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NATIONAL CONFERENCE ON OUTDOOR RECREATION

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A REPORT EPITOMIZING THE RESULTS OF
MAJOR FACT-FINDING SURVEYS AND PROJ-
ECTS WHICH HAVE BEEN UNDERTAKEN
UNDER THE AUSPICES OF THE NATIONAL
CONFERENCE ON OUTDOOR RECREATION



UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON
1928

NATIONAL CONFERENCE ON
OUTDOOR RECREATION

SENATE RESOLUTION No. 251

REPORTED BY MR. SHIESTEAD

IN THE SENATE OF THE UNITED STATES,
May 3 (calendar day, May 25), 1928.

Resolved, That the report epitomizing the results of major fact-finding surveys and projects which have been undertaken under the auspices of the National Conference on Outdoor Recreation be printed as a Senate document.

Attest:

EDWIN P. THAYER, *Secretary*.



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NATIONAL CONFERENCE ON OUTDOOR RECREATION

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LETTER OF TRANSMITTAL

MAY 19, 1928.

HON. DWIGHT F. DAVIS,
The Secretary of War,
Chairman President's Committee on Outdoor Recreation.

MY DEAR MR. SECRETARY: I have the honor to transmit, for the information of the President's Committee on Outdoor Recreation, a report epitomizing the results of major fact-finding surveys and projects which have been undertaken under the auspices of the National Conference on Outdoor Recreation. This report is designed to give a first perspective of the general field of outdoor recreation and of some of the initial approaches to the establishment of a national policy.

Very respectfully,

CHAUNCEY J. HAMLIN,
Chairman National Conference on Outdoor Recreation.

MAY 21, 1920.

HON. HENRIK SHIPSTEAD,
Chairman Committee on Printing,
United States Senate.

MY DEAR SENATOR SHIPSTEAD: Through the courtesy of Senator Moses, former chairman of the Senate Committee on Printing, the proceedings of the meetings of the National Conference on Outdoor Recreation held under the auspices of the President, in Washington, have been printed as Senate Documents No. 151, No. 229, and No. 117.

At the initial session of the national conference in 1924 President Coolidge emphasized the need for "a definite and clearly prescribed national policy" on outdoor recreation. Pursuant to this suggestion of the President a number of fact-finding surveys and projects have been voluntarily financed under the auspices of the conference. These studies are deemed fundamental in the establishment of a national policy on outdoor recreation and have been brought together in epitomized form for publication as a report to the President's Committee on Outdoor Recreation, and as a follow up to Senate Documents No. 151, No. 229, and No. 117. In view of this purpose I recommend that this report entitled "A Review of Project Studies: A Report to the President's Committee on Outdoor Recreation" be published as a public document.

Very sincerely yours,

DWIGHT F. DAVIS,
The Secretary of War,
Chairman President's Committee on Outdoor Recreation.

NATIONAL CONFERENCE ON OUTDOOR RECREATION

REVIEW OF PROJECT STUDIES

A Report to The Secretary of War, Chairman The President's Committee on Outdoor Recreation

INTRODUCTION

Outdoor life has been characteristic of the American people whether expressed in adventure, work, or play. For nearly 300 years there has been a frontier to beckon the adventurer, a wilderness to conquer, and free soil to subdue. Each generation bred of a common stock and with common social ideals found its opportunity for the fullest expression of the pioneer spirit. The last half of the nineteenth century marked the climax. The discovery of gold, Civil War and the period of construction immediately following, the Indian wars, and the settlement of the vast public domain crowded within the short space of 50 years a sequence of romantic events without parallel in the making of a state.

The 25 years following the final close of the era of free soil has witnessed a remarkable transformation in the structure of American society. The individualism of the pioneer has been submerged in collective enterprise. A radical change in the distribution and make-up of the population has occurred coincident with a tremendous expansion of mechanization in industry. Population has become concentrated and heterogeneous in structure. More than half of the people are now classed as urban; that is, they live in towns of 2,500 or more. Farm population—that is, all persons actually living on farms—comprised less than 26 per cent of the total population in 1926. The homogeneity of the original stock has crumbled steadily since 1890 through the influx of great migrations from southern and eastern Europe.

The present increase in population indicates that within the lifetime of present children the population will approach 200,000,000. There is every reason to suppose, too, that the concentration of population will continue in marked degree. Individualism in industry is almost a thing of the past and is rapidly becoming so in the trades. There may be expected a concentration of the rural population in villages and towns as distinguished from isolated residence on the farm. The demands of modern agriculture, particularly in the production of basic crops, point to the widespread adoption of industrial methods and corporate management. What the social make-up of this population will be and the extent to which the homogeneity of the original stock will be broken down is a matter of speculation.

The exploitation of natural resources by a young and vigorous people has brought a level of unsurpassed well-being. Moreover, the development of science and improved organization in industry have made possible an unprecedented distribution of physical comforts and increasing periods of leisure to all classes. The picture of America to-day, then, is a country made prosperous through the exploitation of the stored natural capital of centuries—a population rapidly increasing in numbers, concentrating in cities, generally engaged in high-speed industry or collective enterprise, and with widely divergent social ideals and requirements.

The present stage of development is transitory—a period of flux intermediate between the initial acquisition and exploitation of virgin land and its resources and eventual disposition to satisfy the economic necessities and social requirements of a fast-growing population. The general level of prosperity has been made possible by the exploitation of natural resources of unparalleled variety and abundance, but manifestly this natural capital can not continue to be consumed without husbandry or replacement if accepted standards of living are to be sustained. And the present drain upon natural resources must take into account not only legitimate if extravagant consumption but insensate waste.

The objective to be sought is the attainment of a balanced system of national economy, a system that will adequately provide for an optimum population; that is, the number of people which the land and its resources can permanently maintain without lowering accepted standards of living, including a reasonable amount of leisure for all classes and opportunity for its useful enjoyment.

The attainment of this objective is dependent, first, upon the extent to which the quantitative and qualitative factors of immigration are controlled; second, upon the proper use of land.

A sound policy of restrictive immigration is dictated unless an unlimited and accumulative liability is to be charged against the resources of the land. Nation planning must be inaugurated to supplement and complement city and regional planning—a series of coordinated plans which in their total will allocate and dedicate all lands and their resources to highest service whether that be a factory zone in a city or a wild-life sanctuary in the Sierras. Within the compass of plan-wise land utilization and the future policy of immigration must be found the ultimate economic and social development of the Nation.

A reasonable amount of leisure and the opportunity for its enjoyment by all classes is a necessary complement of material well-being. Outdoor recreation is the most wholesome expression of leisure and a needful social force in the readjustments of American life to meet new conditions. It is a form of land utilization that must find its proportionate place in city, regional, and nation planning, if the vigor of the people and their productive efficiency is to be maintained. In the past economic influences in the use of land have outweighed social uses. This has been largely inevitable in the growth of a new country. A point in development has now been reached when economic and social factors must be brought into balance.

There is much to be done if the fact can be brought home that even to-day no center of population affords adequate provision for outdoor play and recreation; no State has as yet adequately provided for the

recovery of its waste lands, for the purity of its streams, for the conservation of forests and wild life, and for necessary parks and recreation areas; and finally that the Nation as a whole is living on the principle of its natural capital and too complacent of its waste.

On April 14, 1924, President Coolidge issued the following statement stressing the importance of outdoor recreation and the need for a national policy:

Particularly within the last decade, the outdoor recreation spirit among our people has increased rapidly. During this period there have been put forward projects—Federal, municipal, State, and private—to expand and conserve throughout the country our recreational opportunities. It is almost idle to emphasize their value to the country. The physical vigor, moral strength, and clean simplicity of mind of the American people can be immeasurably furthered by the properly developed opportunities for the life in the open afforded by our forests, mountains, and waterways. Life in the open is a great character builder. From such life much of the American spirit of freedom springs. Furthering the opportunities of all for such life ranks in the general class with education.

Our aim in this country must be to try to put the change for out-of-door pleasure, with all that it means, within the grasp of the rank and file of our people, the poor man as well as the rich man. Country recreation for as many of our people as possible should be our objective.

Though all are concerned in this matter, the lead must be and should be taken by the National Government. Our National Government is already concerned in many phases of it, but in an incoherent manner. In the administration of national parks, national forests, wild-life reserves, and unreserved domain the Government holds almost unlimited opportunities for this form of public service. The function of the Federal Government in the construction of highways, in the study of the propagation and protection of game animals, birds, and fish, has a very decided bearing upon the recreational facilities open to our people.

At present outdoor recreation is fostered by State, municipal, and private agencies, and Federal bureaus—the National Park Service, the Forest Service, the Biological Survey, the Bureau of Fisheries, Plants, Public Roads, and others. There are State parks in many of the States, State roads, State conservation commissions, and other like agencies. There are also many civilian organizations that impinge on this question; for example, the various sportsmen's associations, containing hundreds of thousands of members and spread through every State; the camp-fire associations, the boy and girl scouts, the conservation groups, and thousands of others. In order to handle this matter properly, to adjust the widely separated viewpoints, and interlock the interests concerned efficiently, there should be a definite and clearly prescribed national policy. The whole matter, being nation-wide in scope, demands such handling. The object to be secured should, therefore, be to promulgate a national policy which should not merely coordinate under Federal guidance all activities in behalf of outdoor recreation, but also formulate a program to serve as a guide for future action.

I am asking, therefore, Secretary Weeks, Secretary Work, Secretary Wallace, Secretary Hoover, and Assistant Secretary Theodore Roosevelt to form a committee and to suggest to me how they think such a national policy can best be formulated and put into action.

It was the opinion of the President's committee that a national conference should be called to assist the committee in forming a national program and policy. With this recommendation the President expressed himself in hearty accord and in a supplemental statement he said:

The proposed policy covers such a range of subjects, touches so many phases of our national life, and is the immediate issue of so many agencies, National, State, municipal, and private, that I feel that Federal leadership and support to coordinate this activity are desirable, and I therefore heartily concur in the recommendations of my committee. * * *

This is not an effort to federalize recreation at the expense of State, municipal, local, or private interest therein. Individual effort should at all times be encouraged. Many of these interests, however, though working generally toward the same end, do not attain the maximum results, because there is no coordination.

It will be the object of this conference, therefore, to assist in forming a national policy which will coordinate all these activities. The prime objective for which I feel we should strive is to endeavor to make available for the average American, outdoor recreation with all that it implies, and to preserve our facilities for outdoor recreation for our children and our children's children.

One hundred and twenty-eight national organizations associated themselves into a conference at a meeting held in Washington, D. C., May 22-24, 1924. In the proceedings¹ that followed the present situation in the outdoor field was canvassed by the leading experts of the country. A permanent organization was formed and an executive committee appointed.

The executive committee after carefully reviewing and canvassing the field of outdoor recreation, and the various existing national organizations which have been devoting their efforts to various phases of the subject, announced the following declaration of policy:

The National Conference on Outdoor Recreation believes that it is not its function to take over the exploitation of any part of the field of outdoor recreation, but rather to support, indorse, and seek assistance from the various national organizations already at work in this field.

It is the intention of the conference to request national organizations to make surveys in the field of the social significance of outdoor recreation in its relation to child life, health, industrial workers, rural recreation needs, athletic games and sports, etc., and also in the field of the value of natural resources to outdoor recreation with particular reference to forests, game, and fur-bearing animals, fish, birds, plants and flowers, waters, etc.

It is believed that through the close cooperation of such private agencies and Government agencies, Federal, State, county, and municipal, it will be possible eventually to evolve a national plan for outdoor recreation in which each agency, public and private, will have and play its part to the end that our country will be a happier, healthier place in which to live, and that opportunity may be open to all to gain abounding health, strength, wholesome enjoyment, understanding, and love of nature, good fellowship, and keen sportsmanship. Such opportunities will tend to the formation of that sturdy character by developing those qualities of self-control, endurance under hardship, reliance on self, and cooperation with others in teamwork which are so necessary to good citizenship.

Pursuant to this policy a series of fact-finding surveys and projects have been outlined which appear to the committee as fundamental to a national policy of outdoor recreation. Manifestly the complete picture can not be drawn at this time, but a number of surveys and projects have been completed and published and are here briefly reviewed to give a first perspective of the field. Ultimately a national policy of outdoor recreation contemplates nation planning so broad in scope that within congested centers of population there will be adequate provision for playgrounds for juveniles, athletic fields, recreation grounds and parks, boulevards and parkways; and connecting these centers of population there will be tree-lined rural highways flanked by public camp grounds, and county and State parks, forests, and game preserves of easy access for summer and winter recreation. The great mountain ranges—the White Mountains of New England, the Appalachians of the South, the northern and southern Rockies, the Sierras and the Cascades of the West, as well as the headwaters of the Mississippi in the Lake States, will supplement the State reservations and embrace the great national forests, parks, and game refuges.

¹ Proceedings of the National Conference on Outdoor Recreation. First Proceedings May 22-24, 1924, Senate Document No. 151, Sixty-eighth Congress, first session. Second Proceedings January 20-21, 1926, Senate Document No. 117, Sixty-ninth Congress, first session.

In this there is nothing visionary. To-day the Nation's annual expenditures for outdoor pleasure participated in by millions of citizens are measured not in mere millions but billions and distributed through thousands of the channels of trade and industry. It is an astonishing index of present prosperity wholly apart from the social values involved. The economic significance is so great that outdoor recreation which at present is a development largely uncontrolled, unregulated, and often vulgar in expression must find a stable foundation in the Nation's economy because public welfare will demand it. And, moreover, there is a growing realization that wholesome leisure out of doors represents, as stated by Herbert Hoover, a fundamental need in American life and a fundamental desire to do something to escape the drabness of civilization.

CHAUNCEY J. HAMLIN,

Chairman, National Conference on Outdoor Recreation.

MUNICIPAL AND COUNTY PARKS

One of the results of the National Conference on Outdoor Recreation convened by President Coolidge in May, 1924, was the request that an inventory of the outdoor recreational resources of America be taken for the purpose of securing adequate data on which to base plans for nation-wide, systematic planning for outdoor recreation. The Playground and Recreation Association of America in cooperation with the American Institute of Park Executives was asked to undertake a study of municipal and county parks and their systems of administration. Early in 1925 a grant from the Laura Spelman Rockefeller Foundation enabled the association to begin work, and L. H. Weir of the staff of the association was appointed as director of the study. Working with Mr. Weir in an advisory capacity was a national committee composed of a number of the leaders in the park and recreation movement.

During 1925 and 1926 information was secured through the field visits and correspondence on what more than 2,700 municipal corporations and over 40 counties were doing in planning, developing, and operating parks. The statistics and tables have been issued in a pamphlet published in the Bureau of Labor Statistics of the United States Department of Labor. The facts regarding facilities, organization, and administration appear in the report issued by the Playground and Recreation Association of America, which has been published in a set of two volumes under the title "Parks—A Manual of Municipal and County Parks." Some facts from the manual follow:

INTRODUCTION

The introduction to the manual—"Old parks and new"—traces the changing conception of parks as "lands intended and appropriated for the recreation of the people by means of their rural, sylvan, and natural scenery and character" to that of "any area of land or water set aside for outdoor recreational purposes, whether it be recreation of the passive or active nature, or any of the degrees between these extremes." This change has not been unattended by growing pains. The period from the late nineties to the present time has been one of adjustment and development, and the process of adjustment between the old and simple concept of the functional service of parks and park authorities and the new and more complex functions is still going on. The human uses of parks, however, are increasingly the concern of the forward-looking park executive, and while a maximum use of park facilities for residents in American cities has not been attained a large service is being performed.

CHAPTER 1. WHY PARKS?

Man is essentially an outdoor animal. Deprived of his natural environment in the industrial centers into which commerce and industry have forced him, he is compelled to find in parks and other open spaces the sunlight, repose, rest, and relaxation so important to

health, happiness, and joy in living. Hence the necessity for outdoor open places which give people opportunity to enjoy physical activities in the proper environment.

In the building of cities immeasurable harm was done not only to the physical development of man but to the qualities and powers which make him the creator, lover of beauty, and seeker after happiness. Music and drama out of doors offer an invaluable contribution of parks to the joy of living, and best and most fundamental of all art activities of park authorities is the encouragement of the people to be their own musicians, painters, sculptors, and dramatists.

It is in the creation and preservation of beauty that park planners and officials can render one of their greatest services. The acquisition, preservation, and care of large natural areas, the application of the landscape artist's powers to the creation of beautiful natural forms in large and small areas within cities, is of as great importance as creating and preserving areas for the admission of sunlight and pure air. There are many examples of really fine architecture to be found in structures in parks. This is a vital contribution of the parks to the cultivation of the appreciation of the beautiful.

Park departments, possessing as they do the basic material laboratories for instruction in the knowledge of natural processes, are assuming a position of major importance in the future development of man as seeker after knowledge. Thus parks are providing the direct contact with nature which permits of exploration into the great field of knowledge relating to the construction of the universe. This contribution of parks becomes increasingly important as park departments provide instructional leadership to interpret nature to those coming to the park.

Parks increase neighborliness. The facilities of leadership furnished by park authorities which bring people together in their leisure are steps in the direction of providing opportunity for people to create communities in which a spirit of neighborliness will predominate.

In a large sense the end and aim of all city planning, especially the part having to do with parks and recreation, is to increase joy in life. The park movement, which seeks to "make more abundant facilities for a more expressive life for all," is contributing largely to human happiness.

Park and recreation areas are safety measures. Properly located, supervised playgrounds such as many park departments are conducting, furnish the means whereby children may play in safety, and studies which have been met show the effectiveness of play areas in accident prevention.

Park areas prevent accidents. They also perform a vital function in preventing delinquency. Juvenile court officials, social workers, and educators have testified that play areas under wise leadership tend to diminish juvenile delinquency. The modern city planning movement with its provision for parks and recreation is helping to make communities better places in which to live and so restoring environmental conditions that fundamental impulses of adults and children can find wholesome, normal expression.

A very practical argument for parks which appeals to many people is that parks increase property values. Where living conditions are made more desirable in any section of the city, people are more willing to pay for the better living conditions they thus enjoy.

CHAPTER II. GENERAL PLANNING OF THE PARK SYSTEM

In 1850 there was not a single municipality, a single municipal department in America which had been specifically created to administer parks and recreation. At the present time the various authorities having control of park and recreation activities number several hundred. In the 25 cities in the United States having the largest population there are 62 different agencies dealing with public parks and recreation. The control of parks and recreation for various reasons has become divided and subdivided until in one single community we have as many as 21 different agencies created by law and supported by the people's money.

Out of the experience of park planning which has been going on to a more or less intensive degree in American municipalities for the past 75 years, it is now possible to distinguish several types of properties, each designed to meet some major need of the people or special groups of people. Similarly certain principles, not necessarily fixed, have been evolved regarding the gross amount of recreation acreage communities should have and regarding the distribution of size of certain types.

Among various types of park areas it is possible to distinguish the following:

- I. Children's playgrounds. These are of two types, as follows:
 1. Playgrounds for children of kindergarten age and under.
 2. Playgrounds for children from 5 to 14 years of age.
- II. Neighborhood playfield areas or neighborhood playfield parks.
- III. Miscellaneous types of active recreation areas:
 1. Bathing beaches on river, lake, or ocean.
 2. Golf courses.
 3. Athletic fields and stadiums.
 4. Municipal camp sites.
- IV. Areas in which landscaping is a predominating characteristic:
 1. Ovals, triangles, circles, and other areas of very small dimensions.
 2. "Intown" park areas or neighborhood parks.
 3. The large park areas.
 4. The reservation or forest park.
- V. Boulevards and parkways.
- VI. Areas devoted to a specific educational-recreational purpose, and in which landscaping is a prominent feature:
 1. Botanical gardens.
 2. Arboretums.
 3. Zoological parks or gardens.
- VII. Miscellaneous areas:
 1. Sites for bath and swimming centers.
 2. Sites for community houses.
 3. Sites for museums of different types.
 4. Sites for utilitarian structures and uses.

PLAYGROUNDS

Playgrounds for children of kindergarten age and under.—Playgrounds for little children should preferably be located in the interior of blocks in the congested districts of the city. A definite area of this type may also be located in a playground area for larger children in neighborhood playfield parks and in large parks. The play lot may be as small as 50 feet by 100 feet. Many authorities feel it should be as large as 6,000 to 10,000 square feet.

Playgrounds for children from 5 to 14 years of age.—Although the school, many authorities feel, should care for the play needs of children of this age, very often lack of play space, the impossibility of

securing additional ground and other considerations make it desirable for park departments and recreation departments to provide playgrounds, and the park department will in all probability always have this responsibility. One-quarter of a mile is generally considered the radius of influence. Estimates regarding the size of the playgrounds vary considerably. By actual measurement it can be determined that for a playground laid out on a three division plan and fully equipped for necessary game facilities, apparatus, shelter, small swimming pool and with a proper plantation of ten or more feet in width, approximately three and one-half acres will be required as a minimum, irrespective of whether the child population is 100 or 500 within its effective radius. As much more land should be secured as possible to allow for further growth and for the use of the ground for community purposes.

NEIGHBORHOOD PLAYFIELD PARKS

The primary function of this type of area is to provide opportunity for older boys and girls, young men and women, and other adults to engage in all kinds of outdoor games and sports. The size of these areas varies so greatly that it is difficult to lay down a principle. They are found as small as 3 or 4 acres—although such areas have no park features—and from this minimum they range upward to 50, 75, and even 100 or more acres. The most desirable size of the neighborhood playfield-park, if it is to satisfy amply all possible requirements, should range from 20 to 30 acres. Even in minimum size it should allow some general parklike treatment, while at the same time permitting its major area to be developed for active recreation. As it has increased in size above the minimum there are greater possibilities for multiplying its parklike features, and the more nearly ideal area would be of sufficient size to permit of the development of a neighborhood park together with all the necessary active recreation features for the people within its radius of influence.

MISCELLANEOUS TYPE OF RECREATION AREAS

Other types of recreation areas include bathing beaches, golf courses, athletic fields and stadiums, municipal camp sites, outdoor features, and similar facilities.

AREAS WITH LANDSCAPING THE PREDOMINATING CHARACTERISTIC

Among these areas are ovals, triangles, and other small areas formed usually by the intersection of streets, whose primary purpose is the embellishment of the neighborhoods in which they are located. Another type includes the intown park or neighborhood park ranging from small squares through commons, public gardens, long promenades to parks hundreds of acres in extent. These areas are as near an approach to nature as many dwellers in large cities ever know. They provide breathing, resting, and relaxation places and in a limited degree a certain amount of opportunity for semiactive recreation in the form of walking, listening to band concerts, or watching a play or pageant.

Large parks or country park areas also belong to this classification. They should range, some authorities feel, from 100 to 250 acres. Natural beauty and spaciousness are prime considerations and they

should be reasonably accessible. Their size and the element of cost in acquisition usually require their location in original acquisition toward the outskirts of the city.

Approximately 100 cities have acquired park properties outside their regular limits. The largest of the parks of this type is owned by Phoenix, Ariz., and comprises 1,580 acres in one property. The purchase of park areas outside of city limits is a wise municipal procedure and it is statesmanlike to acquire them before the city expands and raises the market value. It is sometimes possible to secure large properties within the city limits which provide many of the features to be found in outlying districts. Fairmount Park in Philadelphia with 3,881 acres, and Griffiths Park in Los Angeles with 3,751 acres, are the largest city parks in the United States.

Within the recent years a fourth type of property has been developed known as the public reservation or forest park. The function of these areas is practically the same as that of the large city landscaped park although they will probably be less intensively developed and used except in the vicinity of very large cities. As far as daily or weekend use is concerned, it is not desirable to have them located more than fifty miles from the city limit. These areas may be owned by the municipality or by the township, county, State, or Federal Government.

BOULEVARDS AND PARKWAYS

The primary functions of boulevards and parkways are to serve as ready means of access to the various larger units of the park system from different parts of the city and from one large unit to another; to facilitate the movement of people out of and into the city and provide a pleasurable medium for motoring. Boulevards may also include provision for hiking and horseback riding.

AREAS DEVOTED TO SPECIFIC EDUCATIONAL-RECREATIONAL PURPOSES IN WHICH LANDSCAPING IS A PROMINENT FEATURE

Among these areas are botanical gardens, arboretums, and zoological parks. The question whether botanical gardens should be located in large parks or in areas devoted entirely to garden purposes is debatable. The few genuine arboretums in this country are located either in general botanic gardens or occupy a specific area devoted exclusively to the purpose. Zoological parks are usually found in medium sized or large landscaped parks, but a few occupy areas devoted exclusively to zoos and there is a growing tendency to adopt this plan.

MISCELLANEOUS AREAS

In many park systems there are areas used for sites of structures of various kinds, the structure being the primary feature and often covering the entire area. These buildings may be for recreational or educational-recreational or utilitarian purposes. Among these are sites for bath and swimming centers, community houses, for museums of various types and for such structures as barns, shops, and storehouses.

CEMETERIES

In practically every section of the United States there are examples of cemeteries under the control of park departments; and from some points of view they do perform some of the functions of parks.

STREETS

Though streets, as such can not properly be classed as units of a park system, in many municipalities the park department is responsible for street planning and the care of trees.

MAKING THE PLAN

To-day there has arisen a distinct profession represented by many individuals and many incorporated companies, the members of which are trained to plan parks and recreation areas and entire cities. Prior to 1900 there was not a single city in America that had a general city plan with the exception of Washington. During the past 20 years 176 of the cities of America have had general comprehensive plans made including park plans, some 390 cities having legally constituted planning boards whose duty it is to study the development of their cities and lay down plans for them. The matter of zoning is a very fundamental question in relation to the permanency and stability of the properties provided for parks and recreation. There are 525 cities with zoning ordinances.

The allocation for recreation of the various types of areas listed is an integral and fundamental part of general city planning and all these areas must be laid out according to a plan which will take into consideration not only present needs but the estimated needs of a period 25 or 50 years in the future. To secure such a plan there must be a study made by some one who is not only thoroughly trained in the art of modern park planning, but who is also fully conversant with the principles of city planning.

The plan must take into account topographical features, population studies, transportation, zoning, existing parks and recreation facilities, general social conditions, legislation, and city finances. The study may be initiated through a private organization, a city planning committee or commission, or park board. The report embodying the data, which is entered on special forms, the conclusions, and final plans should be profusely illustrated and distributed to groups and individuals whose influence may be valuable in promoting the plan.

PUTTING PLANS INTO OPERATION

The making of studies and formulation of plans are of little avail unless means are devised for putting plans into effect through the instrumentality of a follow-up group. This involves the education of the public through newspaper publicity, leaflets, charts, posters and demonstrations, and the presentation of the subject before groups of various kinds.

CHAPTER III. GENERAL MUNICIPAL AND COUNTY PARK PLANNING

It was reported at the sixth annual meeting of the American Park and Outdoor Art Association of Boston that in 1877 there were not over 20 cities which had municipal parks and there were only about 200 park commissioners or members of park boards. This number has been steadily increasing until in 1925-26 approximately 1,620 cities have provided nearly 250,000 acres of recreation spaces.

To show what is being done in park planning throughout the Nation, municipal corporations have been grouped into arbitrary divisions as follows:

Group I, all incorporated communities under 2,500 inhabitants; Group II, 2,500 to 5,000; Group III, 5,000 to 10,000; Group IV, 10,000 to 25,000; Group V, 25,000 to 50,000; Group VI, 50,000 to 100,000; Group VII, 100,000 to 250,000; Group VIII, 250,000 to 500,000; Group IX, 500,000 to 1,000,000; Group X, 1,000,000 and over.

Group I.—In Group I, covering rural territory (unincorporated communities and open country), 56.9 per cent of communities reporting stated they had no parks, while 43.1 per cent reported parks. The total of all park properties reported was 5,346.64 acres, or a general average of approximately 9.4 acres per village. Several millions of people living in small communities have no public recreation facilities, and several more millions living in the open country tributary to these communities are also without them. This presents a problem in rural planning which as yet has not been touched to an appreciable degree by modern planning movements.

Group II.—This group represents communities which, while classed as urban by Federal census so far as general environmental conditions are concerned, are in general characteristically rural. From the 1,320 communities in this group (census 1920), 309 complete reports were received or approximately 23.4 per cent of the total number. Of these 309 communities 72 were reported as having no park areas. The total area of all parks owned by the 237 communities reporting one or more parks was 5,186.89 acres or an average of 21.46 acres per community.

Group III.—The park acreage of the 255 communities of this group reporting they had parks total 11,366.87 acres—an average of 44.57 acres per community.

Group IV.—Reports were received from 459 cities of this group or 83.8 per cent of the total number. Of these 385, approximately 90 per cent were reported as having a total park acreage of 33,589 acres, or an average of 97.3 acres per community. Taking 17,500 as a popular average for communities of this group in connection with the average of 97.3 acres of park property per community, the approximate average ratio of park acreage to population would be 1 acre to every 180 inhabitants.

Group V.—In 1928 there were 143 urban communities with a population of from 25,000 to 50,000 inhabitants. Reports received from 134 of these cities showed only one without parks. The 133 cities reporting parks were stated to have 30,129.57 acres of park exclusive of 357.25 acres in township parks in the vicinity of two cities in the group. This represents an average of 226.6 acres per city. Taking 37,500 as an average population for cities of this group, the average ratio of park acreage to population would be 1 acre to approximately 165 inhabitants. The figures for this group show in general a far more ample provision for outdoor recreation in these small cities than in any single city in the United States with a population approximately the same or larger than the aggregate population of the 20 small cities in this group most adequately provided with park areas.

Group VI.—Seventy-three of the 76 cities in this group which reported had a total of 37,203.94 acres of park properties, or an average of 509.64 acres per city. Taking 75,000 as an average population per city, the average ratio of park property to population for

cities of this group would be 1 acre to every 147 inhabitants. Outstanding in the group is Spokane, Wash., with 1 acre to every 50 inhabitants.

Group VII.—The 43 cities in this group were reported to have a total area of 40,869.79 acres, or an average of 950.46 acres per city. Nineteen of the cities (44.1 per cent of the group having 1,000 acres and over of park properties) had 77.8 per cent of the total park acreage of the group. This indicates that, in general, the 24 remaining cities, 52 per cent of the total population, and only 22 per cent of the total park acreage are very inadequately provided with outdoor recreation areas.

Group VIII.—In 1920 there were 13 cities with a population of from 250,000 to 500,000, with an average of 2,885.63 acres per city. Over 10,000 of the total acreage, however, was in the Denver mountain park system. In this group, Minneapolis, through its park and recreation system, is one of the outstanding cities from the standpoint of the number of acres devoted to park and recreation, in types of property and their distribution, character of development, and quality of maintenance. Taking into consideration only those properties within the city limits, or in close proximity to them, Minneapolis is the only city within this group which comes within the ratio of 1 acre to every 100 inhabitants. Every one of the cities in this group is lacking in adequate provision for children's playgrounds and neighborhood playfield-park areas.

Group IX.—In 1920 there were 9 communities in this group of cities from 500,000 to 1,000,000 population, and 5.9 per cent of the entire population of the country is to be found in them. The average park acreage for each city is 2,768.98. The ratio of park acreage to population ranges from approximately 1 acre to every 220 inhabitants in San Francisco to 1 acre to every 421 inhabitants in Cleveland. It is interesting to note that these 9 cities with an estimated aggregate population of over 7,500,000 (1925) have 5,000 acres less of park property than the 133 cities in Group V; with about 5,000,000 inhabitants; over 12,000 fewer acres than the 73 cities in Group VI with about 5,500,000 population; nearly 16,000 fewer acres than the 43 cities in Group VII with a population of approximately 7,000,000 and over 12,600 fewer acres than the 13 cities in Group-VIII with an estimated population of approximately 5,000,000. These figures substantiate the well-known facts that as cities grow larger it is increasingly difficult to provide the necessary outdoor recreation areas, especially when comprehensive planning has been too long neglected. In all these cities the most notable deficiency in types of properties is in children's playgrounds and neighborhood playfield parks. These types are most difficult to obtain after land has once been built up; if they are to be secured in sufficient numbers and area, steps should be taken as far as possible in residential development just as streets are set aside.

Group X.—The 3 cities in this group—New York, Chicago, and Philadelphia—were reported to have a total of 22,467.35 acres in park properties of various kinds. As compared with the park acreage in any one of the groups of cities from 25,000 up, this group of 3 largest cities has in proportion to population the smallest park acreage. Every one of them began park planning shortly after the middle of the last century, but this planning did not keep pace with the growth of population.

COUNTY PARK PLANNING

To Essex County, N. J., belongs the credit for the pioneering effort to establish a county park system in 1895. The county plan, while eminently successful in Essex County, was slow in being adopted elsewhere. Eight years later Hudson County, N. J., adopted the plan, and in 1915 Cook County, Ill., established a system of county forest preserves. The same year Du Page County, Ill., took similar action.

Since 1920 a number of county park systems have been established in the Middle Atlantic, Southern, Middle Western, Southwestern, Rocky Mountain, and the Pacific Coast States. While the idea has spread to nearly all sections of the country, it has not as yet been intensively applied. Reports were received for the study from 38 counties having park systems and the total area of these systems was 61,656.56 acres. The Cook County forest preserves comprised 31,600 acres of this total and the Westchester County, N. Y., park system approximately 16,000 acres. Seven other counties were reported in the process of developing park systems.

CHAPTER IV. ELEMENTS IN THE DESIGN OF PARK AND RECREATION AREAS

When the various types of park properties have been acquired, the next step is to design and develop them so that they will serve the people effectively. There are a number of essentials involved in design which are important to the general plan. The boundaries of the areas must be established, a topographic survey made, and the services of specialists such as landscape architects and building architects secured. The work of the landscape architect is particularly important, and it is hoped that some plan will be worked out whereby the interests of small communities will be met by less expensive and elaborate landscape architect's plans.

This chapter contains suggestions for the layout, surfacing and equipping of playgrounds for little children and for children from 5 to 14 years of age, with space requirements for apparatus and games. It also shows plans of playgrounds in a number of cities. Similarly, it discusses the layout and facilities of neighborhood playfield parks and shows plans for a number of these parks. The design of miscellaneous active recreation areas—athletic fields, stadiums, and golf courses—is discussed in some detail and the question of camp layouts is taken up. Suggestions are given for the treatment of small ovals, triangles, circles, trapezoids, and squares.

Factors influencing the design of intown or neighborhood parks are discussed. The primary function of this type of park is to provide in an environment of growing things, rest, relaxation, and breathing space for the people of the area where they are located; to adorn these areas and under certain conditions to provide a limited amount of active recreation. The first of these functions is the most fundamental one.

While in general there is nothing in the design of the small or intown park which is new or original, or characteristically American, it is quite otherwise with large city recreation parks. The predominating characteristic of the large park areas of American cities is

their naturalness, attained through the skill of the designer in utilizing already existing natural features, or in more or less transforming topographically and botanically, given areas of ground. There are many factors to be considered in selecting large park areas, among them accessibility, interference with major traffic ways, boundaries, and topographical features.

Provision for various recreational activities is important. Picnic facilities, play apparatus for little children, golf courses, facilities for tennis, baseball, soccer, football, hockey and other games and for water sports, winter sports, and camping should be considered. Such educational-recreational features as botanical gardens, arboreta, conservatories, zoological gardens, and aquariums may be introduced if proper locations were available.

There are necessarily buildings of certain types to be found in large parks. These include the following:

1. Structures necessary for the comfort and convenience of those using the park in general—comfort stations, refreshment stands, restaurants, and shelters.
2. Structures that are necessary adjuncts to specific recreation areas such as field houses, boathouses, bathhouses, and golf club houses.
3. Structures that in themselves are recreation centers—dance floors, roller-skating rinks, and club houses.
4. Structures of an educational-recreational character such as museums, art galleries, war memorials buildings, aquariums, and conservatories. Many civic storms have raged over the introduction of large parks of many of these structures, particularly museums, art galleries, and memorial buildings.
5. Structures necessary for the care and maintenance of the parks. These include a house for the foreman or superintendent, houses for laborers, barns, shops, and greenhouses. Occasionally the headquarters building of the entire department is located here.

RESERVATION

The human use purpose of the reservation is practically the same as that of the large park and very much the same principles of design are involved. The distinct difference is that as a general rule the natural topography and plant growth are left more in their original state than in the average large city park. The effort of the landscape architect is directed toward maintaining the wildness of the reservation.

In designing reservations a system of roadways to open up their scenic and recreational possibilities is of first importance. Next, attention should be given to developing a system of hiking trails. Opportunities for recreation may include picnic places, camping, bathing and boating, inns and refreshment stands, golf, ball grounds, and similar facilities.

BOULEVARDS AND PARKWAYS

In the design of boulevards and parkways, there are certain fundamental principles to be followed. Briefly stated they are:

1. Pleasure drive should be wide, insuring dignity and impressiveness.
2. Traffic should be restricted.

3. Paving should be especially contributed to the pleasure of using the thoroughfare.
4. High building development should be regulated.
5. Planting should be of the highest type.
6. Special care should be given to lawn areas and planting and maintenance of roadways.
7. A general building, set back, will add spaciousness to the pleasure drive.
8. Car lines, if need be, should be planned for and isolated as much as possible in a wide central strip, bordered by planting.

BORDER ROADS FOR PARKWAYS AND PARKS

A parkway, according to Frederick Law Olmstead, may take a variety of forms requiring different treatments. It may be an elongated park whose chief purpose is to connect two or more border parks, or it may be a more or less glorified street designed to add to the value of an abutting property or a thoroughfare, boulevard, or parkway, enabling the people to travel from one of its parks to another under enjoyable conditions. A fourth type is somewhat transitional between the first and third, with considerable widths of ground treated in a more or less parklike way with turf.

Briefly stated there is a strong presumption in favor of providing border roads, except in cases where the narrowness of the land which can be acquired forces adoption of a design which is more than a dignified, ordinary street with some planting on its sidewalks, and except in case of parkways of the first or elongated park type, in those portions where limited width or topographic conditions, or both, make it locally impracticable or inexpedient to provide separate border roads and where the abutting property can reasonably be barred off from access to the parkway.

DESIGN OF WATER-FRONT PROJECTS

These projects may be adjuncts to neighborhood playfield or large parks, or in themselves a special feature of the system. The use of water fronts has been altogether too largely neglected and permitted to be appropriated by the transportation and industrial interest. This section of the chapter shows by photographs and plans how waterfront areas may be effectively developed.

CHAPTER V. CONSTRUCTION NOTES

The natural order of procedure in the construction work involved in the development of any given undeveloped area is approximately as follows: (1) Topographical survey; (2) preparation of designs by the landscape architect, including grading and planting plans; (3) construction surveys by the engineer; (4) preparation of engineering plans involving grading, drainage, irrigation, roads, walks, sewers, water supply, planting, including estimates, specifications, and contracts; (5) preparation of plans for the construction of specific areas devoted to recreation.

Among the subjects discussed in some detail in this chapter are the installation of drainage; construction of walks, trails, and terraces; the building of brick, tile, concrete, macadam, gravel, cobble-

stone, tanbark, turf, and stepping-stone walks; the construction of terraces, of curbs for walks, of gutters and of walks of different types.

The construction of turf areas for lawn sports is an important consideration involving as it does the layout of areas for clock golf, croquet, lawn tennis, field hockey, archery, roque, horseshoe pitching, and bowling greens. Technical details concerning the construction of areas for these sports as described by A. T. Taylor, landscape architect, are given in this chapter which also contains information on the layout of diamonds and courts for baseball, basketball, football, handball, paddle tennis, shuffleboard, soccer, and volley ball. Suggestions are given for the construction of tennis courts of various types such as turf, dirt, asphalt, concrete and wood, diagrams and plans accompanying all the descriptions. The construction of athletic fields is taken up in detail.

The construction of pools and the principles involved are also discussed by Mr. Taylor, and plans are shown of a number of wading and swimming pools, swimming-pool construction being considered at some length.

Winter sports are becoming increasingly popular and the supplying of proper facilities entails a large responsibility on park officials. Ice skating rinks—their construction and care—ski jumps, toboggan slides, and other facilities are described from the point of view of their construction.

No park facilities, in all probability, encourage family recreation as much as do picnic places, and they are being increasingly provided in large city parks, reservations, and county parks. This chapter shows a number of plans of shelters, picnic tables, benches, and ovens.

PARK BUILDINGS

The construction of park buildings is of great importance. Not only must they effectively serve a practical purpose, but they should also be so designed that they "seem to belong." Chapter V contains suggestions and plans showing the construction of shelters, comfort buildings and field houses. It outlines the five fundamental principles to be kept in mind in planning recreation buildings as supervision, circulation, flexibility, upkeep and operating budgets. It shows some plans of a number of such buildings including recreation centers and community houses, golf-club houses, recreation pavilions, dancing pavilions and dance floors, outdoor theaters, and music temples.

The extent to which parks are serving as community centers is shown by the large number of club houses, gymnasiums, and field houses which exist. The art galleries, museums, outdoor theaters, band stands and conservatories reported by many cities are indicative of the ways in which parks are an increasing factor in the cultural and educational life of the people. Ninety-four cities report 99 zoological gardens. Comfort buildings are the most numerous of park structures reported. The park departments in the 117 cities report that 427 picnic places are playing a large part in the movement to encourage outdoor activities on the part of families and community groups.

CHAPTER VI. GENERAL ADMINISTRATIVE CONTROL OF PARKS

The administrative control of parks in America follows no standard form. The governing authorities may be the city council or committee of council—the earliest form of park government; commission

government; Federal plan of government; city manager plan; the private park association performing the function of a public park commission—of which there are few examples, and the government of parks by boards or commissions. With the exception of government by council the park board commission is the oldest and most generally approved of all the different methods of governing parks. Park commissions are still found in many cities under the aldermanic commission, the Federal and the city manager forms of administration.

The advantages and disadvantages of the various methods of governing parks are discussed, and examples given of the legal provisions for parks under the various types of administrative control. Examples are also given of legislation for county park systems and State enabling acts are quoted. A section of the chapter is given over to a discussion of the constitution, various powers, duties and responsibilities of general park governing authorities.

CHAPTER VII. PARK FINANCING

To-day the capital investment in public parks and recreation places of American cities is estimated to be considerably over \$1,000,000,000 and the current operation and maintenance expenses run considerably over \$100,000,000 annually.

This represents the money spent on (1) acquisition and permanent improvement of properties and (2) operation and maintenance.

The acquisition and permanent improvement of properties are financed in one or more of the following methods:

1. Use of current funds of the park and recreation department or by direct appropriation of a municipal or county government.
2. Proceeds from the sale of bonds secured by general taxation.
3. Proceeds from the sale of bonds secured by special assessments.
4. A combination of the proceeds from the sale of bonds secured by general taxation.
5. Installment payments out of the net proceeds obtained from the operation of the particular project itself.
6. Proceeds from gifts, donations, devises, and bequests.
7. Acquisition of properties through use of the principle of excess condemnation or excess purchase.

The advantages and disadvantages of each method of financing are discussed and examples given of the various types from the experience of a number of cities. The acquisition and improvement of park properties out of the proceeds from the sale of bonds is the most desirable method, and one most commonly practiced. Cleveland from 1874-1924 voted park and playground bonds to the amount of \$10,612,000. Boston during the period 1893-1925, \$8,844,300. In addition to this amount \$25,547,361 in bonds were authorized for the Boston metropolitan park district. In 1923 St. Louis voted \$2,500,000 for new parks and playgrounds and \$1,300,000 for improvements. Minneapolis leads the cities with populations of 250,000 to 500,000 with \$7,694,565.82 bonds for land and improvement between 1912 and 1925. This city, perhaps more than any other, has applied the method of using proceeds from the sale of bonds secured by special assessments, as contrasted with those secured by general taxation. Other outstanding cities in this group are Milwaukee with \$4,380,000 and Seattle with \$4,436,777.50.

In the group with 100,000 to 250,000 population Providence has voted \$2,329,758.76, New Haven \$2,037,000, Toledo \$1,756,000, and Dallas \$1,625,000. Among the outstanding examples of smaller cities using this method of financing the acquisition and improvement of their parks are East St. Louis, Ill., Oklahoma City, San Diego, Calif., and Wichita, Kans.

Some of the sources of revenue for operation and maintenance are enumerated as follows:

(1) Annual appropriation by the city or county governing authority. This method is more in harmony with the general theory and practice with American municipal and county governments than any other plan of financing. (2) Special tax levy. There has developed the plan of allowing a special tax of a given number of mills on the dollar or a given number of cents on each \$100 of assessed valuation of property. Only a small proportion of the cities in the larger population groups use this plan, but the park departments in 23 of the 76 cities in the group of 50,000 to 100,000 population derive their chief revenue for maintenance and operation from a special tax. (3) Special sources of income such as a certain percentage of the gross income of street railway system (Baltimore); percentage of a vehicle tax (Kansas City); percentage of gross receipts of city from fines, penalties, and licenses (Seattle), etc. (4) Gifts, legacies, bequests. (5) Fees from the operation of different types of recreation facilities. (6) Miscellaneous sources.

There is a discussion of these methods and examples are given from cities and counties, together with legal provisions. In connection with the discussion of fees from the operation of recreation facilities, there is a table giving examples of operating costs, income, gain or loss from such revenue-producing activities as swimming pools and beaches, golf courses, dance halls, refreshment stands, tourists' camps, and boats.

CHAPTER VIII. GENERAL EXECUTIVE ORGANIZATION OF A PARK DEPARTMENT

A park department comprises two distinct divisions—the governing authority, considered in Chapter VI chiefly from the point of view of the legal phases of their creation and existence and the powers they exercise under the law, and the executive organization. This chapter is concerned with the way in which these various agencies organize to discharge these responsibilities with particular reference to the executive organization. Consideration is given to the officer and committee organization, and by-laws are quoted showing the code of procedure by which a park-governing authority declares its plans and policies for conducting its affairs. Suggestions are given for meetings and records of proceedings and for accounting to the public.

The creation of an executive organization is one of the most important acts of government by a park-governing authority. The various functions performed by a park department are usually conducted on a divisional basis—office, engineering, legal, maintenance, horticulture, police, recreation, and a number of miscellaneous divisions. These divisions are outlined in the chapter, and charts showing divisional organization in a number of cities are given, together

with extracts—and comments regarding them—from ordinances defining duties and responsibilities in cities representing various forms of government.

Outstanding park systems in the country are outstanding chiefly because of the character, personality, vision, organizing power, business ability, and general efficiency of their chief executive. The selection of this official is without question one of the most important of the governmental acts for a governing authority. The qualifications of the executive and his powers and duties as stated by a number of municipal codes are outlined in this chapter. In general, as the various laws point out, most of the fundamental principles of good organization as embodied in the chief executive include—

(a) Complete charge of operation, maintenance, repair and extension of all structures, grounds, waters, etc., over which the governing authority has jurisdiction.

(b) Power to appoint his subordinates and to order and direct their work (subject in this instance to a civil-service law).

(c) Power to purchase, care for, and control the use of all tools, equipment, materials, and supplies used by the executive in the conduct of the business of the department. This is based on the principle that a trained executive knows better than anyone else what tools, equipment, supplies, and materials he will need, how to care for them and how to handle their use.

(d) Absolute responsibility for the handling of funds allocated to the use of the chief executive.

In addition to the responsibilities, duties, and powers of the chief executive as prescribed by law and which are fundamental to the effective conduct of his work, there are certain relationships which feature largely in the success of an executive. The relationship of an executive to his governing authority, to his staff and department heads, the personal contacts he makes, and his relationship to the public are vital to effective service.

CHAPTER IX. OFFICE, ORGANIZATION, AND MANAGEMENT

In this chapter Charles E. Doell, secretary of the Minneapolis Board of Park Commissioners, discusses in detail problems of office personnel, duties of employees, their qualifications, compensations, and grades. The various types of record keeping—official proceedings, inventories of land, structures, pools, and equipment—are considered, and suggested forms shown. Financial records of municipal funds, budgets, and financial records for the operation of business activities are also discussed. The problem of accounting is taken up together with performance records and business statistics. Suggestions are offered for filing and indexing.

This careful and thorough statement of office management will be found of the greatest possible help to park officials.

CHAPTER X. THE PARK ENGINEERING DIVISION

In Chapter VIII a brief outline was given of the various functional divisions of the executive organization of park departments, of which engineering is one division. Chapter X discusses this problem in some detail, suggesting the function of the engineering division, the methods of handling park engineering in different communities, the

personnel organization, record keeping, and filing. Methods of procedure in handling construction work are considered together with the question of awarding contracts. Examples are given of forms of agreement and conditions of contracts.

CHAPTER XI. MAINTENANCE

The term "maintenance" as used in this chapter includes all activities of the park department relating to the upkeep of material properties, real and personal. Maintenance may also include original minor construction work and the carrying forward of unfinished construction projects. Some of the fundamental requisites for effective maintenance are adequate revenues and an effective personnel. A third important factor is proper equipment—not only machinery and tools, but service structures such as barns, tool shops, storehouses, and maintenance structures. Suggestions are given in the chapter for the construction of these buildings and of greenhouses and similar buildings.

CHAPTER XII. HORTICULTURAL DIVISION

The functions of the horticultural division of the park department are design, production, installation, and maintenance. Design includes the selection of plant material to fit the various proposed plant groups to the general park plan and often to locate the groups as well. On the production side, every park department, however small, needs to produce plants for adding to its adornment. Sometimes it may be annuals; it may include perennials, and at times it involves woody plants for permanent plantations. The task of installation involves the necessary planting at appropriate seasons. Horticultural maintenance of a park system is synonymous with park maintenance over the major portion of the park department.

The chapter contains a practical section on "Notes on different growing regions of the United States, together with lists of herbaceous, perennials, and ornamental shrubs and trees best adapted to each region." The section on "Diseases of trees and shrubs," by Dr. Haven Metcalf, of the United States Department of Agriculture, represents another valuable contribution.

CHAPTER XIII. THE RECREATION SERVICE DIVISION

All the different types of properties comprising a park system are intended for the recreation of the people. To speak of a recreation division or department within a park department is, therefore, somewhat anomalous and must be taken in a more or less restricted sense as applying to certain types of recreative service in which the idea of organization and leadership predominates, such as the provision of playgrounds.

The place of children's playgrounds in a park system is indicated by the fact that 309 cities reported 4,819 such areas. Among the facilities reported most frequently were areas for baseball, football, soccer, playground ball, horseshoe, basketball, field hockey, track, field events, volley ball, handball, and croquet. Ninety-eight cities reported golf courses in parks. Among other sports facilities which are provided are bowling, roque, polo, archery, and shooting. Wading and swimming pool, bathing beaches, and boating facilities

are commonly found in parks, and in the northern part of the country toboggan slides, ski jumps, skating rinks, and coasting places are provided.

Suggestions are given in the chapter for a year-round program for the conduct of playgrounds and of various recreation facilities. The different activities entering into a recreation period are outlined and the administration of swimming pools and golf courses is considered. The staff organization, salaries of workers and their training, with reports and business management, including dues and charges, are taken into account.

CHAPTER XIV. PARK POLICING

At the very outset of the development of any program, plans must be met for the guidance of people in the use of property, and certain rules and regulations regarding this use laid down. To avoid an excessive amount of restrictions it is better to begin with a few general rules, adding from time to time such rules as experience shows to be necessary.

The promulgation of rules and regulations is a function of the park governing authority. In addition to such rules as may be outlined by any park governing authority, the laws of the Nation, of the State, and local political subdivision operate within the properties under the jurisdiction of each park governing authority.

Enforcement of the rules involves a system of policing, and there are three general methods used in the policing of parks in the various systems in the municipalities and counties in the United States. The first method is that of clothing park employees with police authority, requiring them, in addition to their regular duties, to enforce park rules. This is the method usually followed in villages, towns, and small cities, and is infrequently found in large cities even though the parks are patrolled by the regular municipal police. In communities having only a few park properties and not organized into a genuine system, this method may be satisfactory. With due care in the selection of the employees who are to exercise police authority the method may be of value even in well-developed park systems having regularly uniformed police or crowds.

The second method is to place policing in the hands of the regular city police, and this method has widespread use at the present time. It is almost universally practiced in all commission-governed cities, city manager-governed cities, and is found even in such large cities as New York and Boston. It is the universal practice in villages, towns, and small cities to require the local police officer or officers to enforce State laws in city ordinance in park areas. In large park systems this method is almost universally condemned by park executives.

The third method is that of having a regularly organized police force as a part of the administrative organization of the park department under the direct control of the park executive. With but very few exceptions park executives throughout the United States believe that this is the only way by which policing of parks can be properly done.

Chapter XIV contains examples of civil-service examinations for park guards and patrolmen; a section on the training of park ground with a series of lessons used in the training of the west Chicago park

police and examples from a number of cities of rules and regulations for the government of park police. There are also examples from several municipalities of the rules adopted for the governing of the use of properties.

CHAPTER XV. PARK LIGHTING

Park lighting, including general park lighting, flood lighting for decoration, and night lighting for sports, is a necessary element in park planning. A certain minimum amount of light is definitely necessary for safety, and exceptional possibilities for park beautification are offered by the flood lighting of imposing buildings and monuments. The lighting at night for sports has made it possible for thousands of people who work through the day to enjoy recreation at night.

The technical details of the various systems of lighting, such as the distribution system, the placing of lighting standards, reflectors, and projectors, are discussed in detail in this chapter, which is profusely illustrated. Sample specifications covering park lighting by electricity are given, and there is a section on the illumination of parks, parkways, and playgrounds which gives in detail the results of a year's study in Minneapolis in testing out different lighting units. This resulted in the following conclusions:

Large lighting units of sufficient mounting height to avoid excessive glare and spaced as far apart as is consistent with the intensity and uniformity desired, are more efficient, more economical and more desirable than many small low mounted units placed close together. One thousand candlepower lamps approximately 23 feet high and spaced 200 feet apart produce the most satisfactory illumination for a parkway of street alignment provided interference of shade trees can be avoided. Asymmetric refraction is desirable.

It was found that for the conditions existing in the park system of Minneapolis, light should be mounted approximately 21 feet high, at spacing of approximately 165 feet so as to conform to intersection requirements; lights should hang over the edge of the roadway so as to define the curbs clearly and various types of light and refracting glassware should be tested and demonstrated so as to ascertain the most pleasing effect with intensities of from 0.05 to 0.2 foot candles and uniformities of approximately 8 to 1.

CHAPTER XVI. PARK SANITATION

In general community sanitation park and recreation areas are in themselves very important sanitary factors. They let in sunlight and fresh air, and freshen the air by growing things. The achievement of park departments in making it possible for millions of people to rest or engage in enjoyable activities in the open air, and in the redemption of unwholesome, insanitary areas within cities, warrant their being ranked as sanitary agents of the first importance. Wherever people congregate, however, sanitary problems inevitably arise and park areas, in spite of their own intrinsic worth as sanitary factors in community life, are no exceptions.

The various problems of sanitation with which park executives have to deal are discussed in detail in this chapter—water supply, its protection and purification; the disposal of sewage and refuse through a

variety of methods; the protection of refreshments and food service in parks; the sanitation of sleeping quarters in camps; insect control; the sanitary care of areas and facilities of various kinds such as camp grounds, picnic grounds, children's play areas, sand boxes and wading pools, and swimming pools with their problems of bathing load limits, proper construction involving considerations of sanitation and rules to be observed by bathers. There is a section on stream pollution which incorporates the experience of the Cleveland metropolitan park district. A very practical section of the chapter is that incorporating a number of State laws relating to the sanitation of swimming places and in organized camps.

CHAPTER XVII. ZOOLOGICAL PARKS AND AQUARIUMS

There were in the United States, in 1925, over 125 collections of wild animals. With but very few exceptions all of them are maintained as features of public park service, the great majority being located in medium sized or large parks. A few are stationed in areas devoted specifically to zoological purposes, and there is a tendency to favor the use of a separate and independent unit for the zoological garden.

The size of areas devoted to zoological gardens ranges from a few acres to over 250, the size varying with the types and number of specimens, and the conception of design. As a general statement very large zoos planned on naturalistic lines should have from 100 to 150 acres; medium sized zoos from 50 to 100, and smaller ones from 20 to 50. Very small zoos may be developed on from 5 to 20 acres.

The design or plan for a zoological garden involves the landscape plan, the construction of buildings and inclosures for the confinement and exhibiting of specimens and the erection of service structures. There are illustrations in the chapter showing the general plan of zoological gardens and various types of cages and inclosures. Administration problems, executive and maintenance personnel, and the financing of zoological parks are also considered.

The section of the chapter dealing with aquariums has to do with their establishment and the problems involved in securing and housing specimens, their administration, and their educational-recreational values and uses.

CHAPTER XVIII. BOTANICAL GARDENS

Many park systems have examples of special types of gardens such as rose gardens, rock gardens and Shakespearean gardens, but only a limited number have examples of genuine botanical gardens. Chapter XVIII traces the history of the establishment of a number of existing gardens.

Some of the factors to be considered in the design of botanical gardens are the selection of a site, topographical conditions, diversity of soils, adequacy of water supply, accessibility to the people, the probable direction of the growth of population and the size of the site. These are considered in some detail and plans are given in the chapter for a few existing gardens with descriptions of their facilities. A section of the chapter has to do with the administration of botanical gardens, executive organization and financing and human service values. Legal aspects are illustrated by the State statute creating the New York Botanical Garden.

CHAPTER XIX. EDUCATIONAL PUBLICITY

The American people have invested in municipal and county park and recreation systems several billions of dollars. In operation and maintenance tens of millions of dollars are expended yearly. Grave responsibility is laid upon park government authorities, not only in acquiring and maintaining these properties, but especially in operating them to the end that the maximum number of people secure the life-giving value for which the investments were made.

Unfortunately there has not been sufficient publicity in connection with the use of parks by the public. In park administration, educational publicity is of great importance from four different viewpoints:

1. In establishing a system and securing funds for the acquisition and development of properties.

2. In educating the people as to where the properties are and what facilities and general opportunities they will find there for their recreation, instruction, and entertainment.

This may be done through the distribution of leaflets giving the name and location of the facilities and directions for reaching them through talks and lectures, personal visits to homes, special announcements, placards and posters, parades and demonstrations; through pictorial, handcraft, and other types of exhibits, and through the press. Other publicity channels may include the publication of a bulletin-newspaper and an annual report, and the use of signs and bulletin boards. In the last analysis the best publicity is the worth of the services rendered and the resultant personal commendations which people make to one another.

3. In educating the people in the use of the properties and facilities so that they individually will receive the greatest benefit from them and will still leave the properties and facilities in good condition for the use of others.

This may be done through signs phrased more from the viewpoint of instruction than of prohibition and through the use of rules and regulations.

4. In acquainting the people of other recreational resources of the community other than those directly under the control of the department itself.

Suggestions are offered in the chapter for the organization of educational publicity and the duties of the publicity director.

CHAPTER XX. THE TRAINING OF PARK EXECUTIVES

The character of the fundamental services provided by the modern park department will determine to a marked degree the content of the knowledge required of park executives. Knowledge requirements will in turn largely determine the courses of training that an individual intending to make a profession of park work should pursue.

Chapter XX contains the reports of the committee on the training of park executives of the American Institute of Park Executives, outlines some of the educational opportunities now being offered in various institutions, and suggests a tentative course of theoretical work, extracurricular activities and field work.

CHAPTER XXI. GENERAL REFERENCES TO LITERATURE ON PARKS

In this manual bibliographies have for the most part been placed within or at the end of chapters. In Chapter XXI an attempt has been made to list general references to literature in the field of park planning and administration. These references consist of books, periodicals, and reports.

NOTE.—A copy of the Park Manual in a set of two volumes may be secured from the Playground and Recreation Association of America, 315 Fourth Avenue, New York City, for \$15. The statistical section of the report has been published by the Bureau of Labor Statistics, Department of Labor, Washington, D. C. A copy may be secured from the bureau free of charge.

OUTDOOR RECREATION FOR INDUSTRIAL EMPLOYEES¹

The general movement for shortening the hours of labor which gained momentum, following the war, both in European countries and in the United States has brought with it the question of the use to be made by the workers of the leisure time secured through the shorter workday. Investigations have been made in many of these countries of the way in which the workers' spare hours are or may be occupied, with a view to providing the educational and recreational facilities needed to secure the most benefit from the added leisure.

In this country many organizations and individuals are concerned with the provision of suitable occupation for leisure hours, and the importance of outdoor recreation to the well-being of the people has been particularly emphasized by the President of the United States in the call for a general conference on outdoor recreation, issued in the spring of 1924, in which the need for bringing the chance for outdoor pleasure within the reach of all was pointed out. At this conference the many agencies concerned with this question, such as the Federal Government through the administration of national parks and forests, wild-life preserves, and unreserved domain; the governments of the different States; municipalities; and many civilian organizations were represented. Topics were dealt with by the conference, such as the encouragement of outdoor recreation as a Federal function; the bearing of outdoor recreation on mental, physical, social, and moral developments; outdoor recreation as an influence on child welfare; and major possibilities of national cooperation in promotion of recreation. Under this last topic was included a proposal for a general survey and classification of recreational resources, and a special committee on the value of outdoor recreation to industrial workers therefore included in its plan for the furtherance of an industrial-recreation program a survey of the present activities in industrial establishments as a guide in the development of this phase of the subject.

The Bureau of Labor Statistics was accordingly designated to carry on a study showing as far as possible what is being done to provide recreation for industrial workers, the response made by employees to attempts to furnish them with facilities for recreation, and the particular lines along which such work may be developed. This subject was therefore included as part of a general study by the bureau of the various personnel activities carried on in industrial establishments.

Various factors enter into the problem of providing outdoor recreation for the employees of an establishment, some of which were not operative 10 years ago when a similar study was made by the bureau.

¹ From the Monthly Labor Review (May, 1927) of the Bureau of Labor Statistics, United States Department of Labor.

The most important of these are the increase in the extent of automobile ownership among industrial employees and the rather definite movement toward home ownership in the suburbs of many of the important industrial centers. Both of these factors militate against the development of outdoor sports in the vicinity of the plants. In addition, there is the fact that space for outdoor sports is often at a premium, since many industrial establishments are in highly congested areas. In a growing number of cities, too, the development of municipal recreation under trained leadership has become a feature of civic life, and this may often prove to be a solution of the problem of the employer who wishes to provide such facilities but is unable to do so because of lack of space or who has found a tendency toward professionalism growing up in the plant. In cases where the city provides a trained recreation director, frequently groups of industries contribute a stated amount annually toward the cost of this service, and the different teams are usually organized according to their industrial affiliations.

In developing plant-recreation programs there seems to be a quite definite tendency on the part of the management to let the demand for any particular activity come from the workers, the company offering any encouragement or assistance which the employees need or are willing to accept.

EXTENT OF OUTDOOR RECREATION ACTIVITIES

In the present study 430 companies, the great majority of which employ more than 300 employees and many of them many thousands, were found to be carrying on one or more activities promoting the health, comfort, or general welfare of the employees. Three hundred and nineteen of the companies, with approximately 1,300,000 employees, were reported as providing facilities for various forms of athletics or other kinds of outdoor recreation.

The following table shows the number of companies maintaining country clubs or summer camps, having annual picnics or other outings, or providing facilities for the different sports:

Number of establishments having athletic clubs, outdoor recreation facilities, and outings for employees, by industries

Industry	Establishments reporting		Number of establishments having—							
	Number	Employees	Athletic clubs	Baseball diamonds or athletic fields	Tennis courts	Golf courses	Baseball teams	Football or soccer teams	Annual picnic or other outings	Summer camps
Manufacturing:										
Automobiles.....	14	126,031	3	6			11	1	7	
Boots and shoes.....	3	22,000	1	3	2	1	2		2	
Chemicals, soap, and allied products.....	6	10,610		3			4		4	1
Clothing and furnishings.....	10	17,693	2	4		1	6	2	8	
Electrical supplies.....	16	81,503	4	9	6	1	9	5	6	3
Fine machines and instruments.....	11	42,790	3	11	4	1	10	3	6	
Food products.....	8	8,805	1	5	1		6		5	
Foundries and machine shops.....	40	101,784	5	15	4	2	29	9	28	
Furniture.....	3	3,170		1			3		3	
Gold and silver ware.....	3	6,605		1	1	1	2		2	
Iron and steel.....	8	38,728		7			7	3	4	
Oil refining.....	3	22,078	1	1			3	1	3	
Ore reduction.....	3	5,395	2	2	1		3		2	
Paper.....	10	11,954	3	6	3		9	1	4	
Printing and publishing.....	4	3,225	1	3		1	3		3	
Rubber.....	8	50,359	3	5	1		6		3	2
Textiles.....	36	63,927	7	31	4	1	32	7	10	1
Miscellaneous.....	27	61,860	6	13	2		15	4	18	3
Total.....	213	678,517	42	126	29	9	160	36	118	10
Logging and sawmills.....	3	3,376		2			2		3	1
Mining and quarrying.....	15	34,996	3	10	7		11		7	1
Offices.....	13	32,942	1	2	3		6	2	7	1
Public utilities:										
Steam and electric railroad.....	19	337,416	3	7	2	2	12		10	2
Gas, electricity, telephones, and telegraph.....	18	122,286	4	8	4	1	13	1	10	9
Total.....	37	459,702	7	15	6	3	25	1	20	11
Stores.....	34	96,860	6	2	5	1	18	2	18	9
Other industries.....	4	3,409					1		4	
Grand total.....	319	1,309,802	59	157	50	13	223	41	177	33

EMPLOYEES' ATHLETIC CLUBS OR ASSOCIATIONS AND ATHLETIC FIELDS

The various athletic features are managed in the plants of 59 companies through an athletic club or association, composed usually of a large proportion of the employees, and in many other companies an athletic committee has charge of the different sports. In cases where there is an organized club there are usually moderate dues charged, while frequently the proceeds of various social affairs during the year go to the athletic association. The dues of the athletic association, where it is an entirely distinct organization, range usually from \$1 to \$3 per year, but where the fee covers social and other activities as well as athletics it may be considerably higher. In the larger plants these associations often have thousands of members and their work is thoroughly organized under competent directors.

A mining company on the Pacific coast has a central council of workmen elected by popular vote of the employees, which has super-

vision over all the employee activities including the athletics, but directors are appointed in each of the mining camps to assist in the formation of the baseball and football teams, to organize boxing contests, etc. The company assists in financing these activities.

The athletic affairs of a company in the Middle West with approximately 17,000 employees are in charge of an athletic-recreation staff and coach. The company says that, "Given a square-deal management, industrial amateur athletics organized on a businesslike basis will promote plant morale quicker than any other single method." This company has an athletic field with grand stands seating approximately 10,000. Under the main grand stand are locker rooms containing several hundred lockers, and showers are also available there. There are six tennis courts, four baseball diamonds, horseshoe courts, a fine cinder running track, and a fully equipped playground for children of employees. Scheduled baseball games are played regularly during the season, and the girls' teams play one evening each week.

A New England company with about 1,800 employees, whose plant is located on the coast, has all the social and athletic work centered in a club, for which the company has provided a very beautiful clubhouse, an athletic field with grand stands, a community house, and a children's playground. The club, which has 640 members, manages all the athletics, and the dues covering all the club activities amount to 10 cents per week per member. Observing that the employees enjoyed a dip in the ocean at noon the company built two bathhouses and hired a swimming teacher. Towels and bathing suits are supplied at a small cost and the families of employees are free to use these facilities. More than 10,000 make use of them in a season.

An electric light company with about 6,500 employees maintains a fine clubhouse and recreation grounds of 67 acres for the use of its employees. The club is located outside the city limits but is easily accessible to all. There are facilities for baseball, golf, tennis, picnics, and dancing, and there is a playground for the children of employees. There are no dues; every employee is a member of the athletic association; and the club and grounds are for the use of the families as well as all the employees. This part of the personnel work has been a gradual growth, each phase of the work having been developed to meet the needs.

Another public service corporation with about 7,500 employees has a club which conducts the social and athletic activities of the company. The membership fee is \$2 per year and the company contributes an amount equal to the dues paid in by the employees. About 50 per cent of the employees are members. While the club is closely allied with the company, it conducts its own affairs through a board of governors elected annually by the employees and through the various committees appointed by the club president. The athletic activities of the club include basket ball, baseball, swimming, handball, and tennis, and there are several track teams among the employees of both sexes.

The athletic committee of a company with about 2,000 employees arranges a program of varied attractions for one week in August each year. The features include a band concert, exhibitions of various sports including water sports, horsemanship, etc., a circus, a field meet, baseball game, an exhibition of boxing, and fireworks on the

last evening. Some of the events draw a crowd of from 5,000 to 8,000, and it is estimated that 15,000 people participate in the week's activities.

A company which manufactures a product requiring many skilled workers has a pay roll of about 2,300, and of this number 2,000 belong to the athletic association, the dues for which are 50 cents a year. The factories are surrounded by several acres of well-kept grounds and there is an athletic field with a grand stand seating 1,200 which was built by the company at a cost of \$25,000. Committees appointed for each sport are under a director, who tries to get as many of the employees as possible who are not on the organized teams to take part in the noontime games. These include volley ball, quoits, outdoor basket ball, baseball, hockey, and bowling on the green.

A department store in the heart of one of our large cities has an athletic field on the roof of the store, which is used both during the lunch period and after hours. There is a circular running track with 10 laps to the mile, a 60-yard straightaway track, 2 tennis courts, and basket-ball, handball, and volley-ball courts.

COUNTRY CLUBS OR SUMMER CAMPS

Firms which provide country clubs or camps for their employees do so for the purpose of furnishing either a place where employees may spend their vacations or where they may go for week ends or holidays, or daily to take part in the various sports. These country places are often situated where there are many of the natural advantages for outdoor recreation, but, if not, such facilities are provided.

In addition to the 33 companies which provide clubhouses for these purposes, several maintain a home in the country where employees or members of their families who are convalescing from illness or who are in need of a rest can go to recuperate.

Woman employees of a company having several large plants in different sections of the country may spend their vacations at a camp maintained by the company on a beautiful lake in the mountains. It is a country estate of 45 acres with fine woods, traversed with mountain trails, rising up from the lake, and there are accommodations for 60 girls at a time in house tents built for two persons each. The tents have heavy canvas walls and each tent is fitted out in white enamel, is screened, and has electric lights. There is a central camp dining room, and there is also a lodge which has a fine floor for dancing. The camp is in charge of a house mother who has general supervision of the girls and there is a supervisor of athletics and one of play. All sorts of sports and games are provided, and there is, of course, swimming in the lake.

A textile company, which purchased and remodeled an estate on the outskirts of the town for the use of its employees, includes among its recreational facilities, a dancing pavilion and outdoor swimming pool. The pool, the main part of which is 50 by 100 feet, has a section with shallow water for the use of the children. Shower baths and locker rooms are provided and a life guard is in attendance during the summer.

A cotton mill has a summer camp in the mountains with cottages for both officials and mill employees. The houses have electric lights and running water and are fully furnished. There is a small lake

with rowboats and a gasoline launch, and there is a baseball ground, tennis courts, and volley-ball courts. A central community building has a large assembly room. There is no charge for the cottages, which the employees use for week ends or for vacations. The company sometimes sends the employees up in company trucks if they have no other means of getting to the camp.

A meat-packing company maintains a summer camp of more than a hundred acres of land, located on a lake, at which nearly 300 men and women can be taken care of at one time. The camp has three large buildings with modern kitchens, dining halls, and spacious living rooms, and is open 3 months each year. Office girls and women are invited to visit the camp for a week end during the season, the expense of the trip, including transportation, being assumed by the company. Woman plant employees who have been with the company one year or more are given a week's vacation at the camp at the company's expense. For others spending their vacation there, a charge of \$10 a week is made. The attractions of the camp include boating, bathing, tennis, and other sports, and a social worker is engaged during the season to supervise the recreation. The average attendance during the season is 50 a week for vacations and 100 more for each week end. It costs the company approximately \$10,000 a year to maintain the camp.

A public utility company in the Middle West provides a clubhouse in the country for the 900 woman employees of the company. The house, which is in charge of a hostess, is used throughout the year for vacations and for week-end trips. The rates are very low—\$3 per week, \$1.25 for week ends, and 50 cents for dinner. There is a small lodge for convalescents near the clubhouse, at which 15 to 20 girls are taken care of during the year.

Three public utility companies with approximately 20,000 employees cooperate in the maintenance of a summer resort for their employees. The property has a 2-mile lake frontage and there are two large hotels, a men's club, 68 housekeeping cottages, and tents having floors and provided with bedding and other necessities are available for those wishing to camp. The cottages are completely furnished and electrically lighted and are equipped with electric cooking apparatus. There is a 9-hole golf course; an athletic field with baseball diamond, tennis, croquet and horseshoe courts, and a bowling green; a pier (inclosing a swimming pool) for boating and bathing, and a dance pavilion. The rates charged employees for the various types of accommodations are less than the prevailing rates in similar resorts, as it is planned to run the place at cost. During 1925 more than 30,000, including employees, their families, and friends, were entertained at the resort.

Ten stores and offices provide summer camps for their employees. In most cases the prices charged range from \$7 to \$10 per week, but in some cases the rate is reduced for those earning less than a certain amount. In one case the farm is used as a summer vacation resort and in the winter as a convalescent home. Another company maintains a summer camp for all its employees where the junior employees, who receive systematic physical instruction, are required as part of their regular store duty to spend two weeks each summer. This company has a clubhouse for the athletic association of one of its stores at an ocean beach within a short distance of the city. All

employees of the store are members of the association, no dues or fees being charged. The clubhouse has dormitories with 18 to 20 cots each, a dining room where meals are served at nominal cost, billiard rooms, etc. There are tennis courts and a training track on the grounds and a 300-foot beach for bathing. The athletes of the club are under the training of a physical director, and many of them have gained national and international prominence in different track events.

Another store purchased a summer camp 10 miles from the city, which is now owned and governed by the employees. The company contributes liberally to the upkeep of the property, which consists of 90 acres, with accommodations for 150 people. The camp is only a 10 minutes' walk from the street car, and during the summer busses are run between the city and the camp. There is a mess hall; the sleeping quarters are modern tents accommodating from 4 to 6 each, and there is running water, shower baths, etc. The recreation tent has a large floor for dancing, and there is a separate play tent for children. Wives of employees, their children, and dependent parents are allowed employees' rates at the camp. A number of employees live there during the summer, making the trip to town each day.

A company with about 120 employees in a small New England town has a club within a short distance of the town which affords opportunity for remarkably well-organized community life. There are more than 80 acres of land, which were originally cleared to give employment to some of the men during a period when work was slack, and has been a constant development since that time. There is a large picnic grove with play equipment for the children; tennis, volley ball, and basket ball courts; grounds for quoits and croquet, and a dancing pavilion. The camp is well lighted with electricity so that all these facilities can be used at night. There is a swimming pool 300 by 100 feet, with diving boards and chutes, and there is a wading pool for children. A swimming instructor is employed, who supervises the pool and has separate classes for the men, women, and children. Once a week a picnic is held, which is very popular. A dinner is served at cost, or employees may bring their lunches, although they all eat together. There are several cottages which are rented at a nominal rental. During the summer buss service is maintained, a 3-cent fare being charged. There is absolutely no class distinction at the camp and it is used by every employee and by the families, and many guests are also entertained there. The friendly spirit present is said to have been responsible for many cases of social development among individual employees who had not had opportunity for such contacts before. The camp is run by the employees' club, although the company keeps it in condition and adds features as needed. The camp is also a bird sanctuary. The company hired the high-school boys to make bird houses, and those birds that stay through the winter are fed regularly.

COMMUNITY RECREATION

One of the outstanding developments in the recreation movement during the past decade has been the organization of adult recreation along community lines. The movement is an outgrowth of the

children's playground movement, which started nearly 40 years ago, and a growing number of cities and industrial communities have realized the advantages resulting from the provision of recreational facilities under trained leadership which are shared by all members of the community. In many cities and towns where this service has been put into effect the industries of the locality have cooperated with the community organization, while in some cases the industries first combined to provide the recreation and it was afterwards taken over by the city. More than 20 industrial and community organizations were visited in connection with the present study, and in most cases their activities included both outdoor and indoor sports. In some cities the employees of the different industries are organized in teams according to the particular plant in which they work, while in others the emphasis is on the community and teams are organized on this basis, with a frequent regrouping, so that interest will not be lost through knowledge of the relative capability of the teams and the probable outcome of the games. In a number of instances the provision for the recreation of the workers is through the industrial Y. M. C. A. or Y. W. C. A., to which the individual employers subscribe.

An example of the organization of a community largely made up of foreigners in which the industries first developed recreational and health services which were later taken over by the city is that of the Ironbound Community and Industrial Service of Newark, N. J. This organization represents a section known as the iron-bound district, covering an area of about 3 square miles in the heart of the industrial section of the city. About 75 per cent of the 90,000 residents of this district are foreign born or of foreign parentage, and all but about 10 per cent are employed in the industries of the section. The work was first organized about 1920 and for the first four years was financed by 40 of the largest industries. Since that time it has been part of the "community chest" plan of the city and receives a percentage of the funds raised for the city organization. Two doctors and several nurses hold various clinics at the community house, and there are two visiting nurses who supervise the health of the families in the homes. The recreational and other health facilities provided in the clubhouse include a gymnasium and various game rooms, a reading room, a rest room for women, and shower baths for both men and women. The indoor athletics include a large number of bowling and basket ball teams, and noon mass recreation meetings have been organized by the association in a number of factories. For these noon meetings the companies furnish the equipment and the space needed, and the association trains leaders and directs the sports. Among the organized outdoor sports are baseball and soccer. A field day with a track meet and other sports is held each year and all the industries give their employees a half holiday for this event. The organization has been handicapped for lack of space for outdoor sports, but the manufacturers' association of the district has been active in having a bill passed appropriating funds for the purchase of a 20-acre tract to be used for this purpose so that this need will be met.

The officers of the organization and the board of trustees are chosen from men employed in the different industries. For the use of the recreation rooms and gymnasium an annual fee of \$5 is charged.

Industrial workers may pay half of this and the industry where they are employed will pay the other half, but only a few take advantage of this offer as the majority prefer to pay the fee themselves.

In Paterson, N. J., the industrial athletic association is an outgrowth of the movement for adult recreation fostered by the city board of recreation, and the work of the two departments is so closely allied that it is difficult to separate them. The association promotes competition in many sports, using the city outdoor facilities, while in the winter it has the use of several finely equipped public school gymnasiums for the men's and women's basket ball and volley ball teams. There are about 125 plants—representing approximately 25,000 workers—which are members of the association. The fee is \$5 per year for each plant, and sustaining or individual membership amounting to \$18 and \$25 a year may be taken by individuals or by firms who are particularly interested in the athletic program. Through these fees the association is, in the main, self-supporting, although a small admittance fee is charged for some of the games, dances, and other recreational features. There is also a girls' recreation club, made up principally of employed girls over 18 years of age, which is largely devoted to indoor sports. Athletic meets, combining events for the militia, industrials, and high schools, are arranged by the director each winter. These meets attract large groups of spectators. Although the athletics among the working people are fostered by the industries, the tendency in the organization of the different sports has been away from industrial affiliation and toward organization by church or other groups. The industrial soccer league, for example, was discontinued and a church league with 20 teams was formed, and there were two independent leagues with six teams in each league. There were, however, in 1925, three industrial baseball leagues each with eight teams.

In Baltimore, Md., also, according to the director of the playground, an effort was made in the league to tie the athlete to the neighborhood or school, then to the church or lodge, and last of all to the industry. There was, however, in this city a soccer league made up of teams representing eight companies, and girls' and boys' industrial basket-ball leagues made up of five or six teams each.

In Johnstown, Pa., where there is a very elaborate recreational program for both children and adults, the athletics and recreation are on a community basis, although a large proportion of the participants are workers. While the children's work is particularly stressed, there were six baseball leagues playing on municipal grounds, the spectators numbering anywhere from 2,000 to 10,000 each evening during the summer. A large swimming pool is used by thousands of adults. In 1926 the city had under construction a stadium which will seat more than 17,000 people and a park of 140 acres which will have a 7-acre athletic field and swimming pools.

In Cleveland, Ohio, there are a large number of baseball and basket-ball teams which are financed by the community fund but are organized by industries. There are 16 firms which have baseball teams and 122 companies have indoor baseball played outdoors or playground or diamond ball. Thirty-two firms have basket-ball teams in the league, employment for 30 days and for 30 hours a week being a requirement for membership on the team.

A playground and recreation association in the mining section of Wilkes-Barre, Pa., covers a field of activities of about 160 square miles and includes besides the city, which is the center of the organization, 26 mining towns ranging in population from 5,000 to 20,000. The association has a yearly program for both adults and children which is thoroughly organized and covers athletics, music, drama, handicrafts, and a variety of social activities, and reaches about 280,000 people. The work is in charge of a director and two assistants, and during the summer playground work a special staff of 90 persons is employed who have had special training and experience. The work for the children is planned so that each week represents some special activity.

There are a number of organizations within the association, one of which, the Store Employees' Association, had about 5,000 members. Membership in the association is not confined to store employees, but 51 different establishments and a number of industries are represented. The program of the association is both social and athletic. In 1925 it included girls' and men's bowling teams, baseball, basket ball, swimming, dancing, and week-end camp outings. About three-fourths of the members of the association take an active part in the various sports and social events.

The industrial recreation association of Portland, Oreg., had a membership of 53 firms in 1925. There were four baseball leagues, with six teams in each league. Each team plays 10 games during the season and at the end of the season the winners in each league play for the championship. The firms pay the umpires and for equipment. There were two basket-ball leagues, which followed the same plan of playing off the games, and the companies were each assessed \$40 at the beginning of the season to cover floor expenses. Employees of 20 firms were interested in playing horseshoes and 14 each in golf and tennis. For the latter two games the players made their own arrangements for playing, but each firm paid a certain amount toward a trophy. At the end of the season the employees of the company which had the highest number of winning teams in all sports were presented with a silver cup. The attendance at the games varied from 250 to 1,500 and it was estimated that approximately 120,000 persons attended the baseball and basket-ball games during the 1925 season. The players are on an amateur basis and no admission is charged for the games.

The industrial athletic association of Oakland, Calif., works in close cooperation with the city recreation department. The motto of this organization is "sport for sport's sake," and an effort is made to have the largest possible number become active participants in the games, while encouragement of only a few star players who repeatedly represent their firms is not tolerated. Close cooperation between employers and employees is secured through the representation of both on the recreation committees. The employers' dues range from \$5 to \$25, according to the number of employees in the plant, but no dues or fees are charged employees, all of whom are considered active members.

Championship tournaments are held at the end of the season for the various sports, and varied entertainments are given throughout the year, most of which are free. The big event of the year is the sports carnival held annually in March at the municipal auditorium.

Usually about 3,000 people participate and there are about 10,000 spectators. The recreation program includes noon-hour activities at the plants, such as volley ball, baseball, tennis, quoits, etc., an attempt being made to get a large number of participants, and for rainy days there are suitable indoor group games, music, and dancing. Then there are late afternoon sports and also an evening program of games, dancing, dramatics, and orchestral and choral practice while there are also classes in English, economics, etc. On Sundays and holidays there are hikes, picnics, and week-end trips. There are about 10,000 active participants in the different activities. In developing this industrial recreation program three fundamental purposes were kept in mind: First, democracy; second, plant spirit and good fellowship; and third, wholesome recreation; and the aim has been to develop leaders from within the ranks who could carry on the work. In introducing sports during the noon hour the recreation director says that volley ball has proved to be an excellent opening wedge, as it is exciting, snappy, can engage a large number of players, and can be played almost anywhere. Letters sent to a selected number of employees and employers who had actively participated in the sports program or had assisted in developing it, asking for their personal reactions to it, brought unanimous indorsement as to the physical benefits, the promotion of a spirit of good fellowship, and the development of improved plant morale.

The experience of these cities is cited as typical of the attempts being made in many cities and towns to meet the need for organized play among factory and office employees. With the increasing specialization in manufacturing processes and the consequent monotony and dulling of interest on the part of the workers it is imperative that a systematic effort be made to furnish an incentive to such workers, and nothing, it seems, can better meet this need for self-expression than the friendly rivalry and interest furnished by competitive sports and games.

department of instruction in the field of dramatics, physical education, and other types of recreational programs. The report and reference to such details as entrance requirements and tuition fees giving only such data as will serve to guide those who are interested in the sources of more complete information. With regard to fees it may be stated that they range all the way from the cost of a four-year normal or college course in physical education and related branches (not also covering greatly from the tuition of the state and city supported universities and normal schools to the private institutions, rates of a very hundred dollars a year, down to fees of from \$10 to \$50 for short courses in summer schools or special training institutes.

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TRAINING COURSES FOR RECREATION LEADERS ¹

Capable leadership is a most important factor in the successful development of an intensive recreation program. Expensive grounds, buildings, and equipment can yield adequate returns to the community only when they are administered by well-trained, carefully selected, and properly compensated men and women. From the vast field which embraces public systems of education, municipal recreation boards, and community groups and organizations comes a steadily increasing demand for workers thoroughly qualified by gifts and education for the administration, supervision, and direction of their programs and equipment for play, recreation, and physical education.

In appreciation of these facts the National Conference on Outdoor Recreation appointed a committee under the leadership of officials of the department of recreation of the Russell Sage Foundation supported by representatives of national-welfare associations to study and report upon the opportunities which are available for those seeking training to fit them for positions of this character.

A survey has revealed about 200 educational institutions and recreation agencies throughout the United States which are offering courses in recreational subjects. These cover a wide range. The majority fall within the program of studies of the professional schools and colleges and normal-school departments, of physical education, whose curriculum, in addition to the theory and practice work of the gymnasium now generally includes such subjects as playground activities, coaching of sports and athletics; dancing, camp craft, scouting, and nature study; and the administration of playgrounds, camps, community centers, and municipal recreation systems. Other departments of instruction in the higher institutions of learning frequently afford training in such fields as dramatics, pageantry, story-telling, community music, club work, and rural recreation; while various organizations offer courses training for leadership in their specific types of recreational programs.

The report omits reference to such details as entrance requirements and tuition fees, giving only such data as will serve to guide those who are interested to the sources of more complete information. With regard to fees it may be stated that they range all the way from the cost of a four-year normal or college course in physical education and related branches (here also varying greatly from the free tuition of the State and city supported universities and normal schools to the private institutions' rates of several hundred dollars a year) down to fees of from \$10 to \$50 for short courses in summer schools or special training institutes.

¹ Directory of Training Courses for Recreation Leaders. Compiled by Marguerita P. Williams and Lee F. Hanmer, of the department of recreation, Russell Sage Foundation for the National Conference on Outdoor Recreation, 1928.

SURVEY OF STATE PARKS AND RECREATIONAL USES OF STATE FORESTS¹

The survey of State preserves, including State parks, State forests, and areas under public or private agencies giving recreational and conservational services in fields not covered by national or municipal governments, which was made by the National Conference on State Parks at the request of the National Conference on Outdoor Recreation, disclosed that all but a few of the United States are adequately discharging or are rising to their responsibilities in this respect. It was found that 43 of the 48 States possess either State parks, State forests partly devoted to or capable of recreational use, or areas under various designations and administrative agencies, including many held by private organizations as public trusts, which have equivalent values for outdoor enjoyment and the conservation of wild life. In the other five, more or less promising beginnings toward the establishment of State park or forest systems were found. None of them is without potential sources of such outdoor recreation and fields for conservation, as purely State undertakings, whenever public opinion calls for their establishment.

This survey was financed by a grant of \$12,500 for the year 1925, by the Laura Spelman Rockefeller Memorial, renewed in 1926, and renewed for half-time work in 1927. It was carried on by the field secretary, who visited 46 States, some of them several times, and by the executive secretary, from the Washington office of the National Conference on State Parks, with much volunteer cooperation by its officers, members of its executive committee, and general members who helped to support the organization with contributions and dues.

The survey sought to gather data as to the extent, nature, recreational facilities, administration, present and prospective service of all State parks and forests and equivalent areas; the lands and funds available or in prospect for their extension; and to encourage the further development of this public service through the action of the State governments, unofficial agencies, and individuals. In addition to the collection of data for a report, opportunities appeared early in the course of the survey to assist in movements for parks and forests, through newspaper and magazine publicity, public speaking, conferences with legislators and executives, and other means of encouragement and support.

The conference published a Report on State Parks and the Recreational Uses of State Forests, in May, 1926, the first collection of such data which had appeared in such form, covering the entire country. In 1928 it will also publish a reference book on the subject, bringing up to date the additions which are yearly so numerous, with the wide support given to this public service, that in the more progressive States, and in those where the movement is making fresh and vigorous beginnings, any census of such preserves is out of date within a year.

¹ "State parks and recreational uses of State forests," by Raymond H. Torrey, National Conference on State Parks, 1926.

Considering the regional development of the State park and forest idea, from the point of view of human recreation and conservation of wild life, the Northeastern, Northern, the nearer Northwestern and the Pacific Slope States are doing all that can be expected of them; their citizens and public officials are reasonably well convinced of the value of such preserves, and present programs seem adequate for the needs of the immediate future. Promising beginnings have been made in the border, the Southern, and the Southwestern States. Even in the Rocky Mountain States, where Federal parks and forests are ample, State agencies have developed State preserves, usually in cooperation with the Federal Government in land exchanges. The idea that State governments have a responsibility to their people, apart from what the Federal Government may do, is apparent in this field of outdoor recreation and conservation, even in States where large areas of Federal land still remain.

Examination of the motives which originated State park and forest movements discloses some interesting facts as to the early history of the idea in this country. It appears that the earliest public preserve in what is now the United States was Boston Common, acquired in 1634. It was a city park, but closely following it in 1641 was what more nearly resembled the modern idea of State preserves, the reservation to the people, by the General Court of Massachusetts, of the rights for "fishing and fowling" on "great ponds" or inland water bodies of 10 acres or more.

For more than 200 years after, city parks in the larger communities in the East and South were the only outdoor preserves established, since almost the whole area of the country was open to wilderness adventure and recreation for those bold spirits who sought it. With the advancement of the frontier westward, after the Civil War, thought began to arise for the conservation of scenic treasures. In the East, this took effect in a movement to acquire Niagara Falls, as a New York State reservation, begun in 1867 but not officially undertaken until 1885; and in Michigan, also in 1885, with the acquisition of Fort Mackinac from the Federal Government for a State park.

In the West, Yosemite Valley was made a California State park by Congress in 1865, although it was taken into the National Park system 40 years later. Yosemite, therefore, now one of our most famous national parks, was our first State park, in the large view which most progressive States are now taking, and which has led to the acquisition of some State preserves which rival all but the most magnificent national ones and exceed in area and scenery some of the lesser Federal properties.

In the last decade of the nineteenth century the movement for State parks grew slowly and in scattered fashion, without coordination and usually through the support of farsighted private citizens here and there. But it began to be accelerated early in the twentieth century largely through an immense increase in outdoor life due to increased mobility made possible by the invention and perfection of the automobile. The changes in our traveling habits and the growth of summer migrations about the country led to a demand for places for outdoor recreation. Farsighted political leaders sensed this change early and met it by supporting the establishment of State parks and forests, although in most cases private philanthropists of quicker vision were in the lead, with money and effort, in stimulating

the movement. About the same time, too, began practical efforts for conservation of scenery and wild life, and our forests, which had such magnificent results in the national preserves, and which reflected strength to the State programs.

Thoughtful and farsighted public and private supporters of means for conservation and outdoor recreation saw early in the progress of the changes which the automobile wrought in our national mobility, that while large numbers may make vacation trips to our western national parks and forests, there are millions who require opportunities near at hand for holidays, week ends, and short vacations, within a few hours from their homes, in the woods, upon lakes or the seashore, or in the mountains, where they can find refreshment of body and spirit and relief from the strain of our intense modern life. Leaders of public thought and philanthropists alike in consideration for their fellow men, though different in ability to stimulate and support projects for the public good, brought about the establishment of State park programs which in the past 25 years have resulted in notable additions to the means for happiness for tens of millions.

The State park and forest movement has taken such varied courses in different States that it was not surprising that the survey disclosed a variety of administrative agencies under which such areas have been acquired and are now operated. State forests, because of their economic purposes, as in most cases originally intended, though public demand is now calling for large recreational uses as well, are more uniformly under the same kind of State agencies than are parks, which are apt to be governed by any one of a dozen different sorts of public functionaries. It was found that parks and forests and equivalent areas are under such diverse agencies as State park superintendents or directors, controlling single parks or systems of growing number; State foresters; conservation commissions, or agencies of equal powers with differing titles, including parks, forests, fish and game, land surveys, and allied departments; highway commissions; fish and game commissions, historical, archaeological, or other scientific agencies; semipublic or private organizations holding lands as public trusts, local commissions, departments of public works, land commissions, and departments of agriculture. Preserves not designated as State parks, but giving state-wide or even nation-wide welcome and service, are often administered by state-chartered county, district, or municipal agencies, or by municipal commissions holding lands outside city limits.

Several States have coordinated parks, forests, and allied conservation and recreation facilities in a conservation commission or department, with a supervising board or a single director, and separate chiefs for the various divisions. This form has worked well in most cases, and the tendency seems to be to adopt it in States of large population and diverse needs and opportunities for conservation and recreation. Another form of coordination, seeking to unite a variety of regional park commissions and other agencies, has developed in New York, in the State Council of Parks, established to act as a central advisory body while leaving each constituent independent in its particular sphere. The original status of this council as a separate agency has been changed, in a reorganization of the State government, to make it a division of the department of conservation. In a few other States somewhat similar scattering of State preserves

under several agencies has suggested plans for like forms of coordination where immediate consolidation into a conservation department was impracticable.

Efficiency in administration and development of State preserves sufficient for present needs has been shown in most cases, by these differing agencies, so that the procedure does not seem to matter if the public needs for outdoor recreation and for conservation are met. Where such developments are in an early stage, and where relatively small population or the existence of readily accessible national, county, or municipal preserves make extensive State projects uncalled for, some simple form of State park administration or the allocation of parks to existing departments handling related matters may suffice; but with large population, great demand for outdoor spaces, large tourist travel and favorable topography for establishing such preserves, the evolution of some powerful and efficient central body, such as a conservation commission, has resulted.

The increasing variety of State park developments have led the authorities in the field to attempt some standardization of such preserves and of their allocation to different political subdivisions. There is much interlocking between municipal, county, and State parks, and even with national preserves where they lie near cities. Some State parks, on any ideal basis of allocation, should be assigned to municipalities to which they may be close or even in which they may be included. Political pressure sometimes causes incongruous assortment of public preserves, although the practical result is beneficial, in adding to outdoor breathing spaces. Practical difficulties inherent in our system of government may defer the application of ideal standards of size, quality, and allocation, but the movement works slowly toward a more definite division consonant with the proper responsibilities of State, county, and municipal governments. Great metropolitan districts present the most complicated problems of this sort, where city, county, metropolitan district, and State parks may be closely interrelated and adjoining; but the results are fortunate for their populations, in increased recreation space, and continuous parks and parkways, leading from the heart of such cities out to the woods and hills.

Leaders of farthest vision among State park and forest officials and their private supporters, and regional planners, are looking ahead to the needs of a generation to come, based on the continuous trend to the cities, the inevitable growth of immense metropolitan centers, with their congestion and the consequent need for readily accessible recreation places. Such consideration for the future has been chiefly stirred in the East and North, but the growth of cities of metropolitan rating in the West and South is forcing the same problem upon their thoughtful citizens, and State agencies in those regions as well as municipal share the responsibility of providing for 20, 30 or 50 years hence.

Planning for present and future needs has been done on an effective scale in New York, first by the New York State association and continued by the official State Council of Parks, which secured legislation allocating every county of the State to some regional agency, and brought about cooperation with the highway department in laying out State parkways. The committee on needs and uses of open spaces in Massachusetts has just published a map, the result of three years' study, showing the existing state, county, metropolitan and other

preserves, to demonstrate needs for additions and coordinations. In Illinois the Friends of Our Native Landscape aroused interest in the preservation of notable scenery by a study of land suitable for parks and forests. Now the department of conservation is planning an extensive campaign of acquisition of land for forest reserves, game preserves, and shooting grounds, if a \$20,000,000 bond issue, approved by the legislature and governor, is ratified by the voters. Definite forestry plans, with recreational uses included, are accepted and carried out as appropriations permit, in Pennsylvania, Massachusetts, Ohio, Vermont, and other States. Michigan is seeking to crown its numerous State parks of medium size with large wild preserves in the Upper Peninsula. California in adopting a progressive plan for State park extension in 1927 included provisions for a state-wide survey to determine the desirable sites to be conserved. A bond issue of \$6,000,000 for State park acquisitions was authorized by the legislature of that year and will be placed before the voters for approval in November, 1928. The department of conservation and development in New Jersey has begun a study to fill in the gaps in the present State park and forest system. Indiana has made notable progress in locating State parks so as to be accessible within a few hours of any resident, and future plans will amplify this provision, while the most important project, the Lake Michigan Dunes, will serve its neighbor, Illinois, and especially the Chicago district.

One of the most comprehensive of such surveys, which includes recreation factors as well as economic factors, is the Michigan land economic survey. Its principles were fixed by C. R. Lovejoy, of Ann Arbor, and it is being carried out by a division of the conservation department. It is making an inventory of the natural resources of the sparsely settled counties in the northern part of the lower peninsula and in the upper peninsula, including 10,000,000 acres of waste and idle land, and nearly 6,000,000 acres of delinquent tax lands, which the State expects to add to its preserves. The field study results in data which are presented on maps, for which new forms of symbols have been devised, showing the character of the lands, and suggesting their suitability for agriculture, forests, water power and storage, and also for summer camps, playgrounds, game preserves, resorts, and State parks.

Park development of the past 25 years has shown another strong argument for their establishment, other than the esthetic or sociological reasons; a practical argument, that they tend to raise the value of land in their vicinity and to fix permanently a desirable character of surroundings. This effect in city parks is unquestioned. It has been demonstrated by a special study in the case of the Essex County park system in New Jersey, which revealed increases of from 200 to 600 per cent, in the assessed valuations of the environs of some of its parks in 11 years. And in Westchester County, N. Y., a \$40,000,000 county park system, under way for only the past four years, has already effected increases in valuations of \$400,000,000. The effects of State parks and forests may not be so immediate, nor so large, but their influence upon the value of surrounding territory is a dependable factor—it is shown only too plainly by the raising of prices of land in successive purchases—which increases with popular use, and which behooves park planners to acquire land with a long look ahead, to save inevitably increasing costs.

The ideal combination of State parks, forests, and other preserves, including historical and scientific sites, in a coordinated program, allied with county and municipal agencies, to which progressive officials are working, is a sufficient number of areas of moderate size, up to a few hundred acres, located along the principal highways and near large cities to serve picnicking and tourist camping needs, and to crown the system, one or more large wilderness parks, or forests with whatever of primitive nature a State affords—mountains, forests, lakes, sea beaches and dunes, and swamps and marshes for wild-life refuges, to give every variety of outdoor recreation and even a spice of adventure. Where such large parks can be acquired near metropolitan districts, as in the case of the Palisades Interstate and Allegheny Parks in New York, and can be kept, as these are, largely in a natural state with limitation of service areas to not more than 10 per cent of the total, their recreational value is incalculable.

Where topographical conditions favor the establishment of parks on the boundaries of two or more States, the political separation has in several cases been ignored, with the result of creating interstate parks under joint or separate administrations. The Interstate Park at the Dalles of the St. Croix, with Taylor's Falls State Park in Minnesota, and St. Croix Falls State Park in Wisconsin were the earliest examples; each side is under separate direction, but they are interstate in popular use. The Palisades Interstate Park in New York and New Jersey is the most notable and largest example; it is under a joint commission, with five members from each State, and such is the location of its divisions that New York residents use the Palisades section in New Jersey more than do New Jersey people, while the divisions in New York are often more heavily used by New Jersey visitors, especially motor tourists, because of convenience in access.

A tri-State project has been proposed in the Taconic Plateau, at the corner of New York, Massachusetts, and Connecticut, and lands within the area have been acquired by the first two States; at present there is separate administration, but when the plan nears completion an interstate commission may prove desirable. Washington Crossing State Parks, in Pennsylvania and New York, on opposite sides of the Delaware, are being developed by park agencies in each State with consideration for their joint historical significance. The juxtaposition of the Allegheny State Park in western New York to the Allegheny National Forest in northwestern Pennsylvania make the two an interstate preserve.

Planning for State parks and forests on national rather than local or sectional considerations, which has been encouraged by such organizations as the National Conference on State Parks, is probably the next step in their progress. Such preserves invite the summer migrations of tourist campers, which have become such a conspicuous feature of our life in recent years, from East to West and from South to North. Seasonal conditions call them North in summer and public and private provisions for entertaining them are increasing in the Great Lakes and Northeastern States. Similar provisions for those going South in winter have so far been mostly in private hands, and there is a wide opportunity for the Southern and Southwestern States to acquire and equip State preserves for

the entertainment of such visitors, and the better regulation of the winter migrations for comfort, sanitation, and general enjoyment. Spring and fall are delightful seasons in the South, when it is too cool for outdoor enjoyment in the North, and the development of Southern State park systems might be planned to make the most of these climatic allurements.

The report of the survey of State parks and forests by the National Conference on State Parks, as of the spring of 1926, listed 578 State parks, with a total area of 2,613,271 acres; 156 State forests, with 1,699,900 acres, and 2,472,934 acres of other State lands, unorganized for but capable of recreational uses; a total of 6,785,105. This was approximate and much under actual areas, since many other State lands, whose recreation value has been neglected and whose actual area is not even known by accurate surveys in some cases, will be added to such public resources when appropriate action occurs. Additions reported since that survey will bring the grand total over 7,000,000 acres. There are great variations among the States, from a total of a few score acres to more than two millions, as in New York, where the great forest preserve in the Adirondacks and Catskills gives that State a commanding lead. Pennsylvania is second with its 1,130,000 acres of State forests, which are equivalent to parks; Wisconsin holds high place with 117,000 acres, and South Dakota, with one State park, Custer, of 107,440 acres, follows closely, but below them the totals are much smaller. New York leads in the number of State preserves, with more than 60, with Michigan second; but Michigan has great potential opportunities in several million acres of tax delinquent cut-over forest lands which may some time become large parks and forests.

THE HISTORY OF STATE PARKS AND FORESTS

During the first 200 years after the settlement of what is now the United States there was little need, and therefore little thought, of reserving areas for conservation and recreation. Isolated examples of foresight for the future are found in the Massachusetts Bay Colony, in the establishing of the public right to access to "great ponds," and of Boston Common; in some other cities of the Atlantic seaboard like New York and Philadelphia, city parks were set aside. The wide elm shaded streets of New England towns may be regarded as exemplifying such forethought. Perhaps the earliest example of vision of modern ideas of conservation may be found in a message to the New York Legislature, in 1820, by Gov. De Witt Clinton, urging the retention of the Adirondacks in State hands and their natural state. The State land board was then selling off its lands at low prices, a policy not discontinued until 65 years later. Governor Clinton's primary object was the conservation of water supply in the streams rising in these mountains to fill the Erie Canal, his great project, but he also seems to have had a thought of the use of such a preserve for wilderness recreation.

Other early beginnings of the park idea in this country may be found in the acquisition by public agencies or patriotic and historical societies of some of the shrines of the military history of the Revolution. Washington's headquarters in Newburgh, N. Y., from 1778-1783, was purchased by the State in 1849. Other small sites were

acquired about this time by interested groups or individuals, but State appropriations for purchase or maintenance did not develop for half a century later.

There were wide opportunities, if there had been vision at the time, when the Federal Congress began to admit new States west of the Appalachians, to set apart in the surveys tracts for State parks or forests. But the demand was for cleared lands for the settlers, and the forests were slaughtered. School sections, one or two to each township, and other blocks of land, were given to the State governments to help them pay expenses, build schools and other public buildings, but in too many cases such lands were sold off quickly at low prices. In what afterward proved to be good fortune, lack of a market for such land sometimes kept it in State hands until growing vision developed a policy of retaining it. This was particularly true of Rocky Mountain and Pacific Coast States, where ideas of conservation were born not too late to save many millions of acres in public lands, from which have been segregated our magnificent national parks, forests, and monuments, and some State preserves.

The earliest example of the reservation of a large State park for recreation was in 1865, in Yosemite Valley in California, given to the State by Congress, including the famous basin and a mile about it, and also the Mariposa Grove. Claims by settlers and suits which went to the United States Supreme Court delayed actual control by the State until 1875. Yosemite remained a State park, for 30 years until demands for the conservation of a larger area, led by John Muir, caused the establishment of the national park, turned back again to Federal control in 1905.

The movement for the conservation of the surroundings of Niagara Falls began in 1867, but it was not until 1885 that the shores above the brink, on the American side, were taken over by the State as New York's first State park.

Michigan acquired its first State park, Mackinac Island, from the Federal Government in 1885; Minnesota began its system with the purchase of Birch Coulee, scene of a battle in the Sioux war of 1862, in 1889 and in 1891 started to acquire Itasca Lake Park.

In 1883, upon the recommendation of Governor Cornell, the New York Legislature prohibited further sale of the State lands in the Adirondacks, which had dwindled from 10,000,000 to 800,000 acres; and in 1885 the State forest commission was created to control the State forests. In 1899 the Catskills were taken into the scope of the commission, in time, although little State land remained there, to save the high summits and some virgin timber, by purchase. A later amendment to the constitution declared the forest preserve to be wild land forever, and prohibited cutting of timber or leases to private parties.

A similar movement for a State forest was begun in Pennsylvania in 1898, by Dr. J. T. Rothrock, who induced the legislature to begin a program of land purchase which has since extended to over 1,100,000 acres. While the primary object was economic, increasing demands for recreational uses have led to the segregation within them of State forest parks and monuments and the entire forest area serves as a public hunting ground. During the past 30 years, Pennsylvania has also acquired notable historical parks, such as Valley Forge, Washington Crossing, and Presque Isle.

In 1895 began a notable movement in New York and New Jersey for the conservation of the Palisades, which was threatened with defacement by trap rock quarrying. This was chiefly the work of George W. Perkins, and he lived long enough to see it grow to a degree he probably did not dream of in the beginning, into the Palisades Interstate Park, including with the Harriman State Park in New York, the first large, intensively developed State park, accessible to a great population. It was increased by large public funds, and by princely private gifts, led by that of Mrs. E. H. Harriman, to 45,000 acres. No other park development in the country has done more to stimulate the State park movement.

Agencies for the acquisition of historical and scenic parks, antedating official State departments for such purposes, developed in the last years of the nineteenth century, like the American Scenic and Historic Preservation Society in New York; the trustees of public reservations in Massachusetts, and the State Historical and Archæological Society in Ohio. These served highly useful purposes, when official action had not begun, to conserve valuable historic and scenic sites through gifts or bequests and to stimulate later official programs. Private organizations like the Appalachian Mountain Club, and the Society for the Preservation of New Hampshire Forests also acquired powers to accept reservations for public trusts.

Early in the twentieth century State park and forest progress, hitherto limited to about a dozen States, was given strong impetus by two causes; the development of ideas of conservation by public officials like President Roosevelt, which affected National, State, county, and municipal agencies; and the invention and perfection of the automobile, which transformed our national mobility. The range of pleasure travel encouraged by it brought about demands for more outdoor attractions and preserves easily accessible to the public. Highway systems were made over to meet this change and public and private agencies provided resting places along the State and National routes. Highway and park developments grew together, and in most States this association is now a governing feature in the extension of both.

Between 1900 and 1920, there was great development of national parks and recreational uses of national forests, and this had favorable effects upon State programs. The yearly transcontinental migrations of motor tourists and campers became a new feature of American life, and these migrants helped the cause of State preserves by asking, when they came back from their tours, why their own States had not just as good parks as the others they had visited. It was early recognized by supporters of every form of outdoor recreation that while hundreds of thousands have the time and means to make trips of several weeks to western national preserves, there are tens of millions who require opportunities near at hand where they can go on a week end or over a holiday, within a few hours from their homes, to secure refreshment of body and mind in the woods and mountains and lakes and streams. It was seen that State parks and forests, as intermediate recreational links between city and national preserves, were urgently needed. The influence of the philanthropic and far-sighted men and women who realized this need and often their generous financial support, speeded up State park and forest developments to a point where they now afford one

of the most significant phases of our national object of giving every one the opportunity for "the pursuit of happiness."

Contacts between State park and forest officials and supporters seeking help from each other as to methods of management, and the need for defining the respective responsibilities of the National and State Governments in recreational provisions, led to a movement for coordination and the establishment of more definite standards and for mutual cooperation. This resulted, in 1921, in the organization of the National Conference on State Parks, in Des Moines, Iowa. Hon. John Barton Payne, formerly Secretary of the Interior and now chairman of the American Red Cross, was its chairman for six years and was succeeded in 1927 by Hon. Stephen T. Mather, Director of the National Park Service.

The National Conference on State Parks has sought to bring about the establishment of State parks and forests "within easy access of all the people of our Nation." Its annual meetings at State and National preserves in New York, Indiana, Pennsylvania, Virginia, and Arkansas, and the service from its office in Washington through its capable secretary, Miss Beatrice M. Ward, have been productive of a vast amount of mutual help in coordinating the forward movement for State parks and forests. It has also encouraged the establishment of regional State park conferences, the Ohio Valley Regional State Park Conference, including Illinois, Indiana, Ohio, Kentucky, and West Virginia; the Southwestern Regional State Park Conference, covering Texas, New Mexico, Oklahoma, Arkansas, Louisiana, and Mississippi. The national conference has also encouraged the establishment of State park associations in a number of States, which have been influential in securing official support for the cause. The conference was therefore regarded as the appropriate body to make a survey of State parks and forests when several such studies, in appraisal of the recreational resources of the country, were determined upon by the National Conference on Outdoor Recreation.

METHODS OF ACQUISITION OF STATE PARKS

The importance given to the acquisition of State parks and forests in the budgets of various States is largely governed by their population, wealth, and demand for outdoor recreational facilities, although there are some creditable exceptions where limited means and population have not prevented notable achievements in the field.

New York, leading in population and wealth, and in the early development of ideas of conservation of scenery and recreational areas, forced upon private and public agencies by the demands of its metropolitan area of New York City, naturally leads all others in the amounts expended, totaling over \$80,000,000. Three State park bond issues totaling \$27,500,000 have been adopted by the legislature and ratified by the voters with increasing majorities, and annual legislative appropriations have been correspondingly generous. Forty million dollars has been authorized for the Westchester County park system, adjoining New York City.

Pennsylvania has spent about \$6,000,000 in the past 25 years on its State forest and forest parks, and a bond issue for \$25,000,000 for completion of the program has been approved by the legislature and will come before the voters in 1928.

In Illinois, Chicago and its suburbs, through the Cook County commissioners, have spent over \$15,000,000 on the county forest preserves, and in 1927 the legislature approved a bond issue for \$20,000,000 for a state-wide system of public shooting grounds and other preserves, subject to vote of the electorate in 1928.

These are outstanding examples in States of great wealth. But in less opulent commonwealths, bonds for park and forest purposes have been issued, as in New Hampshire, when \$200,000 was authorized for the acquisition of Franconia Notch; in Massachusetts, New Jersey, Rhode Island, and Ohio, where State chartered commissions have bonded counties or groups of counties to establish park systems. Where State constitutions prohibit bond issues their subdivisions have bonded themselves, as in Steuben County, Ind., which raised \$35,000 in this manner to buy a park which it turned over to the department of conservation for management.

State-park supporters urge that there is as much justification for bond issues, payable over long terms, and to a considerable extent assigned to posterity, as for highways or other permanent improvements, since parks are essential to public health and contentment and land costs are continually rising.

In many other States legislative appropriations are the chief source of support for parks. Where a consistent policy is established, and such appropriations are regularly maintained, as in Iowa, for example, where an average of \$100,000 yearly is allotted for the purpose, this method is effective. But it is liable to reduction or suppression in times of economy or absence of adequate official support.

A fairly reliable source of funds, under laws definitely assigning such revenues to park purposes, lies in fees from hunting, fishing, and trapping licenses. Missouri offers a good example in allocating 25 per cent of the game-license funds to the purchase of State parks, and more than \$350,000 has been expended from this source and 15 fine properties acquired. Kansas and Nebraska use such funds for buying public recreation and fishing grounds. West Virginia, Oklahoma, and Ohio have bought large game preserves, having potential park values, with such funds. New York is using half of its revenue from hunting and fishing licenses to acquire demonstration forests.

A less fortunate example of assigning State revenues to park funds is found in Washington where fines for some highway violations are allotted to the parks. Reduction of the highway patrol cut the volume of fines and starved the park system.

Direct tax levies yielding \$850,000 over eight years were used in Indiana to purchase the Dunes Park on Lake Michigan. Assessment for benefit is common in city parks and more recently in county park developments and might be used in the case of State preserves.

Gifts of money and land to State parks have been and continue to be an important source of support for this phase of outdoor recreation. In Michigan, Washington, Minnesota, Kentucky, and Texas practically all the State parks were donated by individuals, communities, corporations, or philanthropic institutions. Indiana received \$250,000 from Judge E. H. Gary and \$50,000 from Julius Rosenwald for the Dunes Park.

New York offers the most splendid example of private gifts to State parks, especially to the Palisades Interstate, which has received more than \$8,000,000 in this way. The action of Howard B. Bloomer,

of Detroit, in persuading the Dodge Bros. automobile company to give 10 parks in the environs of Detroit, at a cost of over \$400,000, to which he and Mrs. Bloomer added 4 more, was another outstanding case of such philanthropy.

The desire of many persons to create memorials to themselves, their relatives, or friends has resulted in many useful additions to State-park systems, and alert park directors may induce valuable contributions in this way.

Many historical and scientific organizations, such as the American Scenic and Historic Preservation Society in New York, the State Historical and Archaeological Society in Ohio, the Trustees of Public Reservations, the Society for the Protection of New Hampshire Forests, and the Appalachian Mountain Club in New England, have contributed to the conservation of valuable properties by accepting them as gifts or bequests and maintaining them as public trusts, exempt from taxation and with some support from the States.

Public property, the original uses of which may have lapsed, may be devoted to park purposes, such as the abandoned canal reservoirs in Ohio, and the Black River Canal in northern New York.

Transfers of Federal property has contributed to State parks, and further contributions are likely as a result of the work of the Joint Committee on Recreational Survey of Federal Lands. Some have been made by purchase, others by transfer without cost. Notable examples of free transfers were Presque Isle, at Erie, Pa.; Mackinac Island, Mich.; Fort Macon, N. C.; and Fire Island, N. Y.

Exchange of school sections between the United States Forest Service, Department of Agriculture, and State forestry or other departments has been the means of creating State parks and forests in the West. The Federal service benefited by eliminating from its preserves the included scattered sections, and the States acquired consolidated large blocks of equal value. This process helped to give South Dakota its great Custer Park and gave large State forests to Montana, Idaho, Washington, and Oregon.

Similar school-ground lands still exist in the Middle West and South, and in a few cases have been transferred for park purposes, as in the case of the Royal Palm Park in Florida, but the greater possibilities of this method remain to be developed as support for parks and need of them increase.

New York, Michigan, and Wisconsin stopped the dissipation of their extensive public timberlands in time to save large areas for parks and forests. Minnesota also retains such lands, especially those suitable for recreation. Maine, after selling most of her wild lands, has about 350,000 acres in scattered plots which might be consolidated by exchange or sales into a large State forest.

Joint use of watersheds may eventually be made for both water supply and recreation, especially in regions like that around New York City and the northern New Jersey cities. Examples of such use may be found in Salt Lake City, Utah, on the streams of the Wasatch Mountains; in Spavinaw Lake, reservoir for Tulsa, Okla., and at Fort Worth, Tex. Unused reservoirs of the New York City water supply system have been turned over to the Long Island State Park Commission. Joint use of portable water supplies for bathing is opposed by sanitary engineers; but if future demands for water recreation and improved means of protective sanitation permit

extension of the practice, it may be the means of restoring to recreational resources lakes and streams in municipal watersheds now barred to such uses.

Possibilities of extension of aquatic recreation, not subject to restrictions because of uses for drinking water, may be found in the numerous hydroelectric power reservoirs which are being built in many parts of the country. In several cases friendly cooperation by the developing companies has put the water and shores of such lakes into public hands for park purposes. Such possibilities are especially beneficial in the Southern and Southwestern States, where natural lakes, for geological reasons, are scarce; yet where the contours cause streams of large volume, swift descent, and capabilities for damming into large reservoirs.

Preservation or restoration of public rights in water areas offer other possibilities of water recreation, such as the "Great Ponds," with their ancient colonial right of access by the public, in Massachusetts; reestablishment of colonial rights to some of the lakes in southeastern North Carolina and adoption in the Iowa State park system of meandered parts of navigable rivers.

LAWS RELATING TO STATE PARKS AND FORESTS

Laws for the government of State parks and forests have grown from simple forms, enacted in the early years of this form of public service, to detailed and complex instruments, of variety of powers, although there is a tendency to uniformity, as the experience of officials and supporters has been exchanged. Such uniformity is now more prevalent as to State forest legislation because of the primary economic uses of forests; with parks the growing and various demands for recreation have tended to give a greater variety of powers. In States of large population and insistent demand for outdoor recreation, with conservation of natural resources and wild life, there has been a trend toward centralization in conservation departments or commissions such as those in Indiana, Michigan, Wisconsin, Pennsylvania, New Jersey, New York, and North Carolina.

Early in the existence of the National Conference on State Parks a model State law was considered, and a committee, of which Everett L. Millard, of Chicago, was chairman, recommended some ideas derived from the experience of various States and sufficiently flexible to be adapted to most conditions at the 1922 meeting of the conference. The committee advocated a State board of park commissioners, consisting of ex-officio members holding related State offices and others appointed by the governor, who should serve without pay but might employ salaried executives and experts. The powers recommended included: Control and management of all public parks and parkways outside municipal and county systems, to make rules for recreational uses, grant concessions, impose fees, and receive lands in the name of the State by purchase, donation, or lease; to condemn when necessary; to cooperate with municipal, county, and Federal officials; to receive moneys given or bequeathed; and to prevent injury to plants or animals.

Many of these suggestions have been adopted in State park laws since enacted with variations to fit local conditions. But it now appears to be true, as suggested by this committee in 1922, that no

set form can be recommended for any two States, as varying conditions will demand somewhat differing treatment. Simple forms of administration will suffice for many years in States with lighter demand for outdoor recreation, but in those of large and growing population and complex problems means for centralization and coordination have been put into effect or will soon be required.

In States where different public and private agencies maintain parks, forests, and other preserves, under laws passed at different times to give them authority, the service given by each has depended on the ability and energy of individuals and has sometimes lapsed when changes occurred, while each had to fight separately in the legislature for recurring appropriations. The most notable effort to solve such a problem was in New York in the creation in 1924 of the State Council of Parks. By an amendment of the conservation law the council was made to consist of the conservation commissioner, who controls the State forest preserves and allied departments; the heads of several regional State park commissions, the Westchester and Erie County park commissions, the State Museum and the American Scenic and Historic Preservation Society, holding some publicly supported and some privately supported properties.

The State Council of Parks was given authority to act as a central advisory agency for all lands, parks, and places of historic, scientific, and scenic interest supported in whole or in part by State funds not under the control of the conservation commission; to formulate and suggest plans for the management and improvement of these preserves; and to establish a uniform park policy. It was empowered to plan for connections between such parks, with the cooperation of the State and county highway officials; to act as a clearing house for information on park planning and administration; to administer new parks not otherwise provided for; to prepare, adopt, and present to the legislature a unified budget, with the exception of the conservation department and the Palisades Interstate Park.

This unique piece of administrative machinery has worked well and has greatly advanced the State park program, although there have been the natural human frictions inevitable with new methods. Changes in the law in 1926 made the council a division of parks in the conservation department, and curtailed its authority over budgets, giving final power to the conservation commissioner, to pass to the financial agencies of the State government, although in practice the action of the finance committee of the council, approved by the entire body, has been accepted by the conservation commissioner, who acts as chairman of the council.

Controversy was aroused in 1925 by the condemnation by the Long Island State Park Commission of lands for park purposes, against the strong opposition of the owners, who objected to crowds of recreation seekers in the vicinity. The action of the commission, approved by Governor Smith on the ground that public policy required immediate action to secure the tracts for parks, was upheld by the courts in favorable decisions in several suits. But meanwhile, opposition between the governor, a Democrat, and the Republican majority in the legislature led to a year's delay in the use of the \$15,000,000 State park bond issue adopted by the people in 1924 by a majority of almost a million. The governor's opponents amended the law to require approval of projects for condemnation by the conservation commissioner.

Agreements between State park and forest agencies and highway officials are becoming common, as the interrelation of these divisions of public service is recognized, to include these preserves in highway systems and sometimes to allot State funds to interior park and forest roads. In Illinois the State parks are part of the State highway system. In Oregon the State highway commission is the only State park holding agency, and it has acquired about 20 preserves along the roads by purchase or gift.

A growing tendency to make State parks wholly or partially self-supporting by charges for various services, has called for laws empowering such fees and retaining them for the use of these preserves. In some States such laws existed from the beginning of park establishment and, as in Connecticut, have developed large revenues whereby the system is improved and extended. Many States still include the parks in the general requirement that all revenues must be turned into the general fund, but some exceptions have been made for the parks, enabling them to retain revenues. Objections by tax officials to the removal of park lands from tax rolls have been met by legislation in New Jersey, Vermont, and Pennsylvania, whereby the tax or a rate in lieu of taxes is paid to the local subdivisions. Elsewhere, such losses of taxable property from the rolls have been waived by local authorities who saw that the income from visitors and benefit to all enjoying the parks compensated for the difference in revenue. Authority is given in several States to park and forest boards to acquire lands reverted to any public agency for non-payment of taxes.

Sanitary regulations have been increased owing to the growth of public use of State parks, and are enforced in cooperation with the health authorities.

Allocation of revenues from hunting and fishing licenses for State parks has been made by law in Missouri, where 12 parks have been bought with such funds; and in New York demonstration forests are being acquired from the same resource. Public fishing grounds, with general recreation values, are purchased from game license moneys in Kansas and Nebraska.

School lands, where such remain from the allocations made in Federal surveys, are sometimes set apart for parks and forests, as in Florida, in the East, and in several Western States, by consolidated exchanges with the United States Forest Service.

Public rights in bodies of fresh water or the beach strips on the seacoast, dating from early times, have not been uniformly maintained, but in recent years successful efforts have been made to reclaim them. A notable example is in the "Great Ponds," in Massachusetts, where inland lakes of 10 acres' area or larger are held to be open to the public for recreation, based on a colonial ordinance of 1641, reestablished by a law in 1923. North Carolina has lately reasserted its rights to lakes in its southeastern counties. New Jersey may acquire fresh-water ponds and lands surrounding, or owners of such may secure exemption from taxation if they grant free access for the public.

RECREATION RESOURCES OF FEDERAL LANDS ¹

Swift and cheap motor transportation has now opened up a great hinterland to city dwellers. State and national parks and forests are visited by millions and afford phases of outdoor life which admirably supplement the necessarily restricted types of recreation use of municipal playgrounds and parks. So the whole aspect of the land and its value for public social use has undergone a radical change in so short a period as the last decade. In consequence city planning has expanded to regional planning and now there is the concept of nation planning to the end that the population of the whole country may eventually enjoy the material and spiritual rewards which intelligent land use can bring.

In the appreciation of new social values and their realization through land planning the vast holdings of the Federal Government must play an important part in the development of outdoor recreation as a national institution. When the thirteen original States established their independence, each State became the owner of the vacant and unappropriated lands within its borders, and title was likewise passed to any new States formed from these original States. These lands, with the exception of Florida, stretched from the Atlantic to the Mississippi, and subsequently cessions were made by the States to the Federal Government to provide a common fund for the payment of the Revolutionary War debts. But when foreign governments, through the Louisiana Purchase, Texas annexation, Mexican cession, the Oregon treaty, and the Gadsden purchase, ceded the vast territory west of the Mississippi to the United States, title to the vacant and unappropriated land therein passed to the Federal Government. The new States which were formed out of such territory received various grants upon admission to the Union, but in all other respects the title to the vacant and unappropriated lands within their borders remained with the United States.

Originally the Federal lands embraced two-thirds of the continental area of the United States and comprised a vast wilderness rich in natural resources. To-day the empire of Federal lands has been reduced to less than a fourth of the original holdings. Even so, if Alaska is excluded, this area is vast and equivalent to two-thirds of the total land area of the States east of the Mississippi River, and includes first, lands under active Federal administration and management or held to meet diverse public needs such, for example, as a lighthouse station on the Jersey coast, a military reservation in Kansas, a storage terminal in Philadelphia, or a national park in Wyoming; and second, unreserved and unappropriated lands known as the public domain or vacant lands awaiting disposition under the various Federal land laws and therefore under no form of management and hardly even protected from damage.

¹ Recreation Resources of Federal Lands: Report of the Joint Committee on Recreational Survey of Federal Lands of the American Forestry Association and the National Parks Association to the National Conference on Outdoor Recreation, 1928.

It was not until the last decade of the nineteenth century that the principle of public ownership or regulation in the use of Federal natural resources took firm root. Prior to that time the Nation's public-land policy was wholly one of exploitation. But the era of free soil had passed in 1890, the frontier had disappeared, and the country was settled from coast to coast.

The creation of the Yellowstone National Park in 1872 "as a public park or pleasuring ground" marked the genesis of the national-park system, although no new parks were created until 1890. As yet no thought was given to the public conservation of natural resources for their economic values, and it was not until 1891 that the Yellowstone Park Timberland Reserve was established. From this action of Congress dates the upbuilding of the present system of 150 national forests. It was at this time that the system of national military parks had its beginning. Sixteen years later, in 1906, the American antiquities act was passed, authorizing the President to set aside areas of the Federal lands for the preservation of historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest; and in 1907 the first Federal bird and game reservation was established. During all of these years reservations or temporary withdrawals of the public lands were effected for the eventual disposition of their mineral, water power, and other resources and for reclamation of arid regions and miscellaneous purposes.

Federal lands under administration or control of various kinds to meet the public needs of the Nation embrace recreation resources of actual or potential value that run the gamut from city lots temporarily available for children's playgrounds to great reservations permanently dedicated to the enjoyment and appreciation of such outstanding wonders of nature as the Grand Canyon in Arizona. Sites for Federal institutions, such as hospitals, penitentiaries, storage terminals, or post offices, may have a temporary value for intensive forms of recreation, for playgrounds or community use, and these are sometimes leased for such purposes to municipalities; and there are larger holdings or reservations set aside at one time or another for military or naval defense or for lighthouses or coast guard protection. A number of these reservations have become surplus property and are no longer needed to serve their original purposes, and so by various acts of Congress have become available for public acquisition by States, counties, or municipalities for permanent use as parks.

While belated in some respects the reservation and administration of public lands for æsthetic enjoyment, historic or scientific appreciation, or economic use has now become an established Federal policy. The reservation of the Yellowstone National Park as "a pleasuring ground" over half a century ago was at that time without popular national significance from the standpoint of outdoor recreation. Outdoor recreation did not become a widespread popular institution until the prosperity following the close of the World War put the country on a motorized basis. To-day it is realized that many of the Federal lands embrace unique opportunities for recreation, education, and inspiration, and that they complement in essential degree the opportunities for the enjoyment, knowledge, and appreciation of the land, water, forest, plant, scenic and wild-life resources of the Nation as a whole.

THE PUBLIC DOMAIN

The vacant, unreserved, and unappropriated lands which to-day form 50 per cent of the entire present Federal holdings are known as the public domain. This term is used in contradistinction to Federal lands occupied, reserved, or appropriated for specific purposes, such as a military reservation, a national forest, or a reclamation project. The public domain,² although now equivalent in area to the New England States, the Middle Atlantic States, Ohio, Indiana, and Michigan, comprises less than 15 per cent of the original Federal empire when settlement first pushed its way across the Alleghenies. These are the lands now of unproductive character left after 150 years of exploitation—a veritable no man's land. And yet, save for the relatively insignificant and scattered portions of swampy and rocky land remaining in a few of the Eastern States, these lands, although now offering little incentive to individual or corporate development, with the important exception of mineral desposits, are of potential value to the whole public and to the populations to which they are tributary. In time as economic pressure demands no doubt there are areas which can be reclaimed for agriculture. But to-day these lands are neglected and their soil values depleted, for they are under no control, public or private, or any form of management.

TABLE I.—Federal lands embracing recreation resources

A. CONTINENTAL UNITED STATES

Type	Number	Area in acres	Department
National forests.....	156	137,447,589	Agriculture.
National parks.....	17	5,715,066	Interior.
Wild-life refuges.....	70	489,784	Agriculture.
National monuments.....	54	487,993	Interior, Agriculture, War.
Reclamation projects.....	37	271,164	Interior.
Military national forests (wild-life refuges).....	7	165,000	War, Agriculture.
Recreation withdrawals.....	49	120,961	Interior.
National military parks.....	8	14,068	War.
Naval reservations.....	2	13,412	Navy.
Lighthouse reservations.....	6	11,550	Commerce.
Fishery reservations.....	12	6,808	Do.
Total.....	418	144,743,395	

B. TERRITORIES

Type	Number	Location	Area in acres	Department
National forests.....	2	Alaska.....	21,340,392	Agriculture.
Do.....	1	Porto Rico.....	12,443	Do.
National parks.....	1	Alaska.....	1,692,800	Interior.
Do.....	1	Hawaii.....	154,880	Do.
National monuments.....	4	Alaska.....	2,252,885	Interior, Agriculture.
Wild-life refuges.....	2	do.....	561,000	Commerce.
Do.....	9	do.....		Agriculture.
Total.....	20		26,014,400	

² 193,247,457 acres, General Land Office, July 1, 1927.

TABLE II.—*Federal lands embracing possible recreation resources*

CONTINENTAL UNITED STATES

Type	Number	Area in acres	Department
Vacant public lands.....		193, 737, 588	Interior.
Indian reservations (unallotted).....	143	35, 565, 517	Do.
Military reservations (surplus).....	68	50, 880	War.
Naval reservations (surplus).....	15	4, 477	Navy.
Lighthouse reservations (surplus).....	43	2, 123	Commerce.
Total.....	269	229, 360, 585	

LANDS EAST OF THE ONE HUNDREDTH MERIDIAN

In the older Eastern States, in the humid section of the country east of the one hundredth meridian, or a line drawn south through the Dakotas, the public domain is limited in acreage to a fraction of 1 per cent of the total vacant public lands and consists of small scattered tracts, usually only a fraction of a section in area. Such fragments are often the result of errors in land surveys, and almost always they are too rough and rocky, too sterile, or too swampy to be of value for agriculture, and too sparsely timbered to be of interest to the lumberman. Among them an occasional tract is found that possesses scenic or other recreational attractions of sufficient importance to warrant its retention in public ownership, usually by the State.

In the Eastern States in general the unreserved public domain is so broken up that no opportunity is presented for the Federal administration of the recreational resources these vacant lands may embrace. While they include no recreational values of sufficient national importance to warrant Federal administration, it may be assumed that of the numerous and scattered small areas still awaiting disposition by the Government some have value for local recreational use. The recreation act of June 14, 1926, was designed and enacted by Congress to make such use possible under the administration of the State or minor political units and provides the opportunity for the acquisition of lands of recreational value upon the initiative of county or State authorities.

PUBLIC LANDS WEST OF THE ONE HUNDREDTH MERIDIAN

Over 99 per cent of the remaining vacant lands of the public domain is to be found in the arid and semiarid regions west of the one hundredth meridian. The largest solid bodies of land still unreserved and unentered are to be found in those localities where desert conditions are most extreme and commercial values dormant or limited to livestock grazing of a meager character, or to prospecting for mineral deposits.

In the higher mountains and on the west slope of the Cascades and Sierras, wherever the annual precipitation is sufficient to support forest growth of commercial or watershed value, lands that have not passed into private ownership have been reserved largely as national forests or national parks. Practically all agricultural lands that could be irrigated by individual effort or dry farmed have been taken up under the homestead laws and so several million acres of the better grazing lands have been taken up under the grazing homestead law,

which was passed in 1916. Important hydroelectric power sites are held for lease under the Federal power act. Public watering places have been withdrawn from entry. Lands of pronounced value for nonmetalliferous minerals, coal, phosphate, potash, etc., have been classified as such and are held for lease under laws devised to fit the situation. Areas suited for migratory bird or game refuges and not otherwise reserved or withdrawn have been set aside for that purpose. Finally, a number of national monuments have been created to include the best-known areas of scientific, archæological, or historic interest outside of the parks and forests. Even west of the one hundredth meridian, therefore, the unreserved public lands which are still subject to private entry offer less promise for recreation from a national standpoint than at first glance their total acreage would seem to indicate.

The recreational values of the public domain are indeterminate. The vacant lands east of the one hundredth meridian may be dismissed from consideration from a national viewpoint though they may well embrace values, particularly for wild-life conservation, worthy of inquiry and possible acquisition for State or county administration under the provisions of the recreation act of June 14, 1926. The vast area of unreserved and unappropriated public lands west of the one hundredth meridian are included in every Western State and vary in extent from a little over 2 per cent of the area of Washington to over 75 per cent of Nevada. Approximately 40 per cent of these vacant lands of the West are as yet unsurveyed and much is unclassified. So much of this land is arid or barren that opportunities for recreational use for popular enjoyment is very restricted as compared to the opportunities afforded by the well-wooded and watered national forests and national parks. There are areas in southern Utah and northern Arizona of unusual scientific or prehistoric interest worthy of inclusion as national monuments. There are, too, timbered areas which should be added to the national forests, as contemplated by the Clarke-McNary Act, instead of being left for mutilation under the existing but archaic workings of the timber and stone act. But aside from these areas and regions which should be reserved for the protection of types of big game of national importance, such as the antelope and mountain sheep and referred to in more detail in a special section on wild life, the recreational values of the public domain should find their development under State or local administration.

As the West develops in population and use of its resources becomes intensive there is no doubt but that numerous tracts, while relatively small compared to the great national reservations, will serve their highest usefulness for State or local recreation needs, and particularly to supplement the wild life refuges already established. The Secretary of the Interior has authority to classify unreserved public lands when found chiefly valuable for recreation and he has exercised this power from time to time pending disposition to States or subordinate political units under the recreation act of June 14, 1926. In addition to the recreation resources developed through this enactment of Congress local recreation resources can and are being developed in conjunction with the development of power sites and reclamation projects,

THE NATIONAL RESERVATIONS

The Federal Government has acquired in the course of the years of administration, and wholly apart from the great permanent reservations established as national forests, parks and monuments, or Indian

reservations, a large number of relatively small land holdings to meet the manifold public needs. These holdings vary in size from city lots for post-office buildings, isolated rocky points on the coasts for lighthouses or hospital sites for the Veterans' Bureau, to large areas reserved for the national defense needs of the War and Navy Departments. They aggregate well over a million acres. In the course of this study these Federal land holdings have been carefully considered to ascertain their value for public recreation. In most instances, as has been emphasized elsewhere, it has been found that public recreation is a use incompatible with the primary administrative needs of these reservations. However, from time to time a number of these Federal tracts have served their original purpose and Congress has authorized their disposition to meet other public needs or their sale for private acquisition. Save in a few instances where some of these lands have been taken over to supplement the bird and game reservations of the Biological Survey of the Department of Agriculture, the recreational resources when present do not warrant Federal administration but do frequently afford exceptional opportunities for administration by the States, counties or municipalities and many of the tracts have been acquired for such purposes.

While outdoor recreation as an essential form of land utilization and social service is now an accepted and established function of government, its fruitful development is the particular province of municipal, county, and State administration. This is a province, however, that may be and is appropriately undertaken by the Federal Government. Outdoor recreation is a form of land economy that must find its place in nation planning as well as in city or regional planning if the vast Federal lands are to serve their highest usefulness. This is essentially true of the national forests, the parks, the monuments, bird and game reservations, and in a measure of the unallotted Indian lands. These reservations approximating 180,000,000 acres in extent, exclusive of Alaska, are equivalent to the total land area of the South Atlantic States, and embrace recreation resources of supreme and unique national importance. They complement but do not duplicate the recreation resources available to the States and local communities or are of such physical character that their administration can not be disassociated from other forms of Federal service. So it is that these recreation resources are dominant values with respect of certain classes of reservations such as the national parks and national monuments; coordinate values as in the case of the national forests; and subordinate values in the case of the unallotted Indian lands. Whatever their relative value they are collectively national assets of the first magnitude; they are unique and they are supreme; they include the Grand Canyon of the Colorado, that most remarkable expression of geologic history; the Big Trees of the Sequoia National Park, the highest expression of plant life; the canoe wilderness of the Superior National Forest, types of big game found on the range such as elk and the mountain sheep of Wyoming, Idaho, and Montana, and the charming mountain meadows of the high Sierras. These are assets which man can not provide but which he can preserve and enjoy to supplement and complement the more intensive forms of popular recreation incident to congested communities.

NATIONAL PARKS

The national parks constitute the only major system of national reservations the country possesses which is wholly nonutilitarian; these reservations are therefore of particular interest in a consideration of recreational resources. This system of unique reservations, though long deferred in development, is the outgrowth of the vision of a small group of explorers gathered about a camp fire in the wilderness of the Yellowstone in 1870. At their instance the Yellowstone National Park was created by act of Congress March 1, 1872, "as a public park or pleasuring ground for the benefit and enjoyment of the people," and this act made mandatory the retention of all natural resources in undisturbed condition. Although no new national parks were created until 1890, the motive in their creation, and of all those established since this time, has been inspired by the same spirit reflected in the organic act establishing the Yellowstone—the first true national park.

The national-park system of to-day embraces 19 parks, 17 within the United States, 1 in Alaska, and 1 in the Hawaiian Islands, the whole totaling 7,562,746 acres and annually visited by nearly two and a half millions of people. The astonishing growth in the enjoyment of the national parks dates from the establishment of the National Park Service in 1916 as a bureau in the Department of the Interior, and is of course due to the popular use of the motor car.

Prior to 1916 there was no organized National Park Service. Each park was a unit by itself, legislated and appropriated for separately by Congress. In the Interior Department there was no section or division charged with the administration of the parks to the exclusion of everything else. The patents and miscellaneous division in the office of the Secretary, already occupied with many other duties, gave such attention to the parks as time would permit. From 1907 on a succession of informal improvements was made in this arrangement. Following an address delivered before the American Civic Association in 1911, President Taft in a special message to Congress in February, 1912, earnestly recommended the establishment of a bureau of national parks. Repeated recommendations on the part of successive Secretaries of the Interior, and continued demand on the part of the general public, as voiced by the American Civic Association, finally resulted in the act of August 25, 1916 (39 Stat. L. 535), which created the present National Park Service with its director and his staff of assistants.

While the national parks have now been made generally accessible in a manner never before possible, this very fact, although welcome, has brought into sharp focus very serious problems the sound solution of which will determine the lasting value of these reservations as a national institution.

National parks are public reservations maintained for "the benefit and enjoyment of the people" as stated in the organic act of 1872 establishing the Yellowstone National Park. But are they "pleasuring grounds" in the usual meaning of that term? If that is their primary purpose, what distinguishes a national park from a State park? Where can the dividing line be drawn between Federal and State responsibility?

Though national parks have not yet been defined in law, their purposes and uses, and the standards which govern their creation, have been established by governmental practice during 56 years.

"Proposed parks are measured by the standards set by the major parks of the system," wrote Stephen T. Mather, director of the national parks system, in November, 1927. Under this method of definition, which has had departmental recognition since 1915, national parks are conceived as areas of original unmodified natural conditions each the finest example of its particular scenic type which the country contains, and all maintained in a condition of absolute preservation from economic uses.

Among the 19 national parks there are 4 exceptions in this definition. These are all minor parks, all together totaling less than 20,000 acres in area, none meeting the standards expressed by the major parks. They are Wind Cave, S. Dak., 1903, used by the Biological Survey for a fenced game preserve; Platt, Okla., 1904, used as a local park by the city of Sulphur; Sullys Hill, N. Dak., 1904, used by the Biological Survey for a fenced game preserve; and Hot Springs, Ark., a small but important health reservation.

The first annual report, in 1916, of the national park administration, which was the first report of any kind grouping national parks as a system, classified national park purposes as follows: First, stimulating national patriotism; second, furthering knowledge and health; and third, holding travel in America. The "See America first" promotion was beginning at that time and the report emphasized the usefulness that national parks might have for this purpose, but gave warning that "the fostering of recreation purely as such is more properly the function of the city, county, and State parks, and there should be a clear distinction between the character of such parks and national parks."

Secretary Lane crystallized the principle underlying the system from its beginning in his policy statement of May, 1918, addressed to Director Stephen T. Mather. He said:

In studying new park projects you should seek to find scenery of supreme and distinct quality, or some natural feature so extraordinary or unique as to be of national interest and importance. You should seek distinguished examples of typical forms of world architecture. * * * The national parks system as now constituted should not be lowered in standard, dignity, and prestige by the inclusion of areas which express in less than the highest terms the particular class or kind of exhibit which they represent.

Of much significance is this extract from Secretary Work's letter to the editor of the National Parks Bulletin, October 18, 1925:

Municipal and State parks and national forests together offer outdoor opportunities in countless numbers, and easily accessible. The Government finds itself duplicating these areas down to the smallest picnic park. We have gotten away from the fundamental principle that the Government should do nothing that an individual municipality or State can do for itself, and we are competing in little things, benumbing public spirit and thwarting local pride of possession and development. The rapidly growing popularity of our national parks system marks a time when these "first temples" may safely take their proper place in the higher education of our people in the finer things, with which both physical and mental recreation will necessarily be associated.

Addressing the National Conference on Outdoor Recreation in December, 1925, Secretary Hoover said:

The movement to foster public parks for human outdoor life and conservation of wild life is one of our most beneficent public endeavors. And in it we need more action by the individual States. We need also a distinction between the province and responsibilities of the States and the Federal Government. My own thought is that the national parks—the parks within the responsibility of the Federal Government—should be those of outstanding scientific and spiritual appeal, those that are unique in their stimulation and inspiration.

Addressing the National Conference on Outdoor Recreation in December, 1925, Dr. John C. Merriam, president of the Carnegie Institution of Washington, said:

While the national parks serve in an important sense as recreation areas, their primary uses extend far into that fundamental education which concerns real appreciation of nature. Here beauty in its truest sense receives expression and exerts its influence along with recreation and formal education. To me the parks are not merely places to rest and exercise and learn. They are regions where one looks through the veil to meet the realities of nature and of the unfathomable power behind it.

I can not say what worship really is—or am I sure that others will do better—but often in the parks I remember Bryant's lines: "Why should we, in the world's riper years, neglect God's ancient sanctuaries, and adore only among the crowd, and under roofs that our frail hands have raised?" National parks represent opportunities to worship through which one comes to understand more fully certain of the attributes of nature and its Creator. They are not objects to be worshiped, but they are altars over which we may worship.

Popular conception of national-park use has varied somewhat from time to time and is still confused. During the initial period, which covers the period from the creation of Yellowstone to the organization of the parks as a service in 1916, people valued the parks principally for their natural wonders and the majesty of their scenery. It was the days of horse travel. The time and effort involved largely precluded making the trip for any other purpose. Visitors from a distance came to the park entrances by rail, and were transported into and through the parks by stagecoach. Those who came with their own wagons and camp outfits were comparatively few and were residents of the vicinity. The Government itself did not aggressively advertise the parks. It met the demand for accommodations by granting concessions for the necessary stage lines and hotels. Policing of the areas was provided for by detachments of troops from the Army. Oftentimes the officer in command was, *ex officio*, the park superintendent.

With the organization of the National Park Service there was immediately inaugurated a well directed publicity campaign to popularize the parks throughout the country. Contemporaneously with this the country began to become effectively motorized. The result was an enormous increase in the number of park visitors. The "people's playground" idea had been features in the park advertising and had caught the public fancy perhaps too successfully. Visitors were attracted who were interested more in pleasant places for camping than in "natural wonders of national importance." The playground feature overshadowed the primary purpose of the parks and tended to increase the pressure for ill-advised additions to the parks which were simply pleasant outdoor playground areas and nothing more. At the same time it created pressure for developments and improvements within the parks themselves which would attract more of that motoring class which is interested most in the pleasures of the road and very little in the sublimities of nature and the opportunity to contemplate them. To resist such pressure probably has not always been easy, either for the park officials, or for the concessioners, who must be depended upon to supply the legitimate accommodations which the visitors need, and who must have a profit from their undertaking. It is hardly surprising therefore if in some of the most popular park centers such as the floor of the Yosemite Valley or the Geyser Basin of the Yellowstone the thing has been a bit overdone,

and one finds developments and activities not entirely compatible with the primary park purposes.

A year or two after the "people's playground" idea first took form, the educational conception of the national park system also found voice. It was unfortunate that for several years the two came in conflict, for they are as a matter of fact wholly compatible and mutually helpful. Neither was really new. The national parks system had become "a people's playground" the moment the first "tourist" on pleasure bent had entered Yellowstone with a pack outfit 50 years ago. It had become "educational" the moment Old Faithful aroused the first inquiry concerning the cause of its recurring eruptions.

The very fact that there has in the past 10 years been a tendency to overdo the "playground" idea has had its value in forcing forward in the past year or more the "educational" point of view. There can now be recognized the beginning of a third period of park use during which the "playground" and "education" ideas will be merged together in properly harmonious balance.

The popular educational mission of national parks had evidenced itself as early as the seventies in discussions of Yellowstone's geysers, hot springs, and mud volcanoes, widely published in the newspapers and magazines of that period. Later the Hayden survey, under the auspices of the United States Geological Survey, immensely increased both popular and scientific knowledge. Similarly, 40 years of speculation and theory preceded the recent solution by François E. Matthes of the geological history of the Yosemite Valley; and Grand Canyon, Rocky Mountain, and Glacier were advancing popular education long before they became national parks. The writings of John Muir and other naturalists, professional and amateur, attracted nation-wide attention. Among geologists of the United States Geological Survey, the writings of Dutton and others in the seventies and eighties, and of Matthes, Campbell, Alden, Lee, and others in later years, not to mention many connected with universities and institutions of research, helped to establish the educational usefulness of various national parks.

To-day the national parks have become the subject of extensive scientific and popular study. The official educational establishment begun in 1921 has a chief park naturalist with headquarters at Berkeley, Calif., and a park naturalist for nearly every park. Some parks have one or more regular educational assistants and extra summer staffs. This is known as the nature guide service. At each park is a more or less useful museum collection indifferently housed, and in Yosemite National Park the American Association of Museums has promoted a fine museum building as an object lesson for Congress.

Plans for educational and inspirational usefulness go far beyond these, however. The National Parks Association, which was organized in 1919 to promote educational and inspirational uses of the system, conceives it as a group of universities. Dr. John C. Merriam, chairman of the association's advisory board on educational and inspirational uses of national parks, writes:

For many purposes the purely educational value of our national parks is far beyond that of any regularly established formal educational institutions. Among the most important features are those which concern the nature of the earth, the manner of its building, the forces which have come into play, the meaning of the almost limitless history of earth making as it is pictured before us. The work of the Creator's hand presents itself here in such a way that all may comprehend.

Here is found also much that represents the unmodified primitive life of the world, both plant and animal, remaining just as it was molded over the mountains and valleys. Nature is said to be an open book to those who really wish to read it, but there are grades and shades of meaning which may be hard to understand. There is certainly no place where the leaves are more widely spread or the print more clear than in these portions of the book. There are not in America other places where, for these purposes, comparable possibilities for effective adult education concerning nature can be found, with the grandest products of creation themselves as teachers. For utilization of this opportunity we need support adequate to prepare for most effective use. In such a superuniversity, professors would be only guides and not instructors, but there should be a faculty chosen from leaders in thought and appreciation, a group of men who, standing in the vivid presence of the Creator, would serve to point out the road.

In this movement the National Parks Association has the active cooperation of the National Park Service and special committees of the National Academy of Sciences and American Association of Museums, with assistance of the National Research Council and Geological Society of America.

While national park standards are reacquiring the public and official recognition they enjoyed before the motor tidal wave engulfed them a decade ago, and education and inspiration are very definitely seen as the highest uses of the system, crowd conditions in some of the parks seem to have acquired a sudden new impetus. This does not, as many have assumed, result from desire to overrun the wilderness, but from something altogether different, which may be controlled. It is significant of nothing at all but the fact that tourist crowds awheel will swing off their courses, whenever new roads of high quality offer opportunity, to see anything new, fine, and different.

The answer is camp and hotel concentration in one or two points in each park, and limitation of motor roads to and from these points.

Our great park wildernesses, then, can be saved from the trampling of multitudes, but at a price. That price is the sacrifice of primitive conditions in the areas of concentration. But it may well be questioned whether these areas of concentration need be the gems of the national-park system—as, for example, the floor of the Yosemite Valley. It has been estimated that 90 per cent of national park visitors rarely invade the surrounding wilderness. They come, they look, they pass.

Many question the propriety of providing forms of amusement which are not essential to the primary purposes of the system. They can not understand that dance halls, jazz orchestras, or motion-picture theaters facilitate one's appreciation of the marvels they have come so far to see. Protest against "jazz"—meaning any form of frivolous public entertainment out of harmony with the spirit of these sanctuaries of nature—has been cumulative for six or seven years at several points of concentration in several national parks. Now reaction is bringing the question to a head.

The foregoing review of the history of the national parks and the thought and conception which have characterized their development are essential, because, in the development of a national program of outdoor recreation, the part which they may play must be based upon a clear and settled definition of their objects and principles. Shaping of a national recreational program involving the many different forms of Federal land is essentially a land use problem and the different types of government land can enter into recreational use only to the extent that their primary purposes justify.

The development of a coordinated program of outdoor recreation seeks to meet not so much the recreational needs of our people to-day as to provide for their much greater and more demanding needs of 25, 50, or a hundred years hence. It must be obvious, therefore, that in laying the groundwork of such a long-time policy of recreational use of Federal lands the primary purposes of the Government's permanent reservations must be clearly held in mind.

As has been shown, the history of the national parks has established the national conception that their primary purpose is the preservation of areas of extraordinary majesty and beauty in a condition of unmodified nature. In the main the parks themselves, but the very character of the features which they represent, have established their own standards, but neither their purposes nor their standards have as yet been clearly defined in law. To those who hold that the historic standards of the national parks must be maintained a recently developed tendency to consider the parks primarily as popular playgrounds appears rightly to be a serious danger. If long-established principles and standards are to be maintained, then playground use must be coordinated as secondary to these primary principles and objectives. And further expansion of the land area of the parks necessarily will be extremely limited.

If, on the other hand, the tendency growing out of public demand for outdoor playgrounds is permitted to set aside the accepted principles of the national-parks system and to substitute a code of use which conceives of them as merely playgrounds, the whole problem of recreational development is put upon a vastly different plane. Under the latter conception, any Federal land not dedicated by law to other uses would qualify for national-park inclusion, provided it possessed recreational possibilities. The expansion of the national-parks area would thereafter be almost unlimited, but it would be at the tragic sacrifice of the institutional character and inspiring public and national uses of the national-parks system. And the intricate question of where the responsibility of the Federal Government to provide outdoor playgrounds begins and ends in relation to similar responsibilities on the part of States, counties, and municipalities becomes at once injected into the whole scheme of recreational development.

NATIONAL MONUMENTS

A forward step in the protection of historic landmarks, historic, or prehistoric structures and other objects of historic or scientific interest of national importance was the passage of the American antiquities act in 1906 authorizing the President to permanently protect such objects as national monuments when situated upon lands owned or controlled by the United States.

Under the provisions of the antiquities act 56 national monuments have been established; 52 in the States aggregating in total area over 500,000 acres and four in Alaska aggregating over 2,000,000 acres. The Interior Department administers 32, the Agricultural Department 15, and the War Department 9. Geographically 19 States and one Territory possess these national monuments, as follows: Alaska, 4; Arizona, 11; California, 5; Colorado, 4; Georgia, 1; Florida, 2; Idaho, 1; Montana, 2; Nebraska, 1; New Mexico, 8; Nevada, 1; New York, 1; North Dakota, 1; Ohio, 1; Oregon, 1;

South Carolina, 1; South Dakota, 2; Tennessee, 1; Utah, 5; Washington, 1; and Wyoming, 2.

In the national-monuments system one finds five classes of exhibits: (a) Remains of prehistoric civilization, (b) historic relics, (c) geologic examples, (d) botanic reservations, and (e) one reservation for wild animals. All are classed as scientific. Although many monuments located on fine roads near through highways are much visited by sight-seeing motorists, the purpose for which they were created is preservation for scientific and educational use. They are recreational in the broadest sense of the word.

Of important immediate consideration is the meagerness of appropriations which Congress makes for the protection of national monuments. Nearly all monuments need improvements to make them accessible to visitors, to say nothing of protection, and every one of them should have a salaried custodian on duty during seasons of visitation to prevent trespass and vandalism. Some of the monuments have no custodian. Others have the slenderest kind of volunteer service. The failure of the Federal Government to recognize national monuments as a system is responsible for the lamentable lack of development and care, diversion of some of them to commonplace uses, for Congress recognizes by general appropriations only those in the Interior Department, although several of the most important are under other administration.

In connection with the national monuments system consideration should be given to the system of national military parks under the administration of the War Department. These have been created by acts of Congress during a period covering 35 years. So far they consist of battle fields of the Civil War and include, too, the birth-place of Abraham Lincoln. Bills have been introduced in Congress to include battle fields of colonial times. The Secretary of War has now proposed that these military parks be administered by the National Park Service of the Interior Department. This logical proposal gives pertinency to the recommendation of Robert Sterling Yard, secretary of the National Parks Association, that a committee, comparable to that of the Coordinating Commission on National Parks and Forests appointed by the President's committee on outdoor recreation, be designated to survey and reclassify the national monument system and devise administrative standards for its proper maintenance. He is of the opinion that only archaeological, geologic, and wild-life reservations should be retained in the national monument system, which has developed essentially as a scientific classification, and that all memorial areas in the Federal lands having to do with the white man's occupancy of America, including the national military parks, should be grouped into a system under the descriptive title of national historical parks.

The usefulness of the national monuments is practically limited to science and scientific study. In State and private lands, and in the Federal lands, scientific and historical examples are rapidly passing. Now is the time to preserve the best of them if they are to be preserved at all. In nearly all States societies are busy buying up for preservation spots of particular interest and value, and State funds are constantly sought and sometimes procured for this purpose. The National Government should set apart for preservation those scientific and historical places of real value which lie within its own immense lands.

THE NATIONAL FORESTS

Agitation against forest destruction as a national economic problem began in 1876 with the appointment by Congress of the first commissioner of forestry, but ownership of forest land was still conceived to be a purely private function. When the settlement of the Great Plains States—Kansas, Nebraska, and the Dakotas—was at its height, and the term "land office business" acquired its place in the common parlance of the Nation, the need of more forest cover in that treeless region was expressed in the timber culture act, which offered to the homesteader an additional 160 acres if he would plant 10 acres or more to trees. The law was successful in expediting the disposal of the agricultural lands of the region but accomplished very little in the way of increasing the area of forest.

The failure of this act led to realization that private enterprise alone, even though subsidized, could not be depended on to accomplish all that was needed in forest provision for the future. The act was repealed in 1891, and in its place the President was authorized to create forest reserves out of the public domain. President Harrison set aside the Yellowstone Park Timberland Reserve, including several million acres adjoining the park on the south and east. In 1897 additional legislation defined more clearly the purposes of national forests (then known as forest reserves) and provided ways and means for their administration. This legislation established the Government as a permanent owner of forest land for economic purposes; namely, protection of watersheds and conservation of timber supply. The next 10 years was devoted to building up the present national forest system in the public land States.

In time the need for national forests in the Southern Appalachians and in the White Mountain region of New Hampshire, within the limits of the thirteen original States and Tennessee and Kentucky, found expression. The States concerned had long since sold or given away all of their public lands and were financially unable to repurchase forest lands on the scale necessary to meet the situation. The rapid encroachment of destructive lumbering up steep mountain slopes threatened complete forest denudation and damage to navigable streams, the only remedy for which was Federal intervention by purchase. Agitation started in 1898 for Federal legislation and appropriations, and led in 1911 to the passage of the Weeks law, providing for the acquisition, with the consent of the States concerned, of forest lands on the headwaters of navigable streams where perpetuation of forest cover was essential to proper regulation of stream flow. Since then more than 3,000,000 acres have been acquired, and are now organized and administered as national forests. The area is being increased each year by a hundred to two hundred thousand acres from additional appropriations made by Congress. The work was at first confined to the Ozarks of Arkansas and to central Alabama, two of the older public domain States where the Government once owned all the land. Thus Congress is now buying back what formerly was given away. Steps have also recently been taken toward the purchase of a national forest unit in the denuded white-pine region of Michigan. Broadened legislative authority and enlarged appropriations are now being urged before the Seventieth Congress by Senator McNary, of Oregon, and

Representative Woodruff, of Michigan, which will make possible the completion within a period of eight years of a program for the purchase of 6,000,000 acres in the Appalachians, two and a half million acres in the southern pine belt, and two and a half million acres in the white-pine country of the Lake States. These forests, as producers of lumber and pulpwood, as recreational areas, as protectors of streams and rivers, as game refuges, hunting and fishing grounds, as centers of forest-fire protection, and as educational areas in forest conservation and reforestation, will, when acquired directly, serve a multitude of interests and more than 75,000,000 people.

RECREATION USE

Americans turn naturally to the mountains and the woods for their outdoor recreation. If the woods and mountains are close to well-populated districts, it is inevitable that the citizens of the neighborhood will use them as camping grounds and for hunting, fishing, tramping, and other forms of life in the open for which they offer opportunities. It is for this reason that the national forests have been used for recreation in addition to the main purposes of timber production and watershed protection. Before the national forests were thought of the people of the surrounding country used these areas, so far as conditions permitted, for recreation; after the establishment of the forests they simply continued this use and expanded it with the growth of population and the increased accessibility of the areas.

The national forests embrace parts of every mountain system and almost every forest region in the United States; they form the natural outlets of large populations, to which they are the logical, near-by, economically enjoyed fields for outdoor sport and recreation. To millions of people the national forests are the natural and sometimes the only available playgrounds, other than their city parks. It is most vital to them that these areas should remain open for recreational purposes; but in this day of motors and good roads even the citizens of regions remote from the national forests have a direct personal interest in recreation grounds where they can feel free to camp and enjoy themselves in their own way, so long as they obey the rules of good citizenship and good sportsmanship while in the woods.

The increased use of the national forests for outdoor recreation during the past 10 years has been extraordinary and vividly portrays the importance which recreation has now assumed on the national forests. In recognition of its importance steps have been taken to place recreational uses and facilities on a sound and permanent basis. Such uses and facilities are provided through the issue of so-called special-use permits to individuals or associations and by the establishment of public camp grounds. In supplement to these forms of intensive use there is a new recreational development in the making, providing for the primitive enjoyment of wilderness areas kept free from motorization or mechanical facilities.

Organized recreation made possible through special-use permits has become an important development. Areas are now set aside within which appropriate provision is made for the construction and operation of county, municipal, semicivic, and private outdoor camp

and resorts, individual summer homes, and the various forms of commercial utilities required to meet the needs of the summer population. These areas are systematically surveyed, mapped, and classified, after which their occupancy is allowed under special-use permits, for which in all cases, except those of a public character, nominal rentals are paid, and many cities, counties, chambers of commerce, Rotary and Kiwanis clubs, Boy Scouts, Girl Scouts, and similar organizations have established permanent camps.

The principles guiding the intensive use of the national forests for recreation may be summarized as follows:

1. The systematic extension of recreation plans to all areas of national forest land possessing recreational value.

2. The continuation of present plans for the establishment upon national forest lands of county, municipal, semipublic, and private outdoor camps, sanatoria, schools, resorts, hotels, etc.

3. The encouragement of simple, inexpensive forms of mass recreation, including the extension and improvement of public camp grounds upon national forest land.

4. The continuation of the present policy of making no charge for recreational use of the national forests except where the land is used for commercial purposes or exclusive use of specific tracts or other special privileges are granted.

5. The continuation of the policy authorized by Congress of issuing permits for individual summer homes or cabins where they will not interfere with more general forms of public recreation.

6. The encouragement, through equitable permit provisions, reasonable rental charges and minimum restrictions of the establishment upon forest lands of the various utilities or forms of service needed for the convenience of the public.

7. The regulation of recreational use of national forest lands to, but only to, the extent necessary to protect public health and property, to secure reasonably full development and utilization of recreational resources, and to avoid undue conflict with other uses of the forests.

RECREATION AREAS

The varied uses of the national forest properties are exceedingly complex. While the primary uses are economic, it has been shown how important are the social uses. Recreation values are inherent and inseparably a part of the economic values of the forests. The orderly utilization of both the social and economic resources and the maintenance of a proper balance in their use is the end sought in the management of the economy of these public properties.

Within areas embracing unusual recreation assets plan-wise and systematic development demands the application of the principles of city and regional planning and the zoning of sections of key importance. To permit application of these principles specific areas of the national forests are now designated as recreation areas by proclamation of the Secretary of Agriculture.

A legislative measure has now been introduced in the Seventieth Congress by Representative Leavitt, of Montana, which authorizes the President to establish national recreation areas within the national forests upon the joint recommendation of the Secretary of

Agriculture and the Secretary of the Interior and to withdraw lands of such character from all forms of appropriation. The proposed act provides that the lands withdrawn for the use and enjoyment of the general public shall not prevent proper and orderly utilization of the timber, forage, water-power, and other economic resources under such rules as the Secretary of Agriculture may prescribe providing that such utilization is in harmony with the broad public purpose of the act and does not unreasonably impair the value of the withdrawn lands for outdoor recreation. The passage of this legislation will mark a great step in the land planning of the national forests.

WILDERNESS RECREATION

The last 25 years has seen a period of change in the life of the country. The proportion of people who are city dwellers engaged in indoor occupations and to whom the great out of doors is a place not so much to work in as to play in has increased. The comforts of civilization are to them everyday, commonplace matters. Good roads and modern improvements and conveniences are the regular order of things. A country where such things do not yet exist, where virgin nature still reigns supreme, has become novel, interesting, and valuable. In 1905 the wilderness in the national forests was abundant. To-day it has shrunk to comparative scarcity. And it is steadily becoming scarcer and more prized for recreational values.

There are a number of valuable regions within the national forests which, by reasons of remoteness from markets or by character of topography, are now free from intensive forms of economic development, free of the ubiquitous motor, and where it is still possible to enjoy outdoor life under the primitive conditions of the wilderness. Land planning for this unique phase of outdoor recreation is of vital importance but is in danger of irreparable neglect.

The term "wilderness," as here used, means a region more or less forested and of considerable extent where primitive nature is modified to the least possible degree by human influence. It is a roadless area where pioneer modes of travel and outdoor life may be enjoyed. Camping and exploration by pack train or canoe are the most familiar examples. Such regions are now very few and are practically confined to the national forests and national parks of the West and one of the national forests of the Lake States. It is almost everywhere possible to create opportunities and facilities for outdoor life of the popular kind associated with the use of the motor. But obviously the wilderness can not be re-created and therefore wilderness recreation is the one form of outdoor life which can not be restored or built to order. Whatever opportunities exist to-day must be preserved, or they are gone for all time. That is the vital point to bear in mind in the application of a land-use policy, particularly on Federal reservations, where, with the possible exception of a very few of the State parks, the only opportunity for the preservation of the wilderness exists.

National parks will always have large regions including forested areas that will be retained in primitive state, but these will naturally and properly represent features outstanding for their scenic beauty and impressive representation of educational and inspirational values. It is on certain of the national forests, however, that the greatest

possible opportunities for preservation of untouched regions favorable for wilderness recreation are found. Many of these regions are characterized by exceptional scenic beauty. Others, which do not rank in any sense with national parks in scenic assets, have great value for simple modes of outdoor life, including camping by pack train, fishing, hunting, and mountain climbing.

In the consideration of the application of the wilderness recreation policy to national-forest lands it has too often been thought that its accomplishment demands, in all cases, the perpetual exclusion of economic uses. This is not a correct premise. Obviously the Forest Service can not ignore the industrial and community relationships of the national forests and the responsibility they would assume in withholding economic resources from use over a wide region for all future time. But what can be done, and with full propriety, is to effect in particular regions the perpetual exclusion of certain social uses incompatible with the enjoyment of wilderness sports and recreation. And this principle can be applied with equal force to certain areas within the national parks if full advantage is to be taken of their inspirational and educational values.

The present status of the wilderness remnants of the country is in grave jeopardy. They are disappearing rapidly, not so much by reason of economic need as by the extension of motor roads and the attendant development of tourist attractions. The accumulated momentum of the good-roads movement constitutes a mighty force which is bringing about the extension of motor roads into every remaining bit of wild country, whether or not there is economic justification for the extension. To be sure, to the extent that the motor tourist business is the cause of invasion of these wilderness playgrounds, one kind of recreational use is merely substituted for another. But this substitution is a vitally serious matter from the point of view of good balance in land use. It is just as unwise to devote 100 per cent of the recreational resources of our public parks and forests to motorists as it would be to devote 100 per cent of our city parks to merry-go-rounds.

The decimation of desirable wilderness areas is then due not alone to economic development but to the promotion of inimical social uses. Some desirable wilderness regions do contain valuable stands of timber, but it may be decades before the dictates of sound forest economy demands their exploitation, particularly in the face of a period of protracted overproduction of lumber products. Such areas can serve their highest purpose for a long time to come if maintained in primitive condition for watershed protection; as centers of reserve timber supply to assist in bridging the transition stage in the productive capacity of cutover and replanted lands, and in the meanwhile serve as wilderness recreation areas.

Even where there is a legitimate extension of logging operations it is still possible by careful planning to maintain the opportunity for many forms of wilderness recreation through curtailment of the cut along streams and at other particular points, provided the region is kept inaccessible to the motor. An area which is logged over periodically under careful regulation and then left undisturbed between cuttings may be of far more value as a wilderness area than a similar sized tract on which no cutting is allowed but which has a motor road running through it. However, particularly in the high Rockies,

there are a number of wilderness areas where the timber does not warrant exploitation or where the topography does not permit the timber alone to carry the cost of roads or railroads. These areas retained in primitive condition serve the dual purpose of watershed protection and wilderness recreation.

It is not to be supposed that a public wilderness area is a new kind of public-land reservation distinct from public forests and public parks, but rather a new kind of land dedication within present systems to be duly correlated with dedication to the other uses which these systems are already obligated to accommodate. Character of social use is now the key factor in the determination of the constitution of wilderness areas and not economic pressure as so often is alleged. But, even assuming that economic development has always been justified, it can not be denied that there has been needless social exploitation of the wilderness. Mr. Aldo Leopold well puts it:

The day is almost upon us when canoe travel will consist in paddling up the noisy wake of a motor launch and portaging through the back yard of a summer cottage. When that day comes canoe travel will be dead, and dead, too, will be a part of our Americanism. Joliet and La Salle will be words in a book. * * * The day is almost upon us when a pack train must wind its way up a graveled highway and turn out its bell mare in the pasture of a summer hotel. When that day comes the pack train will be dead, the diamond hitch will be merely a rope, and Kit Carson and Jim Bridger will be names in a history lesson.

The following definitions of a wilderness recreation area seem to meet the necessities:

1. It must have natural attractions; a combination of mountain, forests, lakes, or streams that will attract the rugged outdoorsman, the scientist, and all other lovers of primitive nature.

2. It must be a natural game or fish country, or both, so that the sportsman will have reasonably good opportunity for testing his skill with rod and gun, or in the event hunting is prohibited the lovers of wild life may have opportunity to observe game in its primitive haunts.

3. It must be unimproved:

(a) No railroads, no automobile roads, no steamboat or motor-boat transportation; so that the visitor must travel by primitive methods, that is, on horseback with a pack outfit, in a canoe paddled and poled by hand power, or afoot with a pack on his back.

(b) No settlements, villages, farm houses, or permanent camps, where one could obtain board and lodging. The visitor must take his own camp, do his own cooking, depending upon his own resources and bringing the equipment and supplies necessary with him.

4. The area must be of such size that one can roam around in and through it with considerable freedom and a minimum of back tracking for at least the duration of an ordinary 10-day or 2-week vacation. It is obviously impossible to specify area limits since so much depends upon the character of the country. In a particularly rough or rugged country where travel by any method is slow, a much smaller area will suffice than in a region of more open topography. Probably the area limits will range from 100,000 to 500,000 acres.

5. The administration must be such that it is possible to put into effect a policy of management to insure the preservation of the primitive conditions outlined above with the least possible modification.

There are 21 areas within or near national forests of the Western States believed most worthy of consideration in the event a definite

policy of wilderness preservation is adopted by the Federal Government. Some of the areas do not conform wholly to the foregoing definition in that deteriorating influences of civilization have perhaps already progressed too far. Others contain economic resources of such potential value that it may be out of the question, later, to withstand the pressure for development.

FOREST FIRES

The aesthete justly inveighs against the Coney Islandization of the wilderness but such vulgarism is a pin prick measured against the progressively mounting acreage of forest lands devastated and blackened by fire and frequently robbed of economic and social values for years to come.

The Federal forest lands very largely within the national forests and within the national parks, Indian reservations, and the public domain embrace public property of inestimable value to the citizenry of the whole country. Forest fires, and particularly in the West, are yearly and rapidly depleting their natural resources—the timber, the wild life, and other recreation assets, and the value of the watersheds for power, irrigation, and flood control. These losses are accumulative in effect, and restoration of values through reforestation already presents staggering national liabilities.

The primary responsibility for this condition rests with the public. The larger number of forest fires are man caused, due to carelessness; a serious number are caused by lightning in the West.

The secondary responsibility rests with the Federal Government. The fiscal policy which it has pursued in the protection of its forest lands from fire has been unsound. At no time have the appropriations for fire protection been adequate. The problem of the national forests is most acute because of their vast acreage and vulnerable position. The annual appropriations for protection of these forests are so small that they are largely devoted to suppressing rather than preventing fires. Often these fires get out of control, as they did in 1910, 1919, and 1926, and are finally extinguished at excessive cost met by deficiency appropriations. Year after year resort has been necessary to these deficiency appropriations to cover extraordinary expenditures for the suppression of fires. These deficiency expenditures for the national forests alone now aggregate over \$15,000,000. There is nothing constructive to show commensurate with this huge expenditure of public funds; and so long as wholly inadequate funds are provided for prevention of fires just so long will deficiency appropriations progressively mount for their suppression.

There is reason to hope that a sound fiscal policy will be developed through a particular study now under way in the office of the chief coordinator of the Bureau of the Budget. A forest protection board has been set up composed of representatives of the various interested Federal activities for the purpose of making a study of the whole problem and submitting recommendations as to policies and plans for the prevention and suppression of forest fires, including the cooperative participation therein of Federal, State, and private agencies. The report of the board is expected to serve as a working basis for the various activities in preparing estimates for funds needed. It is hoped that there will result from these deliberations

a practical, comprehensive, and coordinated plan which will not only secure greater protection to the forests, especially in the matter of preservation, but obviate necessity for large deficiency appropriations to liquidate obligations incurred on account of the suppression of fires.

The national forests are rich in resources of very great value for other than purely material purposes. Recreational use is a public service compatible with the laws under which the forests are administered and with sound principles of land economy and public welfare. In the public and private forests of other countries, with long-established systems of forest management, public use for recreation is thoroughly recognized as an important form of land service. In this country, as population grows and economic and industrial needs become more intensive, there will be an increasing need for opportunities for refreshment of body and spirit which the out of doors alone can give, and which the great national forests can supply in abundant measure. The use of forest highways, trails, and camp grounds by the recreation-seeking public will progressively increase. There will be appreciable increase in the numbers of outdoor camps maintained on national forest lands by counties, municipalities, and other political units, and by semiofficial or unofficial agencies. The number of summer homes maintained under special-use permit will mount progressively. Private capital and initiative engaged in supplying the outdoor recreational needs of the American public will turn to the national forest fields of operation and will encourage and develop many forms of outdoor sport under national forest conditions which are now of minor consequence. While intensive and mass forms of outdoor recreation will properly continue to be encouraged on the national forests, due recognition, it is hoped, will be given—and given now before it is too late—to the legitimate demand for opportunities to enjoy the simpler forms of wilderness outdoor life disassociated with highways and crowds.

It is clear that the social requirements of the future demand definite provision for recreation as a part of the planning necessary for the orderly development of national forest resources and the realization from them of the maximum public benefits.

RELATION OF NATIONAL PARKS AND NATIONAL FORESTS

It will be observed that the national forests and national parks embrace the most important recreation assets under Federal administration. There is, however, a very distinct difference between the recreation policies of the National Park Service and those of the Forest Service. Within the national parks there is complete subordination, in most cases complete suppression, of economic functions. Partly to make the parks self-supporting and partly to secure the operation of high-standard utilities, all forms of public service are placed on a monopolistic basis, the concessions being disposed of at annual rentals. Concessioners are safeguarded in their privileges, conflicting or competing public enterprises are not permitted. As a further means of self-support the practice has developed in some of the national parks of charging reasonable fees for operating privately owned automobiles over park roads. As a means of thoroughly protecting the park areas from any disturbance of natural conditions

their use by the public is carefully directed and controlled at all times and restricted to certain designated forms and areas.

In the national forests the conditions under which recreation is allowed are almost the opposite of those in the national parks. Monopolies are not allowed but, to the contrary, competition in serving the public prevails. No charge is made for permission to use the national forest highways, trails, camp grounds, or lands except where exclusive rights or special privileges are desired, and these are allowed only where they do not interfere with free use of the forest by the general public. People use the forests without restriction or restraint, except where it is necessary to require that camp fire permits be secured, free of charge or, in rare instances of great emergency, to restrict people to designated camp grounds or to exclude them from areas of exceptional fire danger.

The national park policy contemplates the leaving of all economic resources in a state of absolute nonuse; monopoly of hotel, resort, and transportation service; restriction or rigid control of the public; indirect or direct charges for recreational privileges; specialized technical treatment of the area; and highly specialized administrative organization. The national forest policy contemplates coordinated but complete use of both economic and aesthetic resources; free competition by public service utilities; minimum restriction or control of the public; no charges for recreational privileges except those of an exclusive or special character; less specialized or technical treatment of the area; and a diversified administrative organization.

Usually the national forests and the national parks have coterminous boundaries and therefore coordination in administration is an obvious necessity. Each class represents an essential phase of the conservation of natural resources; national parks an example of the complete preservation of natural environment, and the national forests an example of economic use of the annual income of natural capital. Thus the national parks perpetuate the social enjoyment of unmodified resources. The national forests, through the conservative use of their material resources, permanently contribute to the maintenance of local and national wealth.

INDIAN RESERVATIONS

Indian lands are not public property. They have been established by solemn treaty or reservation for the exclusive benefit of the various Indian tribes. The function of the Office of Indian Affairs of the Federal Government in their administration is not that of owner but that of guardian or trustee. These Indian lands embrace nearly 200 separate reservations throughout 22 States and aggregate over 72,000,000 acres. They range in size from the Navajo Reservation of nearly 12,000,000 acres in Arizona, New Mexico, and Utah, to little tracts of 50 to 100 acres each.

The Indian reservations embrace two broad classes of land—allotted and unallotted. Some 37,000,000 acres have been allotted to thousands of individual Indians in tracts averaging a little over 160 acres. These allotments are private lands patented to the individual Indian and the Indian Service exercises its function of trustee only in the event the Indian is incompetent to handle his own

affairs. There are, however, approximately 35,000,000 acres of unallotted lands and these are managed by the Government, and the timber is sold, grazing privileges leased, and other uses developed for the benefit of the Indian tribes as a whole.

In past years land management policies have taken little account of the varied character of the land involved and the differences in physical and economic conditions. The theory prevailed that all reservations eventually would disappear as their inhabitants individually acquired land title. Subdivisions of their lands and sale of surplus lands for division among members of the tribes have already wiped out many larger reservations, and this process continues steadily.

If all Indian lands were agricultural, and if all Indians were farmers, this practice would seem sound. Neither happens to be true. Of the remaining thirty-five and a half million acres of unallotted land, nearly 7,000,000 acres are forest lands carrying valuable stands of commercial timber, and many more million acres are arid grazing lands. Such lands can not be used to advantage, nor maintained in a productive condition, if owned in small units. The unsatisfactory results of the timber and stone act and of the more recent grazing homestead law as applied to the public domain are ample evidences.

Experience has shown that many Indians are not adapted to the settled pursuit of farming, even when their allotments consist of rich agricultural land. The situation is impossible when these allotments consist of untillable forest, grazing land, or patches on the inaccessible slope of some high mountain. With such land an Indian can do nothing, as past experience has shown, but sell it or the timber for the best price it will bring. Much of such land has already been allotted with no permanent benefit to its owners nor to anyone else; and forest units have been broken up which might better have been maintained in their integrity as tribal forests from which their owners might derive steadily increasing annual income.

Fortunately, through well-directed and persistent efforts of a group of trained foresters in the Indian Service, substantial progress toward conservative management of Indian forest land has been made. Allotment of nonagricultural forest lands has to some extent been warded off, and sale of surplus tribal forest lands has in some instances at least been delayed. Tribal stumpage has been sold and is being cut under silvicultural restrictions, which tend to insure forest permanency, maintenance of timber producing capacity, and assured income to the Indians.

The largest tribal forest areas, located mainly in the Lake States and the far West, are quite similar in their general characteristics to the neighboring national forests. Along with their value for the commercial production of timber they embody outdoor recreational attractions of all sorts and degrees—mountain scenery, invigorating summer climate, hunting, and fishing. Under a well-fixed policy of permanent ownership and forest management on a sustained yield basis, annual revenues from commercial timber growing could be largely supplemented by development of recreational use. Hunting and fishing privileges could be leased, and sites for hotels, and private cottages rented. The resulting influx of visitors would create opportunities for employment as guides, boatmen, camp tenders, and care-

takers, occupations which would perhaps be more congenial to the Indian than farming.

In an Indian forest the fundamental principles underlying planning for development of recreational use would be different from those governing national forests. In these latter, which are publicly owned, and which are maintained for the public benefit, recreational use of certain areas is or should be so planned as to benefit the general public. The possibility of revenue is, or should be, a secondary consideration. In an Indian forest, which would be privately owned by one particular tribe or group of Indians, and which would be maintained primarily for their personal benefit, recreational use should be so planned and directed as to benefit them first.

The recreational attractions of an Indian forest are of public interest and capable of development for the financial benefit of the Indians. To realize this, one has only to consider the Red Lake Reservation in northern Minnesota, with its white pine forests, lakes, and streams, or the Flathead Reservation in Montana with its mountain peaks, canyons, glaciers, good fishing and hunting territory; or the Yakima Reservation in Washington with its yellow pine forest drained by rivers full of fish; or the White Mountain Apache Reservation with its expanse of forest-covered mountains—a hunting and fishing paradise. However, systematic development of the recreational resources which such areas have to offer is dependent upon a firmly fixed basic policy of forest and land management.

Many Indian reservations offer unusual opportunities for the development of wilderness recreation for general public enjoyment. This is a form of use that can not only become profitable to the Indians but one that is peculiarly appropriate to Indian genius and life. It is, too, a form of land utilization that can well be coordinated with the management of the forest, grazing, and wild life resources of the reservations. The policy governing the administration of the Upper Mississippi River Wild Life and Fish Refuge under the administration of the Department of Agriculture may well be considered in this respect. It is to be hoped that the duplication of commercialized popular outdoor resorts, however enticing financially, will be wholly avoided. The spectacle of Indians selling "hot dogs" and fake trinkets can not be viewed with complacency.

WILD LIFE AND THE FEDERAL LANDS

Any review of the recreational values of the Federal lands must give consideration to the conservation of the wild life. No element of the natural resources of the country has played a more romantic part in the development of the nation than the wild creatures that once ranged over the open lands and through the forests in countless numbers and variety.

No natural resource has been so neglected and wasted. Exploitation of resources is necessary and inevitable in the swift development of a young and vigorous people. The rapid exploitation of virgin forests may well cause alarm but there is consolation in the fact that while there has been insensate waste through the devastation of fire, the products of the forest have served a vital function in the building of the nation. The ruthless destruction of game to a great degree has been without such economic justification save in pioneer days as a

source of necessary food supply, in the establishment of agricultural settlement, or the provision of essential pasture. To-day one may ride for miles through the wilderness of the western ranges and see but few signs of wild life.

THE PUBLIC DOMAIN

In the settlement of the West game has retreated to the high ranges where under favorable conditions it is possible for the animals to exist not only through the summer but to use well-foraged ranges into the winter and again in early spring. But in winters of deep snow and prolonged periods of low temperature many species of game animals must seek the lower levels in search of food on ranges that have been exhausted through the excessive grazing of domestic stock.

The importance of satisfactory winter food for western wild life can not be overemphasized. There has been tardy recognition of this fact and too much reliance has been placed upon such protective measures as the fixation of seasons for hunting, bag-limits, and the establishment of sanctuaries. The welfare of the wild life of the West is dependent upon the proper use of land. It is a problem of range management.

Only a small percentage of the game range of the public-land States has passed into private ownership with the exception of the large Spanish grants in the Southwest and the extensive timberland holdings in the Pacific coast region. The greater part of the summer range is within Federal reservations occupying the higher levels, particularly within the national forests and national parks, and the greater part of the supplemental winter range is the lower country of the unappropriated public land adjoining.

When the national parks were created no attempt was made to include complete game units and to provide sources of winter feed for wild life in severe winters with added demand upon the fuel elements of food plants available. Likewise when the national forests were established little thought was given to the protection of wild life except to the extent of its influence on the use by domestic stock of the forage on the summer ranges within the timbered areas. Here, as in the case of the national parks, complete game units were not contemplated, with the result that much of the important winter range is outside of Federal reservation. At the time the national forests and parks were under establishment sentiment, particularly of the livestock industry, did not permit the inclusion of range lands for the benefit of wild life, although now it is appreciated that regulated grazing by domestic stock and wild life alike is beneficial as it curbs destructive practices and restores attractive forage plants killed out by abuse.

National parks as sanctuaries, with luscious feed in the summer, do not fulfill the purposes of complete game administration when the winter conditions are such that the animals must leave these protected areas and seek for food on the barren public lands outside. National forests affording ample summer ranges and where the domestic stock are carefully allotted to avoid undue competition, and where through cooperation with the States wild life refuges are frequently provided, likewise fail to save the game from jeopardy in the struggle for existence on the outside winter range.

The intelligent use of the depleted winter ranges of the unadministered public lands is the crux of wild-life conservation. The unreserved and unappropriated public lands, where most of the essential winter range is found, still exceed 190,000,000 acres in area. Over this vast domain, through long continued and wholly unregulated use for grazing purposes, the vegetation on these lands has diminished in quantity and depreciated in character to such a degree that the lands are incapable of supporting the domestic stock and wild life that is possible under intelligent management. Moreover, their use for the reasonable conservation of wild life is wholly compatible with the requirements of the livestock industry. It is well known that the depleted state of the public ranges is due not to destructive characteristics or the feeding habits of the domestic stock itself but to lack of control and unregulated methods of handling. Any measures taken to promote the permanent interests of the livestock industry will likewise safeguard productive range for wild life. The range management policy of the national forests points the way and the method to be pursued in the administration of the ranges of the public lands. There is no graver conservation problem than the present imperative need to restore the productivity of these lands, to stabilize the livestock industry, and preserve some remnant, at least, of the wild life of the western ranges.

The public domain is too often considered of low value for wild life. The mountainous areas largely within reservations are looked upon as natural game ranges complete in themselves, whereas the semidesert lands of the plains are of essential importance as complementary sources of food supply. The character of these public lands has been so modified by excessive grazing that these changes or the present condition have a growing acceptance as the normal state.

RELATION OF STATE GAME REFUGES

The wide and diverse interests in the public lands and the freedom of use that has prevailed make it of first importance that the initiation of systems of control for the conservation of wild life be approached upon the broad basis of cooperation. Many of the States have created extensive game refuges over areas of the public domain, and this action has been largely rendered ineffective by the lack of control in the protection of the necessary forage. The title to the public land is invested in the Federal Government and the States exercise, in general, jurisdiction over the wild life. This condition, of course, obtains on the reserved public lands as well save in the case of those national parks where jurisdiction of the wild life has been ceded by the States to the Federal Government. The State refuges are simply specified areas within which the State, exercising its right of jurisdiction over the wild life, abrogates the regular game laws and prohibits or especially restricts hunting. It can not prohibit or regulate other uses of the land even though such uses may be inimical to conservation of the wild life. In the national forests the United States Forest Service regulates other uses of the land. Within those State game refuges, therefore, which are located in the national forests, it is practicable for the State authorities to work out and apply plans of cooperation with Forest Service officials under which not only can the antihunting regulations be enforced but other uses of the land and particularly grazing can be so regulated as to insure preservation of the necessary food supply for wild life. This is a

distinct advantage, because in an intensively grazed country like the State of Nevada destruction of food supply through overgrazing or improper grazing methods does more to exterminate game animals than does unrestricted hunting.

Such an advantage does not exist at all in State game refuges embracing unreserved public lands. The Federal Government has never empowered its agent, the General Land Office, to interfere in any way with public grazing. The function of the Land Office is primarily to dispose of the lands under the numerous laws; to prevent trespass, and to annul fraudulent entries. The grazing of livestock on the public domain while not permitted by law is nevertheless suppressed and is not recognized as trespass. Custom, then, has always condoned unrestricted overgrazing and other destructive grazing practices accompanied by a progressive deterioration of the range and a reduction of the food supply of the game. The domestic stock has an advantage over the game, in some instances, for after the season's growth of forage, grass, and browse has been eaten up, the stock can winter on the hay ranches in the valleys. The game must stay on the open range whether there is anything left or not. The need is acute in portions of Oregon, Nevada, Wyoming, and Colorado particularly for winter refuges where a supply of winter feed may be assured through restriction or prohibition of the grazing to supplant the summer ranges largely within the national forests where control is exercised.

The Forest Service is conducting a study, in cooperation with the western public-land States, of the lands outside of national forests but adjoining or near them, for the purpose of selecting those areas suitable for and needed as winter game refuges to supplement the summer refuges within national-forest boundaries. By this process the public domain areas adapted to that form of recreational use will have been definitely classified. For those areas which are privately owned it will be necessary to provide means by which the State or Federal Government can acquire title. For those which are public domain three courses of action are possible:

1. With the passage of Federal legislation authorizing the regulation of grazing on the public domain, the States might set the areas aside as State refuges and then work out plans of cooperation with the Federal Government along the lines that are now followed on the national forests;
2. The States might acquire title to the areas under the provisions of the recreation act of June 14, 1926; and
3. Legislation might be sought from Congress to set them aside as Federal game areas.

No adequate system of wild-life administration can be developed for the West until some such measures of regulations are devised for the vast unreserved lands of the public domain.

THE NATIONAL FORESTS

The national forests offer a wide diversity in climatic conditions and plant association favorable to the production of animal and bird life upon an unprecedented basis. These national reservations embrace over 158,000,000 acres and are located in 28 of the States and in 2 Territories. On this vast domain is found the major portion of the remaining species of big game animals of the public-land States. They include the breeding ground and spring, summer, fall,

and part of the winter ranges of the regional wild life, including the highly prized species of American game. The annual estimate for 1926 of the numbers of the game animals in the national forests, a showing of nearly 1,000,000 wild creatures, clearly emphasizes the possibilities and values of wild life as a product of these reserved lands.

There are 12 national game refuges in the national forests comprising 1,199,469 acres and one national monument set aside for game of 299,370 acres. These refuges, together with more than 135 State game refuges, approximately 20,000,000 acres, have been created to extend protection to practically all forms of wild life found within the boundaries of the national forests. These figures are gratifying although it is unfortunate that the larger portions of these refuges cover summer range only. For example, around the Yellowstone National Park, which may be considered a large national sanctuary, extensive State refuges have been created in the national forests to the south, east, and north of the park. While domestic stock have been withheld from national forest ranges in this locality outside the game refuges, as additional means of protection to the wild life of the park and the surrounding country, yet it is necessary to purchase thousands of acres both north and south of the park to provide winter feed for the welfare of this large wild-life unit. Additional refuges are needed in the national forests, and both State and national refuges have their important place in adequate wild-life administration.

THE NATIONAL PARKS

While the national parks have been largely set aside to preserve natural scenic phenomena due recognition must be given to the plant and animal life of these reservations. The vegetative growth forming the different types within the parks is fundamental to the existence of the wild creatures for which sanctuary is afforded. Extensive damage may be done to the small plants forming the surface growth through the trampling where there is concentration of human beings year after year or the overconcentration of animals on restricted ranges. The preservation of the wild life of the national parks requires diligent action, not only in protection so the wild life may increase to the capacity of the food and cover, but to prevent an excess of any one species which may result in injury requiring years to heal.

The national parks are scattered through 16 States with additional areas in Alaska and the Hawaiian Islands. Bears, foxes, waterfowl, sheep, caribou, and grouse are listed in the Alaska area; black bears, deer, goats, and grouse are listed in the park in Washington; sheep, deer, beaver, grouse, and antelope are listed in the Grand Canyon National Park in Arizona; the park in Colorado has deer, sheep, elk, grouse, and two kinds of bears; the California parks list deer, elk, bears, quail, and grouse, while the Lafayette National Park in Maine lists moose, deer, beavers, grouse, ducks, and geese.

FEDERAL BIRD AND GAME RESERVATIONS

The principles governing the selection of the Federal wild-life reservations are well defined for they are established for the conservation of wild life of national significance including types of big game animals such as the bison or migratory wild fowl which are continental and international.

There are 72 Federal game and bird refuges exclusively and independently designated as such of which 70, aggregating 489,784 acres with several unsurveyed, are administered by the Biological Survey of the Department of Agriculture, and 2 in Alaska totaling 561,000 acres by the Bureau of Fisheries of the Department of Commerce. However, in addition, Congress has authorized the establishment of 12 game refuges of 1,199,469 acres within the national forests, and by joint agreement between the Secretaries of War and Agriculture 7 of the military reservations proclaimed as national forests under the provisions of the Clarke-McNary Act of 1924 are likewise designated as game refuges and total approximately 165,000 acres. There are also 6 lighthouse reservations administered as bird refuges by the Department of Commerce; 3 naval reservations safeguarded for birds under the Navy Department; and 2 of the military parks designated as game and bird sanctuaries under the administration of the War Department. If there are added to these areas the national parks, all of which are game sanctuaries, and the national monuments, which likewise are refuges where natural conditions permit (notably the Olympus National Monument in Washington), the aggregate of Federal lands administered in some form or other for the conservation of wild life exceeds 13,000,000 acres.

A number of bird and game reservations are available for general recreation without interfering with their primary purposes of wild life conservation. Of these the Upper Mississippi Wild Life and Fish Refuge is of particular interest.

A bill approved by the President on June 7, 1924, authorized the appropriation of \$1,500,000 for the purchase of overflowed lands on both sides of the Mississippi River lying within Illinois, Iowa, Wisconsin, and Minnesota for a distance of about 200 miles and from 1 to 4 miles wide between Rock Island, Ill., and Wabasha, Minn., embracing about 155,000 acres, to form a wild-life and fish refuge, the administration of the bird, mammal, and plant life to be by the Department of Agriculture through this bureau, and the administration of the fish, fresh-water mussels, which are the basis of an extensive pearl-button industry, and other aquatic life to be under the Bureau of Fisheries of the Department of Commerce.

TABLE III.—*Federal wild-life refuges in United States*

	Administrating department	Number	Area in acres
Independent wild life refuges.....	Agriculture.....	70	489, 784
Within national forests.....	do.....	12	1, 999, 469
Within military national forests.....	Agriculture and War.....	7	165, 000
Within national parks ¹	Interior.....	19	7, 562, 746
Within national military parks.....	War.....	2	10, 089
Within national monuments ²	Agriculture, Interior.....	18	471, 549
Within lighthouse reservations.....	Commerce.....	6	11, 550
Within naval reservations.....	Navy.....	2	13, 412
Fishery reservations.....	Commerce.....	12	6, 808
Total ³		148	10, 730, 407

¹ All national parks are wild-life sanctuaries.

² All national monuments are wild-life sanctuaries, but of the 54 in the United States not over 18 are estimated to afford the natural conditions of sanctuary.

³ There are 2 fish refuges of 561,000 acres in Alaska administered by the Department of Commerce; 2 national monuments of 2,252,790 acres in Alaska administered by the Department of the Interior; and 1 naval reservation of unstated acreage in the Midway Islands administered by the Navy Department; in all, a grand total of 153 reservations of 13,544,197 acres administered in some form for wild-life protection. Indian reservations are not included.

The Upper Mississippi River Wild Life Refuge marks a signal step in conservation for it is in reality a new type of public reservation managed with a view to the fullest protection, development, and use of all the resources inherent in wild lands and waters. In this respect it differs from all other Federal reservations and establishes a notable example in land planning and utilization.

The present system of Federal bird and game refuges supplemented by the great national forests and parks, while affording a remarkable opportunity to conserve wild life in general is not, however, adequate for the protection of migratory wild fowl particularly those commonly termed waterfowl—ducks, geese, swans, cranes, and others. These birds because migratory in their habits are subject to Federal regulation in contradistinction to other general forms of wild life which fall without limitation within the sovereign power of the several States. The States may and do within limits of Federal law protect migratory fowl, but the jurisdiction of Federal authority is complete. This could not be otherwise. The United States Supreme Court in the case of *Missouri v. Holland* refers to "birds that yesterday had not arrived, to-morrow may be in another State and in a week a thousand miles away."

The authority of the Federal Government in the protection of migratory wild life imposes a responsibility which is at present not adequately discharged. Land settlement, and the disappearance of the natural habitat of marshes and waters through drainage, have materially affected the breeding and feeding of the great hosts of waterfowl which twice each year, in the spring and fall, wing their way in great flights between the feeding grounds of the South and Mexico to the breeding grounds of the North and Canada.

Present measures, including the restriction of killing and cooperation with Canada through treaty, have proven insufficient to adequately conserve waterfowl. The problem is clean-cut, and it is the same problem that underlies all effort to intelligently conserve wild life. The conditions of natural habitat must be protected or where lacking must be restored. The necessity for this would seem obvious, yet entirely too much reliance has been placed upon the value of legislative measures restricting the kill. Once natural habitat is adequately provided and safeguarded, intelligent administration can then dictate the restrictive measures necessary. This is particularly true of migratory wild fowl which concentrate at well-known areas in the course of their migrations. This fact permits conditions to be intensively studied and controlled on each area of concentration and the findings and administration correlated with other areas along the lines of flight. The further fact that the entire administration of migratory wild fowl throughout the entire country is the undivided responsibility of a centralized agency—the United States Department of Agriculture—makes possible the exercise of wide discretionary power permitting the imposition of such restrictive measures to carry out the terms of the migratory-bird treaty as sound experience in the field dictates. It is important then that this power be kept elastic to enable prompt and decisive action to meet conditions and emergencies as they arise. By the terms of the act carrying out the migratory-bird treaty with Great Britain, Congress has properly delegated broad administrative power to the Secretary of Agriculture.

Protection of the natural habitat of waterfowl through the curbing of unnecessary drainage, which too often but adds to the now great areas of submarginal agricultural lands; the restoration of drained areas which have been proved unsuitable for agriculture; the construction of dikes to impound fresh waters in areas of alkaline concentration; the development of other engineering works to prevent the loss of natural food supply; and the suppression of the oil pollution of coastal waters; these are some of the fundamental steps which must be taken for the adequate conservation of migratory waterfowl. The bill passed by the Seventieth Congress providing for the improvement of conditions in Bear River Bay, Utah, to prevent the enormous losses of migratory waterfowl due to concentrated alkaline waters, is an example of measures necessary. Within the last few years large numbers of ducks have perished in this area from alkaline poisoning. Action to improve conditions is of interstate importance, for it has been conclusively shown that banded ducks from this region have been taken in nine other surrounding Rocky Mountain and Pacific coast States.

Although the Biological Survey is keenly alive to the general recreational possibilities of many of its reservations, under present financial conditions it can do little to develop them or encourage public use; its appropriations are totally insufficient to enable it even to provide adequate warden service to protect the reservations from poaching and trespass by hunters. Many of the reservations have no warden service. On others it is possible only to pay on a dollar-a-year basis. The result is that many of the reservations are reservations in name only, as the regulations prohibiting hunting upon them can not be enforced. This unhappy condition of affairs will continue until adequate administrative funds are made available. Only after this has been done and the primary purposes of the reservations properly provided for will it be possible to take up in a practical manner the question of developing the general recreational resources of these refuges and making them available to the public.

MILITARY RESERVATIONS

There are 54 or more of these, including approximately 1,250,000 acres, administered by the War Department, which offer varying conditions of food and cover for the production of different kinds of wild life. Seven of these reservations, approximately 165,000 acres, declared national forests or parts of national forests under the provision of the Clarke-McNary Act of June 7, 1924, have been specifically designated as game refuges by the Secretaries of War and Agriculture. Recognition of the importance of food and cover for all forms of wild life; the use of plants in association in landscape development, that will supply these needs, will make possible wild life sanctuaries in the grounds of military hospitals, soldiers' homes, the grounds of arsenals, graveyards, forts, parks, and posts where formal development is maintained. So often formal landscape development is created with closely cut lawns, and fruitless trees and plants set in open formation that affords neither cover nor food. The larger reservations having extensive growth in natural association offer many opportunities to develop wild life. There is no question about the value of the birds and small animals in the grounds of military hospitals, while the recre-

ation created by good shooting on some of the larger reservations is highly prized. The game culture activities of the Institute of the Small Arms and Ammunition Manufacturers includes some 400,000 acres. Moreover the War Department, with the advice of the Biological Survey, is developing protective measures and regulations governing the hunting of wild life on all of its reservations.

NATIONAL MONUMENTS

Of the 58 national monuments, 1 is classified primarily for the preservation of wild life but on a number of others of different major purpose wild life can be developed.

INDIAN RESERVATIONS

There has been a well-defined policy in the Office of Indian Affairs to dispose of the Indian lands for the individual benefit of the Indians. It is recognized, however, that lands not applicable to improvement by cultivation, and valuable for their forest products or forage crops, can not be disposed of advantageously as individual allotments but should be held intact and administered as tribal units. Where the tree growth justifies, management has been established and methods of utilization put into practice with a view to perpetuating the timber stands. Grazing lands have been leased for running domestic stock. Where there have been wild life values such as fish and game the Indians have been allowed unrestricted use to the point of exhaustion. There are but few cases where the authorities have attempted to develop a policy for the protection and the improvement of the game and the fish for the benefit of the Indians. The grazing lands of the Indian reservations, like some of the range lands of the national forests, have been injured by excessive stocking with domestic animals. This has not improved the conditions for the wild life that is not entirely wanting on some of the reservations, the grouse on the Red Lake Reservation in Minnesota, the grouse on the Pine Ridge and Rosebud Reservations in South Dakota, the turkeys and the deer on the Mescalero Apache, and the Jicarilla Apache Reservation in New Mexico, and the waterfowl on the Klamath Reservation in Oregon.

It is claimed by many that the native instincts of the Indians are such as to prevent the possibility of wild-life development on or around the reservations. This appears to be just the opposite from the experience of the Canadians in securing the cooperation of the Indians in the protection of the game and the fur animals of the northern Provinces. Intelligent education in respect to wild life protection and production among the Indians of those reservations where the conditions are favorable for production, will undoubtedly produce results. The appropriation of funds to establish game in localities where the conditions are favorable and where the Indians evince an interest is advisable. On reservations like the Red Lake Reservation in Minnesota it is advisable to fully study the conditions with a view to development of a wild-life production plan that can be elaborated as the inhabitants of the lands realize the possibilities in the preservation of the wild life and are actively interested.

RESEARCH

While the provision of winter range and cooperative agreements between the Federal Government and the States to bridge the anomaly of divided political responsibility are cardinal factors in the conservation of western wild life, the fact must not be lost sight of that there is a steady attrition due to conditions little known or appreciated. Extensive biological research and working plans of game administration periodically revised are badly needed throughout all of the game ranges. Such research and plans are not only necessary to protect the integrity of wild life but to permit the coordinated use of land for other economic or social purposes. The recent study of the elk of Jackson Hole, Wyo., by a commission of the National Conference on Outdoor Recreation may be cited as a needful example that should be extended to include other species of game of national importance.

Knowledge of forage plants and their association, and the feeding requirements of game, are fundamentals. On the national forests such knowledge is gained by plant collections, range classification, and range studies. This work has had its origin in the use of national-forest ranges by domestic stock. While all such research has a bearing on the control of game, the wild-life field is far-reaching in relation to all phases of the different land types and forms of plant association, including the desert areas, the foot hills and the Bad Lands, the heavily grassed slopes and basins of the sand-hill districts, brush lands of the lava beds, the sage-brush plains, the steep slopes of box canyons, the open slopes and upland meadows of the forested hills and mountains, and the rock-strewn flats and wind-swept balds of the alpine elevations where snow is ever present. Research activities should be applied to this broad field as well. In the classification of the ranges the factors of domestic stock requirements govern. Nevertheless a considerable percentage of the national forest lands are classified as of little or no grazing value although they support a limited amount of nutritious plant life for the support of many varieties of wild life. It is important that range studies embrace the requirements of all forms of animal and bird life, as well as that of domestic stock. Natural environment has been completely changed and all that can be done is to adjust conditions to the best advantage. For this reason it is futile to expect to restore the balance of nature. Man has forever destroyed that balance and in a hundred ways, many apparent, some unknown.

The present status of important types of wild life on the Federal lands of the West leaves no room for complacency. There may be enumerated the case of prairie chickens, pintail grouse, blue grouse, sage chickens, ducks, ptarmigan, mule deer, antelope, elk, and mountain sheep in particular.

One very important phase of wild-life conservation is the planting of stock on depleted ranges where the numbers are so few or in such low vitality that they can not sustain the attrition of annual losses. Buffalo and elk have been transplanted with success; antelope and mountain sheep have proven difficult.

ADMINISTRATION

The vast domain of the Federal estate presents unparalleled opportunities to restore and maintain the productivity of wild life rich in variety and of remarkable economic and social value. The Biological Survey directly administers a number of game and bird refuges and through extensive investigations and research is making available conclusions of the greatest value. Nevertheless this work, however efficient and helpful, is insufficient if measured against the enormous areas of depleted range and the continued attrition of the stock. The present work must be supplemented by plans for game administration coordinated with other plans for the use of the products of the Federal lands. Consider the national forests. The function of the Forest Service is to place the millions of acres within their borders under such forms of management that each type of land will serve the highest purpose. Thus the Forest Service is developing intensive plans throughout all of the national forests for the administration and utilization of the major products—timber, forage, water, and recreation. Wild life has been given serious attention as a part of range management for the regulation of the grazing livestock. Moreover, the work of the forest officers has been supplemented by the investigations of biologists of the Biological Survey. Partly because of this method of administration, with attendant appropriation difficulties, and partly because of the fact that wild life is generally subject to the laws of the States, this great natural resource of the national forests falls far short of its possibilities.

The McSweeney forest research bill has passed the Congress and will make possible the assignment of biologists by the Biological Survey to the various forest experiment stations maintained by the Forest Service. This is a most needful measure. But more than that, there is need for the detail of biologists to the supervising staff of every national forest if full advantage is to be taken of the unexcelled opportunity to place the wild-life resources of these reservations on a productive basis. Plans of administration must be developed for all important game ranges in full coordination with other plans for the utilization of the national-forest resources. This is likewise true of the national parks, of the unallotted lands of Indian reservations, and in fact of all Federal lands where wild-life resources are of potential value. Such plans, too, will afford the basis for sound cooperative agreements with the various States where the character of the reservation does not permit complete jurisdiction over the wild life. Where the jurisdiction of the Government is complete, as is the case of national parks and unallotted Indian lands, the responsibility is exclusive.

In addition to the national game and bird refuges and the sanctuaries of the national parks there are State game refuges extending protection to nearly 20,000,000 acres of the national forests and offering an excellent basis for cooperative production of wild life by the States and the National Government. Practically all the different types of growth suited to the production of animals, birds, and fishes found within the United States are included or covered by these refuges so that every phase of protection, culture, and use, together with the necessary study and research, can be planned for and put into effect upon lands now under administrative control.

The vast Federal estate affords an unrivalled opportunity for the development of a national policy for wild life protection and the creation of an asset of the greatest recreation and economic value. In some form or other Federal wild-life refuge is extended to well over 10,000,000 acres within the continental United States, and if Alaska is included to over 13,000,000 acres. But of this area in refuges it must be emphasized that probably not over 5 per cent of the land included is under intensive forms of game administration. Some refuges exist in name only, while others maintain merely a warden service, and inadequate at that. Mere protection is not enough. Appropriations should be made available which will make possible detailed plans of wild-life management through interdepartmental agreements with the Departments of Agriculture, Interior, War, Navy, and Commerce, under the direction of the Biological Survey and the Bureau of Fisheries. There can be no doubt whatsoever that the material return, aside from the recreational values, would be astonishingly great; of direct value to the Nation and to a great number of local communities throughout the country through the capitalization of their outdoor assets.

CONCLUSION

Analysis shows that the Federal land holdings of to-day, embracing recreation resources which warrant some form of particularized and permanent Federal administration and development for general public enjoyment, are largely confined to the national parks, the national monuments, the national forests, the national bird and game reservations, the unallotted Indian lands, and restricted areas of the unreserved and unappropriated lands of the public domain west of the 100th meridian, that is, a line drawn south through the Dakotas. Other classes of Federal lands, while they may be of value for recreation, can not be used for such purposes or the values, if possible of development, are not of national importance but of sectional or local significance, demanding development by the States or minor political units.

Nevertheless the Federal recreation resources of national significance are of supreme importance for they are unique and generally of a character that complement but do not duplicate the recreation resources possible or under development by States, counties, or municipalities. The Federal lands of national significance from a recreational standpoint are the wilderness areas of the high mountain ranges, restricted areas of the plains and the arid deserts of the West; the headwaters of the Mississippi, and the highlands of the northern and southern Appalachians, and of the Ozarks of the South. These are the lands now generally included in the national forests and parks, or passed over in the rapid exploitation of the public domain.

City planning can make possible adequate playgrounds and parks to meet local needs, and the counties and the States can provide large parks and forests for transient enjoyment and relaxation out of doors, but man can not replace the wilderness. The remaining wilderness of America, modified as inevitably it has been, is now found only in Federal ownership. It is then the great responsibility of the Federal Government to provide these forms of outdoor life and recreation which it alone can give and which are associated only with the wilderness.

ELEMENTS OF A FEDERAL RECREATION POLICY

Land planning or the dedication and classification of the land and its resources to highest service is the fundamental basis upon which the development of outdoor recreation as a national institution must rest. Upon the Federal Government, as an obligation of its stewardship, is imposed the duty to plan and provide in a forward-looking way for the complete development of the economic and social resources of its vast estate. The era of exploitation has passed. Federal land planning must find its proportionate place in the mosaic of nation planning and in coordination with city and regional land planning if a rapidly expanding population is to permanently enjoy the material and spiritual rewards to which it is entitled and which a country abundantly endowed by nature affords.

These initial steps are suggested as elementary in the formation of a Federal recreation policy:

1. Creation by law or Executive order of a continuing agency or commission to promote and develop a Federal outdoor recreation policy; to advise concerning means of coordinating the common functions of various agencies of the Government which relate to outdoor recreation and the conservation and administration of natural plant and animal life resources, including forestry, fisheries, game and bird life, the national forests, parks, monuments, and public domain; to serve as a means of bringing the agencies of the Government into active cooperation with national and other bodies in the field of outdoor recreation and conservation; and to promote specific projects of research and plans of practical application for the utilization and enjoyment of the recreational values of the Federal natural resources.

2. Adequate annual appropriations for the prevention of forest fires on the Federal lands, complete reversal of the present pinch-penny policy which denies sufficient funds for fire prevention but which tolerates opening the floodgates of the Treasury for their suppression.

3. The initiation through interbureau cooperation of regional studies and planning to determine the policy which should govern forms of use, occupancy, and management which will most completely realize potential, educational, scientific, inspirational, and recreational values of the national parks and forests.

4. Establishment by law of the objects and standards of the national parks system in order to (a) differentiate this system clearly from other land systems, Federal and State, and (b) provide a definite basis for development of recreation in the parks in coordination with recreation in national forests and other permanent Federal reservations.

5. Addition to present park system of areas fully meeting the national park standards. (Reference Great Smoky Mountains National Park, Public No. 33, 70th Congress.)

6. Elimination from the present national park system of units or areas not fully meeting standards as measured by the major parks and the transfer of these units to other administrative agencies, Federal or State.

7. A definite long term program for the acquisition of national forest lands in the Lake States, the Appalachian Range of New England and the mountain States of the South, and in the coastal plains

region of the South. (Reference McNary-Woodruff bill as enacted by the 70th Congress, Public No. 326.)

8. Formal delimitation by proclamation of the Secretary of Agriculture of wilderness areas within the national forests and suppression of the exploitation of social uses or speculative economic uses inimical to the enjoyment of simple wilderness sports. (Reference, the Leavitt bill, H. R. 10659, 70th Cong.)

9. Appropriation for adequate sanitary facilities for all national forest public camps.

10. Addition to national forests of adjoining timberlands of the unreserved public domain under the provisions of the Clarke-McNary Act and repeal of the timber and stone act.

11. Passage of an enabling act to establish within national forests, with the consent of the States, sanctuaries and refuges for game, fur bearers, birds, and fish. (Reference, Robinson bill, S. 2456, 70th Cong.)

12. Strengthening of cooperative agreements with the States to provide for complete game administration.

13. Reconnaissance of the public domain for the determination of winter range sanctuaries for big game animals of national importance. (Reference, Leavitt bill, H. R. 15, Public Law No. 425, and Winter bill, H. R. 478, 70th Cong.)

14. Passage of legislation making possible creation of needed reservations for the protection of the natural habitat of migratory birds. (Reference Public No. 304, 70th Congress, establishing the Bear River Migratory Bird Refuge and the Norbeck bill, S. 1271, 70th Congress.)

15. Adequate appropriations for the development and administration of all Federal game reservations.

16. Reorganization of national monuments so as to standardize selection and administration by the three Government departments creating and administering them, and appointment of a coordinating commission of members of these departments and civilians to build them into a balanced system for the protective and scientific uses for which they were intended.

17. Adequate appropriations for the administration of national monuments.

18. Consideration by the Office of Indian Affairs of the possible application of wilderness forms of recreation to certain Indian reservations.

19. Reconnaissance of the public domain to determine areas for inclusion as national monuments.

20. Passage of legislation for the regulation of the grazing of livestock on the public domain. (Reference, Colton bill, H. R. 9283, 70th Cong.)

21. Classification of lands of the public domain chiefly valuable for recreation under the terms of the act of June 14, 1926, and their administration by the State or minor political units.

22. A definite long term program establishing a firm basis for forest research and the relation of wild life and recreation to forestry. (Reference, McSweeney bill as enacted by the 70th Congress, Public No. 466.)

THE CONSERVATION OF THE ELK OF JACKSON HOLE, WYO.¹

This report on the conservation of the elk of Jackson Hole, Wyo., by a commission appointed at the request of the conference by the President's committee on outdoor recreation, is an example of project studies that are needful for all of the types of American big game. While for many years valuable scientific data has been collected on the individual life habits of types of wild life insufficient attention has been given to the fact that their natural environment has been so modified by now that working plans providing for complete game administration are badly needed throughout all of the game ranges. These plans, supplemented by biological research, are not only necessary to protect the integrity of wild life but to permit the coordinated use of land for other economic and social purposes.

In this country the science of game administration should be more clearly understood by the public. It is not the mere exercise of police power for the protection of numbers of game. Unhappily American game to-day is still largely in the era of mere protection and dependent for existence upon inelastic statutes which do not conform to changing conditions and customs. Indeed, not infrequently these statutes violate fundamental principles of biology. Game administration includes rational protection of wild life adjusted to changing conditions, and excludes unnecessary and unmerciful waste. Overprotection, paradoxical as it may seem, defeats its end, and under its stimulus certain types of game animals multiply beyond their means of subsistence and cruel starvation ensues.

The case of the elk of Jackson Hole, Wyo., is a striking example. Formerly herds of elk from the southern part of the Yellowstone National Park and from the high regions along the Continental Divide immediately south of the park passed Jackson on their autumn migration and wintered in the Green River Basin. The settlement of the country and the introduction of domestic stock deprived the elk of this wintering ground. As a result the migrating herds now winter in Jackson Hole and vicinity, a region of scant summer rainfall and heavy winter snows in which the elk are unable to get sufficient forage. The congestion of the elk herds and the lack of feed has resulted in starvation and losses on a large scale during severe winters—one of the most tragic situations in the annals of wild life conservation.

Although thousands of elk in the herd have died in past years, the Jackson Hole elk herd to-day is one of the largest groups of big game animals within the United States. It is an unique, economic, and recreational asset of national importance, and is also of great potential value to Jackson Hole Valley and the State of Wyoming as a permanent source of income.

¹ A report to Hon. Dwight F. Davis, the Secretary of War, chairman of the President's committee on outdoor recreation, and Hon. Frank C. Emerson, Governor of Wyoming. National Conference on Outdoor Recreation, 1927.

The solution of the problem of the elk of Jackson Hole demands a complete plan of game administration, revised annually to meet the exigencies of the situation as they arise, to be jointly agreed upon and executed in common by the Wyoming State Game and Fish Commission and the United States Department of Agriculture (Forest Service and Biological Survey), and this plan should include the following measures:

1. The definite allocation of duties, authority, and responsibility of the respective agencies.

2. The pooling of effort and resources by these agencies.

3. The creation of an advisory board to assist these agencies in the correlation of administrative plans with local and State economic welfare, and to promote public interest. Said board to consist of one member designated by each of the following agencies: The Wyoming Game and Fish Commission, the Forest Service and the Biological Survey of the United States Department of Agriculture, the local stock interests of Jackson Hole, the Dude Ranchers' Association, and interested sportsmen's organizations. In addition to executive sessions it is suggested that the board hold an annual public session and hearings not later than July 1 in Jackson, Wyo., for the purpose of reviewing the facts pertaining to the condition of the elk herd during the past season and making recommendations to the appropriate State and Federal authorities for the administration of the herd for the ensuing season.

4. The determination of the number of elk of graduated age class and sex that can and should be permanently maintained, considering the available or possible food supply and the need for avoiding undue sacrifice by local industries. It is recommended that this number be provisionally fixed at 20,000 head.

5. A cooperative count annually if possible of the elk herd to determine the annual fluctuations—increase or decrease—from 20,000 head, and to afford a basis for revision of the plan of administration.

6. A simultaneous winter count of the northern Yellowstone, Shoshone, Wind River, and Green River herds. These herds intermingle more or less on the summer range with the Jackson Hole herd, although they occupy widely separated areas during the winter months. A count will afford essential data for their administration.

7. The establishment of an experiment station and, as soon as practicable, the undertaking by the United States Biological Survey in cooperation with other Federal, State, and unofficial interested agencies of a comprehensive investigation of the life history of the Jackson Hole elk and the factors affecting their maintenance in suitable numbers, and of similar investigations of the northern Yellowstone, Shoshone, Wind River, Sun River, and Green River herds and their relation to the Jackson Hole herd.

8. The introduction in Congress of legislation appropriating funds to purchase lands and provide for their equipment, maintenance, and operation; to buy hay and to lease pasturage, so that, with the additional measures supplementing the resources afforded by the lands already controlled, adequate winter feed and protection may be provided for 20,000 head of elk.

9. The withdrawal from entry of the unreserved unappropriated public land in isolated tracts surrounded by or contiguous to the land to be purchased or to the present United States Biological Survey

elk winter refuge or the Izaak Walton League refuge (now authorized to be deeded to the Federal Government as a part of the Federal refuge).

10. In order that the elk of the Jackson Hole unit may be maintained at the number agreed upon, and that the surplus animals may be properly disposed of, or the herd properly safeguarded in the event of a decrease, provision in the Wyoming law is recommended to permit the exercise of wide discretionary power on the part of the State game and fish commission, so that as unforeseen climatic conditions or other emergencies arise the commission may take prompt and decisive action to preclude any wide variation in the numbers of the herd. Rigid statutes unchangeable except at stated biennial periods will preclude this control. Specifically, it is suggested that the State statute of 1890 points the way to the effective exercise of this necessary administrative power by the game and fish commission. Under this statute the killing of any elk was prohibited throughout the year. This same provision might be restored with the addition of a qualifying clause to read in effect "except under rules and regulations of the fish and game commission." Such legislative authority will permit the State game and fish commission to determine the limitations of the hunting seasons, the number and kind of animals to be taken, the areas to be designated for hunting, and the disposition and economic use of surplus stock; and to provide for cooperation with Federal and other agencies. The State authorities can then carry out intelligently the policy of regulated hunting so forcibly stated by President Roosevelt in *The Outlook* of March 31, 1912, page 713, a policy which this commission indorses as a cardinal point in game administration:

There are all kinds of problems connected with preserving wild creatures, by the way, and one of the most important of them, of a totally unexpected kind, has come to the front during the last decade in connection with the Wapiti, the elk of the Yellowstone Park. The Yellowstone Park was always a favorite summer range of the elk. Under protection they have increased enormously in numbers. They summer within the park; although some of them winter within it, especially near its northern border. The majority tend to get out, especially to the south. All wild birds and animals, of course, possess a fecundity such that when natural checks are removed they increase in geometrical ratio. This is true of them just as it is true of tame animals; let any kind-hearted lover of animals remove all checks on the increase of, say, the cats or rabbits on his place, and inside of a year he will find this truth illustrated by practical experiment. Almost any species, if free from natural enemies, increase so fast as speedily to encroach on the possible limits of its food supply, and then either disease or starvation must come in to affect the fecundity. In European game preserves the shooting tends to keep down any abnormal increase—although even in these game refuges over-preservation often results in stunting the development of the animal or exposing it to diseases. In America hitherto the success of the effort to preserve the different kinds of wild creatures has not been great enough to cause us any alarm as to their over increase, with the single exception of the elk in the Yellowstone Park. But this is a very serious exception. Elk are hardy animals and prolific. It is probable that a herd under favorable conditions in its own habitat will double in numbers about every four years. There are now in the Yellowstone Park probably 30,000 elk. A very few moments' thought ought to show anyone that under these circumstances, if nothing interfered to check the increase, elk would be as plentiful as cattle throughout the whole United States inside of half a century. But their possible range is of course strictly limited, and as there are no foes to kill them down the necessary death rate is kept up by nature in a far more cruel way, that is, by starvation in winter. The suffering and misery that this means is quite heart-rending. Every winter the Wapiti herds that go south of the Yellowstone Park lose thousands upon thousands of their numbers by the long-drawn agony of slow starvation. The loss falls especially, of course, on the calves of the year, and the cows in calf—the very animals that under any proper system of hunting suffer least.

From time to time well-meaning people propose that the difficulty shall be met by feeding the elk hay in winter or by increasing the size of the winter grounds. Of course, there are circumstances under which feeding hay is not only proper but necessary, and it may be that there can properly be made a slight enlargement of the winter range of the elk. But as a permanent way of meeting the difficulty neither enlarging the range nor feeding with hay would be of the slightest use. All that either could accomplish would be to remove the difficulty for two or three years until the elk had time to multiply once more to the danger point. What is needed is recognition of the simple fact that the elk will always multiply beyond their means of subsistence, and that if their numbers are not reduced in some other way they will be reduced by starvation and disease. It would be infinitely better for the elk, infinitely less cruel if some method could be devised by which hunting them should be permitted right up to the point of killing each year on the average what would amount to the whole annual increase. The herd must be kept stationary, and it should be kept stationary in some way that will work the least possible cruelty to the animals and will be of most use to the people of the country, especially of the States in which the park is situated. Of course, the regulation should be so strict and intelligent as to enable all killing to be stopped the moment it was found to be in any way excessive or detrimental. There should be no profit hunting; that is, no sale of the meat or trophies.

The Jackson Hole elk bear an exceedingly important relation to the local stock raising, farming, recreation, and general community interests of Teton County, Wyo. They provide a market for surplus hay and afford employment for local residents, are the basis of a considerable local business in outfitting and guiding hunting parties, and furnish local residents an economical and desirable source of fresh meat supply. These elk are also of very great economic importance as a part of the whole scheme of things, which makes northwest Wyoming and the Jackson Hole a mecca for tourists, recreationists, and big game hunters. Indeed, it is believed that when the elk herd is made secure against periodical losses by starvation and is managed in a businesslike way, its value as an economic asset will be greater than that of any other local industry.

Proper management of the elk involves consideration of the use now made of the range by domestic stock. The ultimate objective of the conservation of the elk is to establish their full community and national value. The great attraction of the elk is as a recreation asset maintained as nearly as possible under natural conditions. Unless the herd can be maintained under such conditions the Jackson Hole region will lose its chief claim to distinction and its greatest source of potential income from tourists and sportsmen. Without this extraordinary exhibition of wild life, this region, even though of unusual scenic charm, would need to compete with hundreds of similarly beautiful regions in the West.

It is wholly practicable to provide properly for all of the essential industries of the Jackson region, which are dependent upon the use of the range. The maintenance of wild life, particularly the elk, is included as one of these essential industries. Much has been accomplished by the Forest Service in stabilizing the livestock industry through its plans of range management. There remains the necessity of stabilizing the conditions surrounding the welfare of the elk. With the cooperation of the responsible agencies—State and Federal—there is no reason why a plan of management can not be developed which will give just recognition to all essential interests.

It is clear that the intelligent conservation of the Jackson Hole elk demands a working plan of administration continually fortified by the findings of scientific research. This plan must be cooperative,

inclusive, and jointly supported by the governmental agencies interested—the Forest Service and the Biological Survey of the United States Department of Agriculture—and the State game and fish commission of the State of Wyoming. Special investigations and scientific research are the function of the Biological Survey. The Forest Service, by reason of its administration of the Teton National Forest, including the greater part of the elk range, is well equipped and prepared to record general data from field observation and to assist the State in the patrol of game areas and in the enforcement of the game laws. It is the function of the State, on recommendation of its game and fish commission, to enact the necessary legislation and confer the necessary broad administrative power to make the plan of administration effective. In addition it is desirable that representatives of all local interests participate in the development of plans for the administration of the game. This can be effectively brought about by the recognition of an advisory board composed of such representatives.

If results are to be obtained there must be concerted action by all interests involved. It would be futile for the Federal Government to acquire feed and range sufficient to support a fixed number of elk if the State laws remain so inelastic that proper disposition of the surplus stock can not be made. Unless accurate data are obtained through research the plan of administration must proceed by the costly process of trial and error. It is a situation in which the residents of Jackson Hole, stockmen, tourists, the State and Federal Governments, dude ranchers, and the general public have a common interest. It requires local cooperation, aided by the best qualified and experienced Federal and State authorities, and backed by a sympathetic and constructive public opinion.

It is the hope of the commission that with public approval of the policies recommended the Federal Government and the State of Wyoming will act jointly to conserve for all time, in a remarkably beautiful section of the Rocky Mountains, one of the great types of American big game, the finest of its genus in the world.

The following initial steps have been taken to carry out the recommendations of the commission:

1. An advisory board representing all interests has been appointed and now meets periodically at Jackson, Wyo.

2. Hon. Charles Winter, Congressman from Wyoming, has introduced H. R. 478 in the Seventieth Congress providing for an appropriation of \$275,000 for the purchase and improvement of approximately 12,000 acres necessary to connect the present Federal elk refuge and that of the Izaak Walton League refuge donated to the Government, and essential to provide adequate winter feed and safe routes of migration to the feeding grounds.

3. A biologist has been assigned by the Biological Survey of the Department of Agriculture to specifically study in the field the research problems presented in the commission's report.

The problems involved in the management of the Jackson Hole elk herd are in a measure common to those affecting the conservation of other important herds, such as the northern Yellowstone, Shoshone, Wind River, Sun River, and Green River herds, and the unique Roosevelt elk of the Olympics in Washington. A complete series of studies looking to the conservation of the American elk throughout these ranges is recommended by the commission.

CONTRIBUTIONS OF MUSEUMS TO OUTDOOR RECREATION¹

This report was prepared in response to a request for a statement of ways in which science museums can contribute to outdoor recreation. By agreement, the scope was widened to include some of the work of history museums, and also to take account of certain possibilities outside the strict field of museums but within the range of museum influence. The chief emphasis is upon the following nine suggested projects, or directions of effort, which seem to offer futures:

BRANCH EXHIBITS

As an extension of the temporary exhibit plan, which now has a recognized place in museum economy, it would be worth while for museums to develop small circulating exhibits that could be shown in store windows and other public places. If several regular installation points were established in a city, each exhibit could be lodged at each of the points in turn. This might lead to the establishment of much-needed branch museums.

RADIO PROGRAM

Museums might cooperate in financing a weekly radio program to be broadcast over a network of stations. By reserving a desirable hour in the evening and engaging proper talent to direct the work, programs of striking character could be offered, and the reaction upon museums would doubtless be marked.

POPULAR NATURAL HISTORY LEAFLETS

Many museums publish short chapters of natural history as numbers of their leaflet-series. Some of these issues are important enough to have more than local circulation, and yet if they were to be pushed by their respective museums as they would be by commercial publishers, the market would be oversupplied. This situation suggests that several museums might join forces to produce one worthy series of leaflets and to advertise them nationally.

EXPERIMENT IN ADULT EDUCATION

In order to give form to speculation as to the possibilities of museum instruction for groups of adults, an attempt might be made to work out syllabi in conjunction with a cooperative experiment in group leadership. An advisory committee and critical progress reports would be important features. The work should be developed in relation to library reading courses and other current efforts, since illustrative material promises to play an important part in these other elements of adult education.

¹ "Contributions of Museums to Outdoor Recreation" by Laurence Vail Coleman. A Report to the National Conference on Outdoor Recreation, 1928.

PROMOTION OF SCHOOL SERVICES

Extension of school-museum relations must adjust its pace to the gradual popularization of nature study in the schools, but further research in values, methods, and administration of nature teaching would go far toward preparing the way.

The body of present knowledge, supplemented by the results of research, might properly form the basis of state-wide efforts to provide teachers with information on natural history, suggestions as to classroom procedure, and directions for securing visual material. The immediate approach to this activity seems to be through a plan now under consideration by the National Education Association and the American Association of Museums.

OUTDOOR EXHIBITS

Museums are urged to employ the already discovered methods of outdoor exhibition in their educational work, and to create outdoor museums by way of experimentation in this new field which promises to reveal new techniques and a certain basic reemphasis in museum aims.

One by-product of this effort may be the appearance of museum-parks in the larger cities.

NATURE WALKS

The success of nature guiding experiments at centers of population invites museums of the larger cities to develop this service on a rather large scale.

TRAINING OF NATURE GUIDES

Museums might profitably give greater attention to establishment of schools for nature guides—and not without attention to possibilities of cooperation.

NATURE GUIDE BOOKS

Isolated ventures in producing read-as-you-go literature for travelers has shown that more general efforts in this direction are worth considering. One of the larger museums might open up the situation by publishing leaflets for railroad passengers, auto tourists, and walkers. The requirements of each group would be different, of course.

These nine plans are discussed in detail, and each is proposed in the light of what museums have already accomplished. The body of the report, therefore, is a compact statement of the essentials of museum work in several branches—chiefly educational.

I. PUBLIC EDUCATION

Museums render public service in part through educational activity. It is an accepted principle that much of the energy expended in this direction should be scattered broadcast, making little impression upon

any individual or small group, perhaps, but aiming to exert a rewarding influence upon the community as a whole. In efforts to achieve this extensive purpose of museum education, exhibits are installed, lectures given, publicity created, and publications issued.

EXHIBITS

Permanent exhibits customarily deal with natural science in such a way that a general view of the more important facts and laws of nature may be gained. They deal with the earth, fossils, plants, and animals. Temporary exhibits are likely to be fuller in treatment but much more restricted in scope than permanent installations. They afford special opportunity to touch here and there upon applied, or economic, science—science in relation to man. Personal hygiene, public health, and science as applied to the farm offer subjects of special appropriateness. Current events in science may be interpreted also.

LECTURES AND THE RADIO

Public lecture courses have a place in the activities of museums and for the most part prove to be well worth while. A number of museums present radio programs, but the manner in which they use the most important channel of public information is rather casual. There are possibilities in the matter of radio presentation which are far beyond anything that has yet been attempted. Some of these are suggested in the report.

PUBLICITY

Museums are fortunately situated in relation to the press, since their activities and fields of work offer an inexhaustible supply of news stories and pictures, and also because museums are not makers of propaganda. The newspaper and magazine fields are cultivated effectively.

PUBLICATIONS

Many museums issue popular serial publications, called bulletins, which are intended primarily for distribution to members and which rarely achieve wider circulation. Another class of printed matter put out by museums, for which wide distribution is hoped, is that of the leaflet. There are many different kinds of leaflets besides the familiar guides, which have to do more or less strictly with museum exhibits. Hundreds of illustrated short chapters of natural history have been presented in this form—most of them interesting, some of them quite general in appeal, and a few of them masterful as popularizations. These facts suggest a cooperative project, as indicated above. A possible extension of the same idea is outlined in the section on outdoor guidebooks.

II. ADULT EDUCATION

Museums have responded to the marked growth of interest in the education of people who are past school age. In their efforts the element of consecutive work is now being stressed in view of a growing

conviction that sporadic efforts, however earnest, are ineffective. Work with small groups is also emphasized. Museums command the services of persons who are well qualified to be group leaders, and also they possess stores of illustrative material. On two counts, therefore, it is anticipated that museums will hold an increasingly important place in this developing field.

III. INSTRUCTION OF CHILDREN

Although there is sure to be a certain amount of unscheduled museum work with individual children, instruction is given for the most part during so-called museum hours. The purpose of a museum hour is to give children opportunity to come in close touch with museum material—to observe it, to handle it, to think about it, and to express themselves concerning it in speech, drawing, pantomime, or other language. A specific method of instruction has been developed, and this work is coming to be an established part of museum service. Fuller public recognition is needed for its extension, and there is also occasion for further study of method.

IV. SCHOOL-MUSEUM RELATIONS

School service of museums falls into two categories: (1) Lending of illustrative material to the schools, and (2) instruction of classes at the museum. The first service is to give the teacher objects of her own selection for use as aids in the regular work of the classroom; the second is to give the children opportunity to widen their experience beyond the horizons of the classroom, the home, and the street. Both of these services readily become a part of the regular school work.

Material which a museum sets aside for school use is ordinarily called a lending collection, and it is made up of objects that have no great intrinsic worth or importance and which can be replaced. Within these limits, selection is made on the basis of usefulness as teaching material, museums having made analyses of the school curriculum in an effort to learn what is needed. Ordinarily the second type of work—museum instruction—is carried on in much the same way as the work of museum hours mentioned above. Many museums have their own instructors, but the most satisfactory administrative plan is one which provides that a teacher or teachers in school employ be assigned to instruct at the museum under the direction of museum authorities.

The report analyzes the present status of nature study in the schools and relates the findings to museum service.

V. OUTDOOR EXHIBITS AND OUTDOOR MUSEUMS

Until recently the natural history exhibits of museums have been made largely by collecting sample objects in the open—often near at hand—and bringing them indoors where, by processes involving the expenditure of more or less time and money, they have been reproduced or preserved for display. According to an idea which is now receiving much attention, nature makes exhibits all about, and these need only to be interpreted by labels or the like to give them museum value. There is an incomparable succession of self-made exhibits at

the threshold or within easy reach of every museum that can find ways of treating them as its own instruments. Experiments in method have developed national park museums, camp museums, nature trails, and trail-side museums.

NATIONAL PARK MUSEUMS

Collections have been in the making for years at several national parks and monuments, and, by degrees, some of them have taken shape as museums illustrating the flora, fauna, geologic features, and history of the local regions. The largest single resource which has come to any of these museums was a fund made available three years ago through efforts of the American Association of Museums for creation of a museum in Yosemite Valley, purchase of equipment, preparation of initial exhibits and conduct of studies upon the general problems of outdoor museums. The usefulness of this museum is suggestive of what could be done in other national parks.

The evolution of plans for the Yosemite museum led to the creation of a diminutive branch museum on Glacier Point. Of this, and subsequently created trail-side museums more is said in a following section.

CAMP MUSEUMS

Camp museums have had their inception and most flourishing growth at the Palisades Interstate Park as a result of Boy Scout activity. Each summer small collections of the rocks, minerals, plants, and animals of the park were brought together by the boys, and some of these objects were installed temporarily in tents or camp buildings. Later the work was extended by the park management so that now each summer the camp director of the park administration engages a special staff of assistants to lead work on four lakes besides the one where it is well rooted under the Boy Scout ægis. Each museum gives special instruction to campers and encourages nature work of like kind in the camps themselves.

NATURE TRAILS

The idea of nature trails was also first carried out at the Palisades Interstate Park—in the Harriman section where the American Museum of Natural History established its station for the study of insects in 1925. The original trail was a mile of woodland path along which trees, shrubs, herbs, insect workings and a few temporarily caged insects and other creatures were labeled. The trail was made up of two sections—the first, or so-called training trail, being designed to convey information; and the second, or testing trail, to give an examination on subjects presented by the training trail.

In three years since this project was carried out, the nature trail idea has spread to many camps, and also to city parks and at least one botanic garden. To all indications the plan is now well established as a method of outdoor instruction.

TRAIL-SIDE MUSEUMS

Through the work of the committee of the American Association of Museums which built the museum in the Yosemite Valley, a new plan of outdoor exhibition was evolved. This hinges upon the con-

ception of a museum—or perhaps a museum exhibit—of new type for which the name trail-side museum was coined. In the beginning, the trail-side museum idea was born of the conviction that a national park is itself a museum. Seeking means of interpreting the park to the public, the committee conceived the plan of erecting shelters along roads and trails at appropriate points and installing in each of these a few specimens with labels, a chart or two, and perhaps a model—all relating to natural features near at hand or in sight, and all elucidating these features just as labels, diagrams and supplementary models elucidate master exhibits under roof.

The scheme was soon recognized as one of wide applicability, since everywhere the out-of-doors furnishes opportunity to explain things of interest in nature. It appeared that any museum might locate trail-side, path-side, or roadside exhibits at favorable points on park paths, along highways, and the like. The plan has already been demonstrated in national and State parks.

THE FUTURE OF OUTDOOR EXHIBITION

The four separate experiments named above are closely related in purpose. Though each supplements the other, they do not resolve into a single plan of action, but instead they reveal new methods for every set of conditions. At bottom only two elements seem to enter into the various possibilities: Outdoor exhibits and outdoor museums. The report defines these elements and points out as their significance that outdoor museums will make their impression upon public museum policies as to location, site, centralization, branches, size, scope, and even purpose—penetrating deep into the administrative structure of established institutions—whereas outdoor exhibits touch directly upon methods of museum education only. These observations suggest developments for the future.

VI. NATURE GUIDING

For years, organized conducting of nature-study excursions has been known as nature guiding. The practice has received its greatest impetus in the national parks, and at present it is being extended rapidly in this field and in State parks. Also, from many cities, parties go out regularly to take nature walks through parks and suburbs. Museum leadership is partly responsible for this, and more museums should exert themselves along this same line.

TRAINING OF NATURE GUIDES

With the popularization and attendant extension of nature guiding there has come a lack of persons qualified to carry on the work. In recognition of this, summer schools have been organized but the problem has not been solved adequately as yet.

VII. OUTDOOR GUIDEBOOKS

In the history of mankind there has never before been as much traveling as now, and among men to-day there is no people more traveled than our own. Travel whets the observation, and this circumstance seems to offer opportunity for education through what

may be termed outdoor guidebooks, that is, books or leaflets with maps, text, and illustrations which explain the wayside. This sort of thing has been attempted but has not been carried far.

GUIDEBOOKS FOR THE RAILROAD TRAVELER

Railroads trade upon scenic and historic advertising literature. The pamphlets which they publish fall into three groups that, respectively, may be called lure literature, calculated to entice the citizen from his home, side-trip literature, intended to make the traveler indulge in by-play, and route literature, designed to please and edify the passenger as he gazes from his window at the shifting scene. All of this printed matter is somewhat educational. Lure and side-trip booklets are very common, but they are not highly educative. Route literature is rarely seen, but it may have great value.

GUIDEBOOKS FOR THE AUTOIST

There are many autoists who would like to be taught, or at least entertained by information about the scenes through which they pass. Natural history and history guidebooks for the motorist therefore are in order. A notable development of this kind is the successful effort of the Virginia Historic Highway Association to develop a circuit of good roads around the State and to induce intelligent travel over the route by giving information to autoists.

GUIDEBOOKS FOR THE WALKER

Apart from the concerted hiking that attends nature guiding, there is a vast amount of outdoor walking on the part of individuals and small groups. Scores of mountain, camp, trail, and field clubs have attained to national prominence, and there are many more which lead obscure existences. For every member of such an organization there are hundreds of citizens interested in the out-of-doors and quite willing to be coaxed into the open. Apparently, therefore, a large audience awaits any successful plan to use popular nature education as an inducement to walking.

Efforts to produce outdoor guidebooks, with this end in view, have been well rewarded. The American Geographical Society has published the New York Walk Book, and museums have made parallel beginnings. Certain possibilities are developed in the report, which closes with the observation that ultimately the public which has accepted Lincoln and Lee Highways may learn to understand Audubon and Thoreau paths.

COORDINATION OF NATIONAL PARKS AND NATIONAL FORESTS¹

One of the most important projects undertaken by the National Conference on Outdoor Recreation has been that of the field study of national forest and national park boundaries where doubt has arisen as to the form of management most in the public interest. In many cases national forests and national parks have coterminous boundaries, and therefore coordination in administration is an obvious necessity. Since these classes of reservations were not created concurrently, circumstances have at times dictated the establishment of arbitrary division lines. In consequence national forests have embraced some areas which should be withdrawn from economic utilization and dedicated to social use exclusively; likewise some national park areas have included lands that should be placed under management for the development of their economic resources.

Whether an area should be under administration as a national park or a national forest depends upon a proper evaluation and weighing of all the assets, present and potential, within the area under consideration and the relation of these resources to existing national forests and national parks and to local, State, and National economy. A national forest demands economic utilization of its resources; a national park preservation of its resources. National forest utilization creates wealth; national park preservation redistributes wealth. But forests and parks create invisible wealth—spiritual, educational, and physical, the parks in relatively greater measure than the forests. Together the two forms of administration, and each in complement to the other, are designed to satisfy material and spiritual wants. The ultimate test of their public value will come when the economic pressure of an increased population demands the complete utilization of all available resources. The resources within the national parks, therefore, must be of such outstanding character that there is justification for their permanent withdrawal from all forms of commercial use; and those of the national forests must be managed upon the most productive basis possible.

To effect coordination in policy and the complementary development of the resources of each class of reservation the National Conference on Outdoor Recreation requested the President's committee on outdoor recreation to undertake a study of the problem. On February 10, 1925, the President's committee formally appointed a commission which included the heads of the Forest Service and the National Park Service to investigate and report to the committee on all projects under consideration by the Departments of Interior and Agriculture dealing with proposed enlargements or adjustments of national parks or national forests which involve the interests of the two departments.

¹ Reports of the coordinating commission on national parks and national forests.

Proposals to add national forest lands to existing national parks, or to include them within new national parks, have created for the National Park Service and the Forest Service a common concern in the following projects:

Proposed additions and other boundary adjustments involving the Sequoia National Park, Calif.; Rocky Mountain National Park, Colo.; Mount Rainier National Park, Wash.; Grand Canyon National Park, Ariz.; Yellowstone National Park, Wyo.; Yosemite National Park, Calif.; Lassen Volcanic National Park, Calif.; and Crater Lake National Park, Oreg. Proposed new national parks: Cliff Cities National Park, N. Mex.; and Mena National Park, Ark.

Through the agency of the coordinating committee on national park and forests, mutually satisfactory boundaries were worked out in the field for the Sequoia, Rocky Mountain, Mount Rainier, Grand Canyon, and Yellowstone National Parks. The new boundaries for the Sequoia and Mount Rainier Parks have been established by acts of Congress, and a partial adjustment of the boundaries of the Rocky Mountain Park has been similarly approved. A bill for the adjustment of the boundary of the Yellowstone Park is pending before Congress. The proposed additions to the Yosemite and Crater Lake National Parks were studied in the field by the coordinating committee and are still under consideration.

The proposed Mena National Park was examined jointly by representatives of the National Park Service and the Forest Service, who recommended against it. The proposed Cliff Cities National Park is still under consideration.

The preparation of the committee's reports on the proposed changes in the boundaries of these national parks and forests largely completes its action upon the questions pending before it. Their final settlement will pave the way, it is believed, for the adoption of a policy which will completely coordinate national park and national forest interests and permit forms of administration for each class of reservation which will serve the highest public interest.

