NATIONAL GRASSLANDS MANAGEMENT

A PRIMER

Appendix C

Wooten, H. H. "The Land Utilization Program 1934 to 1964 – Origin, Development, and Present Status," USDA Agriculture Economic Report No. 85 (1965).

AGRICULTURAL ECONOMIC REPORT NO. 85

The Land Utilization Program 1934 to 1964

ORIGIN, DEVELOPMENT, AND PRESENT STATUS

U.S. DEPARTMENT OF AGRICULTURE • ECONOMIC RESEARCH SERVICE

FOREWORD

The proper use of our land resources is of great importance to the Nation and should have a high priority in Government policy--local, State, and national. It is of great significance to the individual citizen, no matter where he lives, or what his occupation may be. Land, and the resources of the land both directly and indirectly affect our lives and living every day. The misuse of land resources often expresses itself in poverty, low productivity, unemployment, poor schools, and a generally unsatisfactory way of life. As we gain a better understanding of the productive possibilities and limitations of various land classes, we find that much land could be used more advantageously than at present.

It was often said 50 years ago that we were beginning to see and understand the need for conservation and land use planning but that not much would be done about it by Government or individuals until a national consciousness and a state of public opinion were developed which would support action by Congress and State legislatures in the fields of research, public education, and action projects. The White House Conservation Conference in 1908 called by President Theodore Roosevelt was one of the first of a series of events which started the movement which has gone steadily forward ever since.

A number of events since World War I have been responsible for the progress made in all aspects of the land utilization problem. In response to the depressed situation in agriculture during the 1920's and 1930's, a national conference on land utilization was held in 1931 which laid the foundation for a land utilization program. Under the leadership of the National Resources Planning Board, action programs based on a planned attack on all aspects of land use problems began to appear. Many of us who were involved in the events of the 1930's and 1940's have felt the need of a look at the movement and the important events in it from the beginning up to date.

It is for this reason that this report on the origins and development of land utilization projects is of great importance at this time. This study is a milestone in the march of progress in land utilization. The findings are clearly stated and evaluated. The report covers a program that encompassed some 250 projects and over 11 million acres of land, each project serving both as a test and a demonstration. The projects were well distributed in relation to geography and the principal problem areas of the United States. A question may be asked, "Well and good, but 11 million acres is but a drop in the bucket as far as the total national land problem is concerned; what about the large amount of work yet to be done?" In answer to this reasonable question, we can say that we hope each project acts as a leaven to induce future planning. We can have hope and confidence that we have passed the pioneering phase of the work and that there will be an expansion of land utilization planning and development in the United States under pending river basin and regional development programs.

------M. L. Wilson

PREFACE

The information in this report was obtained from many sources. Records of the land utilization program in the files of both State and Federal agencies were consulted. In addition, a number of individuals who had a special interest in the land utilization projects because of active participation in the research, planning, acquisition, and management phases of the program provided valuable information from memory and from personal papers.

The history of a number of land utilization projects was reviewed in 1963 and 1964. Twelve projects under Federal administration and 17 projects under State administration were visited, records and reports studied, and persons consulted who were familiar with the use of the land and its management. The visits to projects and the discussions with professional workers and people of the project areas gave an insight into some of the problems, policies, and accomplishments not fully revealed in written records and reports. Reports and publications covering some phases of 35 additional projects in different parts of the country were read. Several of the 60 or more projects reviewed had been observed firsthand in their early stages by the writer, who was assigned to the land utilization research and appraisal staff during the first stages of acquisition and development in the 1930's.

The author wishes to give special acknowledgement to the following people for their helpfulness in providing suggestions and materials: Ernst H. Wiecking, Harry A. Steele, Mark M. Regan, Norman E. Landgren, and Robert W. Harrison, Economic Research Service; Edward G. Grest, Fred W. Grover, Howard E. Smith, John S. Forsman, and Lawrence S. Newcombe, Forest Service; Claude F. Clayton, William A. Hartman, Elmer Starch, and Carl C. Taylor, Resettlement Administration and Bureau of Agricultural Economics; Gladwin E. Young and Roy D. Hockensmith, Soil Conservation Service; Virgil Gilman and Phillip K. Hooker, Federal Extension Service; all of the Department of Agriculture; and Karl A. Landstrom, Department of the Interior.

Valuable aid was received from Loyd Glover, South Dakota State University; George H. Aull, Clemson College; William T. Fullilove, Georgia State Agricultural Experiment Station; and many others associated with the land use research and action programs of the 1930's and subsequent land management and research activities.

Especially useful sources were the papers, files, reference lists, and publications of L. C. Gray, Bureau of Agricultural Economics and Resettlement Administration, 1920-40; Carleton E. Barnes, Bureau of Agricultural Economics and Resettlement Administration; Margaret R. Purcell, Bureau of Agricultural Economics and Economic Research Service; O. E. Baker, Francis J. Marschner, Howard Turner, Bureau of Agricultural Economics; and Philip M. Glick, Solicitor's Office.

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CONTENTS

SUMMARY

Among the critical agricultural problems of the 1930's was the cultivation of a large acreage of submarginal farmland--land that could not profitably grow crops. Mortgage foreclosures, tax delinquencies, and personal hardship were commonplace in areas where large acreages of submarginal land were being farmed. Severe droughts, floods, erosion, poor cultivation practices, neglect, and, frequently, abandonment were causing heavy damage to the land.

Recognizing the magnitude of the submarginal land problem, the Secretary of Agriculture summoned a National Conference on Land Utilization in 1931, to study these problems and to make reports and recommendations. One result was the creation of the National Resources Board, which assembled data and prepared maps showing submarginal land areas. This Board recommended in 1934 that the Federal Government purchase and develop 75 million acres of submarginal farmland in the various regions to serve the public and relieve the distress of the occupants of the submarginal land and of nearby areas. An Executive Order late in 1933 already had established funds to buy land, retire it from cultivation, and develop it for pasture, forest, range, park, recreation, wildlife refuge, and similar uses. The program devised was based on research, and on the cooperation of professional organizations, State agricultural experiment stations, land management and research agencies of the Departments of Agriculture and Interior, and local governments, grazing associations, and soil conservation districts.

Some 250 land utilization projects, totaling 11.3 million acres in 45 States, were acquired for $47.5 million (about $4.40 an acre exclusive of public domain land assigned) between 1933 and 1946. More than four-fifths of this total acreage--9.5 million acres--is now used chiefly for range and forests and related multiple uses, such as wildlife protection, watersheds, and recreation. Over one-sixth--1.8 million acres--is used for wildlife refuges and parks.

All sales made to the Federal Government were voluntary. Title to the land was obtained under provisions of the emergency relief and industrial recovery acts, and the Bankhead-Jones Farm Tenant Act, all passed in the 1930's. Parts of the 11.3 million acres are now managed by 7 Federal agencies, and 2 or more State agencies in some 30 States. Up to 1954, when arrangements were made for permanent land assignments, the costs of developing the land were about $102.5 million (about $9 an acre). So the total cost for land and development was approximately $150 million. Much of the labor of developing the land was done by persons who would otherwise have been jobless.

Nearly 25,000 families occupied the acquired land. More than 8,000 needy families were helped to relocate. Over 16,000 families relocated by their own efforts. In some cases, families could remain in their homes and work on the development or maintenance of projects.

The land utilization projects were not uniform in nature, size, use, or management; no 2 projects were exactly alike. They ranged in size from less than a thousand acres to more than a million. Some 100 Federal and State projects are now in forests; about 30 are in Federal grassland pasture and range; about 70 are in parks and recreation areas; and 50 are in wildlife refuges and management areas. Multiple use is a practice common to all projects. Many projects have good buildings, roads, water supplies, and other facilities for management, fire control, timber processing, grazing, fish and wildlife production and management, experimental demonstrations of good forest and grassland practices, and recreational sites.

Most of the agricultural projects have been under the administration and management of the Forest Service and the Bureau of Land Management since 1954, and now are in National Forests, National Grasslands, and Federal grazing districts. Cooperative grazing associations have an important part in use and management of these lands.

Comparative studies of the project land in the 1930's, and in the 1960's after 30 years, show much change and improvement. Useful purposes are served by providing rural recreational areas, wildlife refuges, and supplemental incomes to local people from grazing and forestry, from employment in maintenance and operation, and

from related private enterprises. The Federal Government and the States receive fairly substantial payments for use of land now in forest and grass, as a result of improved management, restoration, and development. Counties where these lands are located receive 25 percent of the income from the land for the support of schools and roads.

An outstanding feature of these land utilization projects is that they give people a chance to observe good land use practices and efficient management of forests, grasslands, and recreational and wildlife areas. The projects are proving grounds for social, economic, and educational programs.

The Nation was made aware that poor agricultural land should not be allowed to suffer from misuse, or to absorb the unemployed during depressions. The land utilization program helped reverse U.S. policies encouraging settlement and development of land whether or not it was suited to cultivation. The program as a whole put much land to more profitable uses.

Considered as a whole, much of this land has been developed into useful units and has become an important factor in the local and regional area's life and welfare. The land utilization program of the 1930's bears a close resemblance to the 1964 plans to aid in the alleviation of rural poverty and distress.

Case studies of 12 projects illustrate the wide diversity of land use problems in different regions of the country--the past ill-adopted use for agriculture, and the shift to use for parks, wildlife refuges, forest, and grasslands. How better usage has been brought about is shown by description of improvement and management.

THE LAND UTILIZATION PROGRAM, 1934 TO 1964

Origin, Development, and Present Status

by

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I. ORIGIN AND DEVELOPMENT

INTRODUCTION

The nationwide economic depression of the late 1920's and early 1930's awakened public interest in rural land use problems and policies. Thousands of persons no longer able to find work in towns and cities tried to make a living by farming. This back-to-the-land movement intensified the problems of established farmers and rarely solved the problems of the unemployed from urban centers. Farm foreclosures multiplied, tax delinquencies increased, farm incomes dwindled, and in many areas the land resources were damaged by drought, floods, erosion, poor cultivation practices, and neglect. It became increasingly evident that thousands of farm families had long been living in poverty on poor land, and that the depression and weather were merely aggravating their problems.

The land utilization program of the 1930's was one of the methods by which the Nation attempted to deal with these problems. This program began as a submarginal land purchase and development program, but was gradually expanded to include the broader aim of transferring land to its most suitable use.[2]

Public policy and plans seldom spring full-grown into being, but develop gradually as the result of public support of certain programs and public rejection of others. So it was with the land utilization program. Until the beginning of the 20th century, the sentiment of the country had been that land had little value until it became settled and placed in agricultural production, thereby ceasing to be undeveloped public domain. Unsettled land, even though not well adapted to cultivation, was generally considered a hindrance to full development of the Nation. But by the 1920's, it was beginning to be recognized that efforts to develop quickly all land for agriculture without careful appraisal of its suitability for such use had led to cultivation of much poor land, or land unsuitable for sustained production of crops (50, 57, 72).[3]

One of the most obvious problems in the 1920's and 1930's was the damage to natural soil and water resources from continued cultivation of unproductive farms, which were often eventually abandoned (fig. 1). In several areas of the Southern Piedmont and Appalachian Regions, for example, the almost continuous cultivation of steep slopes in row crops had resulted in serious erosion, stoppage of stream channels by sedimentation, damage to reservoirs, low crop yields, and depletion of large areas of land (fig. 2). But despite the unsuitability of much steep hill and mountain land for food and feed crops, many families remained dependent on it for a living (3, 55).

In the drier portions of the western Great Plains, wind erosion damaged not only cultivated land but the adjoining overgrazed pasture, range, and other land as well. Soil particles in the form of dust and fine sand, blown from cultivated fields, fallow land, and overgrazed range during the prolonged drought of 1933-36, covered and destroyed the crops and sod on nearby land (figs. 3 and 4). Untended fields, held under uncertain tenure, contributed heavily

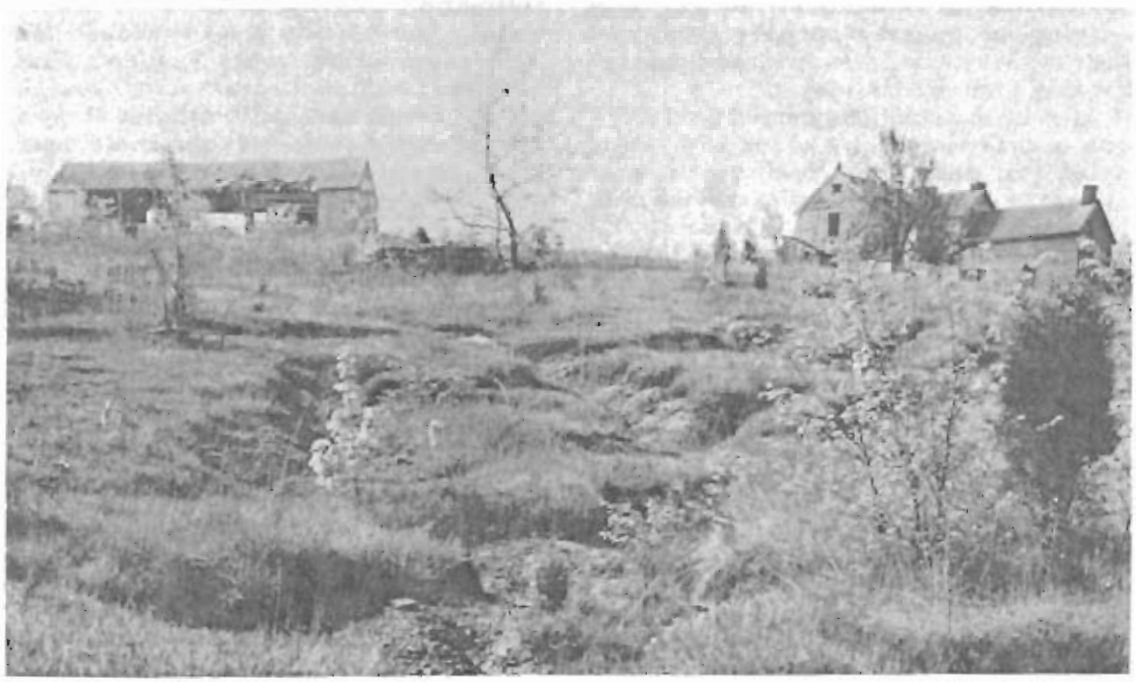
[1] Mr. Wooten is now retired.

[2] The term "submarginal land," as used here and elsewhere in the agricultural field, generally refers to land low in productivity, or otherwise ill-suited for farm crops, which falls below the margin of profitable private cultivation.

[3] Underscored numbers in parentheses refer to Bibliography, p. 64.

SCS GA-D5-9

Figure 1.--Partly idle farmland in Greene County, Ga., showing dilapidated houses on land grown to sedge and scattered pine.

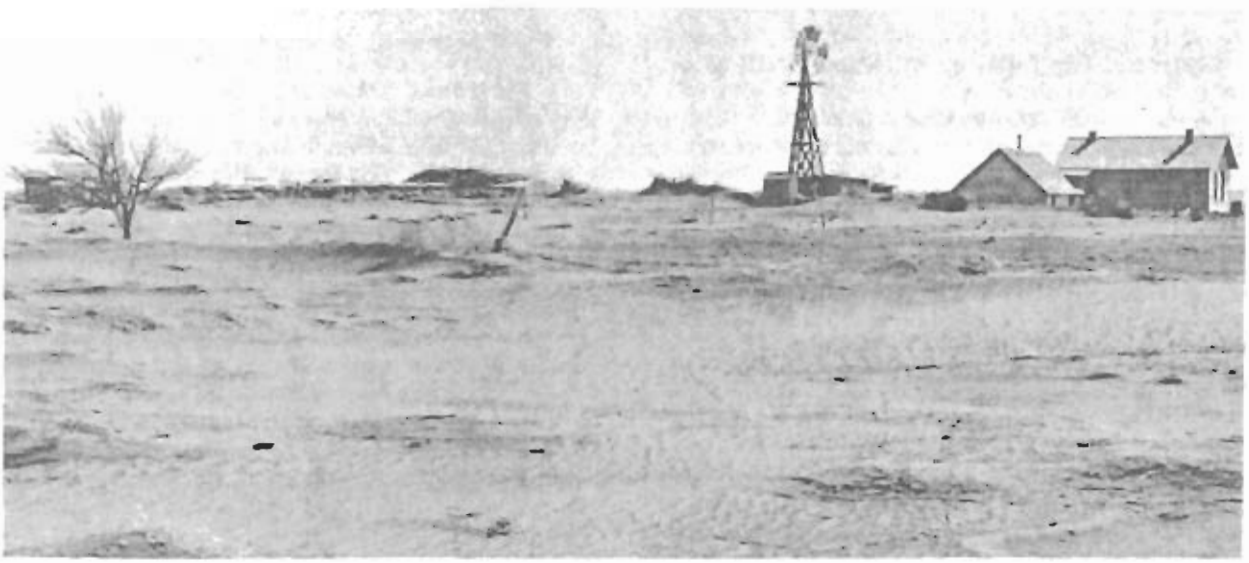


SCS Md-495

Figure 2.--Idle farm in Washington County, Md. Fifty years ago, this land produced 25 bushels of wheat per acre. When the picture was taken, bluegrass grew naturally where erosion was not serious.

SCS Kan-535

Figure 3.--Typical Morton County, Kans., homestead when it was optioned for purchase under the land utilization program.



SCS Okla-350-A

Figure 4.--Part of the land utilization purchase area in Cimarron County, Okla. The family that occupied the home was relocated outside the area.

to the dust storms. Here again, economic pressure of crop and pasture failures and the resulting damages to the land, coupled with other influences such as the early homestead laws and their application, which had permitted development of too-small farms on semiarid land, caused these conditions to develop and grow worse with the passing years.

The cutover lands in the Lake States also became a center of trouble. These lands, ill-suited to farming, tended to become tax delinquent soon after the forests were removed. But the scattered families living on these submarginal lands continued to need roads, schools, and other public services, thus requiring public expenditures of many times the amounts they contributed in taxes. Many rural counties faced heavy deficits.

Congress recognized the growing need for action on the problem of submarginal land and provided in the Agricultural Marketing Act of June 15, 1929, authorization for the Federal Farm Board to investigate the utilization of land for agricultural purposes and the possibility of reducing the amount of marginal land in cultivation. This was the beginning of an increasingly serious study of the land problem in America and of the steps required to bring about a better adjustment between the use of land and the natural character of the Nation's land resources. Some of the forerunners of the land utilization program are described below.

National Conference on Land Utilization

Aware of mounting distress among farmers, Secretary of Agriculture Arthur M. Hyde arranged a National Conference on Land Utilization in Chicago, in November 1931. The Conference adopted a series of resolutions (144), many of which were later to become the guidelines for a Federal land program. The conference was attended by representatives of the U.S. Departments of Agriculture and the Interior, State agricultural colleges, farm organizations, and others interested in land use problems.

In 1932, a National Land Use Planning Committee, made up of representatives of Federal bureaus and land-grant colleges, was created. The organization of this Committee was one of the important results of the National Conference on Land Utilization. From the time of its organization, the National Land Use Planning Committee gave a great deal of attention to the problem of areas not clearly adapted to use for farming, generally referred to as "marginal" or "submarginal" areas.

The Committee prepared a report in 1933 directed primarily to the concept of public acquisition, retention, and management of submarginal land (145). The physical and economic principles governing land classification were outlined. The major problems found in submarginal areas were reviewed, and adjustments were recommended. The need for acquisition of land by public agencies and for relocation of rural families in accordance with the adaptability of land to various uses was outlined. Principles upon which a public acquisition program might be based were set forth.

In a June 1932 address at Des Moines, Iowa, President Hoover cited the work of the National Land Use Planning Committee and stated that the broad objective of the study of land use problems was to promote the reorganization of agriculture to divert land from unprofitable use, and to avoid the cultivation of land that contributed to the poverty of those who lived on it. Early in 1933, President Hoover asked Congress to implement Secretary of Agriculture Hyde's recommendation that the Government lease submarginal farmland and convert it to other uses--a program that Hyde regarded as an emergency effort which could lead to a program of systematic land utilization.

National Resources Board

A National Planning Board was established in the Public Works Administration in July 1933. This Board was in turn succeeded by the National Resources Board, created by Executive Order of President Roosevelt on June 30, 1934. The latter Board took as one of its first tasks the preparation of a comprehensive report on the land and water resources of the United States, in cooperation with the U.S. Departments of Agriculture and the Interior, State planning boards, agricultural experiment stations, and other interested agencies and individuals (146).

The report, issued by the Board's Land Planning Committee in December 1934, suggested that national policies should actively seek to bring about those land ownership and land use patterns found to be clearly in the interest of the general public welfare, as contrasted with purely

individual or group interests. It inventoried land resources and estimated future land requirements for various uses; it identified maladjustments in land use and recommended public policies for correcting them. It also recommended increasing the areas in Federal and State forests, public parks, recreation areas, Indian reservations, and wildlife refuges.

The most significant policy recommendation, however, concerned the marginal and submarginal land and its occupants. The Board recommended that the Federal Government carry on a long-term policy of land acquisition, and acquire some 75 million acres of land, to "supplement the assistance to private forestry, and erosion-control work" already underway. The Board suggested that the way to begin such a program would be to acquire carefully selected areas of submarginal land and demonstrate how it could be used to serve the public. It was recognized that it would, at the same time, be necessary to relocate the occupants or regroup them in suitable areas, taking into account the possibilities for employment afforded by the land utilization projects.

FORMATION OF THE LAND UTILIZATION PROGRAM

Late in 1933, a Special Board of Public Works with members from several Federal departments passed a resolution calling for establishment of a submarginal land purchase program by the Government. In February 1934, such a program was instituted by the Agricultural Adjustment Administration with $25 million provided from Federal Emergency Relief Administration appropriations. This program was to include four types of projects: (1) Agricultural adjustment, (2) Indian land, (3) recreation, and (4) wildlife refuge. With the initial allotment of $25 million, supplemented by transfers from Work Relief funds to employ labor for development, it was proposed to acquire approximately 10 million acres of land located in 45 States. The overall purpose of the program was to carry out an important land policy function not duplicated by any other Federal program.

Details and requirements of the first allotment of $25 million for land purchase have been summarized as follows (70):

1. That the lands purchased shall be such as in general to fall under subsection (c) of Section 202 of the National Industrial Recovery Act in that they shall be lands of the character heretofore purchased by the State of New York under the program developed (1928-32) by Governor Roosevelt (President-elect in 1932) for the withdrawal of submarginal lands from cultivation.

2. That they shall be lands that in total amount balance against the lands, the reclamation or improvement of which has been provided for under the comprehensive program of public works on condition that counterbalancing lands be withdrawn from cultivation.

3. That they shall be lands which are now in cultivation, producing agricultural crops at a rate of production which the Department of Agriculture specifies as submarginal, that is, giving a return that is less than is to be properly expected from the labor expended with the result that the owners remain impoverished while working them.

4. That they shall be lands available for or suitable for development as forests, or as parks or recreation spaces, or as grazing ranges, or as bird or game refuges or as additions to Indian reservations or such that their development through planting of forests and ground cover will serve as a protection against soil erosion or for other specific public works and benefits to the people of the United States.

5. That it shall be possible to work out a definite plan of resettlement or employment of the population at present living on such lands so that they may not become stranded or transient.

Every project accepted under this program shall meet the conditions specified in the five points mentioned above. The method of operation shall be the following:

Projects will be presented through any interested department, bureau, or section, such as the Indian Service, Biological Survey, Relief Administration, or otherwise. They will be examined by the several governmental departments concerned to determine whether or not they can be handled in full satisfaction of each of the five points specified above.

It is the intention to turn the land over to a Federal Department for its operation for the purpose of which it is best adapted--forests, range or park--these in charge of Forestry Service, Indian Office, or Park Service, and so on.

The Agricultural Adjustment Administration

The administration of the agricultural adjustment projects, as well as the general direction of the whole land utilization program, was the immediate responsibility of the Land Policy Section of the Agricultural Adjustment Administration. The responsibility for planning, and in specific cases, for acquiring land for other types of projects was assigned as follows: Indian lands projects, the Bureau of Indian Affairs, Department of the Interior; parks, the

National Park Service, Department of the Interior; wildlife areas, the Bureau of Biological Survey, Department of Agriculture. Organized technical direction of the land retirement funds and programs was to be the joint responsibility of Agriculture and Interior.

The primary interest of the Agricultural Adjustment Administration was in the original purpose of the land program: Retiring submarginal land from agricultural use, principally for demonstrational purposes, and developing it for uses to which it was better suited. To it was allotted two-thirds of the $25 million available. Such allocation of public works money for farmland retirement was justified in part to offset the effect of development of land by reclamation projects with public works funds. The other agencies involved in the program were interested primarily in acquiring land for special purposes.

L. C. Gray, Director of the Land Policy Section, Agricultural Adjustment Administration, wrote (55, 56) that as the land retirement program progressed, it took on increasingly the aspect of a "land-use adjustment" program, because "...areas were placed in public ownership which, even though not outstandingly submarginal for agriculture, were nevertheless devoted to some use other than that for which they were best suited." Hence it was often difficult "to reconcile the needs of specified areas for recreation, wildlife conservation, or Indian rehabilitation with the basic planning of a submarginal land retirement program...." (52).

According to Dr. Gray, a project was considered worthwhile when it could be satisfactorily shown "that public acquisition of lands in the selected area, coupled with resettlement of the present residents on better land, will provide an effective demonstration of one means whereby these problems can be solved."

In the Plains States, where by far the largest acreage was to be purchased, the purpose of the land program was to see that semiarid land used for wheat or other arable farming was used for grazing instead. This involved both increasing the size of farms and resettling low-income families where they would not be dependent upon arid land unfit for cultivated agriculture.

Land purchased in the Northeast was to be converted to forests, game refuges, and recreational areas. In the South, on land that had been depleted by years of 1-crop cotton or tobacco farming, the projects were intended to restore soil fertility, timber, and game. Scattered farms isolated in Lake States forests imposed heavy burdens on local governments for services and facilities; these farms were to be purchased and assistance given the farmers to resettle in developed communities.

Agricultural adjustment projects were to comprise approximately 7 million acres of uneconomic farmland, together with adjacent tracts, to be acquired for forestry, grazing, and other extensive conservational uses. Major problems to be attacked were (1) damage of soil and water resources, forest, and grass cover through erosion and the improper use of land; (2) waste of human resources through dependence of rural people upon land physically unfit for agricultural production; and (3) loss of financial resources by State and local governments through excessive costs of public services in submarginal areas where tax returns were too meager or uncertain to cover the costs.

Some 1,500,000 acres of marginal farmland were to be purchased for use by Indians. Most of this land was to be used for grazing. Recreational projects planned under the supervision of the National Park Service were to consist of some 500,000 acres of poor farmland and other unproductive tracts located largely within 50 miles of industrial centers, to be developed primarily to provide recreational facilities for low-income families. These projects varied in size from small picnic grounds to 10,000-acre preserves.

Approximately 750,000 acres were to be included in migratory waterfowl and other wildlife projects. They were largely areas that could be partly flooded and used as resting and breeding areas for migratory waterfowl.

Project Planning and Development

Procedure followed in carrying out the land-acquisition program was outlined in a report to the U.S. Senate from the Secretary of Agriculture (152):

> The initial step in the selection of a project is the definition of a "problem" area--that is, an area in which the conditions of land use demand readjustment. To facilitate the definition of such "problem" areas, land use specialists attached to the regional offices cooperate closely with the agricultural experiment station in each of the States as well as with State planning boards, State conservation commissions, and

other agencies concerned with land. Before final decision on the development of a project is made, the present economic status of the occupants of the land, the condition of the soil and native vegetation, including forest resources, and the need of the land for public purposes must be considered. With the ultimate use of the land in mind, it is necessary to explore its relationship to nearby towns and cities, to local opinion, and to the attitude of various State official agencies. Special consideration is given to the cost of the land and to the possibility of relieving unemployment by the development work on such a project. After it is decided to proceed, the boundaries of the project are carefully defined and proposals to sell land within the purchase area are secured. The solicitors of the proposals are instructed as to the probable values of the various properties. After a sufficient number of proposals have been obtained to insure that the project can be completed, the individual tracts are appraised by expert appraisers, and the owners are then asked to sign a formal offer to sell land to the Federal government on the basis of the appraised value. When a sufficient number of such formal offers are available, they are submitted to the Washington office for acceptance.

It is then necessary to determine whether the title is sufficiently clear to permit the transfer of the land to the United States in fee simple. This process has been found to require a considerable period of time. The Federal Government has never before undertaken to acquire so large an amount of land in so short a period, and the volume of work involved has placed an unusual burden on the various administrative agencies affected. Three major departments of the Federal Government are concerned: Namely, the Department of Justice, the Comptroller General, and the Treasury Department. The Department of Justice must be satisfied that the title is free from defects. The Comptroller General must be satisfied that the authority at law exists for the acquisition of each tract, that the money is being spent for a title that is free from serious defects, and that the various reservations such as mineral reservations which may have been stipulated in each transaction not only are legally justified, but also are consonant with the purpose of each project and the interests of the United States. Such requirements have naturally caused considerable periods of delay in payment.

From the beginning of the program, land acquisition was based on voluntary sales. Standard procedures were used in estimating the value of land offered for sale, optioning land, clearing titles, and closing sales. Experienced local and State people were assigned to this work. Condemnation was resorted to only where necessary for title clearance and related legal purposes.

In its earlier stages, the land program was intended as a demonstration to help distressed rural people. But as the program developed the emphasis changed somewhat, and much of the acreage optioned for purchase included parts of large tracts and land adjacent to or within farm areas, which no one had ever cultivated, although much of it was forest or had been used for grazing. To some degree, these changes in objective reflected limitations placed on the use of funds made available for this program by the Congress and the executive departments.

Problem Land Area Classification

At the outset of the program there was the need to find the extent and location of poor farmland. Much information was available from previous research. For 10 years or more, the Bureau of Agricultural Economics and cooperating Federal and State agencies had been studying rural land use problems and the means for their solution. In the course of their studies, they had assembled and analyzed valuable data on land uses, productivity classes, values, and requirements. The findings were used in a map, "Natural Land Use Areas," by Carleton P. Barnes and Francis J. Marschner (11).

In 1932, the Bureau of Chemistry and Soils, at the suggestion of the National Conference on Land Utilization, undertook a nationwide classification of land according to its physical adaptability for various uses. This was the first productivity classification undertaken on a national scale (144, 145).

Each soil type, in counties for which soil surveys were available, was classified into 10 grades. These ranged from the best to the poorest, as judged by the adaptability of the soil in its natural condition, without improvement or serious impoverishment, to the kinds of crops grown in the area. For the main crops that could feasibly be grown on each soil type, the soil type was rated in comparison with the type physically best adapted to the given crop. The general rating for a particular land type was obtained by combining the ratings for individual crops according to relative acreage. Eventually, the areas in each productivity class were determined.

The poorer grades of land were found to comprise about 22 percent of the land in farms. They naturally contributed proportionately much less to the total production than a corresponding acreage of good land.

In addition to the information available from these earlier studies, a current statistical picture of the land in the different

land use problem areas was needed. In 1934, land planning specialists in each State, soils technicians, geographers, and economists, working with the Bureau of Agricultural Economics and the National Resources Board in cooperation with other State and Federal agencies, classified land in each of the 30,000 townships or corresponding minor civil divisions of the Nation according to land use problems and desirable adjustments.

In the classification, particular attention was paid to the adaptability of that part of the area employed for cultivation. Soil surveys were used for the classification when available; rating was on the basis of judgment for areas not covered by soil surveys. Data by minor civil divisions available from the 1930 census were then tabulated and the poorer areas identified with the help of local people informed on land quality and other characteristics. The procedure was rough, but provided a quick means of determining in a general way the extent and geographic location of the poor land used for agriculture, a basic need in planning a land use adjustment program. Soil survey maps and land classification have substantially improved since the 1930's.

A United States map (fig. 5) showing these land use problem area classifications was published in the National Resources Board Land Planning Committee Report of December 1934 (146).

Estimates made in this brief survey showed that there were probably 454,000 or more farms in the problem areas that were on land too poor to provide a living for their operators through crop farming. These farms covered about 75 million acres, of which about 20 million acres were in cropland, 35 million in pasture and range, and 20 million in forest (table 1).

The total value of these very poor farms was estimated at about $682 million in 1934. It was estimated that the total value of production on these farms in 1929 was $204 million. A large proportion of this--45 percent--was consumed on the farm, and 55 percent was sold. These percentages, compared with those for all farms, showed that the farms in the extremely poor farming areas produced fewer crops for sale than the farms of average and above-average quality in the country as a whole (146).

Areas where crop farming needed to be replaced by less intensive uses (grazing, forests, recreation, and wildlife protection) were widespread, but were found chiefly

TABLE 1.--Number of farms classified as unsuitable for arable farming, and acreage of cropland, pasture, and other land

Land use	Acreage unsuitable for arable farming	Percentage of U.S. total for specified items
	Number	Percent
Farms	454,200	7.2
	1,000 acres	
Cropland:		
Harvested	16,590	4.0
Not harvested or pastured	3,593	3.9
Total	20,183	--
Pasture (grassland)	34,834	9.2
Woodland and other land in farms	20,298	13.4
Total area[1]	75,345	7.6

[1] More than 1/3 of the total acreage was in the western Great Plains, more than 1/4 in the South, about 1/8 in the Northeast and the Lake States cutover region, and the remaining 1/4 in other regions of the country.

Source: (146, 147.)

in the Great Plains, the Southeast, and the Great Lakes Regions. The physical and economic factors that led to unsuitable land use varied greatly from place to place and in relative importance. The more important of these factors in the 1920's and 1930's were:

(1) Inadequate understanding of the character and productive capacity of the land;

(2) Stimulus of exceptional prices for certain products at times of high demand;

(3) Availability of low-priced land as a means of subsistence to those without resources, information, or inclination to live elsewhere;

(4) Shifts in comparative advantage through settlement of new and more productive areas, and through development of mechanized production; and

(5) Shifts in comparative advantage through damage of land by erosion.

Transfer to Resettlement Administration

Thus, in 1934 and 1935, a new Federal land use adjustment program was planned,

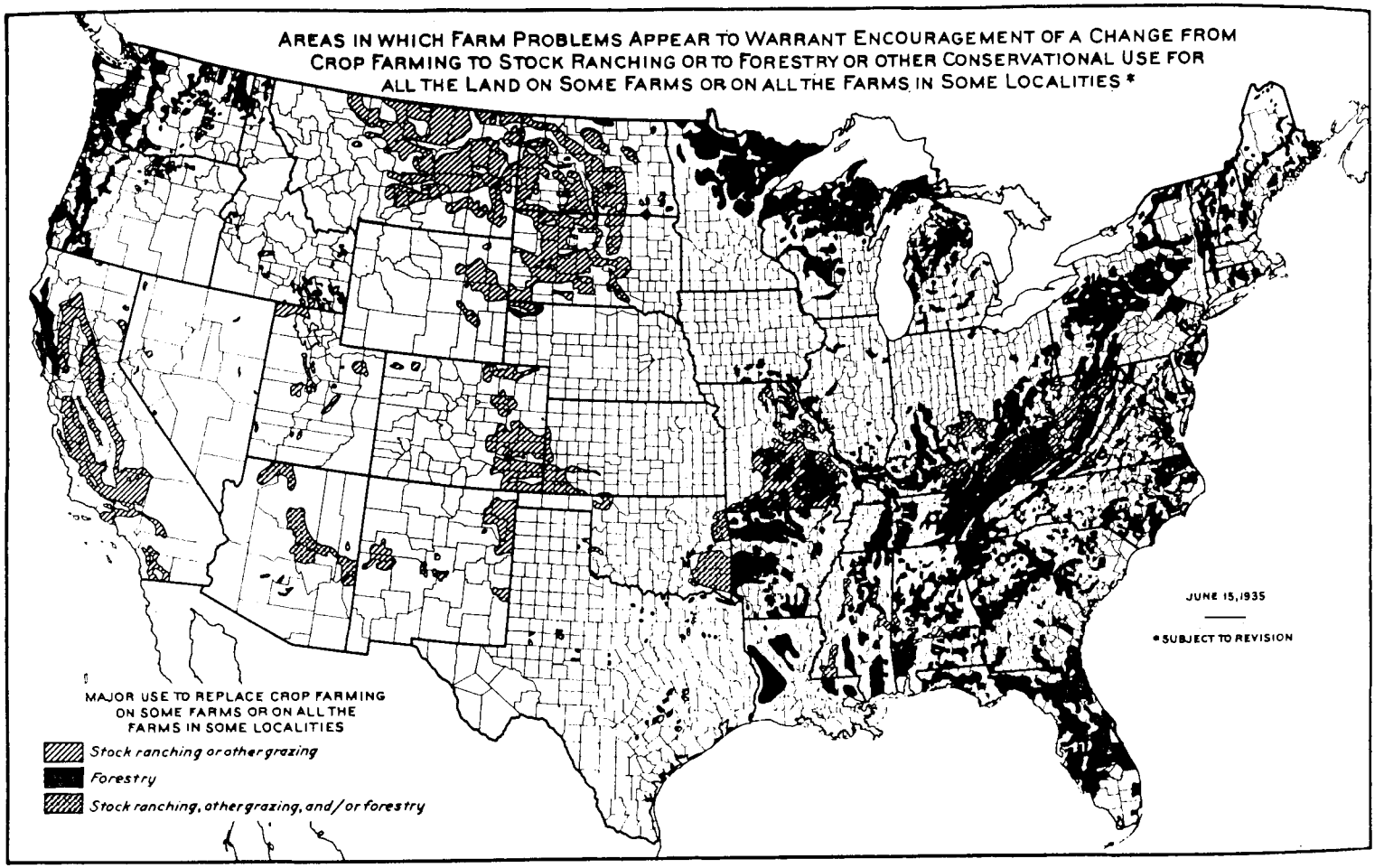


Figure 5.--From National Resources Board, Supplementary Report of the Land Planning Committee, Vol. 1, Pt. 6, Sec. 1, p. 1.

involving the purchase of 20,552,000 acres at an estimated cost of $104 million. At this time, negotiations were in progress for acquisition of 9 million acres of land on 206 of the 250 projects that had been proposed.

Administrative responsibility for all projects was not yet fixed, however. Working under the Public Works Administration grants, the Land Policy Section of the Agricultural Adjustment Administration, the National Park Service, the Bureau of Biological Survey, and the Bureau of Indian Affairs were responsible for selecting and planning the projects and optioning the land. The Federal Emergency Relief Administration managed financial and legal matters and had the responsibility for resettling families under its Division of Rural Rehabilitation. This separation of responsibilities, the fact that the Federal Emergency Relief Administration and the State Rural Rehabilitation Corporations were falling behind in providing assistance in relocation and employment of families whose land was purchased, and the withdrawal for drought relief of a substantial portion of the funds allotted to the program, brought on many difficulties early in 1935.

On May 1, 1935, a change came with the transfer of responsibility for the land utilization program, including the completion of the 206 land utilization projects already begun, to the Resettlement Administration, established by Executive Order, and transferred to the Department of Agriculture, in December 1936.

The Resettlement Administration was to complete the work begun by the Agricultural Adjustment Administration and its cooperating agencies. For this purpose, it was given an initial allotment of some $48 million, supplemented by $18 million from Work Relief funds to employ labor for development. Within the agency, all land purchase and land use planning work was assumed by the Land Utilization Division.

Of the land utilization program, the Resettlement Administration reported (153):

> The program of land use adjustment is the most extensive one yet undertaken by the Federal Government for the acquisition of lands now in private ownership. It is the only program motivated primarily by the aim of employing public land acquisition as a means of implementing a comprehensive program of land use planning in the interests of the general welfare. It includes the most comprehensive provision for wildlife conservation that has ever before been made by the Nation; and it will afford, for the first time, a well-planned system of recreational areas so located and of such character that they may serve to a maximum degree the principal centers of population, particularly those classes of the urban population which are not in a position to travel far to enjoy opportunities for outdoor recreation. The program embodies an extensive process of reforestation, which will supplement materially the programs of the Federal Forest Service, and the States. It is checking or preventing erosion on millions of acres, and providing methods of land use which will conserve soil resources. The program is allowing many thousands of families to escape from locations where it is impossible to maintain a decent standard of living, and is bringing relief to many thousands of other families by providing employment in the development of the lands being acquired.

In December 1935, a separate Division of Rural Resettlement was set up in the Resettlement Administration to care for families whose land was purchased. In this connection, the Subsistence Homesteads Division of the Department of the Interior, whose program included the resettlement of families, was transferred to the Resettlement Administration.

Resettlement Program

Resettlement of families was a necessary corollary of and supplement to land purchase and retirement in order to hasten adjustments in land use and to improve the well-being of the displaced families. As L. C. Gray put it (53), "A marginal land program without an associated program of resettlement would be largely futile; a program for establishing new communities or holdings unrelated to a land planning and land adjustment program would be meaningless."

Most families occupying purchased land were obliged to resettle elsewhere. Because the land they owned was usually poor and the market value consequently low, and because mortgage debts and taxes due had to be paid before a sale could be consummated, the proceeds from sales were usually insufficient to enable the families to reestablish themselves satisfactorily without assistance. Without help, it was likely that they would purchase poor land, again drift into poverty, and repeat the cycle of ownership, debt, losses, failure, and public relief.

The selection of good land on which to resettle people was essential. Also, farms needed to be of sufficient size to provide adequate incomes. This phase of the land program was of vital importance.

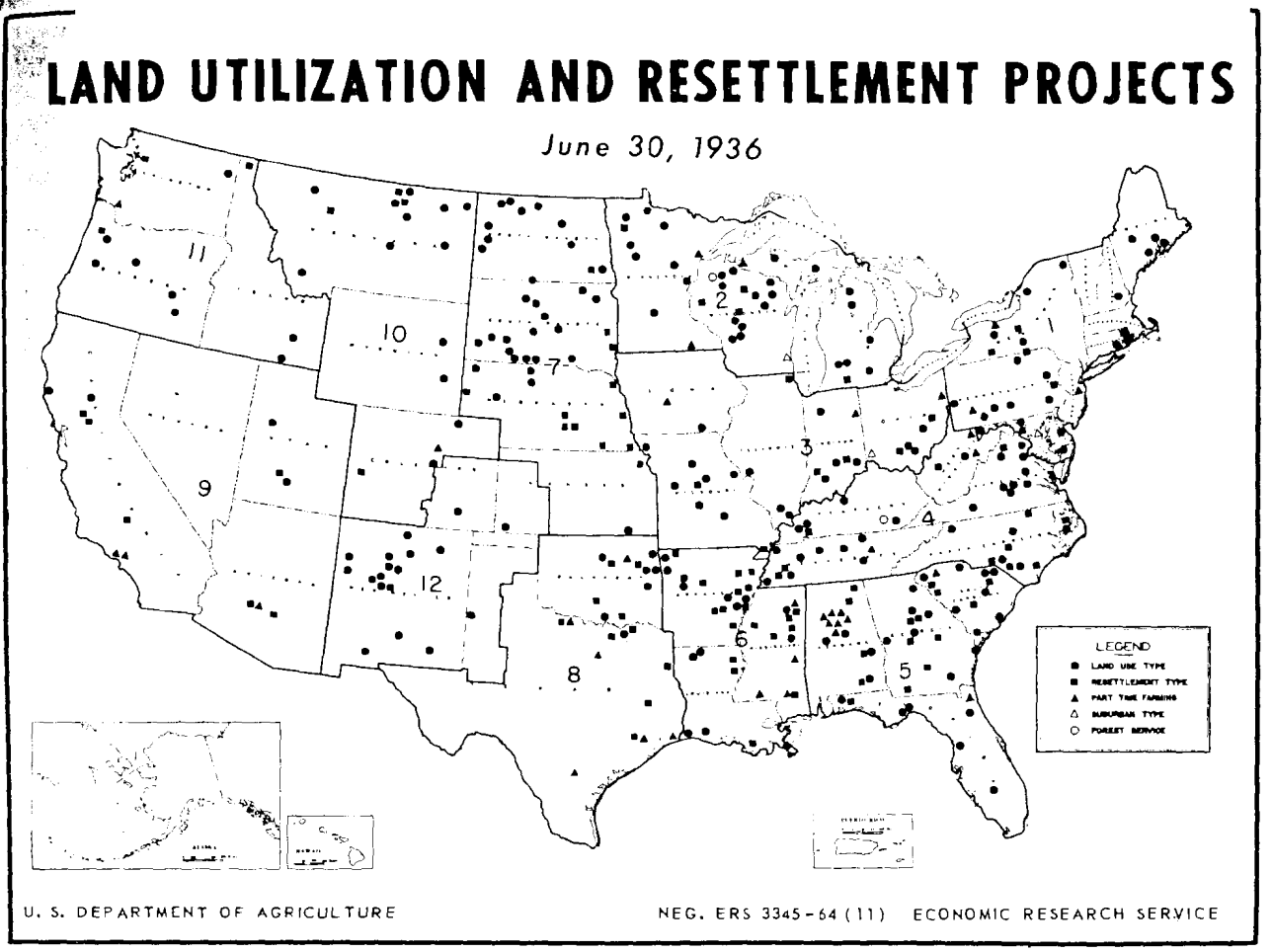


Figure 6

Projects Established and Land Acquired, 1934-37

In the 4 years ended June 30, 1937, land had been purchased or approved for purchase for 98 agricultural adjustment projects, 30 Indian land projects, 32 migratory waterfowl projects, and 46 recreational projects. Of the total of 9,149,000 acres, purchase had been completed on 5,478,216 acres. Changes in project plans and problems of title clearance were partly responsible for the time required for completion of purchase. Figure 6 and table 2 show the location and types of the 206 land utilization projects and the resettlement projects. The figure and table illustrate the 2 major activities--acquisition of land and resettlement of rural families from submarginal land.

Many projects initiated during this phase of the program were best adapted to administration by agencies other than those

TABLE 2.--Land utilization projects planned and approved for acquisition, by type, June 30, 1937

Type of project	Number of projects	Land to be purchased
	Number	1,000 acres
Agricultural adjustment....	98	6,806
Recreational[1].....	46	402
Wildlife[1].....	32	723
Indian[1].....	30	1,218
Total.....	[2] 206	[2] 9,149

[1] Projects transferred to jurisdiction of the Department of the Interior by Executive Orders 1936 to 1938.

[2] Figures on final acquisitions through 1946 are given in table 4, p. 18.

Source: Annual Report of Administrator, Resettlement Administration, 1936-37 (154).

11

responsible for setting them up. By September 1, 1937, approximately a million acres had been transferred to other agencies responsible for administering parks, wildlife programs, and other resource uses.

The 98 agricultural adjustment projects that were started in 1934-37 may be divided into 4 land use groups. Although different from each other in many respects, the projects within these groups had in the 1930's, and still have, several common problems relating to use and occupancy of land:

(1) Eighteen of these projects, many of them small, were located in the northeastern States and southern portions of the Corn Belt in hilly areas of poor soil, gradual farm abandonment, stranded families, and burdensome public costs for maintenance of roads, schools, and other public services.

(2) Ten of the projects, generally of moderate size, were located in the isolated and thinly settled areas of the cutover regions of the Lake States. The poor soils and isolation contributed to low incomes, low standards of living, and inadequate public services, often at high costs, for the scattered rural residents.

(3) Thirty-five of the projects, generally small to moderate in size, but including a few large projects, were in the badly eroded, poor farmland, and cutover areas of the southern States from Virginia to Arkansas and Louisiana. Improper farm practices, cultivation of land of low productivity, land too steep or too dry for production of cultivated crops, small farms, and a fairly dense, low-income population dependent upon the land, made adjustments in use and conservation of land and relocation and rehabilitation of population difficult to achieve.

(4) Twenty-six moderate to large projects, formed before 1938, were in the Northern Plains and the Southwest, and 9 projects were in the Central Mountain and Pacific States. Insufficient rainfall, low production, and small private holdings--generally too small for either crops or livestock farming and interspersed with public lands--were common problems in these projects. A basic problem in many areas was the need to adjust the use of rangeland to its grazing capacity, and to provide for its restoration and conservation.

CHANGE OF STATUS OF THE PROGRAM UNDER THE BANKHEAD-JONES FARM TENANT ACT

A more permanent status for the land utilization program was provided with the passage of the Bankhead-Jones Farm Tenant Act in 1937. Under Title III, the Secretary of Agriculture was directed "to develop a program of land conservation and land utilization, including the retirement of lands which are submarginal or not primarily suitable for cultivation in order thereby to correct maladjustments in land use."[4]

Land to be acquired was limited to poor land used in agriculture, except that intervening or adjoining land could be purchased in order to allow efficient conservation and use of the area as a whole. Arrangements had already been made for transfer of Indian, recreational, and wildlife projects to other agencies, and no more land was to be acquired for these purposes.

The projects authorized were defined in 3 major groups:

Agricultural Projects: Purchase and improvement of land which is submarginal in its present use as a means of developing an economically sound pattern of land use for a maximum number of families.

Isolated Settler Projects: Purchase of scattered farms on submarginal land to permit the effectuation of certain economies in public administration and adjustment to some better adapted use such as forestry, game conservation, grazing, recreation, or a combination of such uses.

Water Conservation Projects: Purchase of land and construction of water developments in areas where the conservation of water is essential to proper land use.

Under the broad powers of Title III, the reestablishment of a large-scale Federal acquisition program was possible. Section 34 provided that:

> To carry out the provisions of this title, there is authorized to be appropriated not to exceed $10,000,000 for the fiscal year ending June 30, 1938, and not to exceed $20,000,000 for each of the two fiscal years thereafter.

Actually, the funds appropriated did not equal the authorization and thus the program fell short of the original intent. Ten million dollars was made available for the first year, but in the following years the appropriation was cut to $5 million.

Approximately 80 percent of the money available in the first year was allotted for land purchase in the Great Plains area for

[4] Bankhead-Jones Farm Tenant Act, Public Law, No. 210, 75th Cong., 1st Sess., July 22, 1937.

projects planned and options taken during the 2 preceding years, and about 20 percent was allotted for blocking in existing projects in other parts of the country and completing projects already started. Nearly all new projects were similar to the agricultural adjustment projects established prior to fiscal year 1938.

In the year ending June 30, 1938, the acquisition of 2,464,673 acres was completed by clearance of titles and payments for land. This brought the total actually bought and paid for since the beginning of the land utilization program to 7,942,889 acres. In addition, plans were approved for acquisition of 2,192,742 acres at an estimated cost of $8,111,540--approximately $3.70 an acre. By far the largest acreage planned for purchase was in the northern and southern plains.

Assignment to the Bureau of Agricultural Economics

Secretary's Memorandum No. 733, of September 1, 1937, provided for the transfer of the land utilization program, as continued and revised by Title III of the Bankhead-Jones Farm Tenant Act, from the Farm Security Administration[5] to the Bureau of Agricultural Economics "as rapidly as may be administratively feasible."

Since the Farm Security Administration had an existing organization for land purchase and development, it seemed desirable to allow the transfer of the program to take place gradually. Memoranda of understanding outlined the responsibilities of the 2 agencies in conduct of the program from September 1, 1937, to July 1, 1938, including administration and acquisition of land, and relocation of families on old projects and assistance to families on new projects established under Title III.

In this connection, the Bureau was assigned administrative responsibility for 131 projects involving an area of 8,142,666 acres. This included 25 projects scheduled for transfer as of June 30, 1938, to other agencies. By June 30, 1938, a total of 2,147,000 acres in recreational, wildlife, and Indian grazing projects had been transferred to cooperating Federal agencies for management in these special uses (table 3). Acquisition of some of this land had not been completed, but commitments had been made for its purchase. A few of the agricultural adjustment projects were consolidated and some transferred to other agencies, reducing the number from 145 (table 3), to 128 (fig. 7).

[5] The Farm Security Administration was formed September 1, 1937, as successor to the Resettlement Administration, to administer Titles I and II and related sections of Title IV of the Act authorizing resettlement aid to farmers in submarginal areas, and farm loans for purchase of farms by tenant farmers.

Transfer to Soil Conservation Service

In October 1938, submarginal land acquisition, development, and management functions provided for under Title III were transferred by the Secretary of Agriculture to the Soil Conservation Service, to be administered as a part of its program for conservation and improved use of agricultural land.[6] Land use adjustment projects that in 1937 had been placed under the administration of the Bureau of Agricultural Economics were also assigned to the Soil Conservation Service.

Land that had been acquired in cooperation with other Federal agencies--Bureau of Indian Affairs, National Park Service, and Bureau of Biological Survey (now the Fish and Wildlife Service)--was virtually all transferred to these agencies by October 1938. Transfers of a number of projects to other Federal and State agencies had already been made by this date. This left the Soil Conservation Service responsible for administration of some 7.1 million acres of land in 105 projects, developed mainly as agricultural land use adjustment projects.

Approved project plans for acquisition of about 2.2 million acres, chiefly in the Great Plains States under the new authority of Title III, also were transferred. A considerable number of options on land had already been taken. Part of this land was for enlargement of projects started before 1937. Consolidation of projects in the interest of more efficient management later reduced the number of projects in the inventory of 1938.

Land Acquired Under Title III of the Act

In the eastern, southern, and midwestern regions, the land acquisition program under Title III of the Bankhead-Jones Farm Tenant

[6] Secretary of Agriculture's Memorandum No. 785, October 16, 1938.

TABLE 3.--Status of land utilization projects planned and approved for acquisition, June 30, 1938

Item	Reassigned or to be reassigned to other agencies		Remaining under program agency for administration		Total	
	Projects	Acreage	Projects	Acreage	Projects	Acreage
Projects Established as of June 30, 1937, under Emergency Acts of 1933-35:	Number	1,000 acres	Number	1,000 acres	Number	1,000 acres
Agricultural adjustment	0	0	98	6,807	98	6,807
Indian land	23	934	7	284	30	1,218
Recreational	46	401	0	0	46	401
Wildlife	32	723	0	0	32	723
Total	101	2,058	[1] 105	7,091	206	9,149
Projects Established as of June 30, 1938, under Title III:[2]						
Agricultural and other	6	89	41	2,104	[3] 47	2,193
Grand total	107	2,147	146	9,195	253	11,342

[1] 25 projects, including 597,909 acres, were scheduled for transfer. Deduction of these projects would reduce the number of original projects under the administering agency to 80 projects comprising 6,492,875 acres.

[2] Title III of the Bankhead-Jones Farm Tenant Act of July 17, 1937.

[3] Includes acreage in new projects and the additions to old or original projects. There had been 5 consolidations of nearby projects and discontinuance of 2 projects, which reduced the number of projects from the total reported earlier for old and new projects.

Sources: Compiled from annual reports and records on the land utilization program by the Bureau of Agricultural Economics and the Resettlement Administration, 1936 to 1938. The figures in part are approximations since chronological records are not always uniform, are sometimes incomplete, and are of different annual dates.

Act was directed to a large extent toward completing projects established before the passage of the Act. However, in the West, chiefly in the Great Plains, several large new projects were started as well as large additions being made to old projects.

The practice in the east, south, and midwest was to have more and smaller projects; farther west there was a tendency to concentrate on acquiring larger areas and enlarging established projects. One reason for this was that submarginal lands were acquired in the west mainly for conservation purposes, including the restoration to grassland of cropland unsuited to cultivation. In other areas, the acquisition program was directed more toward the establishment of demonstrational and other multiple-use areas.

Through February 1943, 2,439,511 acres were acquired under the new authorization in Title III. In all, about 2.6 million acres, or about 22 percent of the total land utilization project acreage, were acquired under this authority. In addition, title clearance was completed under the Soil Conservation Service for about a million acres for which commitments were made under the original program after the transfer in 1938. Acquisition had ceased by 1943, except for small areas in process of acquisition for blocking in existing areas.

Ownership and occupancy data on tracts purchased under Title III show the following breakdown of ownership at time of purchase:

	Percent
Individuals	76.1
Estates, trustees, or guardians	10.0
Commercial banks	1.5
Federal and joint stock land banks	4.1
Insurance companies	0.9
Other corporations	3.7
County and State Governments	3.7

The percentage of tracts occupied by owners was 14.5, and ranged from 6.7 percent in the Southern Plains Region to 35.2 percent in the Northeastern Region. Tenants occupied 13.8 percent of all tracts, and showed the greatest percentage in the Southeastern and South Central Regions,

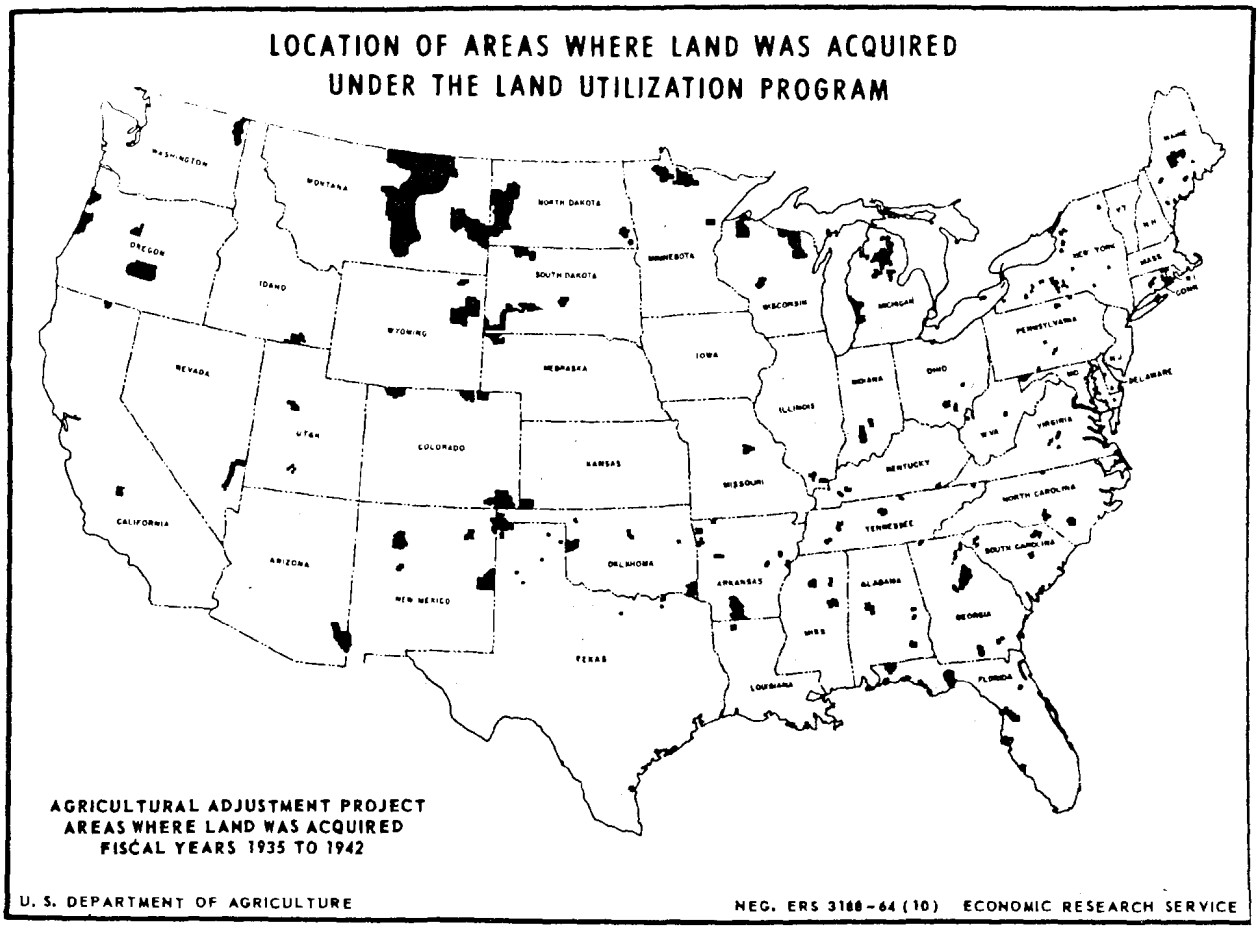


Figure 7

and the smallest in the Mountain and Pacific Regions. Squatters occupied only 0.7 percent of all tracts (170).

Owners of 30 percent of the purchased tracts resided outside the State in which the land was located. Out-of-State ownership was relatively low in the 3 eastern regions, and relatively high in the northern plains and the southwest.

LAND UTILIZATION RESEARCH

Background Studies

Many of the basic ideas of the land utilization program grew out of research work in the Bureau of Agricultural Economics, the Forest Service, the Bureau of Chemistry and Soils, and a number of State agricultural experiment stations and universities.

Cropland Requirements

Research in the 1920's and 1930's to furnish estimates of current and prospective cropland acreages and to determine the relation to acreage requirements of such factors as population trends and changes in production techniques, consumption, and foreign trade was done by O. E. Baker (9, 10). Similar work was done by the Forest Service in estimating prospective requirements for forest products.

The average acreage requirements for harvested crops used for domestic consumption and export in 1930-32, including maintenance of draft animals, were estimated to be only about 15 million acres

less than the average of 352 million required in 1925-29, a period of general prosperity; most of this difference was due to reduced exports. Measured in terms of the amount of reduction necessary to absorb accumulated carryovers quickly, and to restore a price parity in the early 1930's, cropland harvested in 1930-32 was estimated to greatly exceed normal requirements, possibly by as much as 50 to 60 million acres. In 1932, 361 million acres of cropland were harvested. In 1933, largely as a result of crop-acreage-control programs, the acreage of crops had dropped 30 million, to 331 million acres.

For use in planning land purchase and crop-acreage-control programs, the Land Planning Committee of the National Resources Board projected acreage needs of crops harvested in the future for domestic consumption and exports as follows (146):

Year	Million acres
1940	351
1950	372
1960	380

State and Local Land Use Surveys

Another type of research consisted of intensive qualitative local surveys to analyze and appraise problems associated with poor-quality farmland. Examples are the economic studies in regional, State, and local areas made by the Division of Land Economics, Bureau of Agricultural Economics, in cooperation with various States. Among the important early studies were those by John D. Black, University of Minnesota; George S. Wehrwein, University of Wisconsin; Gladwin T. Young, Purdue University; and David Weeks, University of California.

There were also the early studies of land utilization and settlement by the Division of Land Economics, Bureau of Agricultural Economics. These studies had an important part in laying the foundation for improved land use by some 30 or more State, regional, and local land utilization, settlement, and land acquisition projects from 1919 to 1939. More men were influential and helpful in the development of the program than can be named in a limited space.

The problems created by land sales and development of poorly adapted cutover farms received early attention in Minnesota and other Lake States (15, 66). In Wisconsin there was the rural zoning program which was a forerunner of land classification, and a necessary foundation for the land utilization program. This work helped initiate needed action.

Studies of Land Classification and Values

In addition to the growing recognition of the existence of submarginal land and rural slums, there were 2 significant attacks on the problem of land values. One was a study of sales prices as a basis for farmland appraisal undertaken in 1922 (60). The other was a study of the relation of income to land value (21). These 2 studies were useful in understanding land valuation, productivity, and related economic questions in the 1920's and 1930's. Significant work in land classification, types of farming, and land utilization analysis was done in the Northern Great Plains Region by M. L. Wilson and associates, Montana State Agricultural College (171).

Many settlers in the western Great Plains lacked the background and experience to judge the adaptability of land for crop farming or to follow the dryfarming practices that would work most efficiently in the semiarid regions. In a 1923 study of land use and settlement on 550 farms of the Triangle area, north-central Montana (171), persons classified as farmers on 58 farm homesteads in a typical township listed some unusual former occupations. There were 2 deep sea divers, 6 musicians, 2 butchers, 2 milliners, 2 draymen, 2 wrestlers, 2 blacksmiths, 2 schoolteachers, 2 physicians, and 1 bartender.

An outstanding study of 6 communities in selected counties of different regions was made in 1940 and 1941. Results were published as separate bulletins in 1942 and 1943 under the general titles of "Contemporary Culture of Rural Communities." The study included counties representative of the lower Piedmont of Georgia and western Kansas, both of which had developed great agricultural instability (12, 169). Land utilization projects were later established in each of these areas.

Research as a Part of Project Planning and Development

The project formation phase of the land utilization program was carried out with the

help of continuing studies of specific land use problems and the means for their solution. Research in land utilization during this period became less academic and of greater practical use and importance. This changed emphasis brought the researchers face to face with both opportunities and perils, as is apparent from a review of the many publications on land classification, economic area analysis, rural development, and land use planning that resulted (51, 118).

In all, some 500 or more such studies were made in the period 1933-42. Many land classification and other economic studies made by the Bureau of Agricultural Economics, the Resettlement Administration, and other Federal and State agencies served as a basis for developing detailed plans and proposals for projects. An example is the land use survey conducted by the Bureau of Agricultural Economics, the Bureau of Chemistry and Soils, and the Forest Service in cooperation with the Georgia Agricultural Experiment Station in 1932-34 (67). Data and maps assembled in this survey were basic to the selection and planning of 6 land utilization projects in Georgia in the years 1934-38--Piedmont, Northeast Georgia, Coastal Flatwoods, Lakeland Flatwoods, North Central Georgia, Limestone Valleys, and Uplands. In addition, data from this survey were used in the planning and development of 4 recreational and park projects in Georgia.

Land classifications and forest maps were made on the basis of field work for 4 counties in Georgia (Jasper, Jones, Madison, and Putnam), and for sample blocks and strips in other counties. Methods developed were used in the extension of such work to other areas. Soil-survey maps and air photographs were available for part of the 4-county area, and were used as a base for recording field observations.

The procedures developed by Glen L. Fuller, W. T. Fullilove, A. H. Hasty, and other associates of the Bureau of Chemistry and Soils and the Georgia Experiment Station, 1932-34, in classifying and mapping land use, soils, slope, erosion, and other physical and economic factors marked one of the beginning stages in land capability classification. The forest land inventories made in 1932-34 by A. R. Spillers, W. E. Bond, and others of the Forest Service under the leadership of I. F. Eldridge likewise aided in the refinement of timber resources surveys, then in the initial stages in the southern States.

Other examples of research basic to the program were the studies of the Lake States cutover region, in cooperation with the universities and agricultural experiment stations of Michigan, Minnesota, and Wisconsin; and various investigations in Indiana, Missouri, the Great Plains (including Montana), California, and other western States. Among the projects resulting from prior research were those in New York, New England, Georgia, Minnesota, Michigan, Wisconsin, Indiana, South Dakota, Kansas, Montana, and New York. This list is only partial, because complete records of project planning and selection for all States are not available.

A few States had started buying poor, unused, and abandoned farmland and converting it to forest, recreation, wildlife, and conservation uses. Other States had projects for setting aside State-owned land for parks, wildlife refuges, and forests. Among these States were New York, Indiana, Ohio, Pennsylvania, California, Michigan, and Wisconsin.

The emphasis in the program on improving the general pattern of land use and of life in rural areas required determination of where and how the pattern might be improved. Here again, preliminary research was required for the better orientation of later, more intensive land use adjustment work. Land use surveys, made with the cooperation of local committees and officials, aided in the selection of suitable land areas for land purchase projects and in plans for development and use.

EXTENT AND COST OF LAND ACQUISITION AND PROJECT DEVELOPMENT

Land Acquisition

Acreage acquired under the land utilization program from 1933 to 1946 totaled 11,299,000 acres (table 4). This included over 37,000 individual properties.

Slightly over 2.6 million acres were acquired directly under Title III of the Bankhead-Jones Farm Tenant Act at a cost of $11.1 million, and nearly 8.7 million acres under preceding authority at a cost of about $36.4 million (table 5). Total cost, exclusive

TABLE 4.--Number of acres and percentages of land acquired, fiscal years 1935-46

Fiscal year[1]	Amount[2]	Percentage of total
	1,000 acres	Percent
1935.....	368	3.2
1936.....	1,374	12.2
1937.....	3,736	33.1
1938.....	2,465	21.8
1939.....	652	5.8
1940.....	1,467	13.0
1941.....	822	7.3
1942.....	267	2.4
1943.....	127	1.1
1944.....	15	0.1
1945.....	5	(4)
1946.....	1	(4)
Total.....	[3] 11,299	100.0

[1] There was nearly always a lag between the year that land was optioned and the year it was purchased and the case closed. Reporting time differed in 1942 and 1943 from that in other years.

[2] Limited to land for which title clearance was completed and the case closed.

[3] Acreages acquired by Federal, State, and other agencies, with related information on their use and management, are shown in appendix A, which explains differences in number and size of projects that appeared in various annual reports on the land program, 1934-63.

[4] Less than 0.1 percent.

Sources: Annual Reports of the Chief, Soil Conservation Service, 1935-46.

of public domain and of appraising, negotiating, and title clearance, was $47.5 million, or an average of about $4.40 per acre for the land purchased.

Land value accounted for over three-fourths of the cost and, as was to be expected, was the largest single cost item in each region of the country. Value of improvements accounted for less than one-fifth of the cost, and merchantable timber and minerals for the remainder, or about 5 percent. Average cost per acre was highest in the Upper Mississippi Valley and lowest in the Pacific Northwest.

The total acreage included about 480,000 acres of public domain land, which was transferred to projects for the purpose of blocking in their areas. These transfers were not included in calculating the average cost per acre for the total area acquired.

Between 1943 and 1946, 148,000 acres were acquired. This land had been optioned before 1943, but final acquisition was delayed by title clearance problems and other factors.

The policy of acquiring land by voluntary sale was continued throughout the program. Friendly condemnations and court actions were required to clear only a limited number of land titles, and were not used as a means of forcing owners to sell.

Project Development

Land improvement and development included general land treatment, structural improvements, provision of transportation facilities, control of erosion, flood control, water storage, and development for forestry, recreation, and wildlife. Buildings and fences were removed; old roads no longer needed were blocked up; new roads were built where needed; suitable areas were seeded to grass or planted in trees; forest stands were improved and protected from fire; gullies were stopped; terraces, stock ponds, and dams were built; and stream channels were widened and cleaned. (See appendix C.) All of this work required much labor and equipment.

Virtually all of the development work was accomplished with labor from the vicinity of each project; a large number of workers were furnished by the Works Progress Administration. Many of the workers had to be trained as they worked. As these men acquired skills, many were able to find private employment (130, 153, 156). Employment was provided in the first few years for 50,000 or more workers on relief, and for 13,000 men whose farms had been purchased. By June 1939, $67 million had been spent from relief allotments for land improvement and development, plus about $5 million from public works funds.

Additional development costs, up to the time of transfer of all remaining projects to regular Federal and State public land management agencies in 1954, are estimated to have been approximately $30 million, making a total development cost of $102.5 million. With the purchase cost of $47.5 million, this brought the total cost to $150 million, or about $13.50 per acre.

Field, regional, and Washington staffs were employed to carry on all phases of the program, and considerable sums were paid for office rental, transportation and travel, equipment, supplies, salaries, and other items. These administrative costs of the agencies guiding the program could not be allocated among the various activities.

TABLE 5.--Acreages and cost of land acquired under the land utilization program, 1935-46

Type of program	Number of cases or tracts	Acreage acquired	Total cost of land purchased
	Number	1,000 acres	1,000 dollars
Original or emergency program 1935-37.....	27,199	8,676	36,382
New or Title III program 1938-46.....	10,147	2,623	11,075
Total 1935-46.....	37,346	[1] 11,299	[2] 47,457

[1] Final reports on land acquisition under the land utilization programs in 1946 show that the total acreage acquired was 11,298,537 acres.

[2] The average cost per acre for the total acreage acquired to 1946, excluding 480,000 acres of public-domain land transferred to land utilization projects, was about $4.40 per acre.

Sources: (156) and mimeographed reports of the Soil Conservation Service as follows: Status of Title Clearance Under the 'Old' Land Utilization Program, Dec. 31, 1942. Soil Conservation Service, Jan. 15, 1943. (Mimeographed.)

Status of Title Clearance Under Title III Bankhead-Jones Farm Tenant Act, Feb. 28, 1943. Land Acq. Div., Soil Conservation Service, Mar. 4, 1943; and Reports of June 30, and Oct. 23, 1943. (Mimeographed.)

An Analysis of the Land Acquisition Program Under Title III of the Bankhead-Jones Farm Tenant Act. Soil Conservation Service M. P. 26, Aug. 1942 (172); and Type, Use, Previous Ownership and Tenure Status of Land Acquired Under Title III of the Bankhead-Jones Farm Tenant Act, Apr. 1942. (Mimeographed.)

The portion allocable to the land utilization program could not be precisely determined, and is not all included in the totals given here.

Costs of land development and of shifts in use of land may be considered to be limited to a few items, or may encompass many direct and indirect outlays inaddition to the actual development of the land, depending upon the purpose for which costs are determined. Expenditures incident to retiring and developing submarginal land, relocating families, administration, supervision, and maintenance are costs not formally accounted for.

Location of Projects

The largest acreages of submarginal lands acquired were in the Northern Plains, Southwest, and Southern Regions (table 6). These regions contained the largest areas of poor or submarginal cropland. Fifty percent of the acreage acquired was in the Northern Plains. The Southern Region ranked next with almost 20 percent, and the Southwest with about 15 percent. Average acreage per tract in the Southwest

TABLE 6.--Location of land acquired, by general geographic regions, 1934-46

Region[1]	Acreage	Percentage of total
	1,000 acres	Percent
Northern.....	986	8.7
Southern.....	2,187	19.4
Southwest.....	1,681	14.9
Northern Plains[2].....	5,620	49.7
Central Mountain.....	212	1.9
Pacific.....	613	5.4
Total.....	11,299	100.0

[1] Northern Region: Northeastern, Corn Belt, and Lake States.
Southern Region: Appalachian, Southeastern, and Delta States.
Southwest and Southern Plains: Arizona, New Mexico, Oklahoma, and Texas.
Northern Plains: North and South Dakota, Nebraska, Kansas, Montana, Wyoming, and Colorado.
Central Mountain Region: Idaho, Nevada, and Utah.
Pacific Region: California, Oregon, and Washington.

[2] Most of the land acquired in the Northern Plains was east of the Rocky Mountains in the dryland plains portions of Colorado, Kansas, Montana, Nebraska, North and South Dakota, and Wyoming.

Note: Tables in Appendix A group acreages by the 10 farm production regions instead of the 6 geographic regions. By using the State acreages in the appendix tables, totals for the geographic regions may be readily assembled.

was over 650 acres, more than double the average for the entire country. Two large tracts in New Mexico (originally Spanish land grants), one containing 86,205 and the other 49,940 acres, contributed substantially to the large average size per tract in the Southwest. Average acreage per tract in the Northern Region was less than half the 300-acre average for all regions.

Use of Project Land

Agricultural land use adjustment projects made up roughly 9.5 million acres of the 11.3 million acres acquired by the Federal Government under the land utilization program. The remaining 1.8 million acres were used for wildlife areas, parks, recreational areas, and Indian land projects (161). It is estimated that at the time of purchase 2.5 million acres of this land were in cropland, 6.1 million acres in pasture and rangeland, and 2.7 million acres in forest land. Much of the cropland was idle, or practically so, especially in the Southeastern States.

At the beginning of World War II, several large areas were transferred to defense agencies for military training and other related purposes. Most of this land was later returned to the management of the civilian agencies.

The primary uses of the project land in 1961 are estimated to have been: Grazing (including Indian range), 7 million acres; forest, 2.5 million acres; and special uses, such as parks and wildlife areas, 1.8 million acres. Many recreational and wildlife areas are forested, but are in a reserved status and not used for commercial timber production. The large areas used primarily for grazing and commercial forests have many improved recreational sites set aside within them. Wild game preserves are used extensively for seasonal hunting, fishing, and other uses.

RELOCATION OF FAMILIES RESIDING ON LANDS ACQUIRED[7]

Of the 24,148 families initially residing on land purchased for the land utilization program, 87 percent were relocated by January 1, 1942 (138). Three-fourths of these families relocated without Government assistance. A more striking fact is that only 9 percent of those relocated were resettled on the farms or resettlement homesteads created for this purpose. The other families received help in the form of loans, relief grants, and advisory service in getting reestablished on land more suitable for farming than that from which they moved. The situation is summarized in the following tabulation:

Old program, prior to Bankhead-Jones Farm Tenant Act: [1]

Total number initially residing on projects		15,634
Total number relocated		13,719
By own efforts	10,497	
By resettlement on farms or resettlement homesteads	1,237	
With loan or rehabilitation grant only	993	
Other aid and guidance	992	
To remain		597
Life leases	134	
Permanent maintenance personnel	230	
Substitute occupancy privileges	33	
Other	200	
To be relocated		1,318
By own efforts	372	
By resettlement on farms or resettlement homesteads	32	
With rehabilitation loan or grant only	73	
By transfer to other agencies	29	

--Continued

[7] This section on relocation of families, and those on relation of the program to local governments (p. 23) and appraisal of the program (p. 35) are in part from an unpublished manuscript, "Federal Rural Land Acquisition in the United States, 1930-42," by Margaret R. Purcell, Agricultural Economist, Bureau of Agricultural Economics, Dec. 1945.

With guidance or other aid	74	
Aid not yet determined	738	
New program, after Bankhead-Jones Farm Tenant Act:		
Total number of families initially residing on 151 projects		8,514
Total number relocated		7,296
By own efforts	5,608	
By resettlement on farms or resettlement homesteads	574	
With rehabilitation loan or grant only	585	
By transfer to other agencies	261	
With Farm Security Administration guidance only	189	
With other aid	79	
Number to remain		275
With life leases	36	
As permanent maintenance personnel	171	
With substitute occupancy privilege	11	
Other	57	
To be relocated		943

[1] Data from mimeographed annual reports no longer readily available in libraries and files.

Compensation and assistance for persons affected by real property acquisition has remained a continuous problem in agricultural and other programs. The 88th Congress, 2nd Session, made a new study of this problem in 1964, the results of which are summarized in Committee Print No. 31, House of Representatives Committee on Public Works.

Relocation Under the Resettlement Administration

Many factors were responsible for the small proportion of families who moved to government-sponsored resettlement farms or homesteads. A number of families from submarginal land purchase areas used their payments from the sale of land to buy farms or homes elsewhere, and required no Government assistance in relocating. Some others, in areas where alternatives to farming were available, as in the New England and Middle Atlantic States, found jobs in urban areas. And throughout the country, some elderly people retired from farming altogether when bought out, and went to live in town or with relatives elsewhere.

But Federal land purchase was a slow process, with final closing of the sale and payment frequently long delayed. Many of the displaced families were not assisted because of delay in completing the resettlement farm projects, and because of strict rules for selection of families.

In Wisconsin, for example, eligibility for a full-time commercial farm in a resettlement project was limited to normal families (husband, wife, and children), of which the head was over 21 and under 50 years of age, with farming experience. The family had to give evidence of resourcefulness and ability to enter into community life, and give reasonable assurance of meeting the costs of resettlement. Of the 147 families in the central Wisconsin purchase area, only 58 met the conditions. Farmers eligible for part-time subsistence farms were required to have the same general qualifications as those for full-time farms except that the head could be as old as 55. Eighteen families met these qualifications. Aged people unable to provide for themselves, and old-age and public relief cases permanently in need of aid were eligible for retirement homesteads. Nine families qualified. This left 85 families who were not qualified to remain in the project area. Many that could otherwise meet all requirements for full-time farms or subsistence homesteads had family heads above the age limit of 50 years. Others who needed retirement homesteads were not eligible (68, 69).

Similar situations in other parts of the Lake States, especially in the isolated settlements of the cutover areas (94, 99), in the South, and in the Great Plains suggest that resettlement qualifications may have been too high. While resettlement projects at the outset were planned to assist families moving from submarginal land, objectives of the program became much broader as time went on. The large numbers of eligible applicants competing for relatively few resettlement units led

project managements to be selective, perhaps to the detriment of former occupants of submarginal land.

Many resettlement projects in the Appalachian States were established primarily to care for special groups stranded in rural areas by the closing of depleted mine and forest industries. However, large areas of land purchased under the land utilization program had not been used primarily for farming, and their purchase for forest and recreational purposes displaced relatively few farmers. Also, many of those who were displaced had been squatters during the depression years, and thus were not eligible for resettlement farms. Others could not qualify because of age or physical condition.

Although the greatest acreage of submarginal land acquired was in the Plains States, only 15 percent of all families whose land was bought resided there. Of these families, only 5 percent were relocated on resettlement farms. Some 73 percent relocated by their own efforts, and the rest received some Government assistance. As the land utilization program did not get underway in the Plains until 1934, after drought and dust had already disrupted much of the region's economy, it is likely that many of those relocating by their own efforts moved out of the Plains area entirely. Consideration was given to the establishment of subsistence homestead communities in the Mississippi Delta specifically for victims of the Dust Bowl. Large acreages of Delta land were purchased for resettlement purposes, but the resettlement of Great Plains farmers was not attempted on this land, although a few did move to the Delta area.

In other instances, farm operators who had lived for years in the same neighborhood did not wish to break their old associations and move to new communities, or to take up a different type of farming. Some of these farmers made arrangements to remain near their former farms, occasionally becoming workers on land use projects, or moving to nearby towns.

Approximately 30 percent of the 58 families bought out in California, Arizona, and Utah were moved to resettlement farms or homesteads. Alternative opportunities were apparently available for those not assisted by the Federal Government.

It was in the 3 Lake States that the greatest proportion of families resettled on Federal projects after selling their submarginal land to the Government. This is explained partly by the fact that rural zoning programs were already in operation in these States. Relocation of farmers whose land had been zoned as unsuitable for farming had been going forward before initiation of the Federal land program. The submarginal and resettlement programs thus were desirable supplements to the State programs for blocking in publicly owned areas, and helping scattered settlers to relocate.

It should be stressed that a large proportion of the families on the lands being bought for land utilization projects had wholly inadequate incomes. The average gross cash income of these families in 1934 was only about $300, including an average of $72 obtained from relief and other outside payments. Forty-seven percent of the families were on relief. The land utilization program was essentially a humanitarian program, since one of its aims was to help families to make transition from a hopelessly unfavorable environment to one offering promise of a more adequate livelihood.

Relocation Under the Bankhead-Jones Farm Tenant Act

In 1937, the farm tenant purchase program was established under the Farm Security Administration to handle settlement and farm tenant purchase programs authorized by the Bankhead-Jones Farm Tenant Act. This was a type of resettlement program, providing individual tenant farmers and farmers displaced by Government land acquisition programs with supervised credit for buying and developing farms. Rural resettlement and subsistence homestead projects already begun were also assigned to the Farm Security Administration for completion and management. For several years, especially from 1937 to 1941, assistance was given to families from submarginal land projects who were seeking to relocate on farms.

Since usually a year or more elapsed between Government purchase of submarginal land and the relocation of families, the number of families relocated by January 1942, as shown in the tabulation on pp. 20-21, indicates satisfactory progress. However, nearly all data describe resettlement projects according to function, such as rural resettlement, stranded group, etc. It is difficult to pick out the data applying only to those people who came from submarginal land, especially in the earlier years (134, 138, 142).

The Farm Security Administration provided advice and such financial assistance as budget and eligibility restriction allowed to families displaced by the purchase program

carried out by the Soil Conservation Service under Title III of the Bankhead-Jones Farm Tenant Act.

In the Northern Plains, the Farm Security Administration provided a full-time, experienced specialist to assist families in finding suitable new locations. In Greene County, Ga., the Farm Security Administration and the Soil Conservation Service cooperated in working out an adjustment in the pattern of land use and occupancy. The Farm Security Administration purchased land in the project area that was suitable for continued farming, and the Soil Conservation Service purchased the land that was unsuitable for cultivation. Adjustment was accomplished with the displacement of a minimum number of families from the project area (30, 156). In this project and other projects in Georgia, a number of families whose land was bought were permitted to retain title or lifetime rights to the improvements, such as buildings and fences, and a small amount of land for subsistence purposes, thereby eliminating their need for relocation.

A study made by the Bureau of Agricultural Economics indicated that families displaced by this phase of the land purchase program in the Southeast were as well or better off then before (134). A survey in the Northeast led to similar conclusions (42).

RELATION OF LAND UTILIZATION PROGRAM TO LOCAL GOVERNMENTS

As a result of the purchase of land and the resettlement in other areas of many of the people living on the purchased land, many institutional adjustments were required. The easiest of these adjustments to identify were those in local government financing. Information on that phase is available from records, reports, and publications.

In areas where road and school services were costly because of sparse rural population, and where during the thirties the property tax was diminishing because of tax delinquency and reversion to public ownership, Federal acquisition of land took away still more of the tax base. Offsetting factors were the scaling down of total costs of public services in purchase areas and improved incomes of persons remaining in the area.

In addition to these measurable and well-recognized influences of submarginal land purchase and the attendant resettlement, there were many intangible values involved. Long-established relationships of families to particular tracts of land were altered and entire communities were sometimes disrupted. While most of these changes were voluntary and clearly had beneficial effects, there was considerable personal loss and social cost in the uprooting of families and their movement to new and often unfamiliar places where different historical backgrounds prevailed, and where the social patterns were sometimes difficult to become used to. New methods of farming sometimes had to be learned, both by those who moved and those who remained. These disadvantages must be weighed against the advantages in appraising the program, and while the advantages in most instances were clearly greater, the reality of the disadvantages, though often intangible and therefore difficult to measure, should not be ignored. It should be remembered that most of the problems of this period could be traced to the depletion of land resources. This fact made changes inevitable. The role of the Government in the land utilization program was to make these changes orderly and as productive as possible, causing the least disadvantage to individuals who had to move from their land and homes.

Examples of the Impact of Land Purchase on Local Farming and Government

Some of the social changes brought about by the land utilization program are illustrated by the land use shifts which took place in the Great Plains States, where drought and dust storms in the 1930's had aggravated longstanding land use practices and where the greatest acreage was acquired under the Federal land program. In western North and South Dakota, the Federal purchase of several hundred thousand acres of land resulted in the retirement to grass of cash-crop land that was no longer suitable for cultivation, and in a general shift from cash-crop farming to a combination of livestock and feed-crop farming. The Government-purchased land was made available to ranchers through cooperative grazing associations, making it possible for the operators remaining in the area to enlarge their units to a point where more adequate levels of living could be maintained.

An idea of the magnitude of the land shifts involved and of the social adjustments required can be obtained from research work of Hansen, Haggerty, and Voelker in Billings County, N. Dak., in 1939 (63). The Commissioners from this County proposed that the Federal Government purchase certain county-owned land and tax delinquent land in order to block in areas already in Federal ownership. The need for development of areas of sufficient size for effective grazing and livestock operations was apparent from the facts that the population of the County had declined 20 percent since 1930, and that taxable values had declined 66 percent since 1930. Tax delinquency had also grown, until in 1939 it was nearly 50 percent of the total levy.

At the time the above-mentioned research was undertaken, the Federal Government already had under option nearly 150,000 acres of land, and although the taxing units would collect delinquent taxes at the time of completion of purchase, permanent withdrawal of this land from the tax rolls made it desirable that local governments be reorganized to meet the conditions which would follow.

As a result of the research into land use adjustments and resulting county fiscal problems, it was recommended that the Federal Government purchase 65,000 additional acres to round out the Billings County adjustment area and to make possible adjustments in size and use of operating units, and that the County lease such tax-delinquent land as was not acquired by Federal purchase on long-term leases, thereby assuring a flow of revenue to meet local government needs. Following these recommendations, additional land was purchased and steps taken for improved management and leasing of Billings County, N. Dak., land.

In the case of the Milk River Project in Valley, Phillips, and Blaine Counties, Mont., some 953,000 acres of low-grade farmland and grassland were purchased and 672 isolated residents resettled on 3 irrigation projects within the purchase areas. Alterations of this magnitude naturally led to many local problems which required collective action (62). In Phillips County, the purchase of 301,500 acres led to a loss of taxable value of $375,628, or 7.5 percent of the county tax base. The importance of this loss is emphasized by the fact that the reduction in the taxable value of 14 school districts ranged from 10 to 50 percent. While the problems growing out of Government purchase cannot be minimized, this County had long had severe financial problems. The average taxes annually collected in the County from 1926 to 1934 on lands purchased amount to but $24,500. Approximately 30 percent of each annual levy after 1929 became delinquent. Upon Federal purchase, a total of $95,000 in delinquent taxes was paid.

Population changes after purchase affected many school districts, decreasing costs in some, and increasing the burden in others. Consolidation of all districts in Phillips County into a county unit system was recommended, in order to equalize school burdens and facilitate improvement of schools. Closing of some schools threw an additional burden on those left open, but by closing 8 schools in 7 districts, it was estimated that annual school costs would be reduced by approximately $5,000.

Approximately 849,000 acres of public domain land were included in grazing districts in the Milk River Project Area, in addition to the land purchased. In 1939, it was estimated that the total grazing land in the project would yield about $33,000 (at $0.20 per forage acre), compared with annual tax returns on purchased land of $24,500.

Experience in the Morton County land use adjustment area in southwestern Kansas was similar. There the Government purchased 107,000 acres of farmland for return to grazing, its original use. The purchased area represented 20 percent of the total taxable land of the county, and 9 percent of the taxable valuation of $4,653,000. Valuation of land purchased was $415,000. Of the 5 townships involved, 4 had their tax bases reduced by 2 to 14 percent. Forty percent of the acreage purchased lay in Jones township where purchases amounted to 65 percent of the taxable acreage, and 50 percent of the tax base. Revenue losses in 1936 to local governments as a result of purchase were estimated at about $7,000. But these losses were more than offset by reduction in cost of public services (160).

The annual sums received, even after the years of development, were regarded by many local governments as inadequate. One suggested plan for adjusting the matter on a uniform basis to the satisfaction of local units was a flat-rate annual contribution of 0.5 to 1 percent on the acquisition price of the land as a minimum guarantee (121, 122).

A study of the adequacy of payments on purchased lands to local units of government was made by the Federal Real Estate

Board in 1940. Efforts were made to estimate more accurately the effects of land purchase on the ability of local governments to supply needed services and to pay off indebtedness.

Purchase of land did not always bring reductions in costs of county government. Projects were not coterminous with county boundaries, areas were not completely blocked in, and some residents were allowed to remain in project areas. Only a few attempts were made to reorganize local governmental districts to take advantage of possible savings. In the case of certain grazing projects, the few remaining resident operators in the area continued to cause high per capita public costs.

The record of high tax delinquency on land purchased may be accounted for in part by the fact that serious depression and drought had reduced incomes in many areas before the program was started. Thus, some underestimation as to tax revenue over a more normal period of years may have been made in justifying the program. The requests for more adequate reimbursement of tax loss in the years of recovery were significant.

As a result of land purchase there was an extensive consolidation of school districts. The number decreased approximately 50 percent in certain instances. The number of schools in operation in the Great Plains decreased throughout areas where land was purchased, although not as rapidly as school enrollment decreased. Many miles of roads were officially closed, and maintenance was discontinued on many more.

Experience from 1935 to 1940 showed that adjustments involving local government and finance were needed to accompany changes in land use or occupancy. Field studies during 1940 showed that while some adjustments had been made in local government to reflect changes resulting from the land utilization program, more were needed. Studies made it possible to outline these needed adjustments, to appraise the effects of the program on local government units and services, and to provide a basis for discussion with county officials of further steps that would be desirable. Needed adjustments, however, were matters of State and local action; they were outside the scope of Federal authority.

Federal Payments to Local Governments

Section 33 of Title III of the Bankhead-Jones Farm Tenant Act provided that, for all land that the Federal Government purchased for public purposes under this program, it must pay annually to the county in which the land was located 25 percent of the revenues received for its use for support of roads and schools.

Since much of the farmland purchased under this program was submarginal, revenues were small in the first few years after purchase, while the land was being developed for other uses. Recreation areas in the 1930's rarely returned significant cash profits. Income from many poorly stocked forest areas did not start accruing for some years after improvement had placed them on a sustained-yield basis. Land in grazing projects was more readily prepared for leasing, and regular returns were obtained fairly soon. Moreover, when land was developed for grazing purposes, not only was there some revenue available for sharing with local governments, but also the taxable value of ranchers' property in the area usually increased.

MANAGEMENT AND USE OF THE LAND UTILIZATION PROJECTS

Relationship of Land Management and Transfers

From 1936 to 1953, 2.5 million acres of the 11.3 million acres acquired under the land utilization program were transferred, chiefly to other Federal agencies outside of the Department of Agriculture, including the National Park Service, Bureau of Indian Affairs, and Fish and Wildlife Service. Assigned for management within the Department of Agriculture for administration or custodianship were approximately 8.8 million acres as of January 2, 1954. Approximately 1.3 to 1.8 million acres were managed under long-term agreements with State and other agencies, leaving 7 to 7.5 million acres managed from 1938 to 1953 directly by Department of Agriculture agencies.

An additional 3.3 million acres were transferred, granted, exchanged, or sold

from January 2, 1954, to May 15, 1961, leaving 5.5 million acres assigned to the Department of Agriculture, with the major part going to the Forest Service. A large part of the acreage transferred was assigned to the Bureau of Land Management and other agencies in the Department of the Interior. Sizable acreages, however, were transferred or granted to State agencies. Limited acreages were exchanged for other land and small acreages sold to public agencies and private parties under special rules or authorizations for such actions (table 7).

Management by the Soil Conservation Service, 1938-53

The Soil Conservation Service managed from 7 to 7.5 million acres of land utilization project land for 15 years--1938-53 (table 8). The acreage varied somewhat from year to year as land was transferred between Federal and State agencies.

By the end of 1940, most of the initial acquisition and development work had been completed on all projects started before passage of the Bankhead-Jones Farm Tenant Act. These projects had reached the stage at which the problems had shifted from the developmental to the managerial field.

Projects managed by the Soil Conservation Service from 1938 to 1953 under authority of the Bankhead-Jones Farm Tenant Act were used mainly for grazing, forests, hay, recreation, wildlife, and watershed and water supply protection. During the period after World War II, especially, additional improvement and development work was carried out over large areas, including building stock-water ponds, reservoirs, fire towers, and erosion control works; seeding grasslands; planting trees and forest thinning; and construction of fire-control lanes and access roads. A big job of rehabilitation was done from 1946 to 1953 (figs. 8, 9, and 10).

During these years many bare, idle areas were planted to grass and trees. Grassland and grazing yields increased with seeding and grassland improvement. Sustained forest yields also increased as time passed and growth progressed under a management and protection program.

Much of the land was managed by local grazing associations and soil conservation districts and other State agencies under long-term agreements, but the Soil Conservation Service had administrative and custodial responsibility and the United States retained title to the land.

For the 12 years 1942 to 1953, revenue from land utilization project land averaged $918,852 per year (table 8). Lumber production averaged 28 million board feet per year. An average of nearly 1,579,000 animal-unit months of grazing a year was provided local stockmen and ranchers. The major sources of public income were from sales of forest products, grazing fees, and mineral royalties.

During the war years 1941-45, the land utilization projects made significant contributions to needed production. During 1944, over 6.1 million acres were used for grazing, furnishing 1.6 million animal-unit months of grazing. Around 22 million board feet of timber products were harvested in 1944 to help fill the tremendous war needs. This represented a 10-percent increase over the previous years.

In 1945, the War and Navy Departments used nearly 300,000 acres of land utilization land for training camps, ordnance depots, and bomb, gunnery, rocket, and rifle ranges. More than 33 million board feet of timber products were harvested from land utilization lands in 1945, and land in agricultural land use adjustment projects supplied nearly 1.7 million animal-unit months of grazing. Seven thousand farmers and ranchers made use of the land each year during World War II.

Timber harvested in 1946 totaled more than 32 million board feet of all types. Nearly 2 million acres were classed as commercial forest, including both federally and State administered projects. Collections in 1946 were $728,341. This was an increase of nearly one-third over 1945, due to higher returns per acre.

In 1946, over 4 million acres of project land in Montana, North and South Dakota, Wyoming, Nebraska, Colorado, and Kansas were managed cooperatively by grazing associations. Grazing associations were organized in the late 1930's in Montana, Wyoming, and North Dakota. Soil conservation districts began operations about 1940. Their purpose was to assist in planning and carrying out county and district agricultural conservation and land use programs.

The districts were organized by farmers and ranchers and are managed by them through elected boards of directors and supervisors. The grazing associations, likewise, were organized and operated under State laws to plan for group management

TABLE 7.--Summary of acquisition, disposal, and administration of land utilization project land by U.S. Department of Agriculture, by periods, 1935 to 1961

Period[1]	Acreage for which titles were obtained in the period	Transferred outside Department of Agriculture	Administered in the Department of Agriculture at the end of period
	Million acres	Million acres	Million acres
1935-38.....	[2] 7.9	[2] 1.7	6.2
1939-46.....	3.4	.3	9.3
1947-53.....	0	.5	8.8
1954-61.....	0	3.3	5.5
Total (1961).....	11.3	5.8	5.5

[1] Periods are from July 1 to June 30, except for 1947 to 1953 when the period ends Dec. 31, 1953, and for 1954 to 1961, when the period begins Jan. 2, 1954 and ends May 15, 1961.

[2] Omits approximately 350,000 acres for which options were accepted but for which titles were not obtained, or acquisition of which had not been completed at the time of transfer. Includes approximately 500,000 acres transferred prior to authority given by Title III of the Bankhead-Jones Farm Tenant Act in July 1937, and 1,200,000 acres transferred after July 1937.

Sources: Agricultural Adjustment Administration, Land Policy Section; Resettlement Administration; and Bureau of Agricultural Economics: Annual and other reports, 1933 to 1938.

Soil Conservation Service, Annual Reports of the Chief and other reports, 1938 to 1953.

Forest Service: Annual Reports of the Chief and other reports, 1954 to 1961.

House of Representatives, 84th Cong., 1st Sess., Rpt. No. 1296, July 20, 1955.

TABLE 8.--Agricultural land utilization program of the Soil Conservation Service under title III of the Bankhead-Jones Farm Tenant Act: Use and income of lands managed, by years, 1942-1953

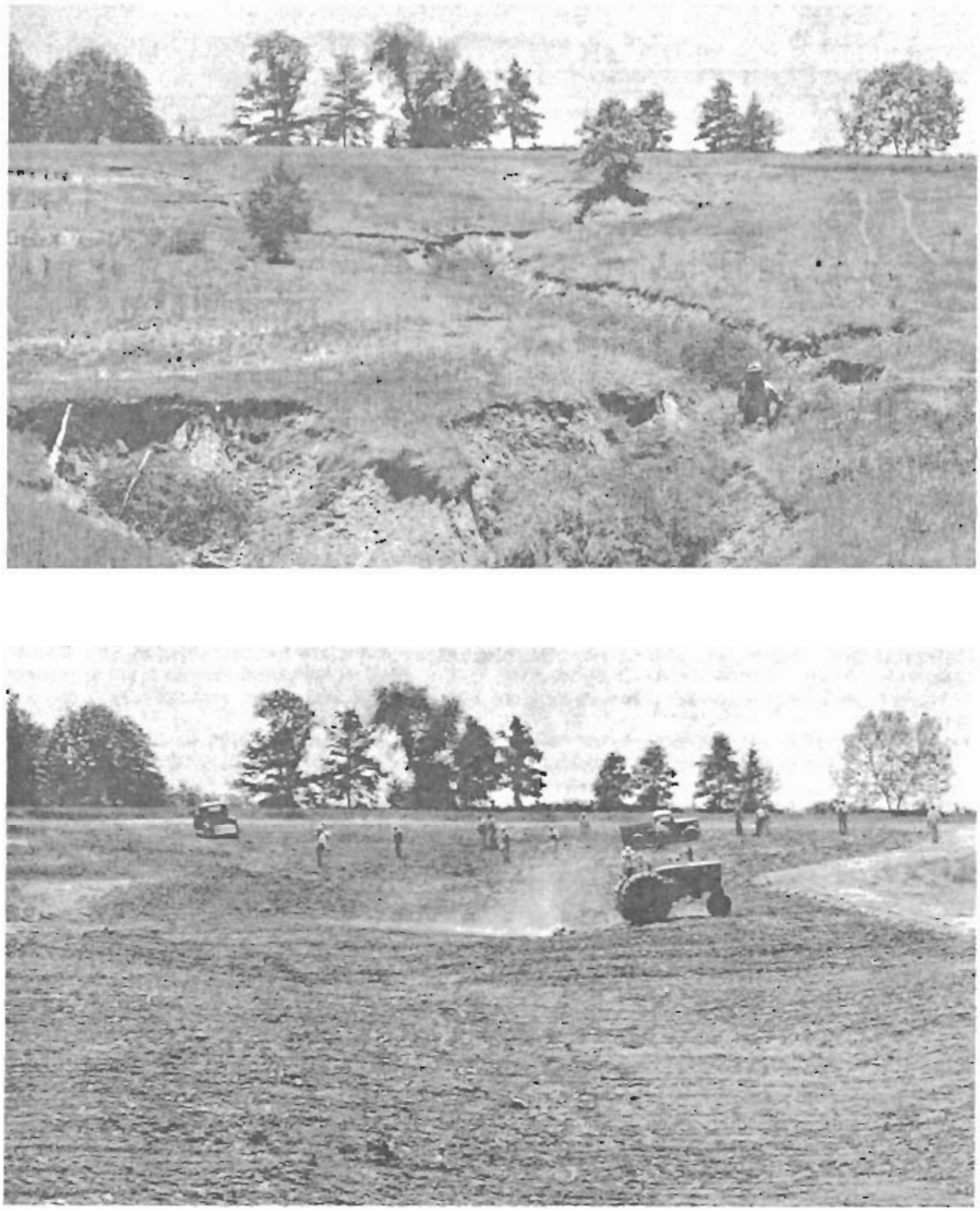
Year	Total area managed	Grazing		Use for crops[1]	Lumber production	Recreation	Total revenue[2]
		Acreage	Amount				
	Acres	Acres	Animal-unit months[3]	Acres	Board-feet	Person-days	Dollars
1942.....	7,184,018	6,000,191	1,229,688	35,944	--	--	293,700
1943.....	7,143,474	5,889,056	1,447,591	38,557	--	--	450,399
1944.....	7,141,027	6,131,710	1,553,330	36,728	--	--	482,702
1945.....	7,151,810	6,237,413	1,664,373	50,388	--	--	549,120
1946.....	7,178,157	6,373,449	1,672,983	29,264	32,013,000	1,136,039	728,341
1947.....	7,121,139	6,436,135	1,680,565	42,981	31,337,224	1,156,162	833,756
1948.....	7,111,683	6,454,355	1,172,434	45,180	26,657,864	700,959	995,793
1949.....	6,970,469	6,386,159	1,706,803	45,609	30,619,567	860,668	925,820
1950.....	6,946,761	6,336,916	1,608,690	38,005	33,088,809	714,078	1,021,430
1951.....	6,902,438	6,308,529	1,698,572	30,130	28,590,238	777,877	1,187,267
1952.....	6,912,307	6,330,075	1,751,745	25,157	22,672,147	848,221	1,752,455
1953.....	6,917,508	6,440,731	1,757,272	38,345	19,409,369	836,438	1,805,446
Average	7,056,733	6,277,060	1,578,670	38,024	[4] 28,048,527	[4] 878,805	918,852

[1] Nearly 60 percent was in hay.

[2] 1942-47, total collections; 1948-53, total collections less refunds during calendar year. Includes some revenue from sources not shown here, such as building occupancy, sales of improvements, minerals, and easements.

[3] 1 month's grazing tenure on range by 1 mature cow or steer, or 5 sheep.

[4] 1948-53 average.



SCS Ark-61-487 A & B

Figure 8.--Above, gully near Berryville, Ark., before rehabilitation. Below, gully leveled and filled, ready for sodding.

SCS Ga-LU 23-24

Figure 9.--Thinning inferior trees for pulpwood on a land utilization project in Georgia. The remaining trees grow faster, and the pulpwood crop earns income.

and use of intermingled blocks of public and private grazing land. Permits and leases were obtained on public land and arrangements made for cooperative use of private range in the district. Directors were elected and supervisors and technicians employed or assigned for planning and management. Project managers and grazing associations worked together to allot grazing permits and to improve the range.

The work on Title III lands was of considerable productive value; educational value also was significant. Farmers and ranchers, after observing the results of conservation practices on Government land, more readily applied the practices on similar land used by them.

In addition to direct public income and use of land for State and Federal purposes, the public and local people benefited from the income of workers and operators who bought timber on the stump and processed it for market, the income of farmers and stockmen who used large acreages for grazing, and the employment of mineral and oil workers and operators who worked leases. The workmen employed in improvement, maintenance, and management of the property also benefited, as did those who used the areas for recreation, hunting, and fishing. Annually, there were about 879,000 days spent by people in recreational activities on the land utilization areas. By the end of 1953, the land resources had increased in value because of the improvements, growth of timber, development of recreation facilities, gains in wildlife, and better and more plentiful water supplies.

Management by the Forest Service, 1954-63

As of January 2, 1954, a total of 8,847,000 acres in land utilization projects had been assigned by the Secretary of Agriculture to the Forest Service. This included 6,958,000 acres assigned on this date from the Soil Conservation Service, 1,062,000 acres earlier assigned from the Soil Conservation Service and predecessor managing agencies, and 827,000 acres under Forest Service custodianship that were being managed by State agencies under long-term lease or sales contracts (table 9).

About 1,460,000 acres have been incorporated into 28 National Forests, and 161,000 additional acres are managed by the Forest Service pending disposal or permanent assignment. In addition, 19 National Grasslands, comprising about 3,804,000 acres, have been established by Secretarial order for permanent retention and management as part of the National Forest System. With the exception of 161,000 acres, the rest of the assigned acreage was transferred to other Federal and State agencies for administration, except for small acreages exchanged in order to block in areas, and limited acreages sold under special conditions as provided by law.

The Forest Service has continued and expanded the improvement of project lands in their custody. Surveys have been made of the land, water, forest, range, wildlife, and recreational resources in order to keep abreast of changes in these resources,

SCS LU-NC-4-17

Figure 10.--A 4-year-old stand of loblolly pine on Singletary Lake Game Sanctuary, N.C. The road serves as both fireguard and vehicle trail.

changes in the need for their use in terms of markets and incomes, and increases in local and regional rural and urban population. Cooperative arrangements with grazing associations and conservation districts for management of land, installation of measures for revegetation and maintenance of range, and reforestation and protection of forest areas are active. Special attention has been given to recreational needs by creation and development of campsites, picnic areas, and reservoir facilities for boating and swimming in sections previously lacking these amenities. Wildlife and game management also have been improved to meet demands for hunting and preservation of wildlife.

Total income from land utilization projects transferred to the Forest Service ranged from $1,610,410 in 1955 to $2,290,775 in 1958 (table 10). The average income for the 5 years 1955-59 was $1,953,429. The receipts, in order of size, were from grazing permits, mineral leases, and sale of forest products. Rental of hay lands, sale of grass seed, and recreation permits brought in smaller amounts representing about 5 percent of the cash receipts.

Increased sales of timber, more mineral leases, and improved grasslands have brought an upward trend in income. As a result of 30 years of good management practices, timber growth has been large, resulting in a greater volume of merchantable timber. Income has generally increased, even though acreages under Forest Service management have declined because of transfers to other agencies and uses.

National Forests

Four new National Forests were formed from 6 of the 40 land utilization projects assigned to the Forest Service--the Tuskegee in Alabama, the Oconee in Georgia, the Tombigbee in Mississippi, and the St. Francis in Arkansas. The remaining 34 or more projects were added to 24 existing forests. The largest acreages incorporated into National Forests were in the southern States, from Virginia to Arkansas and Louisiana.

The National Forests serve many uses and many people. Multiple use is a standard policy and practice. Not only do the National Forests produce timber, but, in addition, they provide grazing for livestock and places for wildlife to grow, and afford hunters at State-prescribed seasons the use of publicly owned open space for hunting. Use for recreation is in great demand, especially for camp and picnic sites and for fishing, hiking, skiing, studying nature, and enjoying beautiful scenery.

TABLE 9.--Status of land utilization projects transferred to the Forest Service, or placed under its custody, as of June 30, 1964

Item	Acreage
	1,000 acres
Assignment to the Forest Service:	
Transferred to the Forest Service prior to 1/2/54	1,062
Transferred to the Forest Service on 1/2/54	6,958
Placed under the Forest Service custody	827
Total assigned to the Forest Service	8,847
Retained for permanent administration by the Forest Service:	
National Forests	1,460
National Grasslands	3,804
	5,264
Balance (for disposal or permanent assignment)	161
Total under administration of the Forest Service	5,425
Disposals to other agencies and parties:	
Transferred to the Bureau of Land Management	2,187
Transferred to other Federal agencies	57
Granted to State, county, and city agencies	806
Sold to State, county, and city agencies	190
Exchanged for lands within National Forests or research areas	102
Placed in trust for Pueblo Indians	78
Reconveyances and sales to former owners and other private parties	2
Total disposals	3,422

Source: Forest Service.

National Grasslands

Range management of project land has been improved by the establishment of National Grasslands, which are somewhat similar to National Forests (139). The National Grasslands consist of 24 former land utilization projects, where the Federal Government, the States, and the local people are cooperating to rebuild rangeland on the ruins of drought-stricken and misused land. The 19 National Grasslands are situated in 11 western States--17 in the Great Plains, and one each in Idaho and Oregon.

The land utilization projects now in National Grasslands began as part of the Department of Agriculture's emergency rehabilitation programs in the 1930's. Submarginal farms and depleted rangelands, resulting from homesteading and settlement of small farm units in semiarid areas, were purchased and the occupants resettled, and slowly over the years the range was restored to better, more productive use. Lessons were being learned from the hard experience of attempting to farm unsuitable rangeland and then attempting to shift it back to grassland range.

The highest purpose of the National Grasslands is to serve as demonstration areas to show how lands classified as unsuitable for cultivation may be converted to grass for the benefit of both land and people in the areas. Under careful management, they are being developed for greater sustained yields of grass, water, wildlife, and trees; they also offer opportunities for outdoor recreation. The National Grasslands are important units of a permanent system of the Forest Service dedicated to tested and approved principles of conservation and land use (5, 141).

TABLE 10.--Federal income from land utilization projects managed by the Forest Service, fiscal years 1955-59

Year	Total acreage	Total income	Income by sources					
			Grazing	Timber & forest products	Mineral leases	Haying, cropping, sale of seed	Recreation	Other
	Acres	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
1955.....	7,048,111	1,618,410	806,967	309,295	374,261	65,713	33,237	28,937
1956.....	6,909,847	2,204,059	823,118	455,815	799,787	50,444	29,384	45,511
1957[1].....	6,945,157	1,734,666	684,102	215,120	737,461	38,063	30,084	29,836
1958[2].....	4,640,596	2,290,775	697,315	574,825	917,654	59,347	27,327	14,307
1959[3].....	4,638,540	1,919,236	734,640	346,955	747,579	25,379	38,095	26,588

[1] In 1957, about 6.5 million acres were grazed by more than 300,000 head of livestock owned by almost 5,000 permittees. About 5 million acres were under grazing agreements (10 years or less) with livestock grazing associations, soil conservation districts, and other local agencies.

[2] In 1958, more than 2 million acres of land utilization land were transferred to the Department of the Interior for use in programs of the Bureau of Land Management. The acreage for 1958 is as of December 31. Most of the acreages for other years are as of June 30.

[3] Since 1960, when the land utilization land retained by the Department of Agriculture was incorporated into National Forests and National Grasslands, income and expenses for the former projects are not kept separate, except where they are complete units such as ranger districts, but instead the accounts are kept with the units of which they now are a part.

Source: Reports of the Chief of the Forest Service for years specified.

Use of the National Grasslands for grazing more than 165,000 cattle and 47,000 sheep annually must of necessity be integrated with the use of intermingled and nearby land (140). By agreement, the local people, who control the other lands and who, for the most part, are also users of the Government land, have accepted a large measure of responsibility in managing livestock on many of the areas. The local users frequently are organized into grazing associations to accomplish many of the conservation objectives in the National Grasslands and associated areas of private and public land.

Of the 3.8 million acres in the National Grasslands, grazing on 2.7 million acres is managed under cooperative agreements with grazing associations, and 1.1 million acres directly by the Forest Service. Permits are issued by the Forest Service either to local grazing associations, which in turn distribute grazing privileges among members according to terms of the agreements, or directly to individual ranchers who meet simple criteria as to eligibility in areas not covered by grazing associations. Fees are paid on the basis of each animal-unit month of grazing permitted.[8] This cooperative approach has resulted in good progress on both public and associated private lands in the revegetation of the land, installation of water improvements, and fencing of units for management. This allows the harvesting of such forage for domestic livestock as is consistent with the long-term program of management.

Over 300,000 visits are made annually to the National Grasslands for hunting, fishing, camping, picnicking and other recreation. Visits to the areas are usually short, and facilities needed to accommodate the public are mostly confined to picnic areas and campsites near hunting and fishing. Outdoor recreation will increase as the public becomes aware that the grasslands are open to extensive public use.

Small areas of the National Grasslands support some tree growth of a woodland type and where these areas occur they generally have high esthetic recreational and wildlife values. Consistent with these values, some wood products needed in the local communities are produced.

The National Grasslands furnish food, cover, and water for a wide variety of wildlife and fish. An estimated 27,000 antelope and 19,000 deer live all or a portion of the year on the areas. Bighorn sheep have been returned. Here also are found quail, prairie chickens, sharp-tail grouse, pheasants, wild turkey, and other game and song birds.

The proper management and use of the National Grasslands is a part of the big job of conserving and improving the Nation's water resources and keeping soil in

[8] An animal-unit month is 1 month's grazing tenure upon range by 1 cow or steer, or 5 sheep.

place. Generally, grasslands are located in areas of unstable soil and deficient rainfall. A good vegetative cover must be retained to keep runoff at a minimum, reduce wind and water erosion, and enhance the water storage capacity of the land.

Grassland programs under cooperative grazing agreements with grazing associations have been strengthened since 1960. Most agreements with grazing associations have been continued, or renewed, with little change. It has been the policy not to change procedures for management that have been used successfully for many years. Local stockmen who are eligible can apply for permits to graze suitable areas on a long-term basis, provided they pay the customary grazing fees and assist in proper use and maintenance of the land.

In 1963, Secretary's (of Agriculture) Regulation of June 20, 1960, designating the land utilization grazing lands as National Grasslands, to be part of the National Forest System for administration under the Bankhead-Jones Farm Tenant Act, was amended, among other things: (1) To reaffirm the promotion of grassland agriculture and sustained-yield management of all land and water resources in the areas of which the Grasslands are a part; (2) to stress the demonstration of sound and practical principles of land use; and (3) to provide that management of the Federal land exerts a favorable influence over associated other public and private lands.[9]

Management by the Bureau of Land Management

Some 18 land utilization projects, containing 2,464,000 acres, were transferred to the Bureau of Land Management, Department of the Interior, and are managed and used primarily for grazing along with public domain land in Federal grazing districts. More than 1.9 million acres are in Montana. This acreage was acquired in 7 land utilization projects, of which the largest were Milk River, with 953,000 acres, the Lower Yellowstone, with 392,000 acres, and the Musselshell, with 268,000 acres. Most of this land was transferred from the Forest Service to the Bureau of Land Management by Executive Order Number 10787, November 6, 1958. Two Montana projects, Milk River and Buffalo Creek, were analyzed in reports by the Bureau of Agricultural Economics in 1937 and 1940, near the dates of acquisition. These reports show the problems of intermingled private and public land holdings, and the hazards of farming scattered tracts in a dryland area (61, 93).

The land utilization land (or land acquired under Title III of the Bankhead-Jones Farm Tenant Act) is subject to the provisions for use and management which will best serve the conservation and land utilization program. The land is used under grazing permits by stockmen. The grazing regulations and fees conform to the general policies and procedures established for land utilization project land. Actual fees vary from area to area. As with all land acquired under Title III of the Bankhead-Jones Farm Tenant Act, 25 percent of the revenue received from grazing and other uses is paid to the counties in which the land is located for road and school purposes.

Transfer of land utilization project land by lease, sale, or homestead is not authorized; however, exchanges of land and granting of easements and rights-of-way in the public interest are permissible. The authority for disposals of land utilization project land of any type is limited to application in the particular case (158).

At the time of acquisition of the land in the Milk River, Mont., land utilization project in 1937-38, it was within Federal grazing districts set up under the Taylor Grazing Act of 1934 (61, 93, 103). The project comprised 15 percent of the acreage in the Milk River District, compared with 27 percent in public domain land. In the Musselshell and Lower Yellowstone projects the percentage was even higher--22 and 34 percent of the land area. A memorandum of understanding between the Departments of Agriculture and the Interior was made for administration of these lands, October 1, 1936, including the provision that they be grazed in common with other public lands in the Federal grazing districts.[10]

Management of Indian Projects

More than 1 million acres of range and other land which, were purchased for use of

[9] 25 Federal Register 1960, page 5845; and 28 Federal Register 1963, page 6268: 213.1.

[10] Discussed exchange of letters between the Secretaries of Agriculture and the Interior, November 1, 1937, December 10, 1937, and February 2, 1938.

Indian farmers and stockmen in increasing livestock production and incomes, were assigned to the custodianship of the Bureau of Indian Affairs. These projects were set up to aid 30 or more tribal groups, and were widely scattered. For instance, there were projects at Pine Ridge, S. Dak.; Fort Peck, Mont.; White Earth, Minn.; Seminole, Fla.; and Cherokee, Okla.

Since these projects were established for agricultural production, the land acquired was generally at least equal in quality to contiguous land. Most of the land was suitable for gainful use for grazing, hay and other feed crops, or forestry.

Management by State and Local Agencies

Some 80 of the land utilization projects, totaling 1.3 million acres, were transferred to State and local agencies. About 75 percent of this acreage was granted or sold to the agencies by the Forest Service during 1954-61 (table 11).

Nearly all the areas are managed for multiple uses, but the 4 most important uses are for parks, forests, and wildlife refuges, and for experiment stations to study and demonstrate ways and means of achieving better use of problem areas.

TABLE 11.--Grants and sales of land utilization project land to State and local agencies, 1954-1961[1]

Region	Grants	Sales	Total
	1,000 acres	1,000 acres	1,000 acres
Northeast	149	0	149
Lake States	79	14	93
Corn Belt	53	0	53
Northern Plains	3	0	3
Appalachian	192	14	205
Southeast	294	114	409
Delta States	10	46	56
Southern Plains	23	0	23
Mountain	3	0	3
Pacific	--	--	--
Total, 48 States	806	188	994

[1] Record of disposition of land utilization project land to May 15, 1961, which was transferred to the Forest Service Jan. 2, 1954. Prior to Jan. 2, 1954, approximately 300,000 acres were transferred to State and local agencies, making a total of about 1,300,000 acres.

Management varies greatly depending upon the need, public interest, and available funds for management and development. Many areas are used by large numbers of people for recreation, camping, hunting, fishing, and educational activities such as study of forestry, wildlife, and natural features by students and young people's groups. Other land is used for demonstration areas and experimental plots in connection with agricultural education and research. Some areas are now reaching the point where, through management and development, they have sizable incomes, or are self-supporting from sale of forest and other products, and from users' fees and sale of licenses. Use of State parks and forests is especially heavy in the Eastern and Central Regions near centers of population where outdoor recreation areas generally are small and scarce.

Among the notable examples of State-managed projects in the East and Central Regions are Bladen Lakes State Forest, N.C.; Clemson School Forest, S.C.; Poinsett and Cheraw State Parks, S.C.; Rock Eagle State Park, Ga.; Hard Labor Creek State Park, Ga.; Warm Springs State Park, Ga.; Yellowwood State Forest, Ind.; Zaleski State Forest, Ohio; Tar Hollow State Forest, Ohio; French Creek State Park, Pa.; Catoctin State Park, Md.; and Lake of the Ozarks State Park, Mo.

Plans for Long-Range Use and Management

In 1954-55, studies and hearings on proposals for use and management of land utilization project land revealed that there had been occasional public misunderstanding of the advantages and disadvantages that might be involved in disposing of the land already in use for special purposes, especially where large tracts were involved. Study of the proposals indicated that disposition of this land should be the result of an objective evaluation of the individual projects and of how they could best serve the needs of the regions, communities, and people of the areas in which they were located (46).

Several public hearings were held and a number of congressional bills were considered. After study of the situation and the need for the land utilization project areas for forests, grassland, recreation, and wildlife, and for conservation of land and

water, the general decision was that the land should continue to be held under Federal and State ownership, and to be managed and used under authority of the Bankhead-Jones Farm Tenant Act of 1937 as amended. This policy has been followed.

APPRAISAL OF THE LAND UTILIZATION PROGRAM

A notable accomplishment of the land utilization program was that for the first time it demonstrated to the public the potentialities of a definite agricultural land policy for poor farmland, whose use was uneconomic in the common types of field crops and with the usual forms of cultivation and management. Poor land and poor people dependent on farming were at a point where a program was needed to preserve land resources and to rehabilitate the people on that land. It was evident that submarginal land could not provide adequate family incomes. Some plan was needed for the future, and some action vital for the present.

As developed, the program helped many destitute families get off relief rolls; it provided much work for them on development and construction projects, or resettled them on more productive land. It helped some local governments to reduce their debt load by payment of delinquent taxes. Later, many farmers and ranchers were helped with grazing permits. Sawmill and pulpwood mill operators were able to buy and process timber from the projects. People were provided with opportunities for hunting, fishing, and other forms of recreation.

The land utilization program demonstrated that public purchase could be used to remove large areas of rural land of low productivity from submarginal uses; that such land could be converted to beneficial public uses; that residents could move from land of questionable productivity to land of better productivity; and that poverty-stricken people who moved could be successfully aided in gaining more adequate incomes and better homes.

It was also found that time must be allowed to work out needed adjustments, and that immediate results should not be expected from an adjustment program. The conclusion that time and effort must be allowed for adjustment is a point that must be emphasized. It could not be assumed that, merely because there were too many farmers with too many acres in crops, these farmers could shift quickly to jobs or other locations with little effort or cost.

An additional accomplishment of the land utilization projects was to build land resources in the purchase areas and adjacent to them so people could have better opportunities for adequate incomes. As the surrounding farmers and ranchers observed the land use practices on the projects, improved practices and better management spread beyond the borders of the projects. The land utilization lands today serve their regions well in land use planning, adjustments to better land use, establishment of conservation practices, provision of permanent sources of income, and furnishing of recreational areas in regions formerly without them.

The land utilization program experience may be important in the future. Through trial and error, pitfalls to be avoided were discovered and procedures were worked out which should smooth the way for future programs, both through reduction in costs and avoidance of delays. That the program failed fully to accomplish all its objectives is also true, although failure was a matter of degree in many instances, and often had the positive effect of teaching lessons for the future.

The land retirement program was inaugurated during the greatest depression in the history of our country, a depression which had severely disrupted our national economy. People were willing to grasp at anything that gave them promise of getting the economy back to normal. In the 1930's, drought, dust storms, floods, and insects also struck at the hearts of agricultural regions. Under such circumstances, it was fortunate that a workable program could be put into operation on a national scale. Under intense pressures to expand operations to maximize the relief of distress, the land program quickly outgrew its original demonstrational character. As Howard Tolley, then Chief of the Bureau of Agricultural Economics, wrote on December 3, 1945, in a letter to L. C. Gray, "The submarginal land program marked a turning point in agricultural policy relative to needed adjustments in use of agricultural land and planning for the future."

The land utilization program was administered by 5 different Federal agencies in the first 4 years of its existence, 1934-37. The frequent transfer of administration,

and the provisions for joint planning and recommendations by several agencies, contributed to delays and uncertainties in the essential plans and necessary actions to be taken (70). However, the transfer of many key personnel along with the program tended to minimize the problems caused by shifts of responsibility between agencies. The achievements of the program in these early years were significant despite the frequent changes in organization, shifts in plans, and ups and downs in budgets.

Previous experience in large-scale Federal acquisition of submarginal farms and resettlement of the occupants was limited. In their struggle to get started, the agencies at times made mistakes, and lost the confidence of the people concerned. Enough people with adequate training and experience in the work were not always available. On-the-job study and training were necessary. The work was not always well organized, and title clearance proved a stumbling block, as it took much time and specialized personnel. Although it improved with experience, procedure in many instances was slow and cumbersome (156).[11]

The chief handicaps in the efficient administration of the program were (1) the slow legal processes involved in title clearance, often to the frustration of the person or family ostensibly to be benefited; and (2) the transfer of the program from one administrative agency to another, with consequent confusion as to aims and methods. To these 2 handicaps, but mainly as a corollary of the second, should be added the diversion of funds available for the program and the use of program personnel for activities only remotely related to the program itself.

In some cases, allocated funds were withdrawn for relief needs, making it necessary to cancel options on land, to discontinue projects, and to discharge personnel. In several project areas this caused much disappointment and led to public criticism.

Because of stringent budget and legal restrictions on the purchase of submarginal farmland, questions sometimes arose as to whether the projects contributed to the public works and relief program from which they were financed and at the same time met the other land utilization program objectives. The problem of a workable definition of submarginal land applicable to all regions was never fully resolved.

[11] Title clearance was greatly facilitated as time went on and more experience was gained with the various procedures of land acquisition.

Some large holdings were bought on which occupants and agricultural operations were few, but which could be turned into recreation areas, public forests, etc., because of the availability of labor, although their full development for recreational use was premature in the 1930's. Also, the program was used to some extent as a means for other public agencies to acquire unfarmed land for their own special purposes.

As the program proceeded, attempts were made to answer the questions: What is submarginal land? How can submarginal land be identified? A thoughtful analysis by John D. Black (16) began by posing the question of whether there is such a thing as "unproductive land," or "submarginal land," since it is hard to find land which does not yield some kind of product. Dr. Black concluded that if net losses result from farming, the land is nearly always being misused. Much so-called submarginal land is land that is submarginally used; for example, by being planted to corn, cotton, or wheat, when it is not well suited to these crops but is better adapted to grass or trees.

Questions were asked about the effect of the land retirement program on farmland values and farm incomes in the areas where land purchases were made. Definite and final answers to these questions could not be made. The influences that agricultural programs exert on land values and incomes are very complex, and cannot be explained readily in simple terms, especially when making a long-term projection.

Since the 1930's, new crop varieties, different land preparation and cultivation practices, more timely operations with mechanization, and better control of plant diseases and insects have made it possible to farm some former marginal land with greater success than in earlier years.

Although the Federal Government shared the income from the land with counties, transfer of private land to the Government was looked on as a loss by local governments when they realized that they could not collect taxes or sell tax-reverted land in Government projects. Contradictions in local situations were often amazing, however. Local units earnestly sought land conservation and other Federal projects involving the purchase of real property, usually with full knowledge of their exempt status. Yet they protested the tax loss and often wanted reimbursement for both tax loss and any extra public service costs incurred.

Because of scattered holdings in some projects, the Government at times had title to land that blocked areas served by local governments, but local governments could not discontinue services to areas under their jurisdictions. In some cases where local governments had little part in planning the projects, or were not fully informed, they questioned Government purchase and tax immunity even though their status may have been improved by removal of poor lands from their jurisdiction.

Purchase of land in local governmental units did not bring reduction in costs of government in all instances since the projects did not always follow boundaries of local units, some isolated settlers were allowed to remain, and few attempts were made to reorganize local government services to reflect the change in land use and population--a field in which the Federal Government has no authority. Thus, it is probable that the savings to local governments attributed to the land program have been overemphasized in some instances.

Federal acquisition programs always pose the question of payments in lieu of taxes. Experience with the land program from the 1930's to the 1960's indicates that this question has not yet been fully settled to the satisfaction of State and local governments.

Experience with the land program indicated that simple procedures, readily understood and administered, and not changed frequently, contributed to the efficiency of work and on the whole brought the best response from the public and from the workers on the projects. In general, the greater the degree of uniformity and simplicity in administration of public purchase and control of public land use within a State, the greater the ease with which the necessary work can be carried out and the objectives of the program achieved.

A major question involving submarginal farm areas was the extent to which public purchase could be effectively used to bring about desirable large-scale adjustments. Students of this subject have pointed out that public acquisition must be supplemented by cooperative programs between Federal, State, and local agencies if good results are to be achieved. It has been questioned whether it is desirable for the Federal Government to undertake extensive purchase of submarginal farms in large blocks, unless establishment of a National Park, National Wildlife Refuge, National Forest, or National Grassland, or some other special purpose is involved.

Programs designed to acquire land occupied by low-income or isolated families for the purpose of helping the families improve their level of living, and of converting the land to a less-intensive type of agriculture or to nonagricultural uses, need to be accompanied by complementary activities. The success of the land utilization program depended largely upon the extent to which it was supplemented by other programs, including State and county zoning to reserve land for the use for which it was best adapted and programs to assist in the relocation and employment of displaced families. Thus, a threefold cooperative program is necessary, embracing public purchase and conversion of strategic areas of submarginal farmlands to uses to which they are best adapted and needed, State and county zoning of lands against occupancy for uses for which they are physically and economically unsuited, and assistance to displaced families in relocating and obtaining employment.

Experience from 1934 to 1964 shows that generally the agricultural land utilization adjustment projects have served as good demonstrations of what can be done in shifting submarginal farm areas to more extensive agricultural uses such as forestry, pasture, and range, and to needed public areas for wildlife and recreation. During this 30-year period much private farm reorganization has occurred, with purchase and lease of the land necessary for farm enlargement. Credit programs and programs for land and water development, improvement, and conservation have likewise assisted in bringing about desirable shifts in land use. In some Great Plains range areas of private land interspersed with public land, the entire areas have been brought under better use and management by means of long-term agreements or by allowing all land to be used by cooperative conservation and grazing associations. The use of both State and Federal land was made available to these associations under cooperative agreements providing for good practices of range management under a program supervised and controlled by Federal and State Governments.

A number of these agreements have expired, and have been renewed with similar policy arrangements. Grants and sales have been made to States for many of the smaller forest, recreation, and wildlife areas. The

bulk of the acreage in the larger projects has been added to nearby National Forests and Federal Grazing Districts, or has been used in establishment of new National Forests and National Grasslands. Practices, procedures, and land management organizations for the land utilization areas cited have been revised as new conditions and needs arose.

The purchase of so large an acreage--5.6 million acres--of submarginal farmland in the Great Plains was justified largely because of the widespread misuse of the land, resulting in rural poverty and inadequate farm units, and the urgent need for increasing opportunities for employment and income in such communities. Here especially, the demonstrational value of the land utilization projects was shown. By exhibiting proper land use to surrounding farmers and ranchers and to the public generally, the improved practices and better management spread beyond the borders of the projects. Although the success of the program as an educational process has never been fully measured, many people in the Great Plains and elsewhere have stated that they gained from observation of and experience with the results of the land utilization program.

The major group action alternatives to public purchase of submarginal farm areas in the Great Plains in the 1930's were cooperative grazing associations to lease and manage large blocks of land as community-type pastures, adoption of land use ordinances by soil conservation districts, rural zoning, block leasing of rangelands by individual ranchers, graduated taxation in accordance with use and capability of the land, and county control or management of land unsuitable for cultivation. It appears that no one of these means alone would have been entirely satisfactory. They were most effective when used in combination.

As was observed in land utilization project areas in the 1930's by one writer, rural zoning followed by relocation will help make both more successful (117). Perhaps in time, Federal purchase as the most effective way of correcting abuses can be replaced to some extent by moderate public educational and administrative aids for guiding land use, land and water development, and private settlement, and for supervising credit and handling tax-delinquent lands (as for example, under the Fulmer Act).[12]

[12] Public Law No. 395, 74th Cong., 2nd Sess., 1936.

Clear distinction should be made between relief measures taken in a temporary emergency, and measures taken as part of a permanent National program. If this distinction is made, land policy and programs from the outset can better serve a useful purpose.

John D. Black (16), in 1945, wrote "...the program that gets nearest to dealing with this problem is the land utilization program ... This is the program for buying rundown tracts of land, rehabilitating and reorganizing them into economic units, and then leasing them back into private ownership (or groups of operators). Apparently, this program is conceived at present (1945), like the Wisconsin and New York programs, mainly as a program for taking land out of regular farm use and getting it into special uses, such as timber, grazing or meadow. Where shift of land, largely from one major use class to another, is needed--and situations of this sort are not hard to find--such procedures are indicated."

A land retirement program should be paralleled by a program for finding farm jobs. A retirement program cannot solve the land problem when occupants lack better opportunities elsewhere. The largest areas of poor land are those in need of reforestation, regrassing, conservation practices, or drainage--all costly operations which require workers. It is not inconceivable that Federal programs could be developed to reclaim poor land areas and furnish employment should it be needed. But whatever means are taken to develop income opportunities for families in poor land areas, these people should have a part in the program, and should wholeheartedly accept the plan. The more responsibility local people assume from the beginning, the more likely are they to cooperate later.

Another lesson learned at some cost is that with the exception of cases calling for immediate evacuation, families should be withdrawn from an area gradually and over an extended period. This procedure will result in less disruption to people, local governments, and social institutions. In the end, it may even prove that all the land in an area need not be purchased. By purchasing demonstration areas and using them for public purposes, the key to sound land use over a wide area may be provided (156). The successful cooperation of the Soil Conservation Service and the Farm Security Administration in carrying out such a program in some of the Georgia

projects has been described on pages 22 and 23.

The land utilization program of the 1930's was rural development in action. In numerous areas of the country it assisted in conservation and improvement of the land and water resources, and in protecting the health, safety, and welfare of the people. Its methods of achieving better land use and conservation were directed primarily at economic improvement, the physical development of land and water being a major means of bringing more jobs, larger incomes, and social advantages.

In almost every area where land utilization projects were located they led to an increase in work opportunities, to job training, and to alleviation of poverty. In order to meet their living expenses, farmers on submarginal land in many areas had concentrated on cash crops of cotton, wheat, corn, and tobacco, had cut over their woodlands, or had overgrazed their range. Submarginal land prevented them on the one hand from practicing stable types of farming, while on the other hand it forced them to exploitative use of land, water, trees, and grass.

The results of experience with the land utilization program of the 1930's may provide useful guides for future policies and programs dealing with land use adjustment, conservation, rural development, and alleviation of rural poverty.

II. EXAMPLES OF LAND UTILIZATION PROJECTS

The scope, objectives, and results of the land utilization program of the 1930's may be illustrated by 12 widely different types of projects. Each of the 12 projects served somewhat different purposes, according to the land use and related problems of the region where it was located.

Case studies of 3 of the agricultural demonstration projects are given in detail to illustrate the selection of purchase areas; their composition; how they were acquired, developed, and managed; and their disposition, use, and accomplishments. Nearly every project was a special case by itself, because of the wide difference in land use problems in the various regions of the country. However, enough similarities existed to make studies of experiences of individual agricultural projects useful in understanding the program and its results.

Nine other projects are cited briefly to show the great variety of land use problems, the chief types of projects authorized, and some of the results of the program.

The original names of the 12 projects, and their present status, are given below:

Original land utilization projects, 1934-39	Federal and State projects formed from land utilization projects
Projects now assigned to Federal use:	
Piedmont and North Central Georgia (Ga.-3 and 22)	Oconee National Forest and Hitchiti Experimental Forest Station[1]
Perkins-Corson (S. Dak.-21)	Grand River National Grassland
Badlands Fall River (S. Dak.-1)	Buffalo Gap National Grassland
Milk River (Mont.-2)	Milk River Federal Grazing District
Morton County (Kans.-21)	Cimarron National Grassland
Projects now assigned to State use:	
French Creek (Pa.-7)	French Creek State Park
Bean Blossom (Ind.-4)	Yellowwood State Forest
Beltrami (Minn.-3)	Beltrami State Wildlife Management Area
Bladen Lakes (N.C.-4)	Bladen Lakes State Forest
Clemson (S.C.-3)	Clemson College Forest
Sandhills (N.C.-3)	Sandhills State Wildlife Management Area
New York Land (N.Y.-4)	New York State Forest

[1] For details of 1960 use, see tabulation on p. 43.

OCONEE NATIONAL FOREST AND ADJACENT WILDLIFE REFUGES, EXPERIMENT STATIONS, AND PARKS

Examples of the agricultural land utilization projects in the Southeastern States are the 2 Piedmont projects, situated less than 75 miles southeast of Atlanta and just north of Macon. Figure 11 gives the location of the Plantation Piedmont Project (GA-3) and other Georgia projects established by 1935. The Plantation Piedmont Project was one of the first projects to be undertaken under the land utilization program. The other Piedmont project, North Central Georgia (GA-22), was started in adjacent Greene County in 1937-38. From these projects later were formed the Oconee National Forest, Piedmont National Wildlife Refuge, National and State pasture and forest experiment stations, and State and local parks and recreational areas. Here the purchase and development of the land in hundreds of poor, eroded, partly idle cotton farms was carried out to show how such land could be restored and converted to more productive uses for benefit of the occupants and all people of the region.

The Old Cotton Belt in the 1930's, of which the Piedmont projects were a part,

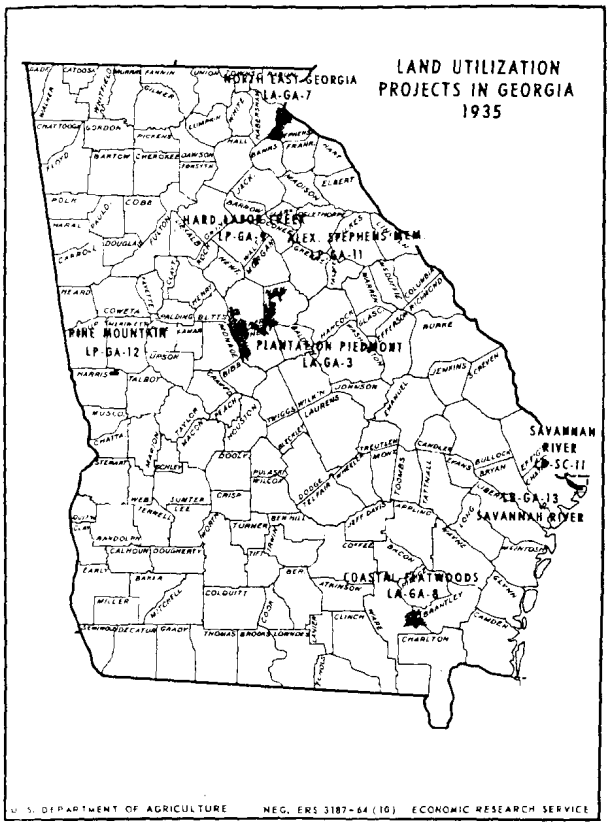


Figure 11

was and still is a region of shifting needs and uses for farmland. Changes in demand for agricultural products, together with competition from new lands of the Mississippi River Delta and the newly developed irrigated projects of the West, contributed to the shift of land from cotton, first to temporary idleness, then after a few years to forest as tree seeds scattered and had time to grow. Growth of population beyond the capacity of the land to support it from agriculture alone led to migration from the farm to jobs in nearby cities and to other States.

The Piedmont projects were in the Brier Patch Country, made famous by Joel Chandler Harris. When, 3 generations ago, Harris wrote the stories told him by Uncle Remus about the adventures of Br'er Rabbit and Br'er Fox, and other fabled occupants of the fields and woodlands of the Brier Patch Country of the Lower Piedmont, it already was a fading example of the old cotton farm system. Farms were becoming smaller because of divisions among more people dependent upon the land, and less productive because of depletion of soil and ravages of erosion caused by a century of continuous row-crop farming.

In 1934, when the projects were undertaken, an estimated 90 percent of the land in the project areas had been in cultivation at some time in the past 100 years. Thousands of acres were once cleared at great labor and put under cultivation for crops. Many thousands of acres were involved in the rotation from forest to fields, then back to woods, and perhaps on to a second or a third clearing.

Much of the land, while originally fertile, was not well adapted to continuous row-crop farming because of moderate to steep slopes and erosion. The land required either conservation practices in cultivation or long natural restoration periods in pasture and forest.

Acreages of cropland harvested in the counties where the purchase projects were located was at a peak from 1910 to 1920, but dropped more than 50 percent by 1930, more than 80 percent by 1960. Much of the big decline from 1920 to 1930 was because of the severe losses in cotton production resulting from the heavy infestation of the cotton boll weevil. Erosion damage to the land also had taken a heavy toll in fertility and in suitability of land for cultivation. Insect and erosion damages in the 1920's combined with the economic losses because of the depression in the 1930's discouraged farmers from the continued outlays required for cotton farming. Failure to meet expenses for 2 to 3 years left many farmers, merchants, and bankers in the area broke or on the margin of bankruptcy.

Pasture acreages increased during these years, along with dairying and beef cattle production. Pasture acreages, however, were relatively small, and occupied only a minor part of the cropland left out of cultivation. By far the greater part of the uncultivated cropland acreage after a few years of weed, brier, and broomsedge growth returned rather quickly to volunteer forest. A similar pattern of change in use of cropland occurred in some 30 other Lower Piedmont Georgia counties.

Land Use Plans in the 1930's

The Piedmont land utilization projects were initiated as the result of detailed surveys which were made from 1932 to 1934 by men from the Georgia Agricultural

Experiment Station, the Bureau of Agricultural Economics, the Bureau of Chemistry and Soils, and the Forest Service. The results of these surveys were published, in part, as research studies (67). Of particular interest was a land classification map of the 4 counties of the project area (fig. 12).

The original plans, made in cooperation with the people of the area, called for purchase and development of demonstration forests, pastures, wildlife refuges, and recreational areas, totaling 150,000 acres of marginal to submarginal cotton farmland. The plans included provisions for resettlement and employment of families occupying the land purchased. Shortage of funds and changes in the purchase program held the acreage actually acquired to 144,000 acres. This land was developed as planned. Several hundred workers, some of them former occupants of the land purchased, and some of them from nearby farms and small towns, were employed for 3 or more years in development work.

Natural restocking of forest areas in pine trees was aided by managed practices and fire protection measures, and supplemented by planting trees on open idle land. In this manner, many thousands of acres of badly eroded, rundown, hilly farmland were soon well stocked with rapidly growing trees. By World War II, 10 years later, the natural forests were beginning to supply much-needed lumber, poles, and pulpwood from sustained-yield cuttings.

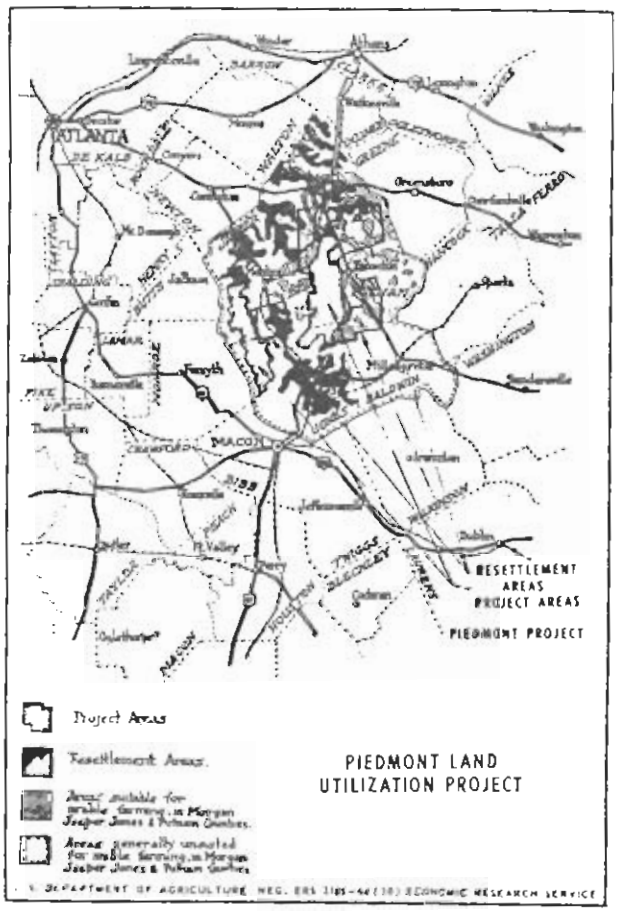


Figure 12

Use of Project Resources in the 1960's

After 30 years, the public forests are successful commercial operations. Not only do they return a cash income to management agencies, timber operators, and workmen, but even more important, they serve as visible demonstrations of good forest management in a region where millions of acres of privately owned, unneeded, eroded former cotton farms have reverted to forest. These public forests are watched closely by farmers and owners and operators of forest land to learn the best ways of forest management.

Some of the most productive forest lands in the region are marked by old furrows, as abandoned fields usually have better soil, are easier to prepare and plant to trees, and are more accessible than woodlands in general.

From the 2 Piedmont land utilization projects, 6 land use areas were formed. The demonstrational and recreational features of all 6 areas are well developed and widely used. While each unit has been set apart for a primary public purpose, all have varied multiple uses, including forest, wildlife, pasture, recreation, watershed protection, conservation demonstration, and education.

Listed below are the major use areas formed from the Piedmont and North Central Georgia Land Utilization Projects (GA-3 and GA-22):

Major Use Assignments, 1961	Administering Agency	Acres[1]
Oconee National Forest	Forest Service	
Uncle Remus Ranger District (GA-3)	" "	67,933
Redlands Ranger District (GA-22)	" "	28,133
Total Oconee National Forest	" "	96,066
Hitchiti Experimental Forest (GA-3)	" "	4,592
Total, Forest Service		100,658
Piedmont National Wildlife Refuge (GA-3)	Fish & Wildlife Serv.	27,614
Georgia State Experiment Station (Pasture & Forest) (GA-3)	Ga. State Expt. Sta.	14,315
Rock Eagle State Park & 4-H Club camp and center (GA-3)	Ga. State Park Serv. & State University	1,452
Jones County Recreational Area (GA-3)	County Board of Commissioners	199
Total (GA-3)		116,105
Total (GA-22)		28,133
Grand total		144,238

[1] From administering agency records and reports, 1961.

Income and Expenditures

Timber Sales

Timber sales from the Oconee National Forest for the 9 years 1955-63 averaged 12,963 thousand feet board measure, and were valued at $354,064. Timber sales include sales of pulpwood, fuel wood, and poles, as well as lumber. All timber sales have been converted to thousand feet board measure for the sake of summarizing total volume and value.

The Uncle Remus Ranger District

As an illustration of the income from project lands, a summary of receipts and disbursements is presented here for the Uncle Remus Ranger District of the Oconee National Forest. The 1960 auditor's report showed receipts of $388,294, of which $360,904 was from the sale of forest products. Total disbursements for 1960 were $322,910. Most of the disbursements were for personal and contract services, supplies, and materials used for maintenance, protection of the area, and improvements such as access roads and development of recreational areas.

The lease under which the project was operated by the soil conservation districts expired at the end of 1961. Beginning with 1962, the land has been managed directly by the National Forest Supervisor for Georgia, according to regulations governing the administration of National Forests.

According to the auditor's report, $298,639.38 was expended in 1961 from accumulated receipts from sale of project products from the land, for improvement of the land in the Uncle Remus Ranger District. The improvements included construction of 19.7 miles of road to serve the commercial forest areas at a cost of $172,261.07, development of 2 new recreation areas, Hillsboro Lake and Sinclair Lake Recreation Areas, at a cost of $120,590.43, and construction of a water system and well at project headquarters at a cost of $5,787.88.

Recreation

The recreation area improvements consisted of paved access roads; cleared and graded campsites, picnic grounds, parking lots, and trails; buildings such as bathhouses and rest and dressing rooms; water and sewer systems; and grills, picnic tables, boat docks, swimming facilities, garbage and trash cans, and other essential equipment. The roads in the forest were built chiefly to provide access to commercial forest areas for maintenance work, protection from fire, cutting and handling timber, and use by rangers, game wardens, and hunters.

Additional recreational facilities were being developed in the Oconee National Forest in 1963 and 1964. One roadside park has been completed and picnic areas developed at 2 lakes, plus 2 wayside parks in the western part of the area. Facilities are available for boating at 2 areas, and swimming at one. Two camping sites have been completed recently and several other camping sites are also planned in different areas.

The visitors to recreation areas in the Oconee National Forest averaged 45,700 per year from 1959 to 1963. The number increased to more than 75,000 annually in 1963 and 1964.

Recreation is one of the major uses of the Piedmont project areas. In addition to Hillsboro Lake and Sinclair Lake, new recreational areas in the Oconee National Forest, there are 2 older sites. One of these recreation sites, the Rock Eagle Park development, is centered around a famous Indian rock mound--a prehistoric effigy that has been restored, in Putnam County, near Eatonton. The 100-acre lake provides facilities for picnics, bathing, boating, and fishing. It first was leased, then transferred by grant, to the 4-H Club Group Camp and Center. The public has access to bathing, boating, and picnic facilities on one side of the lake. Other historical sites in the area are the ruins of one of the earliest cotton mills in Georgia, built about 1812 in the Scull's Shoal area, and two large prehistoric Indian mounds about one-half mile south of this site. Another recreational unit, which has been in use for several years at Miller Creek Lake in Jones County near Gray, consists of a 25-acre lake that provides facilities for picnicking, bathing, boating, and fishing. It was transferred by grant to the Board of Commissioners for Jones County.

Management

Since 1943, the administering agencies for areas now in the Oconee National Forest and the Piedmont National Wildlife Refuge projects have had a cooperative wildlife program with the Georgia Game and Fish Commission. The wildlife management area contains about 43,000 acres of private and Government land, managed for deer, wild turkey, and other wildlife. Three managed deer hunts have been held in recent years (1959-63) with some 1,000 or more hunters participating.

The remainder of the project area is open seasonally for small-game hunting. As a result of the management area program, deer have increased and spread to adjoining areas to such an extent that a 15-day open season before the managed hunts is possible on both the project and county lands outside of the management area. There is close cooperation with the U.S. Fish and Wildlife Service program on the adjoining Piedmont National Wildlife Refuge, formerly a part of the land utilization project area.

The Piedmont land utilization projects have cooperated in and helped support a fire-control agreement with the Georgia Forestry Commission, the Fish and Wildlife Service, the Hitchiti Experimental Forest, the Forest Service, and the Georgia Agricultural Experiment Station project. This cooperative program is closely related to the operations of a local pulp mill and lumber company holdings adjoining the area.

The area is particularly suited for continued multiple-use administration and management. It has a definite relationship to the watershed needs and benefits of the local community. It lies within the watershed of the large Georgia Power Company Sinclair Lake development, immediately south of the project, and is within the watershed of the proposed Green Brier Creek Flood Prevention Project.

Multiple-use management for forests, wildlife, pastures, hunting, fishing, and recreation, and demonstrations of development, conservation, and use of land and water are practiced throughout the 144,238-acre project area, thus insuring use of all resources to good advantage. The concept of multiple use is, of course, modified where needed for recognition of paramount rights and responsibilities.

GRAND RIVER NATIONAL GRASSLAND[13]

After painstaking study from 1954 to 1960 by the Forest Service of the best use and management procedures for the land utilization projects in the Great Plains, several agricultural projects in South Dakota were established as National Grasslands. In 1960, the Perkins-Corson project was established as the Grand River National Grassland.

The Perkins-Corson Land Utilization Project represented a completely different situation from that in Piedmont Georgia. Here, land used for dryland farming with exceptionally low wheat yields was acquired and converted into a grazing area, and farmers and ranchers on land purchased were aided in relocating on better land. The project contains 155,428 acres, located along the Grand River in Perkins and Corson Counties. The project was the last of 5 land utilization projects organized in South Dakota, and one of the last projects initiated in the Nation. As a result, it profited from experience gained in other areas. Figure 13 shows the location of the Perkins-Corson and other projects in South Dakota.

One reason for management of grazing on National Grasslands by grazing associations is that it furnishes a ready means of extending uniform land use controls beyond the boundaries of purchased land, and thus assists in better use and maintenance of the entire area than if undertaken tract by tract. The land in the Grand River National Grassland is managed with associated private and public land by a State-authorized grazing association under a grazing agreement with the Forest Service. Livestock are grazed on the land under a

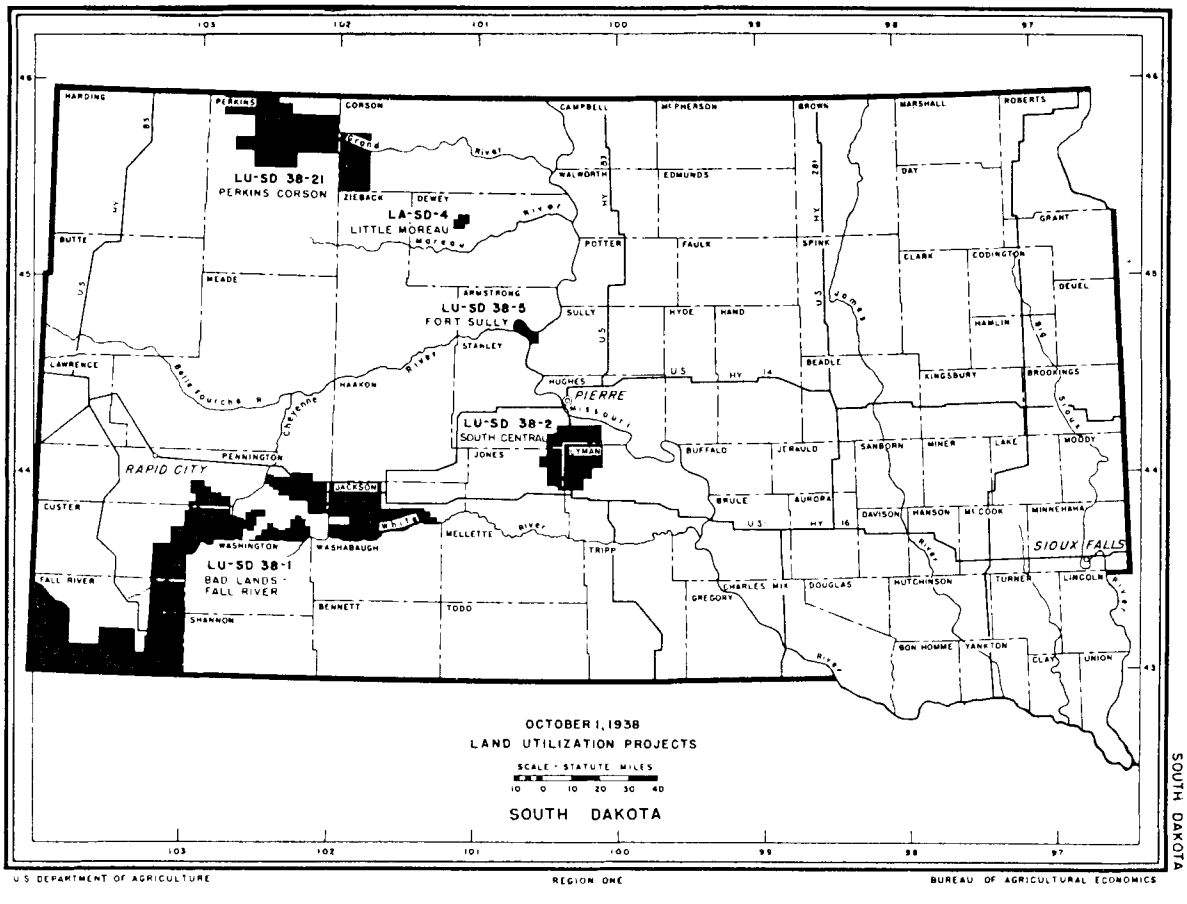


Figure 13.--South Dakota land utilization projects.

[13] References used in preparing this section are bibliography references (5, 46, 47, and 133), and a paper presented at a ranger-manager meeting, Custer National Forest, March 1955, by D. A. Dyson, entitled "Philosophy and General Policies of Land Utilization--How It Was Accepted by the User."

common permit system by farmers and ranchers who have an adequate feed base to support their livestock during the time they are not on association controlled land.

History of the South Dakota Land Utilization Projects

The land utilization project areas in western South Dakota consist of some of the poorest land in the State for cultivated crops. Before the homesteader reached these areas, ranchers were using this land without permit. Land near water was heavily grazed, while many areas without water nearby were not used at all. During that period, access to water was a key to control of surrounding land. Because the rancher was often without legal control of sufficient range for efficient ranch operations, he concentrated on control of access to water as a means of controlling land to which he had no valid claims to ownership. But the homestead acts upset this limited degree of control, as the potential farmer settler was allowed to homestead any unreserved portion of the public domain. Homestead laws required that a house be built on the land and that a certain acreage of land be cultivated. The first homesteads were 160 acres. Later, in 1909, 320 acres were allowed, and in 1916, it became possible to homestead 640 acres, but these changed rules came too late, for much of this area had already been settled in 160-acre farms.

In the 1920's, the combined effects of limited rainfall, drought, small farms, low prices, high taxes, and declining crop yields began to be felt. Property values declined, crops failed, tax delinquency became commonplace, and people began to move away. But the situation deteriorated so generally and so gradually that it attracted little public attention. However, in the following decade of the 1930's, the prolonged drought, the depression, and the changes in systems of farming combined to aggravate the situation. As a result, the whole Nation became more aware of the need for some remedial public action.

Many crop farmers in western South Dakota found themselves stranded on uneconomic farms, heavily in debt, and with no reserve of capital or credit to continue or to expand their operations to efficient size. Many tracts of land were left idle, or abandoned entirely; some were foreclosed by loan companies and banks, which, in turn, often became bankrupt. The counties took some land by tax deed, and the State foreclosed on some which had been financed under the South Dakota Rural Credit Program. County and State Governments and credit agencies tried to keep the land in operation, and to avoid taking title to large numbers of tracts where there appeared to be any hope of payment of taxes and mortgage loans. They frequently refused to take a deed to land for debts unless they had a purchaser in sight. There was considerable public feeling against State, county, and credit agency foreclosures.

Suitability of the Land for Cultivated Crops

A hard fact of life about the Grand River area is the low and uncertain rainfall, averaging only 14 inches per year from 1907 to 1937, with many dry years and few wet years. In the areas with better soils and topography, successful production of wheat and roughage is possible if combined with stockraising. But most of the area, because of limited moisture and rugged terrain, is suitable only for grazing.

Settlement Patterns and People

Because of the unsuitability for farming, the pattern of settlement on small to medium-sized farms, established as a result of the homestead laws, was bound in time to have some unfortunate consequences in crop failures, low incomes, farm foreclosures, and tax delinquency. The people who flocked to this area from 1907 to 1912 were, in great part, those who had little experience in the dryland farming that is required in the Western Great Plains Region. Those who had farmed were largely from the North Central States and other regions where moisture was more abundant and more certain. Moreover, they settled in numbers too great for the land. Perkins County in 1912 had more than 13,000 people. In 1960 it had fewer than 6,000 people.

In 1937, 506 farms, largely in Perkins County, were studied by land economists and farm management experts. More than 25 percent of the farms were unoccupied, and 35 percent of the cropland was idle or abandoned. Due to the drought of the 1930's, the average number of cattle had dropped from 18,000 to 4,000 and of sheep, from 44,000 to 25,000. Nearly 25 percent of the farms had been taken over by mortgage foreclosures by creditors, and by counties for tax delinquencies. Some of this was

because of severe droughts and the great depression of the 1930's, but much was because of the normal uncertainty of crop farming on small to medium-sized dryland farms in an area unsuitable for farming.

Purchase and Development of the Project

Some observers suggested that the way to solve the problem in the poor areas was to let the pattern of land use and ownership readjust itself. But experience in the Great Plains and other regions as well had shown that the problem of low income and crop failure is not subject to quick adjustment, with individuals, firms, and State and local agencies bearing the costs. As an alternative, a Federal land utilization purchase program was established, to acquire and improve for grazing 155,000 acres of farmland as an aid to livestock farmers and to the community as a whole.

The land acquired consisted of scattered tracts within a designated project area, usually in a pattern suited to grouping into community pastures. Tracts which appeared to be satisfactory ranch headquarters generally were not purchased. The small farms, rough lands, and dry tracts needed for control of access and water appear to have made up most of the purchases. In some cases of isolated tracts, adjacent county and State land was purchased or public domain land was transferred to the project to block in an area. Of the approximately 500,000 acres, 30 percent was purchased--a smaller proportion than in some other South Dakota projects. Most of the land purchased from private owners had improvements, and a part had been plowed for crops.

By August 1943, 19,000 acres had been seeded, 33 dams and dugouts for holding water constructed, and 210 miles of new fences built around community pastures. Further work has been done since that time. From 1943 to 1959, much was done by the grazing association in improvement and maintenance of land and water resources through use of a portion of the fees charged for grazing permits, as direct Federal payments for these purposes decreased.

The removal of 162 farm operating units in the project area affected several schools, and some were closed or consolidated with others in the counties. The grouping of tracts into community-type pastures and the removal of other land from farming made it possible to close roads or to reduce road maintenance. The closing of schools and roads and the building of firebreaks by the grazing association resulted in some savings to local governments.

Resettlement of Families

After acquisition of the land, one of the first problems was relocation of families whose homes were purchased. This problem was largely confined to those who had insufficient means to rent or buy land, or who lacked skills for other jobs. Resettlement aid was given to those most in need of help in finding homes and jobs. Many others were given employment on the project removing unneeded buildings and fences; building dams and recreation areas; and making land improvements, including reseeding cropland areas to grass, erosion control, and water conservation measures.

Later Administration and Use

Grazing

The project was administered by the Soil Conservation Service or held under its custodianship during the period of acquisition and the stages of development from 1938 to 1954. Administration was transferred from the Soil Conservation Service to the Forest Service in 1954. At present, it is administered under a 10-year agreement with the Grand River Cooperative Grazing Association, signed in 1961.

The agreement between the Forest Service and the grazing association contains specifications for use and maintenance of the land and improvements. The primary restriction is that the land be used only for grazing and that grazing be limited to the number of animal units it is determined the range can carry for a certain number of summer and fall months. A Forest Service ranger supervises overall administration of the ranger district and assists in development and recommendations for use. A total of 182,129 acres are managed by the association, including 155,428 acres of land utilization project land and 26,701 acres of privately owned and State and county owned land.

The grazing association's maintenance supervisor and his assistants distribute salt, maintain the stock oilers, repair the approximately 385 miles of boundary fence, and do the required maintenance on springs, wells, dugouts, and reservoirs. Most of the developments for watering the stock have

been financed by the grazing association. Maintenance of the 231 miles of fireguards is by the grazing association.

The grazing association owns and maintains a rural firetruck that is stationed in Lemmon and is operated by the city fire department. Fire detection has not been too great a problem, because most ranches and farms have telephones. Fire suppression in practically all cases has been by the local fire departments from Lemmon, Bison, Hettinger, Glad Valley, or Lodgepole, with assistance from ranchers and farmers. The local fire departments have radio contact with the State Highway Department; the Game, Fish, and Parks Department; the Highway Patrol; the game warden; and the local police.

There are 21 community pastures in the Grand River Grassland, ranging from 1,280 acres up to more than 18,000 acres, and 48 private allotments. Range condition mapping has been completed. Allotment plans are completed for only a few of the allotments.

Recreation

Deer and antelope are plentiful and use the entire area. There are some areas where deer are somewhat concentrated, but it is not uncommon to find mule deer anywhere in the area. White-tailed deer are found along the Grand River and its brush-lined tributaries.

Sharptail grouse are fairly numerous but their habitats are becoming sparse. Several projects have been completed to protect existing habitats for this species and develop new ones. Hungarian partridge occur throughout the area, but the population is not great. Chinese pheasant are found along the river and on cropland near the brushy draws.

There are approximately 4 miles of shoreline under Forest Service jurisdiction along Shadehill Reservoir. There are plans for a boat ramp and sanitary facilities on one of the points, if demand warrants it. The Grizzly Campground, completed in 1962, is appreciated and used by many people. About three-fourths mile of access road was constructed in 1963 from the campground to a State Game, Fish, and Park road.

Income and Expenditures

The average Federal income received per year, 1954 to 1962, for the use of the 155,000 acres of Federal land in the Grand River National Grassland was $43,106.

Grazing permits issued to an average of 138 ranchers during the 6 years 1959 to 1964 ranged from 58,240 animal-unit months of grazing in 1959 to 50,700 in 1964. This represented 6 months' grazing for 7,526 head of cattle and 4,620 sheep in 1964. Because of drought, the stocking rates have varied from year to year.

Average annual receipts, expenses for local management and maintenance, and capital expenditures for development 1959-62, are listed below:

Item	Average number	Average annual income or expenditures
Income from--		
Grazing, 1954-62.....	58,244 animal-unit months[1]	$24,735
Mineral leases, 1954-62.	109 mineral leases	13,571
Land use, 1954-62.....	706 acres in hay and other crops[2]	4,800
Recreation, 1962.....	50,800 visits	--
Wildlife, 1962 inventory..	3,400 antelope	
	900 white-tailed deer	
	2,000 mule deer	--
Total.....		43,106
Expenditures for--		
Local management, operation and maintenance, 1959-62		31,456
Development and capital improvements, 1960-62.		3,178

[1] 1 month's grazing tenure by 1 mature cow or steer, or 5 sheep.

[2] Includes sale of crested wheat grass seed when there was a good seed crop.

Source: Summarized from tables prepared by the project management field office of the Forest Service, January 1964.

Changes, 1955-64

There were several significant changes in the character of the project from 1955 to 1964. The first and most important has to do with the size of each ranch unit. In 1955, the private ranch units associated with the project appeared to be smaller than average for the community, with many units relying entirely on project lands for summer pasture. Now almost all operators have additional private pasture, and the average size of their permits is no indication of the scale of their operations.

The grazing fees are based on a Government charge, and also include costs of grazing association operations, and some additional charge for development and maintenance. The Grand River Grazing Association, incorporated in 1940, has strengthened and improved its leadership in development and maintenance of public and private land.

Achievements of the Project

Public objectives, as described in part I, p. 12, for the land use program in the Great Plains, were more completely achieved in the Perkins-Corson project than in some other projects. There are a number of reasons for this. First, the land was purchased in fairly solid blocks. Second, the grazing association itself purchased many of the isolated tracts that remained in the project area. Third, the grazing association was able to provide leadership in the development and administration of the project area. For these reasons, community pastures in the project have been relatively successful and the relationship of the grazing association and Federal administrators has been generally harmonious.

Comparison of the Georgia Piedmont and the Perkins-Corson Land Utilization Projects

While the same general program objectives were pursued in both the Georgia and South Dakota land utilization projects, the origin of the problem in each case was different. The Homestead Act, leading to 160-acre farms in a poor dryland area, was a factor in South Dakota, but not in Georgia. A century of intensive row-crop cultivation of erodible, sloping land under a share tenancy system was a chief factor in Georgia. In fact, nearly all the institutional and physical land problems which led to abusive use of cropland were different in the 2 cases. The contrasts are interesting and significant. Possibly even the criteria for evaluating the success of the program in each case need to be different.

In studying the projects, attempts were made to get answers to 2 questions: (1) What was the economic effect of the purchase programs on the agriculture of the communities? (2) How has the development and adjustment of agriculture differed within and outside of the project areas? These 2 questions are of course closely related, and very difficult to answer, unless the effects of the program happen to be very great. In these cases, no positive answers were available, since agriculture has changed greatly in the 30-year period since initiation of the projects because of improved practices, mechanization, and shifts in type of farming and land use. However, there were some judgments by individuals that the projects were beneficial and by others that they were not of great effect in changing the type of agriculture.

In the Georgia Piedmont project area, the number of farms and amount of land in row crops has declined to less than 25 percent of the peak production period. The change was large prior to the 1930's, because of boll weevil infestation, erosion, low productivity, and declining cotton yields. Shifts to generalized livestock farming, dairying, and forestry already had started in the 1920's, together with heavy outmigration of farm people. The Georgia Piedmont projects were a demonstration of what could be done to stabilize conditions and to change and improve land use and development.

In the Grand River National Grassland area, formerly the Perkins-Corson Land Utilization Project, there likewise are speculations by observers as to effects and changes. It is difficult to separate the effects of the project from the effects of many other factors that promoted change between the 1930's and the 1960's. The general opinions expressed are that the project has been useful to the area. In making comparisons between land utilization projects, it is well to remember that significant contrasts exist between projects in the Great Plains as well as between those projects and projects in other regions.

In summary, no meaningful comparisons can be made among land utilization projects without balancing many factors. The success of a project should be measured in

terms of the location and condition of the land when purchased; the amount of land purchased; the time and money needed for development, improvement, and maintenance; the effect of transfers of administrative responsibility; and so on.

BUFFALO GAP NATIONAL GRASSLAND[14]

The Buffalo Gap National Grassland, organized from the Badlands-Fall River Land Utilization Project (SD1-South Dakota), is located in Custer, Jackson, and Pennington Counties in southwestern South Dakota. Work here was initiated in 1934, with project headquarters at Hot Springs and Wall, S. Dak. Following acquisition and development, the project was administered by the Department of Agriculture in cooperation with local grazing associations.

Description and Justification

The 550,000 acres in the project are characterized by wide expanses of gently rolling prairie grassland with rougher terrain and badland formations along the White and Cheyenne Rivers. At the time of purchase, 86 percent of the land was in pasture, 13 percent in cropland, and 1 percent in wasteland. Cropland was of reasonably good-quality clay soils, but because of the lack of rainfall, grain yields were 2 to 4 bushels an acre. Farms averaged 245 acres in size, too small for economic crop production under the semiarid conditions and types of farming pursued. Rangeland was badly overgrazed, leaving little vegetation to retard the flow of spring rains and afford protection from driving winds. Consequently, wind and water erosion caused great damage. Living conditions here in the 1930's varied from fairly good to extremely poor. Of 706 families studied, 412 were dependent on relief. Inadequate housing, lack of medical care, and scarcity of drinking water and food were prevalent. Many children suffered from undernourishment and ill health.

There were no organized recreational facilities. Seventy-six small country schools with an average of less than 7 pupils per school were scattered throughout the area. There was a high rate of tax delinquency.

Early Development

This land, where well managed, produced fair native pasture. Restoration of the grass cover was accomplished between 1935 and 1941 and the area was devoted to grazing under controlled conditions. Erosion control measures were installed and pasture was improved by planting grass, constructing dams to conserve water and create watering places for stock, building check dams, developing springs, and eradicating harmful rodents. Fences and auto passes (cattle guards, or special entrances for vehicles only) were built. Two game sanctuaries were established to protect wildlife. Completion of the project placed the grazing industry of the area on a more stable basis and provided a demonstration of reclamation and better land use methods applicable to millions of acres of similar land in the northern Great Plains.

During the 54 weeks of operation prior to January 1, 1937, an average of 269 men were employed on this project weekly.

Families Residing on Land

Three-hundred and thirty-seven families lived in the project area in 1934-35. Nearly all these families moved from the project area; 120 required assistance in relocating.

Use of the Project Land, 1959-63

The half-million acres of range furnished forage for an annual average of 202,318 animal-unit months of grazing in the 5 years 1959-63. Average Federal income and expenditures during these years are listed on the following page.

[14] Buffalo Gap National Grassland records, Forest Service records, 1954-64, and unpublished notes of Loyd Glover, S. Dak. State Univ. and Expt. Sta., and Norman Landgren, Econ. Res. Serv., were used in preparing this section.

Item	Average number	Average annual income or expenditures
1959-63 income from--		
Grazing	202,318 animal-unit months[1]	$92,410
Mineral leases	151 leases	21,912
Hay and other crops	177 acres	255
Total		$114,577
Recreation	44,490 visits	---
Wildlife inventory	1,600 antelope	---
	83 white-tailed deer	---
	720 mule deer	---
Watershed	All areas are useful for watershed purposes	
Expenditures for local management, operation, and development, 1962-64		$69,397

[1] 1 month's grazing by 1 mature cow or steer, or 5 sheep.

There are 4 improved recreational areas for camping and picnicking. Hunting, fishing, hiking, riding, sightseeing, and nature study are important activities of the visitors. Plans have been made for additional recreational facilities.

In addition to the deer and antelope listed in the wildlife inventory, there are numerous small game animals and game birds, including wild turkeys.

Fall River Ranger District

The Fall River Ranger District, the largest of the 2 districts in the grassland, contains 310,000 acres of usable range from the land utilization project area. The number of cattle permitted was 12,283, and the number of sheep 5,634, for an average grazing season of slightly over 6 months. The number of livestock was just about equal to the appraised carrying capacity. Nearly two-thirds of the animal-unit months of grazing permitted were on National Grassland and one-third on private land fenced and used with the Grassland. The average permit on the Grassland was for 67 animal units, and on the Grassland and the enclosed private land combined was for 105 animal units. Direct permittees numbered 110 and grazing district permittees 90. Nearly all operators had additional summer pasture.

Range Improvements Inventory

Including those made prior to 1954, range improvements in the Fall River Ranger District consist of 446 stockwater dams and dugout water holes or ponds, 18 wells, 1 spring, 382 miles of fence, 21 cattle guards, and 1 barn, at a total cost of $685,390. Improvements are financed in part by Federal agencies and in part by permittees, with permittees doing some of the work according to agreement. Plans for development and maintenance originate principally with the Forest Service.

Special-Use Permits

The most numerous special-use permits to authorize access are found in connection with uranium mining claims, oil and gas leases, and rights-of-way for power, pipelines, ditches, and fences. These access permits are, of course, distinct from those legal instruments which grant access rights to minerals. Mining in rangeland areas often increases damage, by dumping waste and by creating erosion as earth is dug and moved.

Range Management

The National Grasslands are allotted to ranchers as individuals or groups for grazing specified numbers of livestock. Size of

allotment is based on amount of former use as well as on weather and range conditions.

Range analysis field work has been completed on the 162 National Grassland grazing allotments to ranchers. Maps are finished for 117 allotments. Management plans have been or are being written on 29 allotments. It will be necessary to review the range analysis on about 10 percent of the allotments to make corrections and improve the data. Management plans need to be written for 133 allotments.

Six individual allotments to ranchers, including a total of 34,407 acres, are under intensive management. Two allotments have established systems of rest rotation, and 4 allotments are under deferred rotation. The Shirttail allotment is managed under a system of deferred rotation, which is a part of the revegetation program.

Grazing agreements were in effect in 1964 with 2 cooperative grazing districts, the Pioneer and Indian Districts. The Pioneer District includes 101,935 acres and has 67 members. The Indian District includes 49,050 acres, with 23 rancher members. The Cottonwood District, for which a cooperative agreement was being developed in 1964, contains 53,355 acres of project land.

Wildlife developments consist of 2 watering places for wild turkey and 6 fenced habitat areas which have been developed over a period of years. Trees and shrubs have been planted in the habitat areas. Browse and berry-producing shrubs have been planted within fenced areas surrounding 4 developed springs. Three big-game and browse production and utilization areas are being maintained.

In 1964, 8 stockwater dams and dugout ponds or water holes were constructed on National Grassland allotments by permittees. The Forest Service shared one-half the cost by allowing grazing fee credits. Surveys and plans were made by the Forest Service range technician. In addition, the range technician surveyed and prepared cooperative agreements for 4 dams and a spring that were constructed by permittees at no cost to the Forest Service.

Use of Project in 1964

One of the aims of the land use purchase program was to extend good land use beyond the boundaries of the land purchased. In the Great Plains this was accomplished by forming grazing associations and putting all the land these associations controlled under a Federal grazing association partnership type of management. In the Buffalo Gap Grassland, 64 percent of the permitted grazing is on the Federal land and 36 percent is on private fenced land within or near the grassland. It was originally assumed that the grazing associations would add to their grazing land by leasing the county tax deed land, but the counties chose to sell this land and thus put it back on the tax roll.

Management problems have been critical at times in recent years, because of drought and consequent variations in carrying capacity of range from year to year. Recurring periods of low and high rainfall and accompanying changes in forage production necessitate yearly consideration of adjustments in stocking rates. It is not a routine matter or a simple operation to issue grazing permits or to adjust them to changes in carrying capacity. Ranchers, grazing association representatives, and rangers must work cooperatively to maintain a beneficial working relationship. The needed contacts to obtain this relationship require time and numerous ranch and field visits and much office work by rangers. Rangers are said to need more time than they now have for grazing association and permittee contacts on the ground to work out grazing use arrangements and problems satisfactorily from both the private and public standpoint.

In the Buffalo Gap National Grassland more land is grazed under individual allotments than in the Grand River National Grassland. Only a limited number of community pastures are possible because of the widely scattered acreage interspersed with other public and private holdings. The Federal agency administering the land has had to provide the leadership for development of the land. In a few cases there have been differences over policy which required time to adjust satisfactorily. As a result, development of this land has not been as fully achieved as in some other areas.

MILK RIVER GRAZING DISTRICT PROJECT [15]

Characteristic of the land development work in the Great Plains is that of the 953,000-acre Milk River Project (LU-MT-2) in Phillips, Valley, and Blaine Counties in Montana (fig. 14). The objective of the development was to convert overgrazed pasture and abandoned farmlands into productive, permanent, and stabilized range. Grass was restored on the land both by giving it a period of rest in which to naturally reseed, and by artificially reseeding where destruction of grass was most serious. Improvement of water facilities also played an important part. A large number of check dams and stock ponds were built to conserve small amounts of rainfall and snowfall and to distribute water for cattle. Fences were changed to conform to new patterns of use, and buildings no longer needed were removed. Some recreational areas also were developed, including picnic and campsites.

This project was the second largest in the Nation. It consisted of land acquired from private owners, intermingled with public domain land. Private dryfarming land was acquired and converted into a grazing area, while the impoverished dryland wheat farmers were aided in moving onto better tracts. The area was organized into State grazing association districts and used under suitable conservational regulations.

In northern Montana, the reasons for land purchase were similar to those in the Dakotas and Wyoming. First, hundreds of families had become dependent upon public relief, seed loans, or other subsidies, because of the inability of their land to produce grain crops except in wet years. Second, thousands of acres of rangeland were seriously depleted by wind erosion and overgrazing. Thousands of acres of rangeland had been homesteaded in public

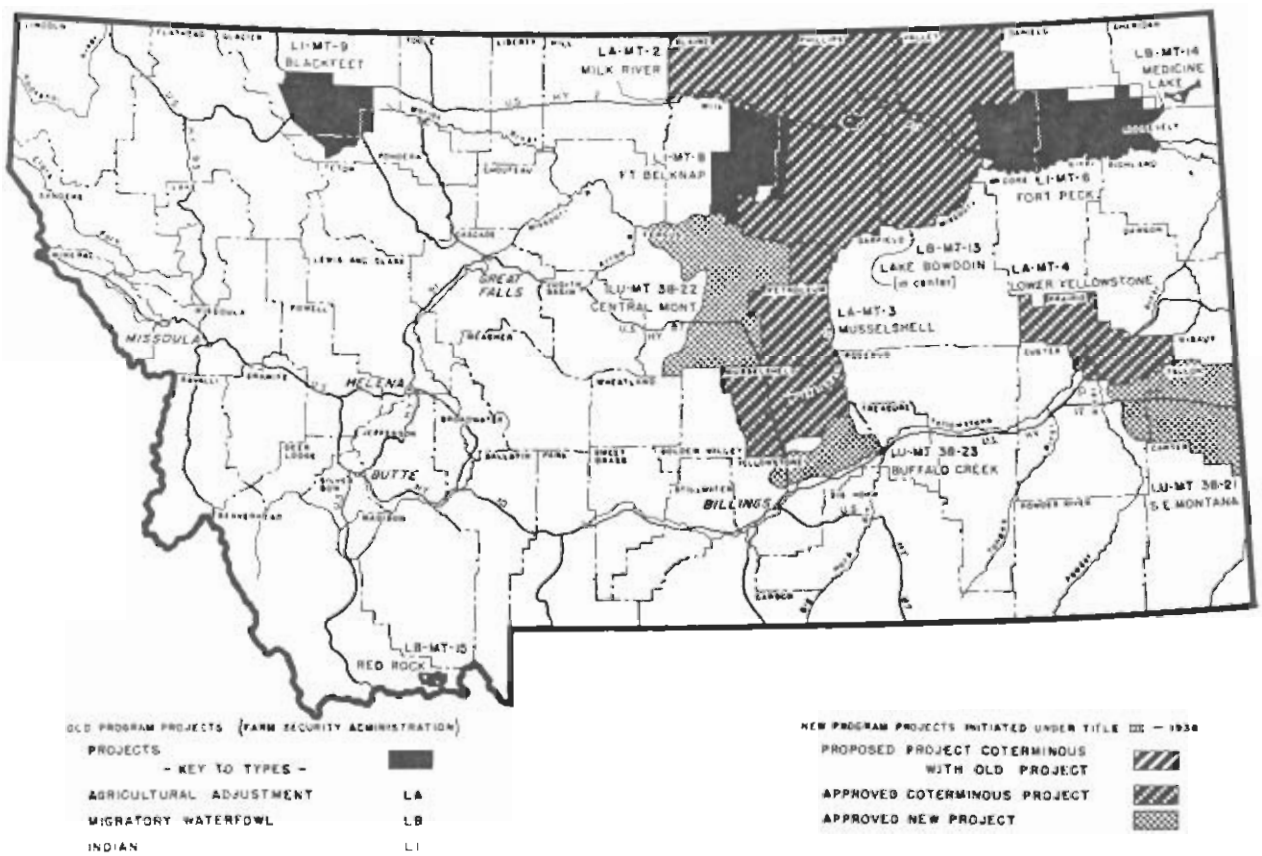


Figure 14.--Montana land utilization projects.

[15] Bibliography references used in preparing this section were (26, 77, 111, and 126).

domain areas and plowed up for grain cultivation, destroying the natural grass cover. Perhaps 10 or 20 years would have to elapse before natural reseeding replaced the grass cover.

The Milk River Grazing Project would never have been undertaken if the problem had been approached from the viewpoint of how to acquire the best available grazing land. It was undertaken to help resident families obtain more adequate incomes by relocating on better farmland, and to restore to range land which was poorly adapted to cultivation.

The Milk River project was an effort to reorganize the use of land and water resources on an area basis. It not only restored nearly a million acres of land poorly adapted for farming to grazing, but encouraged relocation of people in the irrigated areas to develop irrigated land for intensified production of feed crops. The Milk River is a source of water for a rather narrow strip of irrigated land. Extending back on either side are many miles of grassland interspersed with benches of dryfarming. As the project progressed, many families in the dryfarm areas gradually congregated in the irrigated areas, where homes, roads, schools, and other facilities could be more efficiently maintained. The rangelands to either side were available for grazing.

The land utilization project lands were leased and operated from about 1940 to 1958 under the management of local grazing associations. The livestock was pastured under plans and rules set up cooperatively by the grazing association and the Federal custodial agency. Some operators had wheatland which they dryfarmed from their homes in the irrigated areas. Diversification of enterprises among livestock, feed crops, and wheat brought greater security by lessening the dependence on income from a single crop or enterprise.

The grazing association paid fees to the Government according to the carrying capacity of the land. The association provided range riders and managed the operation, including numbers of livestock permitted, distribution of water, and grazing relations and maintenance. Each member was allotted the number of livestock that could be grazed in accordance with the amount of feed which he could produce on his farm and in accordance with the carrying capacity of the rangeland in his area. The grazing fee per head per month varied with the prices of beef and mutton. The fees were used to manage the land, maintain and improve it, and pay the rental under the agreement with the Federal custodial agency. Twenty-five percent of the Federal income was paid to the counties where the land was located. Area management in the form of grazing associations and soil conservation district plans and programs modified the management and use of many farms and ranches in the region and aided in maintenance of the land in a manner that gave a more reliable income.

The Milk River land utilization project was administered by the Soil Conservation Service from 1940 to 1953, and by the Forest Service from 1954 to 1958. In 1958, the project land was transferred to the Bureau of Land Management of the Department of the Interior for management in Federal grazing districts along with adjacent and intermingled public domain land. Ranchers and farmers use the grazing land by payment of fees for their livestock under the animal-unit permit system for land utilization project land in the Federal grazing districts.

CIMARRON NATIONAL GRASSLAND

The Cimarron National Grassland of Morton County, Kans., was started in 1936 on land purchased with land utilization funds (fig. 15). Over a 3-year period, about 107,000 acres along the Cimarron River were acquired. In November 1938, the area was placed under the administrative control of the Soil Conservation Service, and an active program of reseeding grasses was started and has continued to the present. [16]

In 1954, the project was transferred to the Forest Service for administration, and in 1960 was established as a National Grassland for grazing, recreation, and wildlife.

Forage is the principal use, but a secondary objective is soil stabilization and the prevention of erosion. This is being accomplished by reseeding, balancing the number of livestock with the available forage, and other range-improving practices.

The Cimarron National Grassland organization is cooperating with wildlife

[16] Soil Survey Report, U.S. Dept. Agr., Morton County, Kans., 1963.

Figure 15.--Kansas land utilization project, October 1938.

management agencies by providing the best possible habitat for game birds and animals, and by controlling rodents and predators. There are limited resources for fishing and big-game hunting; game birds are plentiful. Several series of waterfowl and fishing ponds were constructed along the Cimarron River by the State Fish and Game Department. The use of the area by sportsmen is increasing. It is planned to increase the amount of game by improving quality and quantity of food and cover. A tabulation follows, showing average use and income during 1953-62:

Item	Average number	Average Federal income
Animal-unit months of grazing[1]	16,025	$15,365
Mineral leases	11	53,674
Recreation visits	3,465	---
Other[2]	101	14,648
Total	---	83,687

[1] 1 month's grazing tenure by 1 mature cow or steer, or 5 sheep.

[2] Includes cropping, haying, and miscellaneous other land uses, such as transmission and pipeline easements.

Source: National Grassland records, Forest Service.

FRENCH CREEK STATE PARK

Fifty miles west of downtown Philadelphia lies what was first named French Creek Recreational Area, and later, French Creek State Park. It is admirably adapted to recreational use, having interesting scenery and beautiful streams and lakes. Roads and railroads bring it within easy reach of several million people who live within a 50-mile radius. Many people had long wished to acquire this tract for recreational purposes, as the area did not have adequate recreational facilities.

It was not entirely justifiable to purchase this land as part of the land utilization program, for not only was its price relatively high at the time, but the amount of cropland it contained was not large, and the farmland was not fully submarginal when moderately well managed. Yet commonsense indicated the urgent need of reserving this area for public use before private development forced people in the region, especially those with low incomes, to travel even further out into the country for scenic outdoor recreational facilities. On these grounds, the project was approved as an exceptional case, and work was started in 1934-35 to develop the 6,000 acres of woodland, fields, and pastures into an attractive outdoor playground. The French Creek project was an example of the problems encountered in justifying purchase and retirement of farmland suitable for conversion to recreational and other special purpose uses.

The area was transferred to the Commonwealth of Pennsylvania in 1947 for use as a State Park. Three lakes are within the park; the largest, Hopewell Lake, covers 68 acres. Facilities include picnic areas, campsites, bathing beaches, hiking and bridle trails, places for fishing and boating, and food and refreshment concessions. Horseshoe Trail, a historic trail extending from Valley Forge to Battling Run Gap near Hershey, passes through the Park.

NEW YORK LAND UTILIZATION PROJECT[17]

The 15,000 acres purchased in the New York Land Utilization Project (NY-LU 4) in the south-central region of the State near Ithaca were gradually being abandoned in the middle 1930's. Five of the land purchase areas were in Tompkins County. One, the Hector Unit, was in Schuyler County. Of the 293 tracts purchased in 1935-37 only 133, or less than half, were occupied. Unfavorable soil and topography were generally accepted causes for the abandonment of farming.

According to the records, 118 families moved as a direct result of the purchase program, and 5 were given life leases on their homes and permitted to live in the purchase area. Of the families who moved, 90 percent were farmers. Many families were able to find new homes without assistance. Some purchased other farms. Others went to live in nearby villages and towns, frequently near or with relatives. Some families needed help in relocation.

A list of 200 farms for sale was prepared, and farmers whose land was purchased were told of these opportunities, and in some cases were shown a number of farms. At the time the project land was purchased, a survey was made of the families who applied for assistance, with the intention of helping them obtain work and places to live on resettlement projects.[18] Although a few families were accepted for resettlement projects in the first 3 years after the project land was purchased, the majority were found ineligible, or withdrew their applications as they found places themselves during the long period of waiting for action on their applications.

Seventy-two of the displaced families had some equity in their farms and so were usually able to find places and relocate without assistance. Fifty purchased other farms; 22 did not continue farming, but became day workers or retired because of age.

Later, 10 families were assisted by the Farm Security Administration in obtaining permanent farm locations. Forty percent of the families found new places and moved to them without Government assistance. Some families received small loans to aid with relocation and operation of farms in new locations.

In the 1940's, a survey was made by Cornell University and the Bureau of Agricultural Economics to find how families from the purchase area succeeded in adjusting to relocation (42). Of 92 families interviewed, 69 (75 percent) said they were better off as a result of selling their land and resettling in a new location. The other 29 families said their situation had not improved.

It seems reasonable to conclude from these answers that the relocation program was about 75 percent successful. The families who were most successful in relocation and readjustment were the young families where husband and wife were between 21 and 40 years of age, had completed 8 grades of school or more, were in good health, and continued as farm owners and operators.

BELTRAMI WILDLIFE MANAGEMENT AREA[19]

A different approach to the problem of acquisition of land for land utilization projects is illustrated by the Beltrami Island project in northern Minnesota (fig. 16). Here the purchase of about 80,000 acres in poor, scattered farms in large forest areas was carried out chiefly to relieve individual distress, and to relieve the counties of the heavy expenditures involved in maintaining schools for children living on isolated farms and in keeping roads open to the scattered homes. The purchased farms were at first included in a public forest, but this land was less valuable than other land that might have been selected if commercial forests had been the single objective. The project contained considerable areas of burned-over land, on which restocking of timber trees was a serious problem. But there was little question from the viewpoint of social and economic welfare that the lands should be put in public ownership. Many of the counties in the region bordering the western Great Lakes were on the brink of financial difficulty unless changes were made in the scattered type of settlement, which required

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[17] Bibliography references used in preparing the section are (2) and (42).

[18] Survey by the Rural Resettlement Division of the Federal Emergency Relief Administration and the Resettlement Administration.

[19] Bibliography reference (99) was used in preparing this section.

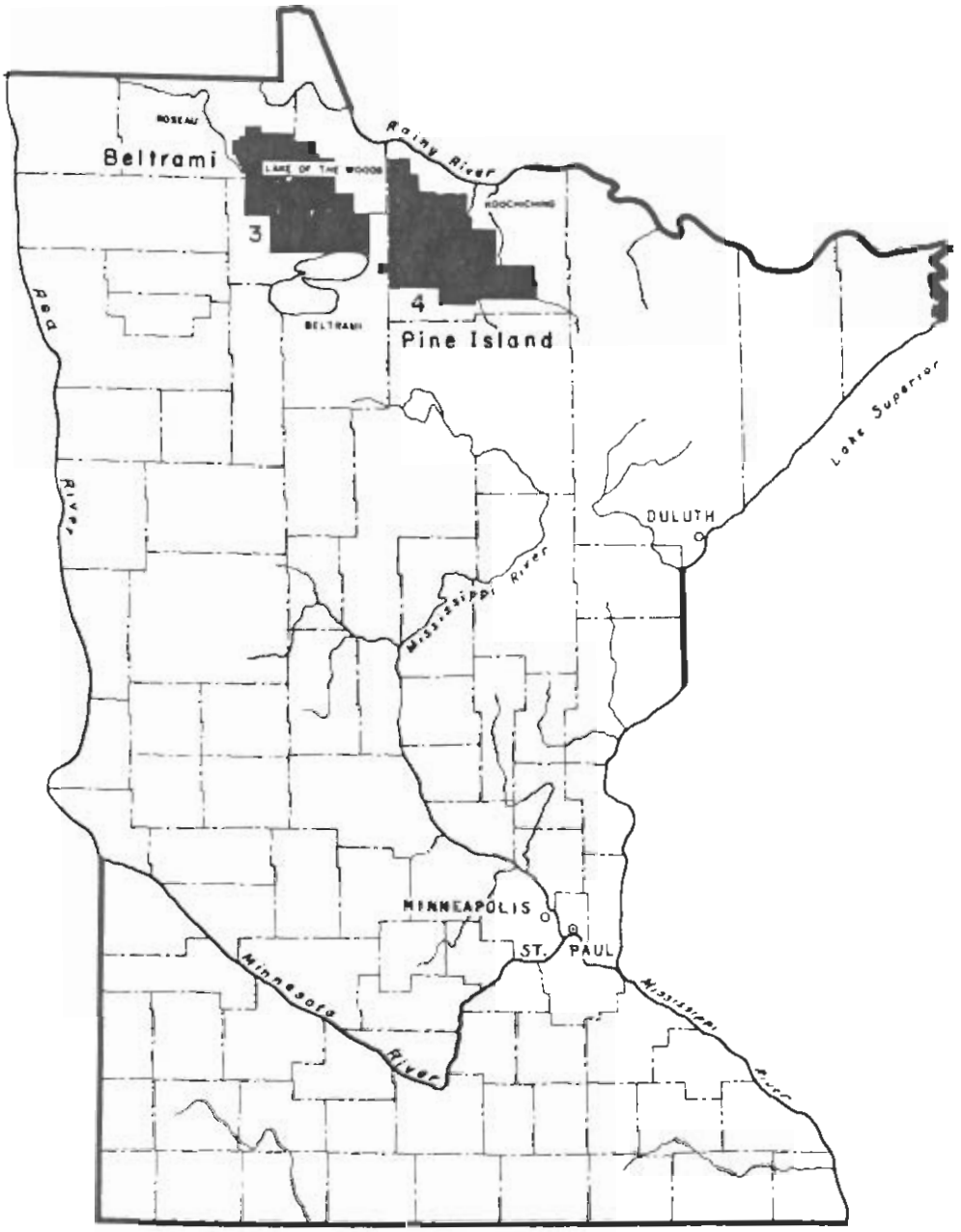

Figure 16.--Minnesota land utilization projects, October 1938.

heavy costs for public services. The Beltrami Island project did much to demonstrate in practical terms the ways and means of carrying out this all-important process. The aid which the project provided to the settlers themselves was of great social significance, for they were helped to move from isolated unproductive farms inside immense woodland areas to better farms closer to markets, schools, roads, and rural communities in which their interests centered.

Under a long-term agreement made in 1940, the Minnesota Department of Conservation managed the land as a part of the Beltrami State Forest. Later, because of the suitability of the land for big game animals, wild birds, and fur-bearing animals, major emphasis was placed on wildlife management and the project was renamed the Beltrami Wildlife Management Area. Recreation and forestry are important secondary uses of the land.

YELLOWWOOD STATE FOREST [20]

The 21,500-acre Bean Blossom Land Utilization Project, now the Yellowwood State Forest, was initiated in 1935 in the scenic hills of Brown County, Ind., 8 miles west of Nashville, Ind. (fig. 17).

Farming in the area was mostly limited to small, hilly patches of land not suited to cultivation. Timber had been overcut, reducing this source of income. Wildlife was rapidly diminishing. Relief costs were high, and many families were in need. Support of schools and roads was a heavy burden. There was widespread tax delinquency. Return of families to the land during depression years and absence of outside employment had added to the problem. Some 180 families were struggling vainly to earn a living under these conditions in the Bean Blossom project area alone. Yet the value of the land in the area as a playground and recreational site, as a scenic attraction, and for forests had already been proven by the 16,000-acre Brown County State Park and Game Preserve near Nashville.

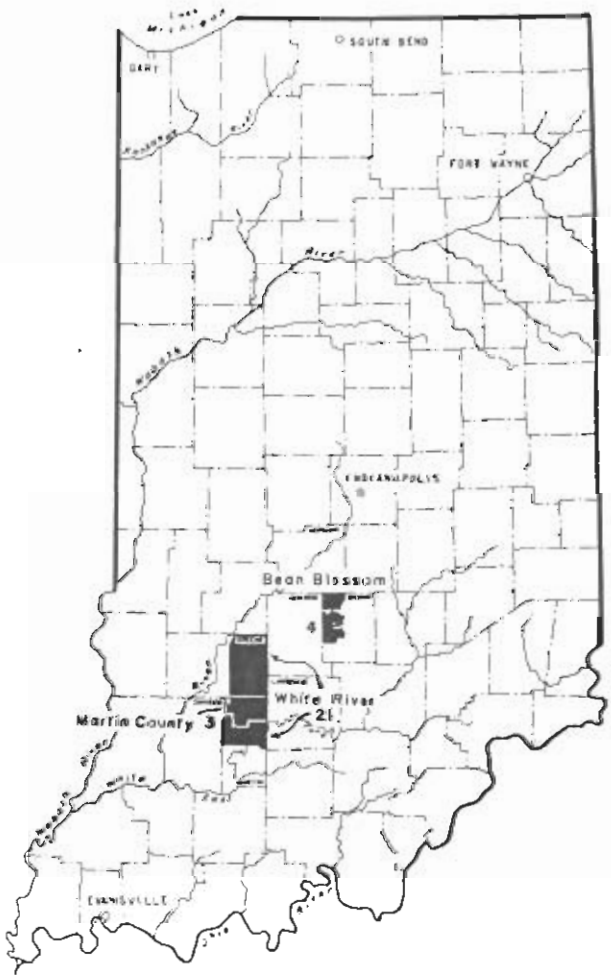

Figure 17.--Indiana land utilization projects, October 1938.

The immediate objective of the project was to take the land out of unprofitable use and to show how it could be used economically for more desirable purposes. By 1938, development of the Bean Blossom Project had laid the foundation for a better rural economy based on sound use of natural resources. An extensive forest had been improved and enlarged. A 147-acre lake and 2 lakes of 20 acres each had been made, and roads, trails, campsites, and picnic areas improved and developed.

The Bean Blossom Project was managed by the Indiana Conservation Department under a long-term agreement as a State Forest from 1938 to 1956, when it was granted to the State and became Yellowwood State Forest.

The forest may be reached by Indiana State Roads 45 and 46, near Belmont. The three lakes--Ault Lake, Bear Lake, and Yellowwood Lake--all are well stocked for excellent fishing. Hunting is permitted during the open season for several game species.

Visitors to Yellowwood State Forest will find pleasure in a number of things: The abundance of wildflowers and wildlife, the magnificent trees, the beautiful lakes, the inspirational scenery. But the hiking trails have become the feature attraction. The popularity of those at Yellowwood is attributable to their length, to their ruggedness, to the challenges they present, and to their unspoiled natural beauty.

Two trails have been marked through the forest. The 22-mile Tulip Tree Trace, opened in 1958, commences at the south end of the picnic area at Yellowwood Lake and terminates in Morgan-Monroe State Forest which lies north and west of Yellowwood. Eighteen miles of the Trace are through dense forest, following old Indian, pioneer, and stagecoach trails.

The second trail, Ten O'Clock Line, opened in February 1959, extends from a point across from the south camping ground at Yellowwood Lake to the fire tower on Weed Patch Hill in Brown County State

[20] Bibliography references (131 and (176) were used in preparing this section.

Park which lies to the southeast. This 16-mile hike is a rough one across a series of ridges and valleys.

These trails have become so popular that thousands of hikers from Indiana and other parts of the country traverse their routes. Boy Scouts use the trails for nature study and other outdoor Scouting activities.

To meet the increasing public use of this forest for outdoor recreation, many improvements have been made. Two new campgrounds have been cleared, one primarily for Boy Scouts and one for the public, doubling the general camping area. Camping is permitted only where designated.

Other improvements include a water system and sanitary facilities. Many visitors, other than rugged hiking enthusiasts, just come for a day or weekend of leisurely loafing and picnicking. To insure their enjoyment of the forest, picnic areas have been enlarged and playground equipment erected for children. Many people come just to drive the miles of scenic forest roads.

Yellowwood Forest is perhaps the best example in the State for study in action of correct forest management. Study plots are to be found throughout and the results of forest management are clearly evidenced by several thousand acres of reclaimed fields which were planted to fast-growing pine; some of the trees, now 24 years old, are several inches in diameter and 40 feet tall.

BLADEN LAKES STATE FOREST[21]

The Bladen Lakes State Forest of North Carolina was formed from the Jones and Salter Lakes Land Utilization Project (fig. 18). The land in this project was purchased during the period 1936-42 under the authority of Title III of the Bankhead-Jones Farm Tenant Act and antecedent emergency acts. The 35,875 acres cost an average of $4.51 per acre.

In 1936, the area was occupied by a stranded population. First settled during the late colonial period, it had a history of poverty. For a hundred years after the arrival of the first settlers, farmers practiced subsistence farming along the river lowlands and creek bottoms, and sold naval stores from the large stands of longleaf pine then in the area. Later, production of cotton became important. An increase in the population beyond the capacity of the land to support it came from 2 chief sources: Those who moved into the area as laborers in the turpentine and lumbering industries, and those who were influenced by the unwise promotion of cotton production.

By 1935 low price, poor soil, and the boll weevil had made production of cotton as a cash crop unprofitable. The naval stores and timber which had provided a large part of the population with a source of livelihood for many years was practically

Figure 18.--North Carolina land utilization projects, April 1939.

[21] This section, prepared with the aid of the Forest Supervisor of Bladen Lakes State Forest, is a summary of (22).

exhausted. Without the means of moving to an area of greater productivity, and with no way of supporting themselves on their submarginal lands, the people had, by 1935, become truly stranded in the economic sense.

The delinquent tax problem was of grave importance. The majority of farms which had not passed from the hands of the original owners to corporations, commercial banks, land banks, etc., had a number of years of back taxes owing.

Such was the general situation facing the initial planners for the land utilization program in this area.

Several months were spent in determining economic conditions, attitudes of local residents and county officials, land values, and land boundaries, and in securing options to purchase the land. Agricultural land was also purchased for the resettlement of farm families desiring such resettlement.

During the period 1936-1939, through use of Civilian Conservation Corps labor and local residents, many miles of truck trails were constructed, game refuges were established, and the Jones Lake and Singletary Lake recreational centers were developed. Hundreds of acres of pine plantations were established on all available open fields. Many other projects basic to the development and management of this area were begun or completed during these years.

By 1938 the majority of the area which forms the present Bladen Lakes State Forest was optioned or purchased. Under a cooperative agreement, the property was turned over to the Forestry Division of the North Carolina Department of Conservation and Development on July 1, 1939, for administration and operation. Since that time, with the exception of the first 2 critical years, Bladen Lakes State Forest has been operated and developed on a completely self-sustaining basis. On October 19, 1954, the entire area was transferred to the State of North Carolina by the Federal Government in fee simple.

Objectives

The primary objectives in the management of the forest area are to build up the growing stock of timber on the overcut and badly burned areas; to utilize all resources, including game; and to demonstrate that such an area can more than pay its own way under sound forestry operations.

As a secondary objective, the full expansion of the recreational use of natural lakes and surrounding areas has been of high priority. In 1947, the continued development of these recreational facilities was turned over to the Division of State Parks.

In recent years, the use of the State Forest as a demonstrational area in all phases of forest management and operational techniques has been emphasized. Several hundred persons visit the forest each year to observe planting, control-burning, road construction, logging, sawmill operation, grafting and other silvicultural techniques, charcoal manufacturing, fence-post treatment, and other general forest management practices. Teachers, private landowners, businessmen, county agents, farm boys, college students, foreign foresters, and Federal and State Forest Service personnel are represented among the visitors. Cost analyses are prepared and published for all the operations, and are helpful aids when lectures are presented to visitors. Many interested persons avail themselves of these analyses.

Financial Development

A very trying time was experienced in attempting to start operations on the State Forest. On occasion, difficulty was encountered in securing sufficient funds to pay for labor. The purchase of adequate equipment was a process requiring many years. During the early days of development, employment was vital to the progress and welfare of local residents. As the forest progressed and as labor costs increased, it became necessary to mechanize operations as much as possible. At present, a much greater volume of work is done with a small number of men using modern machinery than was done by larger crews in earlier days.

Receipts for 25 years, July 1939 to June 1964, are summarized in the following tabulation:

Sawed lumber	25,558,885 board feet	$1,227,339
Logs	12,803,452 board feet	300,190
Pulpwood	56,969 cords	391,017
Treated posts	346,947 posts	169,341
Other		152,913
		2,240,800

While the State Forest has been self-supporting almost since its inception, large sums of money and a great amount of effort have gone into the project. The 35,875 acres

of land cost the Federal Government a total of $165,466.90 in 1939. Since this initial purchase of property, the capitalized value of the State Forest has tremendously increased. Below is a summary of the valuation of the State Forest from a Bladen County report prepared for tax purposes in October 1957:

Total value of forested lands	$1,301,570.00
Taxable valuation (35 percent of above)	454,549.50
(Tax rate @ $1.35 per $100)	
Tax paid to Bladen County on State Forest	6,136.42

This valuation does not include buildings, houses, sawmill, and equipment. It represents an estimate of the valuation of the Forest as compared to other forested lands in the county.

Personnel and Organization

The State Forest directly employs 30 persons listed as foresters, rangers, foremen, equipment operators, post plant operators, forestry workers, etc. In addition to these persons directly employed, 12 to 16 are engaged in contractual work, such as preparing fenceposts and cutting pulpwood. There are approximately 150 persons dependent upon wage earners working on the Forest.

Experimental Projects in Progress

As stated before, a principal objective of the administration of the State Forest is its continued development as a demonstrational area for all interested persons. In furtherance of this objective, joint studies are undertaken with cooperating State and Federal agencies.

Each year, an extensive fire prevention campaign is waged in the general area of the State Forest. Fire prevention exhibits are mounted in local store windows and such exhibits attract a considerable amount of favorable attention. During periods of extreme danger, heavy motor patrols are started and personal contact work with all persons living around the Forest is intensified. A year-round duty roster of all persons employed by the forest is maintained, and during critical periods all persons are subject to standby duty.

For the past 8 to 10 years, large-scale control burning operations have been conducted on the State Forest. Nearly all longleaf ridges are now on a 2- to 3-year burning rotation. These controlled burns have greatly reduced the general threat of forest fires on the State Forest, and have aided in the suppression of several potentially disastrous fires. The controlled burns have also served to release longleaf pine seedlings from the grass stage in heavy wiregrass cover, to eliminate brown spot from innumerable areas of severe infestation, and to prepare seedbeds receptive to to the regeneration of many acres of longleaf pine in openings throughout the forest area.

No uncontrolled forest fire of any consequence has burned on Bladen Lakes State Forest since April 1955.

Construction and Maintenance

Initially, only such headquarters buildings were constructed as were necessary--office, garage, and supervisor's residence. Several of the better homes of local residents were salvaged for use by State Forest employees. Since the early years, many improvements and additions have been made on all of the original buildings and several structures have been added.

Truck Trails

During the first years of its operations, the State constructed 44.6 miles of forest roads. Heavy emphasis has been placed on new road and trail construction work during the past few years, and approximately 45 miles of new roads have been added to the State Forest network, making a total of 89.6 miles. These represent only roads maintained by State Forest personnel. They do not include the 40 or 50 miles of the State highway system of graded and paved roads passing through the Forest or the innumerable miles of access trails constructed and maintained.

Game Management

No hunting is permitted on Bladen Lakes State Forest. It is a game preserve, and game wardens employed by the North Carolina Wildlife Resources Commission heavily patrol the area to insure that all wildlife is protected.

Of course, innumerable private parties of deer hunters regularly hunt on private lands around the State Forest and harvest the excess "crop" of deer raised on its protected areas.

SANDHILLS WILDLIFE MANAGEMENT AREA [22]

The Sandhills Project (LU-NC-3) in North Carolina illustrates developments undertaken in the naturally forested eastern part of the United States.

For the most part, the 113,000 acres purchased in the Sandhills area was unsuited to successful cultivated crop production and more adapted to upland game on the hills and fish in the streams, ponds, and lakes.

Forest stand improvement at first was a leading job. Because of the need for forest-tree stock to restore this sandy area to forest cover, a forest-tree nursery was one of the first things to be developed on the Sandhills project. During the year 1937, 13 million forest-tree seedlings were produced and used on the project and other nearby projects where similar conditions prevailed.

Wildlife development also received high priority on the Sandhills project. A fish hatchery was established to provide fish for restocking streams, lakes, and ponds in the project area and in other projects in the Southeast. Protective cover for upland game and food crops for game birds were planted. Recreational facilities on this project included development of an artificial lake, and the building of cabins, trails, camping areas, and picnic grounds for the use of the large number of visitors.

Game farms were developed for production of quail, turkey, and small game animals. Construction of impounding dams as sources of water for many fish breeding pools, fishing sites, and other water needs in the area was completed at an early stage of project development. Lakes on the project are now available for public fishing.

Game raised on the game farms was released on the designated game refuges, and surplus game distributed to other public projects, including forest, recreational, and wildlife areas. Public hunting is allowed under supervision and control. The overflow of deer from nearby public forests and private areas in uplands and swamps served to establish an increase in the supply of deer on the project. Hunting and fishing privileges are in demand, since the Sandhills Region is an attractive fall and winter resort area near centers of considerable population.

The purchase and development of land unsuited to farming gave the owners and operators an opportunity to dispose of submarginal farms and to move to better land, and has kept the submarginal land from being used for farming. The practical forestry development by fire protection, tree planting, and management; wildlife production and conservation; and development of fishing, hunting, and recreational facilities has served to demonstrate ways to use poor farm lands in the Sandhills Region for wild game and recreation, to the greater benefit of the people of nearby States and of the public generally.

CLEMSON FOREST [23]

Historical Background

The land in Clemson Forest (Clemson University Land Utilization Project, South Carolina (SC-3)) was acquired during the period 1934-39. The purchase included 206 separate tracts varying in size from 9.8 to 1,054 acres. During the preceding 175 years or so, the land was in private ownership and used in varying degrees of intensity by 1,000 or more farm families that occupied the land in regular and irregular succession.

Clemson University began supervising the land in December 1939, under a cooperative agreement with the Federal Government. Administration of the land was set up under the direction of President Robert F. Poole, and in 1946 and 1947 two foresters, N. B. Goebel and Dr. K. Lehotsky, were employed to manage the forest and to establish a basic curriculum in forestry.

Two notable events have occurred since then: (1) The land use area, comprising 27,469 acres, was deeded to the university in 1954 and (2) the Hartwell Dam, that would take 7,667 acres of college land for its reservoir, including 5,626 acres in forest, was begun in 1956. University timber salvage operations began in the basin in May 1956.

Records on the timber harvest from the forest show that 33.3 million board feet of timber were harvested and sold in the 15

[22] Bibliography reference (160) was used in preparing this section.

[23] Bibliography references used in preparing this section are (19, 92, and 131).

years 1944-59. Included in this harvest were 16.1 million board feet cut from the 5,626 acres absorbed by the Hartwell Reservoir. Timber sales 1959-62 averaged $50,000 annually. Approximately 1 million board feet of sawtimber and 5,000 cords of pulpwood were cut each year.

Timber Inventories, 1936-58

In 1936 the U.S. Government made a cruise of the timber in the land utilization project area. The area classed as forestland in this cruise totalled 17,644 acres. The cruise gave a total of 37,368,000 board feet, or an average of 2,118 board feet per acre.

To obtain more recent data regarding the condition of the Clemson Forest as a guide to management, a systematic reconnaissance inventory was made during the summer of 1958, in which 232 point samples were taken. The following tabulation compares the inventories:

Date of inventory	Total forest acreage	Total volume	Av. volume per acre
	Acres	Board ft.	Board ft.
1936.....	17,644	37,368,000	2,115
1958.....	16,000	72,000,000	4,500

In round figures, the inventory showed 127,000 cords of pine pulpwood, 77,000 cords of hardwoods, 30 million board feet of pine sawtimber, and 42 million board feet of hardwood sawtimber. This gives a total growing stock of 204,000 cords of wood plus 72 million board feet of sawtimber.

Coordination of Forest Management with Research, Teaching, and Demonstration

It is the objective of the forest management staff to so coordinate the management activities that they will serve the needs of teaching, research, and demonstration. Accordingly, the following suggestions were offered by the forester in a report in 1959:

1. Proceed with the program of stand delineation, and prepare prescriptions for the trouble spots, i.e., salvage and sanitation areas, etc.
2. Review the plan of operations for the forest with a committee of five representing teaching, research, and demonstration.
3. Operate the forest as recommended by the committee and approved by the Head, Department of Forestry.
4. Budget the timber sale receipts to carry on the development of the forest.

It is estimated that through salvage and sanitation cuttings there can be an annual cutting budget of around 1,500,000 board feet during the first cutting cycle. This would result in an annual income of $30,000. The pine and hardwood pulpwood market would take 5,000 cords, 50 percent of which would be pine. This would amount to $15,000. On the basis of these estimates, an annual income of around $45,000 would be realized from timber sales.

Through the coordinated efforts of the committee, as proposed in items 2 and 3 above, a forest can be developed that will meet the needs of research, teaching, and demonstration, and incidentally provide the income to finance the major operations.

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APPENDIX A.--EXPLANATION OF DIFFERENCES IN REPORTS OF ACREAGES ACQUIRED IN THE LAND UTILIZATION PROGRAM[24]

Annual and other reports and records of acquisition, title clearance, payment, and transfer of land by the agencies administering the land utilization program show that 11,299,000 acres of land were acquired in the program (table 12). If to this is added the 353,525 acres for which titles had not been cleared prior to transfer to other agencies, the total amount of land acquired under the program totals 11,652,062 acres.

There were several instances of transfers of land and responsibility for title clearance subsequent to acceptance of options and the commitment of funds, but prior to title transfers. For example, the recreational land use projects were consigned by Executive Order to the National Park Service and other agencies on November 14, 1936, before completion of titles.

The total acreages for land acquired under the land utilization program include the land for which titles had been obtained in recreational projects prior to the transfer of these projects to other agencies by the Executive Order. Titles had been obtained for 127,697 acres for recreational projects on this date, out of the total recreational areas of 394,968 acres, for which approvals and commitments to purchase had been made. Thus, the difference--267,271 acres--optioned and approved for purchase, but for which titles had not been obtained are not included in the total land utilization acreage reported acquired.

Payment had been made and titles cleared for 713,319 acres of the total of 734,999 acres of wildlife lands for which commitments had been made, leaving 21,680 acres not included in the total acquired under the land utilization program. Of the total Indian lands of 971,879 acres for which commitments had been made at time of transfer, payment had been made and titles cleared for 907,325 acres, making a difference of 64,574 acres not included in the acreage acquired under the land utilization program.

Various landholding and administering agencies of the land utilization program in the 1930's and early 1940's did not keep records of real estate on a uniform basis. Various sets of figures, ostensibly pertaining to the same acquisition, transfer, assignment, grant, or exchange, reported by different agencies in the 1930's frequently are not in complete agreement, nor are they subject to verification. The writers of various reports have endeavored to select the most reasonable presentation of data. Nevertheless, overall totals given in the tables may be approximations subject to variation depending on dates and sources.

Total acreage acquisitions reported by years generally represent land for which titles had been cleared and for which the sellers had been paid. For some years, especially for 1935 and 1936, data on delivery of checks were not always readily available, and the acreage under legally accepted options and approvals for purchase were used as the acquired acreage. However, data for other years shows there was not a large difference in the total acreage for which options had been accepted and approvals given for purchase during the year, and the final acreage for which titles were cleared and checks were delivered. The land uses as of June 30, 1964, are shown in tables 13 and 14.

Another source of difference in land utilization acreage reported acquired was exchanges, grants, and sales of larger or smaller acreages of private and other public land of land acquired in the land utilization program. Table 15 shows grants and sales to States and local agencies. Frequently, exchanges resulted in increases in acreage of certain projects. The differences sometimes are explained in footnotes or in detailed records of annual operations, but are not always carried in final or summary reports.

Transfers of about 500,000 acres in scattered tracts of public domain land to the land utilization program also affected total acreage and average costs per acre of land acquired. Records of transfers of tracts of public domain land within or adjacent to land utilization projects are not always clear as to whether the acreage was included in the totals acquired. Total acreage acquired as calculated from reports and records may be low because of exclusion of some public-domain land.

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[24] Data and calculations are based on annual reports and memoranda of the Bureau of Agricultural Economics, the Soil Conservation Service, and the Resettlement Administration, and on Agricultural Statistics, 1936-53, U.S. Dept. Agr.

TABLE 12.--Submarginal land acquired by U.S. Department of Agriculture, by States, 1935-46

State and region	Original or emergency programs, 1935-37[1]	New or Title III program, 1938-46[2]	Total 1935-46[3]
	1,000 acres	1,000 acres	1,000 acres
Maine	7	9	26
New Hampshire	0	0	(4)
Vermont	0	0	0
Massachusetts	0	0	0
Rhode Island	13	(4)	13
Connecticut	10	2	12
New York	74	20	94
New Jersey	0	0	0
Pennsylvania	33	16	49
Delaware	4	1	5
Maryland	41	4	45
Dist. of Columbia	0	0	0
Northeast	192	52	244
Michigan	92	15	107
Wisconsin	225	19	244
Minnesota	189	15	204
Lake States	506	49	555
Ohio	36	2	38
Indiana	49	16	65
Illinois	28	15	43
Iowa	2	0	2
Missouri	13	27	40
Corn Belt	128	60	188
North Dakota	882	263	1,145
South Dakota	742	230	972
Nebraska	176	25	201
Kansas	54	48	102
Northern Plains	1,854	566	2,420
Virginia	42	15	57
West Virginia	6	10	16
North Carolina	141	21	162
Kentucky	70	2	72
Tennessee	69	16	85
Appalachian	328	64	392

TABLE 12.--Submarginal land acquired by U.S. Department of Agriculture, by States, 1935-46--Continued

State and region	Original or emergency programs, 1935-37[1]	New or Title III program, 1938-46[2]	Total 1935-46[3]
	1,000 acres	1,000 acres	1,000 Acres
South Carolina	148	7	155
Georgia	181	78	259
Florida	609	16	625
Alabama	127	5	132
Southeast	1,065	106	1,171
Mississippi	110	26	136
Arkansas	254	33	287
Louisiana	200	2	202
Delta States	564	61	625
Oklahoma	60	93	153
Texas	18	114	132
Southern Plains	78	207	285
Montana	1,709	402	2,111
Idaho	138	1	139
Wyoming	273	151	424
Colorado	254	410	664
New Mexico	1,042	308	1,350
Arizona	0	46	46
Utah	65	4	69
Nevada	0	3	3
Mountain	3,481	1,325	4,806
Washington	241	9	250
Oregon	239	102	341
California	0	22	22
Pacific	480	133	613
United States	8,676	2,623	11,299

[1] Annual Report of Resettlement Administration, 1936, table 2, pp. 127-131, Status of Title Clearance Under Old Utilization Program Prior to Authorization of Title III of Bankhead-Jones Farm Tenant Act, July 1937, Soil Conserv. Serv., Dec. 31, 1942.

[2] Status of Title Clearance Under Title III, Bankhead-Jones Farm Tenant Act, Feb. 28, 1943. Reports of the Chief, Soil Conserv. Serv., 1943-46.

[3] Reports covering details of land acquisition by the Soil Conservation Service, under Title III of the Bankhead-Jones Farm Tenant Act, prepared in 1942 and 1943, do not include all the land in process of acquisition. Consequently, the acreages reported in them are less than those in this table.

[4] New Hampshire, 45 acres. Rhode Island, 53 acres.

TABLE 13.--Land utilization land in National Forests, National Grasslands, and other areas administered by the Forest Service as of June 30, 1964[1]

State and region	National Forests	National Grasslands	Other areas	Total
	1,000 acres	1,000 acres	1,000 acres	1,000 acres
Maine	0	0	(2)	(2)
New Hampshire	0	0	0	0
Vermont	0	0	0	0
Massachusetts	0	0	0	0
Rhode Island	0	0	0	0
Connecticut	0	0	0	0
New York	0	0	14	14
New Jersey	0	0	0	0
Pennsylvania	0	0	0	0
Delaware	0	0	0	0
Maryland	0	0	0	0
Dist. of Columbia	0	0	0	0
Northeast	0	0	14	14
Michigan	1	0	7	8
Wisconsin	15	0	1	16
Minnesota	0	0	0	0
Lake States	16	0	8	24
Ohio	0	0	0	0
Indiana	(2)	0	3	3
Illinois	10	0	0	10
Iowa	0	0	(2)	(2)
Missouri	3	0	13	16
Corn Belt	13	0	16	29
North Dakota	0	1,105	0	1,105
South Dakota	0	864	3	867
Nebraska	40	94	0	134
Kansas	0	107	0	107
Northern Plains	40	2,170	3	2,213
Virginia	0	0	0	0
West Virginia	0	0	0	0
North Carolina	0	0	0	0
Kentucky	0	0	0	0
Tennessee	0	0	1	1
Appalachian	0	0	1	1
South Carolina	0	0	0	0
Georgia	153	0	9	162
Florida	262	0	0	262
Alabama	97	0	0	97
Southeast	512	0	9	521

See footnotes at end of table.

TABLE 13.--Land utilization land in National Forests, National Grasslands, and other areas administered by the Forest Service as of June 30, 1964[1]--Continued

State and region	National Forests	National Grasslands	Other areas	Total
	1,000 acres	1,000 acres	1,000 acres	1,000 acres
Mississippi	85	0	0	85
Arkansas	161	0	0	161
Louisiana	31	0	0	31
Delta States	277	0	0	277
Oklahoma	35	47	0	82
Texas	0	117	0	117
Southern Plains	35	164	0	199
Montana	0	0	0	0
Idaho	4	48	0	52
Wyoming	0	573	0	573
Colorado	11	612	1	624
New Mexico	215	134	89	438
Arizona	0	0	0	0
Utah	43	0	0	43
Nevada	0	0	0	0
Mountain	273	1,367	90	1,730
Washington	220	0	1	221
Oregon	74	103	0	177
California	0	0	19	19
Pacific	294	103	20	417
United States	1,460	3,804	161	5,425

[1] Record of land utilization projects transferred to the Forest Service, or placed under its custody, based on Forest Service tables dated May 15, 1961, as subsequently corrected and adjusted to June 30, 1964.

[2] Maine 465 acres; Iowa 360 acres; Indiana 523 acres.

TABLE 14.--Federal Grazing District areas, National Parks, National Wildlife Refuges, and Indian Land units formed from land utilization projects under administration of agencies of the U.S. Department of the Interior

State and region	Federal grazing district areas[1]	National wildlife refuges[2]	National Parks[2]	Indian lands[2]	Total acreage
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
Maine	0	0	6	0	6
New Hampshire	0	0	0	0	0
Vermont	0	0	0	0	0
Massachusetts	0	0	0	0	0
Rhode Island	0	0	0	0	0
Connecticut	0	0	0	0	0
New York	0	0	0	0	0
New Jersey	0	0	0	0	0
Pennsylvania	0	0	1	0	1
Delaware	0	0	0	0	0
Maryland	0	0	5	0	5
Dist. of Columbia.	0	0	0	0	0
Northeast	0	0	12	0	12
Michigan	0	0	0	4	4
Wisconsin	0	97	0	39	137
Minnesota	0	82	0	29	110
Lake States	0	179	0	72	251
Ohio	0	0	0	0	0
Indiana	0	0	0	0	0
Illinois	0	32	0	0	32
Iowa	0	0	0	0	0
Missouri	0	0	0	0	0
Corn Belt	0	32	0	0	32
North Dakota	0	4	45	12	61
South Dakota	0	0	45	114	159
Nebraska	0	0	0	0	0
Kansas	([3])	0	0	0	([3])
Northern Plains.	([3])	4	90	126	220
Virginia	0	0	21	0	21
West Virginia	0	0	0	0	0
North Carolina	0	6	10	0	16
Kentucky	0	47	0	0	47
Tennessee	0	0	0	0	0
Appalachian	0	53	31	0	84
South Carolina	0	89	4	0	93
Georgia	0	28	0	0	28
Florida	0	23	0	27	50
Alabama	0	0	0	0	0
Southeast	0	140	4	27	171

See footnotes at end of table.

TABLE 14.--Federal Grazing District areas, National Parks, National Wildlife Refuges, and Indian Land units formed from land utilization projects under administration of agencies of the U.S. Department of the Interior--Continued

State and region	Federal grazing district areas[1]	National wildlife refuges[2]	National Parks[2]	Indian lands[2]	Total acreage
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
Mississippi	0	38	0	0	38
Arkansas	0	0	0	0	0
Louisiana	0	162	0	0	162
Delta States	0	200	0	0	200
Oklahoma	0	0	0	19	19
Texas	0	8	0	0	8
Southern Plains	0	8	0	19	27
Montana	1,925	19	0	120	2,064
Idaho	73	0	0	8	81
Wyoming	10	0	0	0	10
Colorado	38	0	0	0	38
New Mexico	233	0	2	637	872
Arizona	39	0	0	0	39
Utah	33	0	0	0	33
Nevada	3	0	0	0	3
Mountain	2,354	19	2	765	3,140
Washington	0	28	0	0	28
Oregon	95	0	0	1	96
California	0	4	0	0	4
Pacific	95	32	0	1	128
United States	2,449	667	139	1,010	4,265

[1] Land utilization project acreage reported in 1964 by the Bureau of Land Management as administered in Federal Grazing District Areas.

[2] From reports and tables, Fish and Wildlife Service, National Park Service, and Indian Service, 1961.

[3] Kansas, 80 acres.

TABLE 15.--Grants and sales of land utilization project lands to State and local agencies, 1954-1961[1]

State and region	Grants	Sales	Total acreage
	1,000 acres	1,000 acres	1,000 acres
Maine	17	0	17
New Hampshire	0	0	0
Vermont	0	0	0
Massachusetts	0	0	0
Rhode Island	10	0	10
Connecticut	12	0	12
New York	19	0	19
New Jersey	0	0	0
Pennsylvania	41	0	41
Delaware	5	0	5
Maryland	45	0	45
Dist. of Columbia	0	0	0
Northeast	149	0	149
Michigan	1	0	1
Wisconsin	57	14	71
Minnesota	21	0	21
Lake States	79	14	93
Ohio	38	0	38
Indiana	14	0	14
Illinois	0	0	0
Iowa	1	0	1
Missouri	0	0	0
Corn Belt	53	0	53
North Dakota	1	0	1
South Dakota	2	0	2
Nebraska	0	0	0
Kansas	([2])	0	([2])
Northern Plains	3	0	3
Virginia	40	0	40
West Virginia	15	0	15
North Carolina	35	14	49
Kentucky	27	0	27
Tennessee	75	0	75
Appalachian	192	14	206
South Carolina	56	0	56
Georgia	53	0	53
Florida	185	114	299
Alabama	0	0	0
Southeast	294	114	408

See footnotes at end of table.

TABLE 15.--Grants and sales of land utilization project lands to State and local agencies, 1954-1961[1]--Continued

State and region	Grants	Sales	Total acreage
	1,000 acres	1,000 acres	1,000 acres
Mississippi	8	0	8
Arkansas	2	46	48
Louisiana	0	0	0
Delta States	10	46	56
Oklahoma	19	0	19
Texas	4	0	4
Southern Plains	23	0	23
Montana	0	0	0
Idaho	0	0	0
Wyoming	0	0	0
Colorado	0	0	0
New Mexico	3	0	3
Arizona	0	0	0
Utah	0	0	0
Nevada	0	0	0
Mountain	3	0	3
Washington	0	0	0
Oregon	0	0	0
California	0	0	0
Pacific	0	0	0
United States	806	188	994

[1] Record of grants and sales from Jan. 2, 1954, to May 15, 1961, to State and local agencies from acreages transferred to the Forest Service. Prior to Jan. 2, 1954, approximately 300,000 acres were transferred to State and local agencies, making a total of almost 1,300,000 acres in 80 some projects.

[2] Kansas; 152 acres.

APPENDIX B. --CHRONOLOGY OF THE LAND UTILIZATION PROGRAM[25]

A. FACTORS LEADING UP TO ESTABLISHMENT OF THE PROGRAM

1. Research and reports on land utilization, 1919-1934.
2. Recognition by Congress of the problem of submarginal land by special authorization in the Agricultural Marketing Act of 1929 for the Federal Farm Board "to make investigations and reports, ... including ... land utilization for agricultural purposes; reduction in acreages of unprofitable marginal lands in cultivation."[26]
3. Recommendation of a program of land utilization by the National Conference of Land Utilization held in Chicago, November 1931.[27]
4. Recommendation for retirement of farmland unsuitable for agricultural use, by the Land Planning Committee of the National Resources Board in its report, December 1934.[28]
5. Action by the Special Board of Public Works to start a Federal Land Program including proposal to offset increased production from new reclamation projects by purchase and retirement of submarginal farmlands, August 1933.

B. FIRST FUNDS FOR SUBMARGINAL LAND PURCHASE OF $25,000,000 ALLOTTED BY THE PRESIDENT TO FEDERAL SURPLUS RELIEF CORPORATION, DECEMBER 1933.

C. PROGRAM UNDER FEDERAL EMERGENCY RELIEF AND AGRICULTURAL ADJUSTMENT ADMINISTRATIONS, 1934-35.

1. Funds transferred February 1934 by Special Board of Public Works from Federal Surplus Relief Corporation to Federal Emergency Relief Administration.
2. Policies and procedures outlined in Federal Surplus Relief Corporation Resolution of January 1934.
3. Submarginal Land Committee representing the Federal Emergency Relief Administration and the Departments of the Interior and Agriculture, including the Land Policy Section of Agricultural Adjustment Administration, assigned overall direction of the program from February to July 1934.
4. State Rural Rehabilitation Corporations given responsibility for resettlement of families, May 1934.
5. Procedure and policies realigned under Director of the Land Program, appointed by Federal Emergency Relief Administration, July 1934.
6. Special board for public works accepted program of projects outlined by the Director of the Land Program, July 1934.
7. Drought relief funds totaling $53,390,000 made available to The Land Program, August 1934.
8. Major part of drought relief funds allotted for land purchase and development withdrawn for relief purposes, March 1935.
9. In certain States, withdrawal from homesteading or disposal of all public domain lands for classification, February 1935.
10. Federal Emergency Relief Administration Administrator given authority by President to purchase and administer certain property, March 1935.
11. Emergency Relief Appropriation Act authorized President to acquire real property approved April 1935.

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[25] This appendix was prepared from (a) A Chronology of the Land Utilization Program, 1933-1940, by P.K. Hooker, a 100-page unpublished manuscript, Soil Conservation Service, 1941; and (b) records and reports furnished by F.W. Grover, E.G. Grest, J.E. Elliott, and others of the Forest Service, 1949-1963; and by R.W. Rogers, R.K. Wright, Dorothy Long, and others of the Soil Conservation Service, all of the U.S. Department of Agriculture.

[26] U.S. Congress, Agricultural Marketing Act of 1929.

[27] National Conference on Land Utilization, Chicago, Ill. Proc. Nov. 1931.

[28] National Resources Board Report. Dec. 1, 1934; and Supplementary Report of the Land Planning Committee. Vol. I and II. 1935.

12. Authority given the President to allot funds from emergency relief appropriations to purchase and develop submarginal lands for public purposes, August 1935. (Sec. 55, PL 320, 74th Congress.)

D. PROGRAM UNDER RESETTLEMENT ADMINISTRATION[29]

1. Resettlement Administration established, by Executive Order, April 1935.
2. The land utilization program transferred to the Resettlement Administration, with an initial allotment of $48 million dollars for land purchase and $18 million dollars to employ labor for development, April 1935.
3. Land Utilization Division of Resettlement Administration given immediate direction of program, April 1935.
4. Reassignment of planning and acquisition of land for resettlement of families on submarginal lands from Land Utilization Division to Resettlement Division, November 1935.
5. Withdrawal, March 1935, of $50,000,000 of drought-relief-allotted funds delayed land acquisition--and opened door to early criticism of program. Development of projects restarted later by allotment of $40,391,676 for employment of relief labor.
6. Memorandum of Understanding with the Department of the Interior: Public Domain Lands in LU Projects, October 1935.
7. Memorandum of Understanding with Office of Indian Affairs, Department of the Interior: Administration of Indian Projects (including final disposition made of such projects), October 1936 to September 1939.
8. Recreational demonstration projects transferred to National Park Service, November 1936.
9. Wildlife projects transferred to the Fish and Wildlife Service (formerly the Biological Survey) prior to and after November 1936.
10. Logjam in payment of vendors finally broken, April to November 1936.
11. Resettlement Administration transferred to Department of Agriculture, December 1936.
12. Bankhead-Jones Farm Tenant Act enacted by Congress, July 1937.
13. Appropriation of $10 million for fiscal year ending June 1938, and not to exceed $20 million for each of 2 fiscal years thereafter, was authorized by the Bankhead-Jones Farm Tenant Act, to effectuate the land utilization program, as redirected by the Act.
14. Name of Resettlement Administration changed to Farm Security Administration, September 1937, with assignment of responsibility for resettlement and tenant purchase programs under Titles I, II, and IV of Bankhead-Jones Farm Tenant Act.

E. LAND UTILIZATION PROGRAM UNDER BUREAU OF AGRICULTURAL ECONOMICS, September 1937.

1. Transfer of land utilization program to Bureau of Agricultural Economics, authorized by Secretary of Agriculture, September 1937.
2. Departmental policies for land utilization program under Title III of the Bankhead-Jones Farm Tenant Act outlined by Secretary, September 1937.
3. Organization under Bureau of Agricultural Economics, September 1937.
4. Lands acquired under emergency program transferred to Title III Program, June 1938.
5. The Farm Security Administration's part in program from September 1937 to July 1938.
   (a) Memorandum of Understanding between Farm Security Administration and Bureau of Agricultural Economics as to responsibilities for land utilization, September 1937.

[29] For additional information, refer to (150, 151, 152, 153, 154, 155)

(b) Memorandum of Agreement between Bureau of Agricultural Economics and Farm Security Administration for relocation of families on land utilization projects, February 1938.
(c) Transfer of program to Bureau of Agricultural Economics completed, July 1938.
(d) Memorandum of Agreement between Bureau of Agricultural Economics and Farm Security Administration for assistance to families on projects established under Title III, July 1938.

F. PROGRAM UNDER SOIL CONSERVATION SERVICE, October 1938 to December 1953.

1. Secretary of Agriculture authorizes transfer of program to Soil Conservation Service, October 1938.
2. Organization under Soil Conservation Service from November 1938 to May 1942.
3. Statement of objectives, policies and management of the Soil Conservation Service.

G. PROGRAM UNDER FOREST SERVICE, January 1954 to December 1964.

1. Transfer of program to Forest Service authorized by Secretary of Agriculture, effective January 1954.
2. Disposal of lands acquired under Title III of the Bankhead-Jones Farm Tenant Act:
   (a) Assignments, sales, and transfers prior to January 2, 1954.
   (b) Assignments, sales, and transfers on and after January 2, 1954.
3. Management and use of land utilization program lands.

APPENDIX C.--LAND UTILIZATION PROJECT WORK UNITS COMPLETED AND IN PROGRESS FOR SELECTED JOBS OF LAND IMPROVEMENTS, JUNE 30, 1938

Item	Unit	Jobs		
		Completed	In progress	Total
Structural improvements:				
Administration buildings	Number	80	25	105
Barns	do.	46	15	61
Bathhouses	do.	25	9	34
Bridges	do.	902	728	1,630
Cabins	do.	170	88	258
Corrals	do.	212	41	253
Dipping vats	do.	17	14	31
Dwellings	do.	78	24	102
Fences	Miles	9,343	1,115	10,458
Garages	Number	68	27	95
Impounding dams	do.	1,575	331	1,906
Latrines	do.	254	220	474
Lodges	do.	6	7	13
Miscellaneous buildings	do.	358	209	567
Power lines	Miles	515	49	564
Sewerage systems	Number	117	74	191
Shelters	do.	285	91	376
Water systems	do.	431	504	935
Transportation improvements:				
Park roads	Miles	3,063	2,765	5,828
Road construction	do.	1,657	1,608	3,265
Telephone lines	do.	1,193	1,777	2,970
Truck trails	do.	1,371	2,551	3,922
Other trails	do.	577	219	796
General land treatment:				
Clearing land	Acres	76,661	25,027	101,688
Removal of farmsteads	Number	933	2,720	3,653
Seeding	Acres	53,269	51,136	104,405
Erosion control:				
Dikes and levees	Cubic yd.	117,451	94,918	212,369
Major check dams	Number	234,219	16,113	250,332
Terracing	Miles	1,050	1,665	2,715
Forest development:				
Firebreaks	Miles	3,498	3,285	6,783
Fire hazard reduction	Acres	176,194	93,000	269,194
Forest stand improvement	do.	229,414	134,185	363,599
Lookout towers	Number	108	19	127
Nurseries	do.	33	22	55
Tree planting	Acres	33,872	84,772	118,644
Wildlife:				
Biological conditioning	Acres	213,609	9,583	223,192
Fish-rearing ponds	Number	113	83	196
Food and cover planting	Acres	18,433	22,428	40,861
Game farms	Number	40	17	57

Source: Table 668, Agricultural Statistics, 1939, U.S. Dept. Agr.