0	2.7	1.0	28.5	27.0
W	3.3	4.7	2.7	1.3	5.9	6.8	2.0	1.0	13.9	13.8
S	.2	.2	.3	.3	1.2	1.1	.1	.1	1.8	1.7
IV	6.2	5.1	3.0	3.2	5.7	6.5	1.3	1.2	16.2	16.0
E	5.4	4.3	1.7	2.0	3.5	3.9	.7	.9	11.3	11.1

Table 9. Use of inventory acreage by land capability classes and subclasses, by counties, New Jersey
1958^{1/} and 1975 (continued)

Class and subclass	Cropland		Pasture		Forest-Woodland		Other land		Total	
	1958	1975	1958	1975	1958	1975	1958	1975	1958	1975
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
WARREN COUNTY (continued)										
W	.4	.5	1.2	1.1	1.8	2.2	.6	.2	4.0	4.0
S	.4	.3	.1	.1	.4	.4	-	.1	.9	.9
I-IV	64.7	61.2	13.6	11.8	24.9	32.3	16.6	7.5	119.8	112.8
VI	3.7	2.7	2.3	2.4	7.8	8.7	1.6	1.2	15.4	15.0
E	2.5	2.0	1.1	1.4	3.2	3.7	.7	.2	7.5	7.3
W	.2	.1	.5	.6	.5	.5	-	-	1.2	1.2
S	1.0	.6	.7	.4	4.1	4.5	.9	1.0	6.7	6.5
VII	2.5	1.4	3.2	1.5	49.2	51.5	3.3	3.2	58.2	57.6
E	.3	.2	.2	.1	1.4	1.5	.1	.1	2.0	1.9
W	1.2	1.1	1.2	.3	7.2	7.9	1.5	1.6	11.1	10.9
S	1.0	.1	1.8	1.1	40.6	42.1	1.7	1.5	45.1	44.8
VI-VII	6.2	4.1	5.5	3.9	57.0	60.2	4.9	4.4	73.6	72.6
VIII	.1	-	.1	-	19.9	20.1	.7	.2	20.8	20.3
W	-	-	-	-	.7	.6	.4	.1	1.1	.7
S	.1	-	.1	-	19.2	19.5	.3	.1	19.7	19.6
VIII	.1	-	.1	-	19.9	20.1	.7	.2	20.8	20.3
UNCLASSIFIED	-	-	-	-	-	-	.4	.3	.4	.3
TOTAL	71.0	65.3	19.2	15.7	101.8	112.6	22.6	12.4	214.6	206.0

1/ The Conservation Needs Inventory was begun in August 1956 and completed in April 1961 in New Jersey.

Table 10. Estimates of needs for conservation treatment on expected acreage of cropland, New Jersey, 1975

County	Total cropland		Land with no problems that limit use	Land on which the dominant problem is erosion by water, wind, or both							
	Total acre-age	Needing treatment and feasible to treat		Total acre-age	Needing treatment and feasible to treat	Acreage having secondary problems caused by - -					
						No secondary problems		Excess water		Unfavorable soil	
						Total	Needing treatment	Total	Needing treatment	Total	Needing treatment
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
Atlantic	35.0	28.0	.5	2.5	1.7	2.1	1.5	-	-	.4	.2
Bergen	2.5	1.3	.1	1.3	.6	1.1	.5	.1	-	.1	-
Burlington	92.0	46.0	5.7	35.7	18.0	23.4	11.4	.3	.2	12.0	6.4
Camden	18.0	13.0	.5	2.5	1.3	1.9	1.1	-	-	.6	.2
Cape May	21.0	9.7	8.0	.7	.4	.7	.4	-	-	-	-
Cumberland	109.0	53.0	13.0	26.0	16.1	17.0	9.4	.1	.1	8.9	6.6
Essex	.8	.3	.1	.4	.2	.3	.1	-	-	.1	-
Gloucester	88.0	65.0	7.5	26.5	22.9	15.0	11.5	.2	.1	11.2	11.2
Hudson	-	-	-	-	-	-	-	-	-	-	-
Hunterdon	71.2	45.6	.1	54.0	40.0	21.2	15.9	1.8	.9	31.1	23.3
Mercer	44.0	29.0	1.3	24.0	17.4	16.3	12.3	2.6	1.0	5.1	4.1
Middlesex	42.0	21.0	12.8	14.6	10.2	6.6	4.5	14.4	1.4	6.6	4.3
Monmouth	54.0	29.0	4.0	24.5	14.5	15.1	8.9	.2	.1	9.2	5.4
Morris	31.0	12.8	.9	16.4	7.6	12.5	6.6	.6	.2	3.3	.8
Ocean	22.0	15.0	.3	5.9	2.6	5.0	2.2	-	-	.9	.4
Passaic	2.0	.8	.2	1.3	.6	1.0	.4	.1	.1	.2	.1
Salem	82.0	47.0	7.5	24.9	17.6	17.0	13.6	-	-	7.8	3.9
Somerset	41.0	32.0	-	27.0	20.5	3.5	2.6	.4	.3	23.4	17.6
Sussex	43.0	34.0	.1	18.0	16.5	11.9	10.8	-	-	6.2	5.6
Union	.5	.2	.1	.2	.1	.2	.1	-	-	-	-
Warren	65.0	51.0	.7	45.0	36.8	39.0	31.0	1.5	1.4	5.0	4.4

The totals shown will not always equal the sum of the individual figures due to the process of rounding off figures to the nearest tenth of a thousand.

Table 10. Estimates of needs for conservation treatment on expected acreage of cropland, New Jersey, 1975
(continued)

County	Land on which the dominant problem is excess water							
	Total acreage	Needing treat- ment and feasible to treat	Acreage having secondary problems caused by - -					
			No secondary problems		Erosion		Unfavorable soil	
			Total	Needing treatment	Total	Needing treatment	Total	Needing treatment
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
Atlantic	11.0	8.0	2.5	1.5	-	-	8.5	6.5
Bergen	.8	.5	.5	.3	.3	.2	-	-
Burlington	29.4	17.1	12.1	8.1	-	-	17.3	9.0
Camden	5.3	4.0	1.4	1.0	-	-	3.9	3.1
Cape May	5.5	3.9	2.7	1.8	-	-	2.8	2.1
Cumberland	29.8	13.4	17.9	7.9	-	-	11.9	5.4
Essex	.3	.1	.2	.1	.1	-	-	-
Gloucester	17.4	13.3	11.6	8.3	-	-	5.8	5.0
Hudson	-	-	-	-	-	-	-	-
Hunterdon	13.8	3.5	1.8	.5	-	-	12.0	3.0
Mercer	16.8	11.0	10.5	8.5	-	-	6.3	2.5
Middlesex	10.6	7.4	7.9	4.7	-	-	2.7	2.7
Monmouth	13.2	7.8	6.7	4.0	-	-	6.5	3.8
Morris	10.8	3.8	1.0	.3	-	-	9.8	3.5
Ocean	7.6	5.9	1.1	1.0	-	-	6.5	5.0
Passaic	.4	.2	.2	.1	.1	-	.1	.1
Salem	26.7	13.3	17.6	10.6	-	-	9.1	2.7
Somerset	8.9	7.6	1.7	1.5	-	-	7.2	6.1
Sussex	13.9	12.6	8.8	8.0	4.5	4.0	.6	.6
Union	.2	.1	.2	.1	-	-	-	-
Warren	11.1	10.3	9.8	9.4	.3	.3	1.0	.6

Table 10. Estimates of needs for conservation treatment on expected acreage of cropland, New Jersey, 1975
(continued)

County	Land on which the dominant problems are caused by unfavorable soil conditions							
	Total acreage	Needing treat- ment and feasible to treat	Acreage having secondary problems caused by - -					
			No secondary problems		Erosion		Excess water	
			Total	Needing treatment	Total	Needing treatment	Total	Needing treatment
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
Atlantic	20.8	18.2	-	-	20.1	17.6	.6	.5
Bergen	.3	.1	.2	.1	.1	-	-	-
Burlington	21.3	11.0	-	-	21.3	11.0	-	-
Camden	9.8	8.1	-	-	9.6	8.0	.2	.1
Cape May	6.9	5.4	-	-	6.9	5.4	-	-
Cumberland	40.3	23.3	-	-	40.3	23.3	-	-
Essex	-	-	-	-	-	-	-	-
Gloucester	36.3	28.9	-	-	36.3	28.9	-	-
Hudson	-	-	-	-	-	-	-	-
Hunterdon	3.2	2.0	1.2	.4	1.9	1.5	-	-
Mercer	1.5	.8	-	-	1.5	.9	-	-
Middlesex	4.1	3.0	-	-	4.1	3.0	-	-
Monmouth	12.2	7.2	-	-	12.1	7.1	-	-
Morris	3.1	1.4	.9	.3	2.2	1.0	-	-
Ocean	8.2	6.1	-	-	8.2	6.1	-	-
Passaic	.1	-	.1	-	-	-	-	-
Salem	22.7	15.9	-	-	22.7	15.9	-	-
Somerset	4.6	3.8	-	-	4.6	3.8	-	-
Sussex	10.8	5.0	7.0	1.7	3.1	2.8	.5	.5
Union	-	-	-	-	-	-	-	-
Warren	8.1	4.1	4.0	2.0	4.0	2.0	.1	.1

The totals shown will not always equal the sum of the individual figures due to the process of rounding off figures to the nearest tenth of a thousand.

Table 11. Estimates of needs for conservation treatment on expected acreage of pasture, New Jersey, 1975

County	Total acreage	Acreage not needing treat- ment	Acreage needing treatment	Type of treatment and area affected				
				Establish- ment or reestab- lishment of vege- tation	Improve- ment of vegeta- tive cover	Protection of vegeta- tive cover from erosion	Water management	
							Excess water	Water conser- vation
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
Atlantic	.5	.1	.4	.1	.3	-	-	-
Bergen	1.0	.4	.6	.2	.4	.1	.2	-
Burlington	19.8	2.0	17.8	6.3	11.5	.4	2.0	-
Camden	.5	-	.4	.1	.3	-	-	-
Cape May	1.3	.1	1.2	-	1.2	-	.2	-
Cumberland	5.7	3.0	2.7	1.0	1.7	.2	.2	-
Essex	.2	.1	.1	-	-	-	-	-
Gloucester	1.9	.9	1.0	.7	.3	-	.5	-
Hudson	-	-	-	-	-	-	-	-
Hunterdon	30.7	9.0	21.7	13.2	8.5	10.0	1.5	-
Mercer	11.2	3.5	7.7	5.0	2.7	1.0	1.2	-
Middlesex	2.0	.6	1.4	.2	1.2	-	-	-
Monmouth	18.2	10.0	8.2	3.3	4.9	-	1.0	-
Morris	4.8	1.9	2.9	2.2	.7	.1	.9	-
Ocean	2.4	-	2.4	1.0	1.4	.1	.5	-
Passaic	.3	.1	.2	.1	.1	-	.2	-
Salem	9.5	1.0	8.6	2.6	6.0	1.0	1.5	-
Somerset	14.6	4.6	10.0	1.8	8.2	1.0	3.0	-
Sussex	44.8	-	44.8	22.0	22.8	3.0	5.0	-
Union	.1	-	.1	-	-	-	-	-
Warren	15.9	2.9	13.0	9.0	4.0	2.0	4.0	-

Table 12. Estimates of needs for conservation treatment on expected acreage of forest and woodland, New Jersey, 1975

County	Total acreage	Description of problems - acreage needing treatment						
		Estab- lishment of timber stand	Improve- ment of timber stand	Protection from			Erosion control	Establish- ment of shelter belts
				Fire	Insects and disease	Animals		
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
Atlantic	209.7	104.8	1.1	207.0	41.9	2.1	-	.3
Bergen	25.0	5.0	2.0	-	5.0	1.0	.4	-
Burlington	300.0	150.0	15.0	275.0	6.0	7.5	-	-
Camden	59.5	27.8	2.4	39.7	11.9	.8	.1	-
Cape May	65.3	40.0	6.0	60.0	13.0	3.0	-	-
Cumberland	125.0	62.0	5.0	91.0	24.0	2.4	.1	-
Essex	11.0	2.0	.8	-	2.2	.9	.2	-
Gloucester	60.0	25.0	2.2	20.0	12.0	.8	-	-
Hudson	-	-	-	-	-	-	-	-
Hunterdon	96.5	24.0	11.0	-	19.3	12.0	1.0	-
Mercer	35.9	10.0	3.6	-	7.2	3.0	.7	-
Middlesex	44.8	10.0	4.5	-	9.0	5.0	.3	.2
Monmouth	95.4	38.1	4.8	47.7	19.0	4.8	-	-
Morris	178.0	43.0	25.0	-	34.0	17.0	5.0	-
Ocean	264.0	131.0	13.0	260.0	52.0	6.0	-	-
Passaic	72.5	17.0	7.0	-	14.5	6.0	1.5	-
Salem	72.9	25.5	3.0	40.0	14.5	4.0	1.0	-
Somerset	40.6	12.0	3.0	-	8.0	5.0	1.5	-
Sussex	208.4	62.5	15.0	-	41.7	5.0	.8	-
Union	3.3	-	-	-	.6	-	-	-
Warren	112.6	28.0	11.0	-	22.5	11.0	4.0	-

The totals shown will not always equal the sum of the individual figures due to the process of rounding off figures to the nearest tenth of a thousand.

Table 13. Estimates of needs for conservation treatment on expected acreage of other land, New Jersey, 1975

County	Total acre- age	Needing treat- ment and fea- sible to treat		Land with no problems that limit use	Land on which the dominant problem is - -					
		Total	In farms		Erosion by water or wind or both		Excess water		Unfavorable soil conditions	
					Total acreage	Needing treatment	Total acreage	Needing treatment	Total acreage	Needing treatment
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
Atlantic	55.9	5.9	2.2	-	.8	.2	40.9	1.6	14.1	4.1
Bergen	6.5	.4	-	-	1.1	.1	4.3	.2	1.1	-
Burlington	40.2	5.1	1.3	.5	7.3	.3	16.6	.7	15.7	4.0
Camden	12.2	2.3	1.0	.3	3.6	.8	2.9	.6	5.3	.9
Cape May	62.9	6.7	2.2	.2	-	-	57.9	6.2	5.1	.5
Cumberland	60.0	4.5	1.0	1.8	1.8	.4	49.1	2.9	7.2	1.1
Essex	2.9	.1	-	-	1.0	-	1.8	.1	-	-
Gloucester	20.3	1.5	1.0	.6	4.7	.2	9.3	.7	5.7	.6
Hudson	2.2	.1	-	-	-	-	1.2	.1	1.0	-
Hunterdon	54.1	5.3	2.2	-	29.7	1.0	21.4	4.0	3.0	.3
Mercer	9.2	4.6	1.5	.2	2.5	1.3	6.1	3.1	.3	.2
Middlesex	13.9	1.3	.4	.5	1.9	.2	8.2	.8	3.4	.3
Monmouth	19.0	2.5	.5	.3	4.9	.7	6.1	.9	7.7	.9
Morris	19.8	1.1	.9	.5	6.2	.4	7.7	.3	5.3	.3
Ocean	45.0	2.2	.4	-	2.3	.4	37.5	1.3	5.0	.5
Passaic	2.4	.2	-	-	.6	-	1.2	.1	.6	-
Salem	41.2	2.7	2.1	3.1	4.0	.8	29.0	1.3	5.1	.6
Somerset	33.3	.7	-	-	15.9	.8	14.1	-	3.3	-
Sussex	20.6	3.9	2.1	-	3.4	1.4	12.3	2.0	4.9	.5
Union	1.2	.1	-	-	.5	-	.4	-	.3	-
Warren	12.3	2.4	1.8	.9	3.5	.5	4.4	1.4	3.5	.5

The totals shown will not always equal the sum of the individual figures due to the process of rounding off figures to the nearest tenth of a thousand.

WATERSHED PROJECT NEEDS

Certain types of soil and water conservation needs cannot be adequately solved by local people except by their action through local units of government such as soil conservation districts, watershed districts, drainage districts, irrigation districts, counties, and towns or municipalities. Aid from State and Federal agencies may also be needed. These conservation needs are primarily forms of water management, such as flood prevention, agricultural water management and non-agricultural water management.

Public Law 566, the Watershed Protection and Flood Prevention Act,¹ as amended, makes it possible to meet many of the soil and water conservation needs that cannot be met under other programs of assistance to agriculture or through Federal public works projects on major rivers, planned and constructed by such agencies as the Corps of Engineers. The United States Department of Agriculture administers this law which provides a means by which local organizations can apply for and obtain assistance in the planning and installation of works of improvement for flood prevention, and for the conservation, development, utilization, and disposal of water in watershed areas not exceeding 250,000 acres in size.

Twenty such applications, approved by the New Jersey Department of Conservation and Economic Development, have been submitted. Work plans have been developed for five of these watersheds, representing about 145,000 acres.

¹The kind of problems that can be met through this Act are described in "Small Watershed Projects Under the Watershed Protection and Flood Prevention Act", U.S. Dept. Agr., Soil Conserv. Serv. PA 392, 1959.

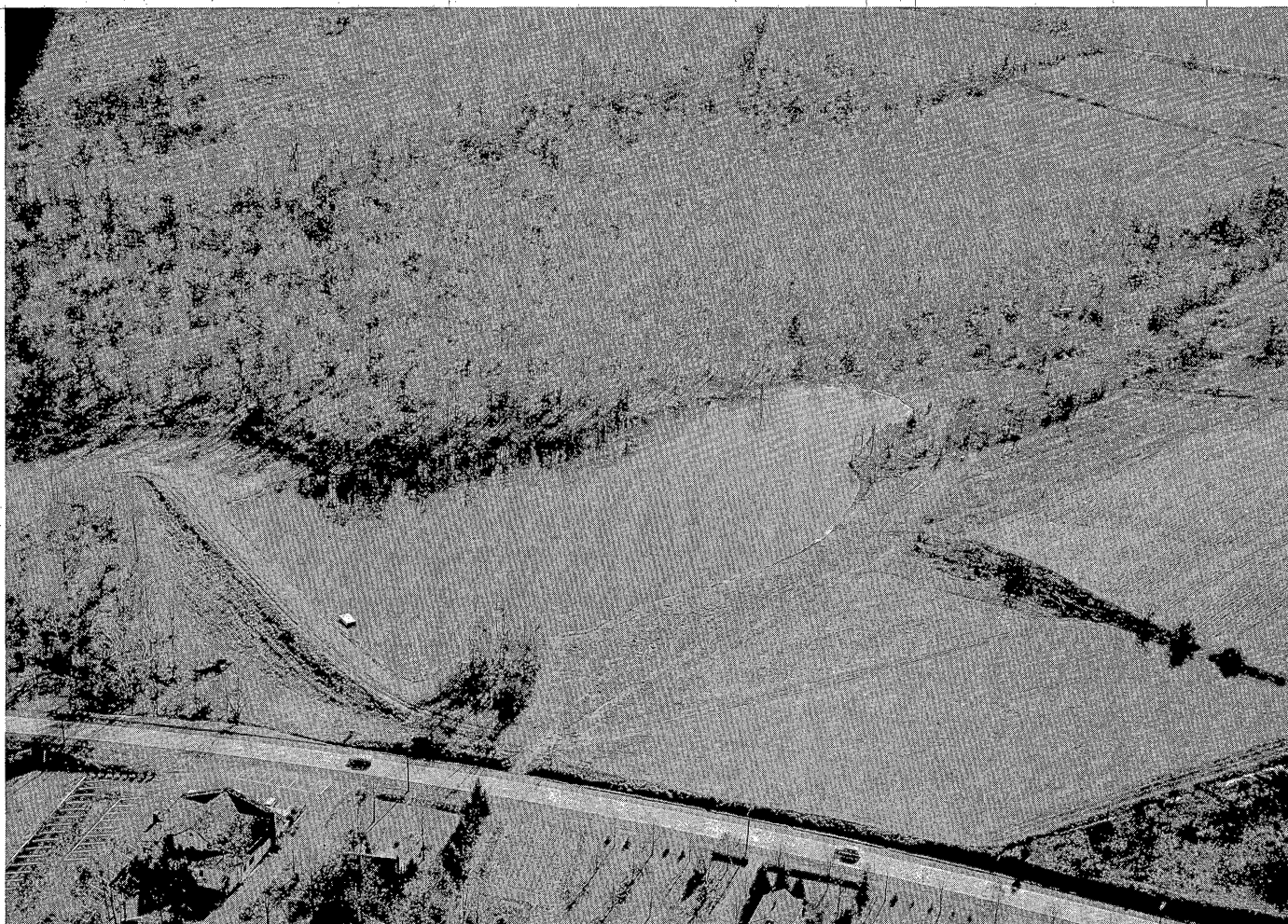
Planned works of improvement included in these watersheds include floodwater retarding dams, desilting basins, irrigation water, tidewater dikes for agricultural and wildlife benefits, and channel improvements for disposing of flood water and facilitating drainage. Establishment of land treatment measures is also an important feature. In addition to tile lines and open drains, they include acceleration of the application of such erosion control practices as diversion terraces, strip cropping, contour farming, cover crops, tree planting and others.

Four of the applications do not meet the present requirements of Public Law 566 because they are too urban in nature or lack economic justification.

This part of the Inventory gives the nature and scope of the water management problems that can be met by project action of organized groups such as those authorized by Public Law 566. It does not give an evaluation of the economic feasibility of the projects. It gives State estimates of (1) the number of small watersheds or planning units (250,000 acres or less) on which the water management problems cannot be solved without the installation of structural measures for water management, (2) the extent or magnitude of the need for each development, and (3) the types of water management problems requiring project action associated with each of the planning units. Such project action includes flood prevention to reduce floodwater and sediment damage and erosion, agricultural water developments, and nonagricultural water management for municipal or industrial water supply, fish and wildlife, recre-



Floods are the cause of extensive damage annually.



Reservoirs to hold back flood waters and sediment.

ation, and other nonagricultural water developments.

The following definitions are applicable to terms used in Table 14 and the preceding discussion:

Watershed project problems are water management problems that cannot be solved by the individual actions of the people affected by them. Ordinarily a project to meet one or more of these problems requires project action for installation and always for justification requires group benefits.

A *watershed or planning unit* consists of any watershed, planning unit or combination of not more than 250,000 acres which has a flood prevention or agricultural water management problem of sufficient magnitude to require project action.

Acreage having the problem is the total acreage subject to the watershed project problem to which the estimate applies even though it may have been met already by individual or project action. For example, the acreage of land with a drainage problem includes all land subject to problems of excess water even though it may have an adequate system of drainage. The estimates for this item were provided by the Soil Conservation Service and by the divisions of Water Policy

and Supply and Fish and Game of the New Jersey Department of Conservation and Economic Development.

Acreage needing project action is the acreage that cannot be adequately protected or treated by individuals or groups without the assistance of organized groups such as those authorized by Public Law 566. These same acreages may also require additional assistance under other programs.

Project action is considered as that cooperative action which can be effected only through formal organizations which have a legal status under State law that has usually given them the power to negotiate contracts, levy taxes, make assessments or otherwise raise funds, and to disburse monies for the installation, operation and maintenance of works of improvements. Requirements for project action are set forth in USDA PA 392. The principal benefits of project action will ordinarily be offsite.

Projects needing action are the number of watershed projects having water problems needing conservation treatments.

Farms affected are the number of farms that have some acreage with a water problem that requires project action.

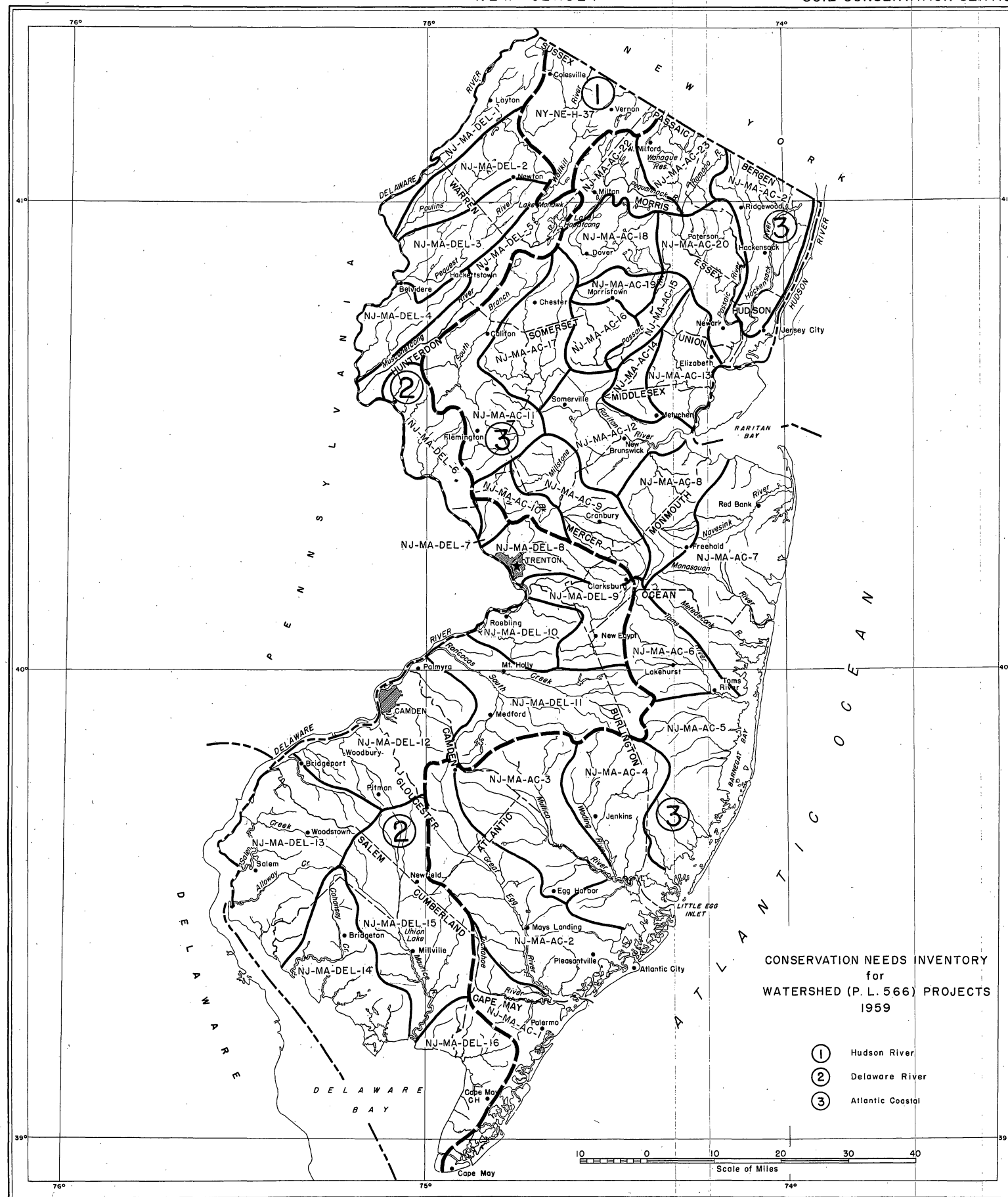
Table 14. Watershed project needs, New Jersey, 1959

Number of watersheds needing project action 32

Total acreage in watersheds needing project action 4,360,440

Watershed project problems	Acreage having the problem	Acreage needing project action	Projects needing action	Farms affected
	<u>1,000 acres</u>	<u>1,000 acres</u>	<u>Number</u>	<u>Number</u>
Flood prevention:				
Flood water and sediment damage reduction	296.6	59.0	26	1,569
Erosion damage reduction	107.6	4.3	17	227
Agricultural water management:				
Drainage	841.0	148.2	30	2,999
Irrigation	330.5	83.3	21	1,677
Salt hay management	7.7	5.3	4	38
Nonagricultural water-management developments:				
Municipal or industrial water supply	-	-	23	-
Recreation development	82.2	-	26	-
Wildlife area improvement	203.0	-	34	-

Note: The totals shown in the columns may exceed the totals shown at the top of this table since many watershed projects will be multiple purpose.



APPENDIX 1

UNITED STATES DEPARTMENT OF AGRICULTURE

Office of the Secretary

Washington 25, D. C.

April 10, 1956

MEMORANDUM NO. 1396

*National Inventory of Soil and Water
Conservation Needs*

The Department has constant need and use for information that can be gained only through a national inventory of soil and water conservation needs. This inventory would equip the Department to more effectively plan and carry out its responsibility in soil and water conservation. From it the Department could arrive at reasonable estimates of the magnitude and urgency of the various conservation measures needed to maintain and improve the country's productive capacity for all the people. The following policies, therefore, are hereby established:

1. A National Inventory of Soil and Water Conservation Needs will be made and kept current by the Department of Agriculture. This Inventory will be developed for each county in the United States and for appropriate subdivisions of the Territories. The goal for initial completion will be three years. The Forest Service has recently completed an intensive survey of the Nation's timber resources. County estimates for forestry, insofar as is possible, will be developed from this timber survey and other available forest resource information.
2. The Department agencies concerned with land use, soil and water conservation and the management of land resources which are to cooperate in this endeavor are: Agricultural Conservation Program Service, Agricultural Research Service, Commodity Stabilization Service, Federal Extension Service, Farmers Home Administration, Forest Service and Soil Conservation Service. Other agencies of the Department will be called upon where they can make a contribution. The Soil Conservation Service is hereby assigned responsibility for leadership.
3. A Department Soil and Water Commission Needs Committee, comprised of one representative from each of the agencies named in paragraph 2, will be established. This committee,

under leadership of a chairman from the Soil Conservation Service, will aid in the development and review of proposed procedures, furnish guidance in the cooperative effort, and make periodic reviews of progress for the information of the participating agencies.

4. A Soil and Water Conservation Needs Committee will be established in each State or Territory. Its membership will consist of representatives who work within the State or Territory for the Department agencies named in paragraph 2. The Soil Conservation Service representative will serve as chairman. The State Conservationist of the Soil Conservation Service will invite representation on the committee from the Land Grant College, the State Forester, and other appropriate State agencies and groups who may be able to provide assistance and useful data. The State or Territorial committee will develop a plan for making the Inventory, and will submit it to the Administrator of the Soil Conservation Service for review and consideration of the Department Committee and the Assistant Secretary, Federal-State Relations.
5. Data will be developed separately for privately owned and publicly owned land. The Soil Conservation Service will be responsible for collecting basic physical data on soil and water on non-federally owned lands. The Forest Service will be responsible for the adequacy of the physical data on forestry on non-federally owned lands. The Forest Service and other land management agencies will be responsible for making the Inventory on lands under their jurisdiction.
6. Cooperation of State and local agencies, organizations, and groups concerned with soil, water, forest, range and wildlife conservation, utilization, and management will be actively solicited in the development and review of the Inventory. The Department of Agriculture will also seek and encourage the cooperation of other Federal agencies, responsible for land management activities, in the development of data which can be utilized in the National Inventory of Soil and Water Conservation Needs.

/s/ EZRA TAFT BENSON
Secretary

APPENDIX 2

PROCEDURES FOR DEVELOPING BASIC DATA ON SOIL AND LAND USE CONDITIONS

The basic data on soil and land use conditions in New Jersey were secured from soil surveys.

A set of randomized samples to represent every county was selected by the statistical laboratory at Cornell University. The sample units were located on county base maps with a scale 1 inch equals 1 mile. The maps showed the boundaries and symbols of land-resource units and soil conservation districts.

Land-resource units were used in the selection of samples. The State Soil Conservation Service office informed the laboratory that it wanted samples drawn by land-resource units and indicated whether or not a higher or lower sampling rate was wanted for certain land-resource units.

Provision was made for identifying all samples by land-resource units so that data could be combined on that basis for study of special problems. It was necessary, therefore, to have a land-resource map of the State, county by county.

A land-resource map shows the geographic distribution of land-resource units. A land-resource unit is a geographic area of land, usually several thousand acres in extent, characterized by a particular combination or pattern of soils (including slope and erosion), climate, water resource, land use, and types of farming. Such a unit may occur in one continuous area or as several separate but nearby areas.

The standard size of sample units was 100 acres. The basic sampling rate was 2 per cent for resource areas between 250,000 and 500,000 acres.

This sampling rate was adjusted between 0.6 per cent for resource areas larger than 500,000 acres to as high as 32 per cent for very small areas in order to maintain the necessary statistical accuracy. The average rate was between 5 per cent and 6 per cent.

The laboratories used the following procedure in selecting sample units: The land-resource area within the county was divided into blocks (called "strata") which were then further subdivided into equal-sized sample units. One sample unit was selected at random from each block for each of the two sets of samples.

In New Jersey the boundaries of the sample blocks were identified, both on the photographs and on the ground.

The laboratory outlined one set of samples in *red* and the other in *blue*, on the county map.

From this map sample unit boundaries were transferred to the aerial photographs on which the mapping was done.

In counties where one set of sample units provided adequate data, the set outlined in red was used. No substitution or intermingling of the two sets was permitted.

All possible use was made of existing soil-survey information. On sample units not already mapped, soil surveys were made on the regular aerial photograph field sheets at the scale locally used. In partially mapped counties, surveys of sample units were made according to the legend in use in the county. Insofar as possible, all new mapping was done according to legends that could be used in the standard soil survey.

There was no sampling in the five urban counties, Bergen, Passaic, Essex, Hudson and Union, where agricultural land is minor. Estimates were prepared from spot mapping, old soil surveys, and recent Census data. In mapping the samples, urban and built up areas were classified as to land use only.

Federal land was not mapped.

All existing maps of sample units were field checked before use. The map was revised if the soil survey was not adequate or if the land use shown did not agree with present conditions on the ground or with the Inventory definitions.

One of the major values of the survey data will be to show the relation of land use to the physical conditions of the land. Land use was mapped on all sample areas. The condition found at the time of the mapping was shown with no attempt to predict the intent of the operator.

Land use was designated as: Cropland, pasture, forest and woodland, and other land. Definitions used in soil survey mapping were those used for the Inventory of Soil and Water Conservation Needs.

In measuring sample unit maps, each individual mapping unit was measured separately so the data could be combined by land capability units or other desired interpretative groupings.

The soil and land use data from the sample units were then expanded to give figures representing the total acreages of conditions in the county. This expansion was done by Cornell University.

APPENDIX 3

THE LAND CAPABILITY CLASSIFICATION

The standard soil survey map shows the different kinds of soil that are significant and their location in relation to other features of the landscape. These maps are intended to meet the needs of users with widely different problems and, therefore, contain considerable detail to show important basic soil differences.

The information on the soil map must be explained in a way that has meaning to the user. These explanations are called interpretations. The capability classification is one of a number of interpretative groupings made primarily for agricultural purposes. As with all interpretative groupings the capability classification begins with the individual soil mapping units, which are building stones of the system. In this classification the arable soils are grouped according to their potentialities and limitations for sustained production of the common cultivated crops that do not require specialized site conditioning or site treatment. Nonarable soils (soils unsuitable for long-time sustained use for cultivated crops) are grouped according to their potentialities and limitations for the production of permanent vegetation and according to their risks of soil damage if mismanaged.

The individual mapping units on soil maps show the location and extent of the different kinds of soil. Mapping units permit making the greatest number of precise statements about the individual soils and predictions about their use and management. The capability groupings of soils are designed to (1) help landowners and others use and interpret the soil maps, (2) introduce users to the detail of the soil map itself, and (3) make possible broad generalizations based on soil potentialities, limitations in use and management problems.

The capability classification provides three major categories: (1) Capability unit, (2) capability subclass and (3) capability class. The first category is the capability unit, which is a grouping of soils that have about the same influence on production and responses to systems of management of common cultivated crops and pasture plants. Soils in any one capability unit are adapted to the same kinds of common cultivated and pasture plants and require similar alternative systems of management for these crops. Long-time estimated yields of adapted crops for individual soils within the unit under comparable management do not vary more than about 25 per cent.

The second category in the classification is the subclass. This is a grouping of capability units having similar kinds of limitations and hazards. Three kinds of limitations or hazards are recog-

nized: (1) Erosion hazard, (2) wetness, and (3) root zone limitations.

The third and broadest category in the capability classification places all the soils in eight capability classes. The risks of soil damage or limitations in use become progressively greater from Class I to Class VIII. Soils in the first four classes are capable under good management of producing adapted plants, such as forest trees and the common cultivated field crops and pasture plants. Soils in classes V¹, VI, and VII are suited to the use of adapted native plants. Some soils in classes VI and VII are also capable of producing specialized crops, such as certain fruits and ornamentals, and even field and vegetable crops under highly intensive management involving elaborate practices for soil and water conservation. Soils in Class VIII do not return onsite benefits for inputs of management for crops, grasses, or trees.

The grouping of soils into capability units, subclasses, and classes is done primarily on the basis of their capability to produce common cultivated crops and pasture plants without deterioration over a long period. To express suitability of the soils for woodland use, the soil mapping units are grouped into woodland sites.

Capability Classes

Land Suited for Cultivation and Other Uses

Class I. Soils in Class I have few limitations that restrict their use.

Soils in this class are suited to a wide range of plants and may be used safely for cultivated crops, pasture, woodland and wildlife. The soils are nearly level, and erosion hazard (wind or water) is low. They are deep, generally well drained, and easily worked. They hold water well and are either fairly well supplied with plant nutrients or highly responsive to inputs of fertilizer.

The soils in Class I are not subject to damaging overflow. They are productive and suited for intensive cropping. The local climate must be favorable for growing many of the common field crops.

Soils that are wet and have slowly or very slowly permeable subsoils are not placed in Class I. Some kinds of soils in Class I may be drained as an improvement measure for increased production and ease of operation.

Soils in Class I that are used for crops need ordinary management practices to maintain productivity—both soil fertility and soil structure. Such practices may include the use of one or more

¹ Not used in the New Jersey Inventory.

of the following: Fertilizers and lime, cover and green manure crops, conservation of crop residues and animal manures, and sequences of adapted crops.

Class II. Soils in Class II have some limitations that reduce the choice of plants or require moderate conservation practices.

Soils in this class require careful soil management, including conservation practices, to prevent deterioration or to improve air and water relations when the soils are cultivated. The limitations are few and the practices are easy to apply. The soils may be used for cultivated crops, pasture, woodland, or for wildlife food and cover.

Limitations of soils in Class II may include singly or in combination the effects of (1) gentle slopes; (2) moderate susceptibility to wind or water erosion, or moderate adverse effects of past erosion; (3) less than ideal soil depth; (4) somewhat unfavorable soil structure and workability; (5) occasional damaging overflow; (6) wetness correctible by drainage but existing permanently as a moderate limitation.

The soils in this class provide the farm operator less latitude in the choice of either crops or management practices than soils in Class I. They may also require special soil-conserving cropping systems, soil conservation practices, water-control devices, or tillage methods when used for cultivated crops. For example, deep soils of this class with gentle slopes that are subject to moderate erosion when cultivated may need one of the following practices or some combination of two or more: Terracing, strip cropping, contour tillage, crop rotations that include grasses and legumes, vegetated water-disposal areas, cover on green-manure crops, stubble mulching, fertilizers, manure and lime. The exact combinations of practices vary from place to place, depending on the characteristics of the soil, the local climate, and the farming system.

Class III. Soils in Class III have severe limitations that reduce the choice of plants or require special conservation practices, or both.

Soils in Class III have more restrictions than those in Class II, and when used for cultivated crops, the conservation practices are usually more difficult to apply and to maintain. They may be used for cultivated crops, pasture, woodland, or for wildlife food and cover.

Limitations of soils in Class III restrict the amount of clean cultivation; timing of planting, tillage, and harvesting; choice of crops; or a combination of these items. The limitations may result from the effects of one or more of the following: (1) moderately steep slopes, (2) high susceptibility to water or wind erosion or severe adverse effects of past erosion, (3) frequent overflow accompanied by some crop damage, (4) very slow permeability of the subsoil, (5) wetness or some continuing waterlogging after drainage, (6) shallow depths to bedrock, hardpan, fragipan or claypan that limits the rooting zone and the water

storage, (7) low moisture-holding capacity, (8) low fertility not easily corrected.

When cultivated, many of the wet, slowly permeable but nearly level soils in Class III require a drainage system and a cropping system that maintain or improve the structure and tilth of the soil. To prevent puddling and to improve permeability, it is commonly necessary to supply organic materials to such soils and to avoid working them when they are wet. In some irrigated areas, part of the soils in Class III have limited use because of high water table and slow permeability. Each distinctive kind of soil in Class III has one or more alternative combinations of use and practices required for safe use, but the number of practical alternatives for average farmers is less than for soils in Class II.

Class IV. Soils in Class IV have very severe limitations that restrict the choice of plants, require very careful management, or both.

The restrictions in use for these soils are greater than those in Class III, and the choice of plants is more limited. When these soils are cultivated, more careful management is required and conservation practices are more difficult to apply and maintain. Soils in Class IV may be used for crops, pasture, woodland, or for wildlife food and cover.

Soils in Class IV may be well suited to only two or three of the common crops, or the amount of harvest produced may be low in relation to inputs over a long period. Use for cultivated crops is limited as a result of the effects of one or more permanent features such as (1) steep slopes, (2) severe susceptibility to water or wind erosion, (3) severe effects of past erosion, (4) shallow soils, (5) low moisture-holding capacity, (6) frequent overflows accompanied by severe crop damage, (7) excessive wetness with continuing hazard of waterlogging after drainage.

Many sloping soils in Class IV in humid regions are suited for occasional but not regular cultivation. Some of the poorly drained, nearly level soils placed in Class IV are not subject to erosion but are poorly suited to intertilled crops because of the time required for the soil to dry out in the spring and because of low productivity for cultivated crops. Some soils in Class IV are well suited to one or more of the special crops, such as fruits and ornamental trees and shrubs, but this suitability itself is not sufficient to place a soil in Class IV.

Land Limited in Use— Generally Not Suited for Cultivation

Class V. Not used in the New Jersey Inventory.

Class VI. Soils in Class VI have severe limitations that make them generally unsuited for cultivation and limit their use largely to pasture, woodland, or wildlife food and cover.

Physical conditions of soils placed in Class VI are such that it is practical to apply pasture improvements, if needed, such as seeding, liming, fertilizing, drainage, ditches, diversions, or water

spreaders. Soils in Class VI have continuing limitations that cannot be corrected, such as (1) steep slope, (2) severe erosion hazard, (3) effects of past erosion, (4) stoniness, (5) shallow rooting zone, (6) excessive wetness or overflow, (7) low-moisture capacity. Due to one or more of these limitations, these soils are not generally suited for cultivated crops. But they may be used for pasture, woodland or wildlife cover, or some combination of these.

Some soils in Class VI can be safely used for the common crops provided usually intensive management is used. Some of the soils in this class are also adapted to special crops, such as sodded orchards or blueberries, which require soil conditions unlike those demanded by the common crops. Depending upon soil features, the soils may be well or poorly suited to woodlands.

Class VII. Soils in Class VII have very severe limitations that make them unsuited for cultivation and that restrict their use largely to grazing, woodland or wildlife.

Physical conditions of soils in Class VII are such that it is impractical to apply such pasture improvements as seeding, liming or fertilizing, and water control measures such as ditches, diversions or water spreaders. Soil restrictions are more severe than those in Class VI because of one or more continuing limitations that cannot be corrected, such as very steep slopes, erosion, shallow soil, stones, wet soil, or other limitations that make them unsuited for common cultivated crops. They can be used safely for grazing or woodland or wildlife food and cover, or some combination of these under proper management.

Depending upon the soil characteristics, soils in this class may be well or poorly suited to woodland. They are not suited to any of the common cultivated crops; in unusual instances, some soils in this class may be used for special crops under unusual management practices. Some areas of Class VII may need seeding or planting to protect the soil and to prevent damage to adjoining areas.

Class VIII. Soils and landforms in Class VIII have limitations that preclude their use for commercial plant production and restrict their use to recreation, wildlife, water supply or aesthetic purposes.

Soils and landforms in Class VIII cannot be expected to return significant onsite benefits from management for crops, grasses or trees, although benefits for wildlife use, watershed protection or recreation may be possible.

Limitations that cannot be corrected may result from the effects of one or more of the following: (1) erosion or erosion hazard, (2) wet soil, (3) stones, (4) low moisture capacity and (5) salinity.

Badlands, rock outcrops, sandy beaches, salt marsh, river wash, mine tailings and other nearly barren lands are included in Class VIII. It may be necessary to give protection and management for plant growth to soils and landforms in Class VIII in order to protect other more valuable soils, to control water, or for wildlife or aesthetic reasons.

Capability Subclasses

Subclasses are groups of capability units within classes that have the same kinds of dominant limitations for agricultural use as a result of soil. Some soils are subject to erosion if they are not protected, while others are naturally wet and must be drained if crops are to be grown. Some soils are shallow or droughty, or have other soil deficiencies. The three kinds of limitations recognized at the subclass level are: Risks of erosion, designated by the symbol (e); wetness, drainage, or overflow (w); root zone limitations (s). The Class and subclass provide the map user information about both the degree and kind of limitation. Subclasses are not recognized in capability Class I.

Subclass (e) erosion is made up of soils where the susceptibility to erosion is the dominant problem or hazard in their use. Erosion susceptibility and past erosion damage are the major soil factors for placing soils in this subclass.

Subclass (w) excess water is made up of soils where excess water is the dominant hazard or limitation in their use. Poor soil drainage, wetness, high water table and overflow are the criteria for determining which soils belong in this subclass.

Subclass (s) soil limitations in the root zone is made up of soils where root zone limitations are the dominant hazard or limitation in their use. These limitations are the results of such factors as shallow soils, stoniness, low moisture holding capacity, and low fertility difficult to correct.

Limitations imposed by erosion, excess water, shallow soils, stones, low moisture holding capacity or salinity can be modified or partially overcome. The dominant kind of limitation or hazard to the use of the land determines the assignment of capability units to the (e), (w) and (s) subclasses.

Where two kinds of limitation which can be modified or corrected are essentially equal, the subclasses have the following priority; e, w, and s. For example, we need to group a few soils in humid regions that have both an erosion hazard and an excess water hazard; with them the e takes precedence over the w; with soils having both an excess water limitation and a root zone limitation the w takes precedence over the s.

Capability Units

The capability units provide more specific and detailed information than the subclass for application to specific fields on a farm. A capability unit is a grouping of soils that are nearly alike in suitability for plant growth and responses to the same kinds of soil management. That is, a reasonably uniform set of alternatives can be presented for the soil, water and plant management of the soils in a capability unit, assuming that effects of past management are properly considered. Soils grouped into capability units respond in a similar way and require similar management although they may have soil characteristics that put them in different soil series.

Soils grouped into a capability unit should be sufficiently uniform in the combinations of soil

characteristics that influence their qualities to have similar potentialities and continuing limitations or hazards. Thus, the soils in a capability unit should be sufficiently uniform to (a) produce similar kinds of cultivated crops and pasture plants with similar management practices, (b)

require similar conservation treatment and management under the same kind and condition of vegetative cover, and (c) have comparable potential productivity. (Estimated average yields under similar management systems should not vary more than about 25 per cent among the kinds of soil included within the unit.)

