

✓	ROGERS
✓	JOHNSTON
✓	JOFFE
✓	ANDERSON
✓	STANTON
✓	FULLER
✓	PROPER
✓	HOTCHKISS
✓	MATSON
✓	COOPER
✓	SEYMOUR
✓	EVANS
✓	C. J. LAY
✓	KONIG
✓	KITTS
✓	WOLFE
✓	ROBERTSON
✓	WIGGINS
✓	MEADEN

6-27-51
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 FROM CONGRESSMAN
 WESLEY A. D'EWARD
 2ND CONGRESSIONAL DISTRICT
 MONTANA
 [No. 19]

THE PRESERVATION OF WILDERNESS AREAS (AN ANALYSIS OF
 OPINION ON THE PROBLEM, BY C. FRANK KEYSER, REGIONAL
 ECONOMIST, LEGISLATIVE REFERENCE SERVICE, LIBRARY OF
 CONGRESS)
 HOUSE OF REPRESENTATIVES,
 COMMITTEE ON MERCHANT MARINE AND FISHERIES,
 Washington, D. C., September 8, 1949.

HON. CLARK W. THOMPSON,
 House of Representatives, Washington, D. C.
 DEAR COLLEAGUE: Enclosed is a letter and study of the Preserva-
 tion of Wilderness Areas submitted to me by Dr. Ernest S. Griffith,
 Director, Legislative Reference Service, the Library of Congress.
 This material is sent to you as chairman of the Subcommittee on
 Fisheries and Wildlife Conservation.
 Yours very sincerely,
 S. O. BLAND, Chairman.

Hon. S. O. BLAND,
 Chairman, Committee on Merchant Marine and Fisheries,
 United States House of Representatives, Washington, D. C.
 AUGUST 24, 1949.

DEAR MR. BLAND: In accordance with your letter of November 17,
 1948, the Legislative Reference Service has proceeded with the study
 of wilderness areas previously requested by former Congressman
 Burke in his capacity of chairman of the Subcommittee on Conserva-
 tion of Wildlife Resources. This study is now complete and is
 transmitted to you herewith. We trust that you will find it in the
 form suitable for publication as you contemplated.

In accordance with the standards of the Legislative Reference
 Service, every effort has been made to guarantee its objective char-
 acter. Opinions were solicited from all interested Government
 agencies, State as well as Federal; and from private organizations who
 had interested themselves in the problem—either from the standpoint
 of favoring or opposing the establishment of wilderness areas. We are
 grateful to all those who helped us in this fashion. Primary respon-
 sibility for the study was assigned to C. Frank Keyser, our regional
 economist.

Sincerely yours,
 ERNEST S. GRIFFITH,
 Director, Legislative Reference Service.

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THE PRESERVATION OF WILDERNESS AREAS
—
AN ANALYSIS OF OPINION ON THE PROBLEM

BY
C. FRANK KEYSER
Regional Economist

AUGUST 24, 1949

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AN ANALYSIS OF OPINION ON THE PROBLEM

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C. FRANK KEYSER

Regional Economist

AUGUST 24, 1949

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THE PRESERVATION OF WILDERNESS AREAS—AN ANALYSIS OF OPINION ON THE PROBLEM

I. INTRODUCTION

A. THE PROBLEM

In recent years there has been an increasing awareness by the Government and the people of the United States of the many problems of land use. With the growing population and the resulting utilization of more and more previously unutilized land it is becoming evident that before many years have passed there is danger that the original wilderness which was met and conquered by our forefathers in building our country will have disappeared entirely. It will exist only in the history books. If, then, there is reason for preserving substantial portions of the remaining wilderness it must be decided upon before it is too late. If there is opposition to the idea it is well to consider that also. In this connection the potential values of such a course to the Nation as a whole are among the factors which should determine whether a given parcel of land is more valuable for its timber, its minerals, for use as agricultural land or grazing, or whether it should be preserved as wilderness.

If the conclusion is that the wilderness should be preserved the question arises as to who should preserve it and how. Should it be the responsibility of the Federal Government or of State and local governments or others? The Federal land-management agencies have recognized the desirability of preserving some of the wilderness areas within their jurisdiction, but to different degrees and in different manners. Some of the States likewise have set aside areas for preservation and protection, but they too differ in manner and method. Some lesser governmental units have also set aside natural, primitive areas. In a few instances there is land in private hands which has not as yet been developed and is largely in its original condition. Is there any need for or advantage in a common set of standards for the selection of areas for preservation? And if there is, how shall it be determined and formulated? Should it be in the form of a congressional act with the standards spelled out as was done in the case of the National Parks Act of 1916, or by a general declaration of policy on the part of Congress? What part should the States and other local governmental agencies take? In any event, considerable attention will need to be given to administrative problems such as the degree and permanence of protection, the amount and kinds of permissible uses.

Another factor which must be considered in this connection is, to what extent the Federal Government is obligated or committed by treaty relationships with other nations.

It is for the purpose of exploring the background of these questions concerning the remaining American wilderness that this study has been undertaken.

B. THE METHOD USED IN THIS REPORT

The study is primarily a synthesis of responsible opinion on the questions above stated. In an effort to obtain as representative an expression of opinion as possible, questionnaires were submitted to Government agencies and officials (both Federal and State), to organizations concerned with land management, conservation, recreation and the biological sciences, and to a representative sampling of private interests having a stake in alternative uses of the land. In all over 200 State officials were contacted; and more than 100 organizations representing, it is believed, all shades of opinion.

The questionnaires used varied somewhat according to the groups contacted. Since much of the land currently under protection as wilderness is under the jurisdiction of Federal agencies, the questionnaire in these cases sought to elicit the facts as to the responsibility and plans of the several agencies. State officials were asked to indicate the existence of wilderness areas within their jurisdiction, under whatever designation, together with details of administration and plans for future development. The questionnaire sent to organizations solicited their aid in securing as broad an expression as possible of the views of their membership.

In all cases, comment and observations beyond the specific questions were encouraged, particularly as to whether or not there is a need for a national wilderness policy; and, if so, what form it should take.

C. THE RESULT

Response to the questionnaires was most gratifying. All five of the Federal agencies contacted have been extremely cooperative. Response from the various organizations was very good, 72 replies being received from the 105 questionnaires sent out. Returns from State officials were relatively fewer; but over one-half replied—112 out of 209. Frequently one State official answered on behalf of several others.

Qualitatively the answers received varied considerably, as was to be expected in view of the broad, general nature of the question. Those from the Federal agencies were quite responsive to the questionnaires, as were those, on the whole, from the organizations. The latter in most cases had already considered the broad question of preservation of the American wilderness and were officially on record either favorably or unfavorably. A number of them before answering polled their membership, thus broadening the representation of opinions, a very desirable result. Some who had not officially considered the question replied with the personal views of officials of the organization, or answered only in part. Replies from State officials of course were limited by the official position of the States themselves, and the statutory obligations of the State agencies. It was soon found that not many of the States had considered the specific question of preservation of wilderness at all. It was also apparent that many officials were not familiar with the term "wilderness area," nor with the current movement for their preservation. Much of the effort of State officials is apparently being directed to the more immediate problem of caring for the tremendously increasing demand for recreational areas of the more developed type, and especially for provision of

overnight accommodations in the form of lodges, cabins, and trailer camps, as well as demands for more readily accessible areas for motorists and week-enders. The less immediate problem of preservation of wilderness areas has been of less concern to State officials responsible for State parks and recreational areas. On the whole, State foresters are more conscious of and concerned with the wilderness areas and some very helpful replies were received from among that group. Those State officials concerned with wildlife resources are likewise faced with an immediate problem of providing for an immediate demand for readily available and accessible areas for fishing and hunting. Here again the wilderness has as a practical matter been of secondary importance. However, many of this latter group express a concern for and a long-range interest in protection of wild areas, particularly as a conservation measure for wildlife. Many of these officials are actively participating in the Pittman-Robertson Act program of wildlife refuges on behalf of their States.

All told, it is believed that the results as tabulated herein may be considered fairly representative of responsible thought on the "wilderness areas" problem—whether they should be preserved or not, the values to be gained thereby, if any, and whether or not there is a need for a national wilderness policy.

II. DISCUSSION

A. INTRODUCTION

In this section will be discussed replies to the questionnaires and letters sent out by the Legislative Reference Service to the several Federal agencies, the State officials, and the organizations, associations, and societies interested in conservation, recreation, the physical sciences, and use of public and other lands which might be considered as the wilderness regions of the Nation.

The Federal agencies are believed to constitute a special case. Individual letters were drafted to each to fit the circumstances. Each of these agencies has under its jurisdiction some of the established wilderness areas and has had experience in dealing with the problems involved in administration. For that reason their replies are treated separately and in considerable detail.

Replies of the State agencies are considered in one section in the order of the questions with one exception. Since a majority of replies combined their answers to questions (2d) and (3c) concerning a national wilderness policy, discussion of that aspect is for sake of convenience dealt with in the same manner.

Replies received from the various organizations are discussed in the same order as that of the separate questionnaire sent to them. Existing wilderness areas, as specified by correspondents, are listed in an appendix, and are arranged by States.

Each of the Federal agencies has its own responsibility under law for administration of the land within its jurisdiction. None of the agencies has any statutory injunction to designate or administer "wilderness areas." Each, however, has administratively designated certain areas to be protected in their natural state, one under the name "wilderness area" (Forest Service) and others under different designations. In the discussion to follow of each of the Federal

agencies is to be found its understanding and interpretation of the term "wilderness area."

One factor which is common to all of them is the fact that they are roadless, save for a few necessary fire roads. The intent of the rules and regulations in effect is to protect them in their present condition which is either their natural primitive state or very closely approximating it.

For a better understanding of the place each agency has in the land-management policies of the Federal Government a brief description of each agency is included. In that description is given the sphere of activities, the statutory duties and administrative policies of each agency.

B. FEDERAL AGENCIES

Since the Federal Government agencies have jurisdiction over by far the greatest number of wilderness areas of the country separate questionnaires were directed to the individual agencies. Information was sought concerning the name, location, legal basis for, date of establishment, and other details of individual wilderness areas, as well as by what land-classification category they are designated. Information as to the determining factors in their creation and the values to the public of their creation were also sought. Extent and means of cooperation with other agencies as well as future plans, either for creation of additional wilderness areas or for changes in boundaries of the present areas, were included among the questions. Obligations under international treaties are an aspect not met with elsewhere but which are important to know in connection with Federal agencies, and a question thereon was included. Knowledge was sought of any opposition to creation of wilderness areas by these Federal agencies, and what they have done about it. They were asked whether they knew of any other areas which are potential material for creation of wilderness areas. And finally, each agency was asked whether a national wilderness policy was desirable in its view, and if so, what suggestions it might have as to the form, objectives, and content of such a policy, and of what value it would be to the individual agency.

1. Bureau of Land Management

This Bureau is charged with supervising the survey, management, and disposition of the public lands and the resources therein. It executes all laws relating to the surveying, prospecting, locating, appropriating, entering, reconveying, and patenting of all public lands within the national forests and other reservations. It also conducts scientific and professional work in the fields of land and mineral economics, including research into the past and present condition of the public domain as an aid to public land administration and for use in determining future public land policy.

The Bureau itself is not an operating agency in the sense that the United States Forest Service, National Park Service, and others are, except for administration of the Taylor Act. As a matter of policy, if upon classification of a parcel of land the Bureau finds it suitable for any use for which there is an operating agency, either Federal, or, as in some instances, State or local, charged with responsibility for

administration for that purpose, that agency is notified before the land is disposed of in any other way.

Of primary interest to this study is the fact that the Bureau has jurisdiction over all of the vacant, unappropriated, and unreserved public lands in the continental United States and Alaska, and is charged with their survey and classification. The amount of land thus involved amounts to approximately 180,000,000 acres in the continental United States and 225,000,000 acres in Alaska.

While it is true that the Bureau of Land Management had no land classification such as "wilderness area" or any comparable term, it is probable that among those millions of acres there are in fact many "wilderness areas."

The Bureau reports that there is a considerable area in the general region where the States of Colorado, Arizona, New Mexico, and Utah meet, along with considerable areas in Nevada, western Arizona, and in the areas of the Colorado River territories, which has not as yet been surveyed or classified, but which it is expected will yield a large proportion of "wilderness" in the sense that it is completely undeveloped. This land is believed to be mostly barren, extremely rugged in character, and arid. To date, it has not been developed or claimed largely because of its inaccessibility. It has not been appraised for its economic value, and no minerals in commercial quantities or timber have been located.

In Alaska, the situation is somewhat different. Much of that land, as it is classified, will probably be transferred to the National Park Service, the Forest Service, the Fish and Wildlife Service. At the present time much of it has not yet been surveyed.

For the purposes of this study, however, none of the land under the Bureau of Land Management is listed as "wilderness area," since none of it has been so designated, nor is it being given any protection to preserve its present character.

The Bureau estimates that the remaining public domain, as yet not classified, could be completely classified over a 10-year period at a cost of from 6 to 10 cents per acre, or slightly higher in Alaska.

Area in acres of vacant public lands, by States and for Alaska, June 30, 1947

State	Total area	Amount unsurveyed	State	Total area	Amount unsurveyed
Alabama	23,401	3,681,395	Nevada	41,927,201	13,803,718
Arizona	11,259,189	1,136,730	New Mexico	14,729,801	1,203,170
Arkansas	10,027,373	3,417,854	North Dakota	100,000	—
California	8,216,371	368,107	Oklahoma	25,383	—
Colorado	24,219	—	Oregon	13,229,331	—
Florida	12,662,217	218,316	South Dakota	313,171	—
Idaho	9,031	—	Texas	23,830,100	8,710,215
Illinois	7,353	—	Utah	468,300	680
Indiana	17,163	—	Washington	6,371	—
Iowa	92,236	—	Wisconsin	16,035,066	19,920
Kansas	1,166	—	Wyoming	265,000,000	31,461,840
Louisiana	1,008	—	Alaska ¹	—	—
Michigan	6,773,073	22,504	Total	431,551,791	—
Minnesota	28,165	—	Grand total	—	—
Mississippi	—	—			
Missouri	—	—			
Montana	—	—			
Nebraska	—	—			

¹ Estimated.

Source: U. S. Bureau of Land Management.

2. National Park Service

The National Park Service, Department of the Interior, in reply to the question "What is the official definition of a 'wilderness area'?" replied that it had no such definition. It noted, however, that the definition of the Wilderness Society was acceptable and called attention to the act of August 25, 1916 (39 Stat. 535), which established the National Park Service, and specified the purpose of national parks and monuments: "which purpose is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

The Wilderness Society defines wilderness areas, in brief, as "areas retained in their primeval environment or influence, or * * * areas remaining free from routes which can be used for mechanized transportation."

The National Park Service does not designate wilderness areas within the National Park System as such, but the establishment of national parks and national monuments is undertaken to ensure the preservation of natural conditions.

It will be noted that, according to the first part of the Wilderness Society's definition, the national parks and national monuments of considerable size would reasonably be classified as wilderness areas; however, according to the second part, the larger parks and monuments would not, as individual units, be classified as wilderness areas, since they do have " * * * routes which can be used for mechanized transportation." Within these latter parks and monuments, however, there are areas which could be designated "wilderness areas," since they are not crossed by roads.

Although there are other types of areas under the jurisdiction of the National Park Service, the only ones of concern here are those called national parks and national monuments. The former are established only by specific acts of Congress; the latter, except for a few established by act of Congress, are established by Executive order under the authority of the act of June 8, 1906 (34 Stat. 225), known as the Antiquities Act.

Park resources are managed with the object of carrying out the policy laid down by Congress to conserve them and provide for their enjoyment in such a manner as will leave them unimpaired for future generations.¹

The Park Service seeks to maintain the native plant and animal life of the parks in a natural state. It seeks to present park wildlife where it can be seen, studied, and photographed in its natural environment. As a result of this policy, the great national parks and many of the national monuments are wildlife sanctuaries. Hunting and trapping are not permitted, and artificial feeding and predatory animal control are not considered desirable. Fishing is permitted and is a popular park use. State fishing licenses usually are required and is a popular park use. State fishing licenses usually are required and is a popular park use. State fishing licenses usually are required and is a popular park use.

Prospecting and mining on Federal lands in the national park system are not permitted, except on valid existing claims and in Mount McKinley National Park, and in Glacier Bay, Death Valley, and Organ Pipe Cactus National Monuments, in which mining is

¹ U. S. Department of the Interior. Land management in the Department of the Interior. July 1946, p. 44.

authorized by specific acts of Congress. In this connection, it may be noted that available information does not indicate that the parks in general contain valuable deposits of rare minerals. Each unit of the park system was carefully studied before its establishment, and valuable known mineralized areas were excluded. With the exception of the Death Valley National Monument, mining in the areas opened by special acts of Congress has been negligible.²

The act creating the National Park Service can be interpreted only to mean that parks are neither to be "locked up" nor used up. In general, the policy of the service is to provide visitors to the parks the maximum opportunity to visit the particular features for which the park was created, with the minimum amount of damage to the park. This includes provision of roads and trails, and concessions of various types. These may include overnight accommodations. Where it is found that such accommodations are available outside of the park, development of facilities for housing and food are not encouraged within the parks. As the National Park Service expresses it, in reply to the question "What are the factors which determine whether a particular area should be a wilderness area as opposed to other land uses?"—

"This question does not seem to apply to areas within the national park system, since all are preserved in the natural state insofar as possible, except that certain developments are generally permitted in order to provide access and accommodations for the public. It is our policy to keep the development of these facilities to a minimum."

The parks and monuments which contain large portions of undeveloped areas were specified by the National Park Service and are included in the list of wilderness areas in another portion of this study.

As to future plans concerning wilderness or undeveloped areas within its jurisdiction, the Service does not contemplate the establishment of any areas to be designated as such although it states " * * * there is present authorization to establish a few new areas in other categories when and if the requisite lands are donated to the Federal Government. None of these could be considered as being of the wilderness type, with the possible exception of the Cape Hatteras Seashore Recreational Area in North Carolina. This project was authorized by the act of August 17, 1937 (50 Stat. 669), as amended, but oil explorations in the vicinity have delayed the land-acquisition program."

Responsibilities of the Nation under international treaties as a factor in a wilderness program.—International treaties are not generally a factor in the establishment of areas within the national park system. However, a Commission, referred to as the United States International Park Commission, was appointed by the Secretary of State on February 8, 1936, with the approval of the President, to represent the United States in conference with a similar commission of the Republic of Mexico to formulate policies and plans for the establishment and development of international parks, forest preserves, and wildlife refuges along the international boundary between the United States and Mexico, with the understanding that final recommendations of the joint commissions are to be submitted to both Governments for consideration and approval. Negotiations have since been under

² Land management in the Department of the Interior, op cit., p. 45.

³ Letter from the Director of the National Park Service, November 30, 1938.

way to have established in Mexico a national park opposite Big Bend National Park in Texas and a Coronado International Memorial in Arizona, which was authorized by the act of August 18, 1941. Further, the Service notes:

"We are working with the State Department at the present time on plans for the establishment of a similar commission to consider and make appropriate recommendations regarding the establishment and development of international parks, forest preserves, and wildlife refuges along the boundary between the United States and Canada and between the Territory of Alaska and Canada."

Cooperation with other agencies.—The National Park Service has not engaged in active cooperation with other Federal agencies or State governments and agencies in creating or maintaining wilderness areas except for a cooperative agreement with the United States Forest Service relating to the fighting of forest fires.

It does, of course, cooperate with the States under authority of the Park, Parkway, and Recreational Area Study Act of June 23, 1936 (49 Stat. 1894), within the limits of available funds, in furnishing technical assistance in planning State parks, although few of these areas can be considered as wilderness areas. Also, through cooperative agreements with the Corps of Engineers and the Bureau of Reclamation, the Service plans recreational developments on and around reservoirs.

Benefits to the public of preservation of wilderness areas.—As the National Park Service expresses it:

"The scenic, scientific, inspirational and recreational values which wilderness-type areas offer have long been recognized by conservationists as a distinct public benefit and national asset. Moreover, they constitute the finest watershed protection of any land use and, with the present floods and rapidly falling ground water table, this is in itself an important economic factor. Civilization has left untouched only a small fraction of our once great wilderness, and this and future generations are deserving to enjoy a relatively few isolated 'islands' representative in appearance and in environment of this land as it was created."

Opposition to wilderness areas.—The National Park Service has noted considerable opposition to the wilderness-type area. It believes that there will continue to be opposition," * * * so long as man's greed and short-sightedness continue to dominate his sense of responsibility." It notes that there is continual pressure upon the Service to throw open some park to mining, another to "selective logging," or another to one of the dam builders for a water-storage project. Opposition to the entire concept of wilderness areas is noted from segments of the mining interests, the cattle growers, the wool growers, and others ad infinitum.

The national park system in its entirety amounts to less than 1 percent of the total lands in continental United States; however, the Service is accused by opposition interests of "locking up" the Nation's natural resources when it attempts to carry out the congressional mandate to protect the national parks system from such nonconforming uses.

Potential wilderness areas.—When asked whether the Service was aware of any additional areas, by whomever owned or administered,

* Letter from the Director, op. cit.

which might potentially qualify as wilderness areas and be given protection as such, the Service replied:

"Undoubtedly there are federally owned lands, some State, and perhaps a few privately owned tracts which would qualify as wilderness areas and merit preservation; however, this Service has made no surveys of this nature and is not prepared at this time to make recommendations concerning them."

National wilderness policy.—The National Park Service has no particular suggestions to make as to the form or content of a national wilderness policy except that it believes that the few remaining areas in the United States qualifying for such status should be preserved and that they should be preserved "inviolate by congressional mandate rather than by administrative decision."

3. Bureau of Indian Affairs

In general, it may be said that Indian lands are held in trust by the United States Government under the provisions of numerous treaties, agreements, and acts of Congress. The Indians are assisted in making the fullest use of these lands consistent with conservation principles.

In October of 1937, the Bureau of Indian Affairs, recognizing that the domain of the American Indians had been repeatedly encroached upon through the years and fulfilling a promise implicit in the Indian Reorganization Act of 1934 (48 Stat. 984) that the Indian should be allowed to follow his own way of life,⁷ designated 12 areas on Indian reservations as roadless areas and four as wild areas.

By this action, nearly 5,000,000 acres of the wildest remaining Indian country was to be protected against the losses, friction, and depredation which have often followed in the wake of unwarranted penetration of unspoiled areas, by conserving it against exploitation.

The establishment of these areas was for the purpose of preserving a last frontier behind which the Indian might rest secure for a time against the encroachment of a tempo of life which he has never uniformly accepted.⁸ One of the advantages of thus setting aside these areas was deemed to be that the establishment of these "quiet zones" would in all probability constitute a boon to whites as well as to Indians. It was expected that many persons would seek out these retreats in searching for unspoiled wilderness. Thus it was believed that, in addition to the Indians themselves enjoying the sanctuary offered by these areas, they might augment their income substantially by acting as guides for outsiders.

In the text of the order establishing these roadless and wild areas⁹ the purpose for which these areas were established was stated, in part, to be:

"From the standpoint of the Indians, it is of special importance to save as many areas as possible from invasion by roads. Almost everywhere they go the Indians encounter the competition and disturbances of the white race. Most of them desire some place which is all their own. If, on reservations where the Indians desire privacy,

⁷ Letter from the Director, op. cit.

⁸ Letter from the Director, op. cit.

⁹ Press release, Department of the Interior, October 29, 1937.

¹ The same.

² Order No. 486, United States Department of the Interior, Office of Indian Affairs, Oct. 25, 1937.

(Approved by the Secretary of the Interior, Oct. 29, 1937.)

sizable areas are uninhabited by roads, then it will be possible for the Indians of these tribes to maintain a retreat where they may escape from constant contact with the white man.

"The present Indian service policy emphasizes giving the Indians an opportunity to work for their livelihood. One important potential source of enjoyment and remunerative work is for the Indians to guide parties on camping and pack trips. It is obvious that no one is going to require a guide to travel down a road. The possibility for Indians to make money through guiding lies in maintaining portions of their reservations in a wild enough condition so that some one visiting them might conceivably need a guide."¹⁰

This action was taken in recognition of the fact that mechanization was growing in America with unprecedented acceleration. Much of American life was becoming dominated by machinery. It recognized too that there were many people who, while appreciating the good that mechanization brought, still craved an opportunity to get away from it for varying lengths of time and did not believe that every inch of the vast Nation need be utilized to its utmost in a machine world. It was deemed perfectly feasible to reserve for such people something of those wilderness values which they craved by a little advance planning and balancing of the claims of genuine conflicting values, thus making it possible to save many areas from mechanization. Much true wilderness area has been spoiled by construction of roads for which there was little need and which might have been avoided by giving a little prior thought to a reasonable balance between primitive and developed areas.¹¹

The Bureau of Indian Affairs, taking cognizance of the National Resources Planning Board's definition of a roadless area as one which contains no provision for the passage of motorized transportation and which is at least 100,000 acres in forested country and at least 500,000 acres in nonforested country, noted that a total of only 82 forest roadless areas and 29 nonforested were left in the United States in 1937. Since few of these were to be found on Indian reservations it seemed a compelling justification for the Commissioner of Indian Affairs immediately to set aside as many as practicable while the opportunity remained.¹²

The order designating the roadless and wild areas established the policy that "existing areas without roads or settlements in Indian reservations should be preserved in such a condition, unless the requirements of fire protection, commercial use for the Indians' benefit, or actual needs of the Indians clearly demand otherwise." Besides the 12 roadless areas set aside, the Commissioner of Indian Affairs also reserved 4 areas to be called "wild areas." These were areas not large enough to be designated by the term "roadless," but from which it was nevertheless desirable to exclude provision for the passage of motorized transportation. These areas are included in the list, by States, of all such areas in a later portion of this study.

Administrative policy.—Within the boundaries of these officially designated roadless and wild areas it is the policy of the Interior Department to refuse consent to the construction or establishment of any routes passable by motor transportation, including in this restriction highways, roads, truck trails, work roads, and all other

¹⁰ The same.

¹¹ Order No. 486, op. cit.

types of way constructed to make possible the passage of motor vehicles either for transportation of people or for the hauling of supplies and equipment. Foot trails and horse trails are permissible. Superintendents of reservations on which roadless or wild areas have been established are held strictly accountable for seeing that these areas are maintained in a roadless condition. Elimination of any areas or parts of areas from the restrictions of the order 486 of October 1937 may be made only upon a written showing of an actual and controlling need. Only two adjustments in boundaries have been made to the present time.

Future plans.—The Bureau of Indian Affairs has no immediate plans for designating additional roadless or wild areas. Aside from the two minor changes in boundaries noted above (Mount Thomas roadless area, Fort Apache Indian Reservation, Ariz., and the Wind River Mountains roadless area, Wind River or Shoshone Indian Reservation, Wyo.), already made, there are no changes contemplated.

Cooperation with other agencies.—Information as to conditions existing within areas of mutual interest is exchanged with such other agencies as the United States Forest Service and the Quetico-Superior International Peace Memorial Forest. The Bureau cooperates with such agencies in maintaining those areas and in developing uniform standards of administration and use. This is particularly useful where, as is the case in a number of instances, roadless or wild areas under the Bureau adjoin or are near similar areas under other jurisdictions.

Opposition to roadless and wild areas on Indian reservations.—The Bureau of Indian Affairs reports no opposition to the roadless and wild areas it has established on Indian reservations. In this connection it calls attention, however, to the official policy that these Indian lands are held in trust by the Federal Government for the use and benefit of the Indians. Accordingly, it would not seem reasonable to deprive the Indians of any income that might be obtained through the sale of timber and other resources within these areas. For this reason the regulations concerning administration of the areas (Part 281, title 25 C. E. R.) prohibit construction of any routes passable to motor transportation, "unless the requirements of fire protection, commercial use for the Indians' benefit or actual needs of the Indians clearly demand otherwise."

As a matter of practice any roads constructed under authority of the regulations are maintained only so long as actually needed.¹³

National wilderness policy.—Existing legislation appears adequate to the Bureau of Indian Affairs with respect to the administration of roadless and wild areas on Indian reservations. The Bureau, however, sees a need for a national wilderness policy in general, though it is not prepared at this time to make specific suggestions. It notes, however, that there should be recognized in developing any such policy the fundamental difference between Indian lands and other lands administered by the Federal Government, viz, that Indian lands are essentially private property, the Federal Government, as trustee, being required to manage the lands in such a manner as to yield the greatest overall benefits to the Indian owners.¹⁴ The increasing use of airplanes, and their effect upon wilderness areas, is being studied by

¹³ Letter from the Acting Commissioner, Bureau of Indian Affairs, December 23, 1948.

¹⁴ Letter from Acting Commissioner, op. cit.

the various agencies responsible for their administration. It may be that legislation will be found desirable to regulate airplane traffic into and over the wilderness areas.

4. *United States Fish and Wildlife Service*

The Fish and Wildlife Service was established June 30, 1940, by consolidation of the former Bureau of Fisheries and the Bureau of Biological Survey. Both of these bureaus were originally established for research purposes, but in the course of the years their duties had been enlarged to include management of the resources of their respective fields and enforcement of conservation laws. The new Service continued the work of the two bureaus with little change.

The functions of the Service are concerned with the conservation of the Nation's natural resources in the field of vertebrate wildlife, shellfish, crustaceans, and with commercial fisheries. Research is undertaken to learn the habits, needs and economic utilization of the various forms. Results are made available for practical application in fishery and wildlife management, including preservation and restoration in natural habitat; propagation under controlled conditions; demonstrations and cooperation in local suppression of injurious species; and protection and restoration by conservation law administration.

Among the laws administered by this agency are the Migratory Bird Treaty Act, the Migratory Bird Conservation Act, and the Migratory Bird Hunting Stamp Act, which were passed to carry out the provisions of treaties with Canada and Mexico; the Bald Eagle Act; Federal Aid to Wildlife Restoration Act; laws for the conservation under international agreement of sea otters, fur seals, walrus, and sea lions, and part of the Whaling Treaty Act; laws for the maintenance of the fur, fish, and game resources of Alaska, and for the protection of wildlife and property on national wildlife refuges. Much of the work of this agency is carried on in its six regional offices located at Portland, Oreg., Albuquerque, N. Mex., Minneapolis, Minn., Atlanta, Ga., Boston, Mass., and Juneau, Alaska.

In carrying out the provisions of these many laws the Service acquires land for and administers national wildlife refuges. These are areas for the purpose of providing a minimum amount of basically natural habitat for every important species of mammal or bird requiring such facilities for its preservation. Owing to the wide extent of waterfowl migrations, the migratory bird refuges must be strung along the entire flyway. Lands utilized for this purpose are acquired by reservation of the public domain, by purchase and by gift. There are now over 300 of these refuges, varying considerably in size.

In the conservation of big-game and upland-game animals, the objectives of the national wildlife refuge program have been primarily to preserve in each major ecological region of the country a typical cross section of the wildlife habitat of that region as required by a particular species, in order that original stocks of such species can be preserved and made available for restocking public areas, such as National and State parks and forests. The Ozark Uplift, the lower Mississippi Valley, the Appalachian Highlands, the Coastal Plain, the Great Basin, the Rockies and the Lake States are out-standing examples of areas in which representative tracts need to be preserved.

Wilderness areas administered by the Fish and Wildlife Service.—The national wildlife refuges maintained by the Service vary consider-

ably as to type as well as size. The smallest is less than an acre and the largest nearly 3,000,000 acres. The Service reports two categories of refuges which are of interest here. Noting that it has chosen to interpret the term "wilderness area" liberally so as to embrace " * * * natural areas that more or less retain their primeval environment or influence and would include such areas as coral and rocky, partly wooded, islands, semidesert grass or shrub-covered lands, and seashore dune areas," is a list of those considered appropriate for inclusion is submitted and included below.

A second group of refuges, also submitted, and listed below, includes large areas " * * * substantial acreages of which are maintained in the primitive condition." On parts of some of this latter group portions are subjected to such uses as grazing. Nevertheless, appreciable acreages are and "will continue in their natural primitive condition." ¹⁴

Administration.—These areas are all administered as national wildlife refuges for the conservation of continental wildlife resources by resident personnel under direct supervision of the regional offices noted above.

Cooperative scientific studies on wildlife and habitat relationships and certain recreational uses are permitted on these refuges. On some of the areas considered primitive, however, other uses are permitted, depending primarily on local conditions, such as overpopulation of fish or game. For example, limited fishing is permitted on many of the refuges when consistent with the primary purpose of the areas. The same may be said for hunting upland game when its populations become sufficiently abundant to threaten serious injury to the habitat or surpass the carrying capacity of the available food supplies. Thus, a fishing season is allowed in Okefenokee Swamp in Georgia and hunting on the sandhill sections of the lower Souris Refuge in North Dakota, when such activities do not interfere with use of the areas by migratory waterfowl. The very primitive nature of appreciable acreages of many national wildlife refuges, however, precludes recreational or other uses by man.

Statutory basis for establishment of areas and obligations under provisions of international conventions.—Many of the early refuges were established by Executive orders promulgated under "the inherent power of the President." The statutory bases for the creation of the other refuges are the Migratory Bird Conservation Act (45 Stat. 1222, 16 U. S. C. 715), the Migratory Bird Hunting Stamp Act (48 Stat. 451, 49 Stat. 379, 16 U. S. C. 718), and the act of August 14, 1946 (60 Stat. 1080).

The Migratory Bird Treaty Act of July 3, 1918 (40 Stat. 755), as amended, is an act to give effect to the conventions between the United States and Great Britain and between the United States and Mexico, for the protection of wildlife migrating between Mexico, the United States, and Canada.

The Migratory Bird Hunting Stamp Act of 1934 (48 Stat. 452), was enacted for the purpose of raising funds from those who hunt waterfowl, to finance refuges and protect game generally.

Although the Fish and Wildlife Service is obligated by the international conventions with Mexico and Great Britain to protect migra-

¹⁴ Letter from Acting Director, Fish and Wildlife Service, December 17, 1948.

¹⁵ Letter from Acting Director, Fish and Wildlife Service, December 17, 1948.

tory birds and game mammals the United States is not bound to establish refuges. The Migratory Bird Conservation Act, referred to above, does authorize the establishment of such areas, in order more effectively to meet such treaty obligations. Among the provisions of that act is one that land may be purchased by the Secretary of the Interior for wildlife refuges, when suitable land is not to be had from the public domain. Such purchase may be made only in areas which have been approved by the Migratory Bird Conservation Commission, which consists of the Secretary of the Interior, the Secretary of Agriculture, the Secretary of Commerce, two Senators, and two Representatives.

These and other wildlife conservation laws are enforced impartially by salaried United States game management agents, and by United States deputy game wardens, most of whom receive no compensation for their cooperative work. The deputy game warden appointments usually are restricted to members of State law-enforcement agencies and to a few other well-qualified individuals who reside near important concentrations of migratory birds and whose services are needed from time to time. In addition several of the States have enacted laws to coincide with the Federal laws and regulations concerning migratory birds, and thus aid in carrying out the obligations of the United States with Great Britain and Mexico.¹⁶

Opposition.—The Fish and Wildlife Service has met with only minor or local opposition to the creation of the natural areas as listed below. Such opposition has arisen largely from such local interests as livestock growers and hunters who had previously enjoyed practically unrestricted use of the areas, and the Service has counteracted it by enlisting the support of public-spirited citizens and organized groups, such as nature societies and local chambers of commerce.

Determining factors in creation of refuges, and value to the public.—The determining factors considered by the Service in establishing these areas for the preservation of natural wildlife resources as opposed to other land-use values are their primary or inherent worth as wildlife habitat; their relative isolation (as coral or rocky islands, swamps, marshes, dune, or semidesert areas) from lands more suited to agricultural and industrial use and development; their strategic location in flyway routes for migratory birds or within the ranges of important forms of wildlife; and their adaptability to development, management, and administration as natural refuge areas to preserve important faunal and floral components of our natural resources in wildlife. These areas afford opportunities, therefore, for the public to observe, enjoy, and study in natural settings many forms of wildlife of which the extermination has been in the past dangerously imminent and of which now the continued preservation is assured. Thus these contribute materially to the realization by the public of the highest type of outdoor recreation.

Other potential wilderness areas and future plans.—There are other areas now publicly and privately owned that might be extended special protection as natural or wilderness areas.

Private individuals frequently donate water, marsh, swamp, forest, and other natural areas to the Fish and Wildlife Service and to other Federal agencies, for preservation as wildlife habitat, national parks, or monuments. It is often essential to the Service's program for the

preservation of the Nation's wildlife resources that additions and adjustment be made in the acreages and boundaries of natural areas. Furthermore, throughout the country there are important gaps remaining in the refuge system that it is necessary to fill by the acquisition of additional lands for development or preservation of natural environment for wildlife. This is particularly true of a shortage of migratory waterfowl areas within the four recognized major continental flyways. In many cases such areas are being supplied at strategic points through the cooperation of other Federal agencies who donate for Service use and management parts of lands acquired along water-courses for flood control, hydroelectric, navigation, irrigation, or multiple-use purposes. But direct purchase will continue to be necessary in carrying out the programs of this Service for the maintenance and preservation of natural wildlife resources.

Cooperation with other agencies.—Cooperation with other agencies is very close and of great assistance, as has been indicated. Other Federal agencies cooperate by donating or exchanging land, by having the Fish and Wildlife Service manage some of their land for wildlife protection, and also by exchange of information.

State agencies participate in activities provided for in the Pittman-Robertson Act for Federal aid in wildlife restoration (50 Stat. 947). Under this act proceeds from a Federal tax on sporting arms and ammunition are available to the States for acquisition and development of lands for wildlife conservation. The States select the project and perform the work with their own personnel, as well as pay not less than one-fourth of the project costs, while the Service may render technical assistance after the Secretary of the Interior has approved the project and allotted funds. More than a half million acres of land, including badly needed winter range for big-game animals and areas suitable for development as feeding, breeding, and resting places for waterfowl and the production of fur animals, have been acquired under this program.

A national wilderness policy.—Further legislation would be of material assistance to the Fish and Wildlife Service in carrying out the program for the acquisition, development, and maintenance of natural areas providing suitable environment for the Nation's wildlife resources. An act recently passed Congress increasing the cost of the migratory bird-hunting-stamp tax from \$1 to \$2, thus making more funds available to the Service for an increased program of wildlife refuges, which it desires. The Service maintains that funds from the previous stamp tax of \$1 were inadequate to maintain the areas now under its jurisdiction and to provide for acquisition of additional areas much needed at present and in the immediate future to meet public needs and international obligations for the perpetuation of continental, national, and local natural areas of appreciable significance and importance for their aesthetic and recreational values. Acquisition of many of such areas is beyond the scope of the legal authority of the Service. An appropriate national wilderness policy would seem to the Fish and Wildlife Service to be the ideal method of procedure.

5. *United States Forest Service*

Since the wilderness areas administered by the Forest Service are located within the national forests, discussion in this section will be confined to that portion of the Forest Service activities.

¹⁶ Land management in the Department of the Interior, op. cit., p. 42.

The national forest program had its beginning on March 3, 1891, when an act of Congress became effective by which the President was given power to establish forest preserves within the public domain.¹⁷ Previously the forest resources on public land had been subjected to a considerable amount of abuse since much of it was cut over and grazed over on an unlimited first-come-first-served basis, with no regulation or restriction; anyone who wanted timber on the public land simply helped himself.

By authority of that act many millions of acres of forests were set aside. There was one serious lack apparent in short order. The act in effect operated only to close the areas, "locking up" the timber resources with no provision for operation or management.

The act of June 4, 1897 (30 Stat. 34), however, provided a broad policy of management of the reserves, and with some amendments is the basis of operations today. Under this act the purpose of national forests was stated to be as follows: " * * * No national forest shall be established, except to improve and protect the forest within the boundaries, or for the purpose of securing favorable conditions of water flow, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States * * * "

Under this act and later amendments, the Forest Service has established the policy that administration of the national forests is to be devoted to their most productive use for the permanent good of the whole people—that all of the resources of the forest reserves are for use, under such restrictions only as will insure the permanence of these resources.

In following this policy two basic principles are applied to management of the national forests. One of these is that of sustained yield—that is, maximum continuous production of desirable types of timber, and renewal of timber crops to replace that harvested.

The other basic principle is that of multiple use. That is, on a single national forest some areas will be more suitable for growing timber, some for grazing, and some for big-game refuge. Other uses may be watershed protection, mineral production, as locales for hydro power. Some may be valuable for their scenic and recreational potentialities. It is with the latter uses we are concerned here. It is fortunate that the Forest Service is concerned with more than the one interest of timber production. Its forests can be and are managed so as to bring about a coordinated development and use of all the resources and values of the land. A combination of several uses is often possible in one forest area. The over-all maximum value to all the people is the end in view of the Service's management policy.

Wilderness areas.—While all national forests are open for recreation, and considerable amounts of improvements have been made in many of them such as roads, marked trails, camping and picnicking areas, fireplaces, sanitary facilities, trailer-parking sites, cabins, and the like there are some areas within them which have been set aside with little or no such improvements. These are the 77 wilderness, wild and roadless areas, with a total area of some 14,000,000 acres, or 8 percent of all national forest land.

These areas have been set aside to preserve for all time representative examples of the American wilderness. They contain many of the last remaining parts of the country that are still in much the same

¹⁷ 26 Stat. 1105.

primitive state as when the white man first came. They include many of the mountain peaks and ranges well known to pioneer Americans as landmarks and as symbols of the New World and a new life.

In the discussion which follows, the term "wilderness area" is used to denote areas classified for wilderness recreation under administrative regulations.

Characteristics.—In general, wilderness areas are in rough, inaccessible country with relatively minor commercial timber values. Watershed values are of great importance and since their dedication for wilderness purposes harmonizes with their management for watershed, no conflict results. Much of the acreage within wilderness areas is alpine and subalpine type or is above timber line. A few areas in New Mexico and Arizona are representative of the southwest desert and semidesert regions. Wilderness areas are selected, not primarily for unusual scenery or geologic formations, but for the purpose of insuring maintenance of primitive conditions of vegetation and environment in relatively large expanses of country.

Statutory basis for wilderness areas.—There is no specific statutory authority for the creation of wilderness areas. The act of June 4, 1897, referred to above, does, however, vest in the Secretary of Agriculture the authority "to make rules and regulations and establish such services as will insure the objects of such reservations; namely, to regulate their occupancy and use and to preserve the forests thereon from destruction * * * ". It is on the basis of this proviso that regulations U-1 and U-2 (see below) have been promulgated.

Wilderness areas are designated by the Secretary of Agriculture upon the recommendation of the Chief of the Forest Service. To come under this category, there must be no roads or other provision for motorized transportation, no commercial timber cutting, and no occupancy under special use permit for hotels, stores, resorts, summer homes, organization camps, or hunting and fishing lodges on such lands.

Text of the regulations mentioned above follows:

*"Wilderness areas"*¹⁸

"Regulation U-1—Upon recommendation of the Chief, Forest Service, national forest lands in single tracts of not less than 100,000 acres may be designated by the Secretary as "wilderness areas," within which there shall be no roads or other provision for motorized transportation, no commercial timber cutting, and no occupancy under special-use permit for hotels, stores, resorts, summer homes, organization camps, hunting and fishing lodges, or similar uses; *Provided, however,* That where roads are necessary for ingress or egress to private property these may be allowed under appropriate conditions determined by the forest supervisor, and the boundary of the wilderness area shall thereupon be modified to exclude the portion affected by the road.

"Grazing of domestic livestock, development of water-storage projects which do not involve road construction, and improvements necessary for fire protection may be permitted subject to such restrictions as the Chief deems desirable. Within such designated wilderness

¹⁸ Title 36, Code of Federal Regulations (Cum. Supp., § 251.20 (September 19, 1939)).

nesses, the landing of airplanes on national forest land or water and the use of motorboats on national forest waters are prohibited, except where such use has already become well established or for administrative needs and emergencies.

"Wilderness areas will not be modified or eliminated except by order of the Secretary. Notice of every proposed establishment, modification, or elimination will be published or publicly posted by the Forest Service for a period of at least 90 days prior to the approval of the contemplated order and if there is any demand for a public hearing, the regional forester shall hold such hearing and make full report thereon to the Chief of the Forest Service who will submit it with his recommendations to the Secretary.

"Wild areas"¹⁹

"Regulation U-2.—Suitable areas of national forest land in single tracts of less than 100,000 acres but not less than 5,000 acres may be designated by the Chief, Forest Service, as 'wild areas,' which shall be administered in the same manner as wilderness areas, with the same restrictions upon their use. The procedure for establishment, modification, or elimination of wild areas shall be as for wilderness areas, except that final action in each case will be by the Chief."

Areas of similar character exist in many national forests of the East but not of sufficient size to be formally classified as wild or wilderness areas, though for some purposes 1,000 acres may be as truly a wilderness as 100,000 acres. A number of these smaller remnants of primitive forests are in the Appalachians, Alleghenies, and in the Presidential Range of the White Mountains.

Regulation U-3 (given below) provides for the establishment of a modified type of wilderness area in which the importance of other forest resources preclude, or make the establishment under regulation U-1 or U-2 undesirable. Only three of these "roadless" (U-3a) areas have been established and they are all located in northern Minnesota. These three are listed with the other wilderness areas. In these areas resource utilization is balanced with wilderness preservation.

Recreation areas²⁰

Regulation U-3.—Suitable areas of national forest land, other than wilderness or wild areas, which should be managed principally for recreation use may be given special classification as follows:

"(a) Areas which should be managed principally for recreation use substantially in their natural condition and on which, in the discretion of the officer making the classification, certain other uses may or may not be permitted may be approved and classified by the Chief of the Forest Service or by such officers as he may designate if the particular area is less than 100,000 acres. Areas of 100,000 acres or more will be approved and classified by the Secretary of Agriculture.

"(b) Areas which should be managed for public recreation requiring development and substantial improvements may be given special classification as public recreation areas. Areas in single tracts of not more than 160 acres may be approved and classified by the Chief of the Forest Service or by such officers as he may designate. Areas in excess of 160 acres will be classified by the Secretary of Agriculture.

¹⁹ Title 36, Code of Federal Regulations (Cum. Supp., § 251.21 (September 19, 1939)).

²⁰ Title 36, Code of Federal Regulations (Cum. Supp., § 251.22), revised March 29, 1946, 11 Federal Register 3416.

Classification hereunder may include areas used or selected to be used for the development and maintenance as camp grounds, picnic grounds, organization camps, resorts, public-service sites (such as for restaurants, filling stations, stores, horse and boat livery, garages, and similar types of public-service accommodations), bathing beaches, winter sports areas, lodges, and similar facilities and appurtenant structures needed by the public to enjoy the recreation resources of the national forests. The boundaries of all areas so classified shall be clearly marked on the ground and notices of such classification shall be posted at conspicuous places thereon. Areas classified hereunder shall thereby be set apart and reserved for public recreation use and such classification shall constitute a formal closing of the area to any use or occupancy inconsistent with the classification."

Determining factors in designation of wilderness areas.—Although many of the wilderness areas have outstanding scenic values they were not established for that reason. They were selected as typical areas of the Rockies, Sierras, Cascades, and other regions where wilderness lovers and vacationers may enjoy unmodified nature and the inspiration which they may derive therefrom.

In the earlier days of national forest administration, the preservation of wilderness was accomplished by local administrative action. Regional foresters designated certain inaccessible areas and permitted no road construction into them pending further study of the relative value of the resources within these areas. This was the first recognition that the highest public use of an area might be for wilderness purposes.

Before classifying an area under secretarial regulation, values for wilderness recreation are carefully balanced against the loss of other resources and the fire danger to other values if the area is to be kept inaccessible. Watershed values are not decreased by a wilderness designation, but lack of access roads makes fire protection of the forest more difficult and might result in a large fire which would destroy watershed values. The value for wilderness purposes is weighed against values for other types of recreation afforded by improved camp and picnic grounds, resorts and other facilities, all of which involve roads.

Wilderness classification takes into consideration future needs for the resources on the area insofar as this is possible. The fact that areas once traversed by roads cannot be reclaimed for wilderness is also considered.

Administration.—The policies governing administration of wilderness areas are stated in the regulations. The only commercial use permitted is the grazing of livestock, which is not considered as being in serious conflict with the wilderness objectives.

In a few wilderness areas in Idaho and Montana airplane landing is permitted since such practice was already established when the areas were designated as wilderness areas. The same is true where motorboat use has been an established custom. With these exceptions airplane landing and powerboat use is forbidden.

Improvements and developments are kept at a bare minimum. Since a very important need in forested areas is fire protection the construction of a certain amount of trails, telephone lines and fire-lookout stations is necessary for adequate protection. The regulations mentioned above specify that other types of uses, except water

storage where roads are not involved, are prohibited insofar as Forest Service permits are concerned.

The regulations also provide that "wilderness areas will not be modified or eliminated except by order of the Secretary of Agriculture" after public notice and hearing. It is the policy of the Department to allow modifications of established wilderness areas only when it is clearly in the public interest to sacrifice wilderness values in favor of other public needs. Similar regulations apply to the smaller "wild areas," except that the Chief of the Forest Service makes the decision instead of the Secretary of Agriculture.

In addition to the 14,000,000 acres of specially designated wilderness areas, there are many small tracts in the national forests which are at least partially wilderness in character and would be thought wilderness by most people. The Forest Service takes into consideration human needs in administering the national forests, and to this end, woodlands and regulated wild lands are, first and foremost, managed so that they will permanently contribute as much as possible to the welfare of the people, to the stability of homes and communities, and to the solution of various national problems. Thus lands within the national forests are devoted to timber production, production of range forage for livestock, mining, watershed protection and waterpower development, game and wildlife production, recreation and various other uses or combination of uses to bring about the "greatest good for the greatest number of people in the long run." Within this pattern, which foresters call multiple-use management, preservation of representative areas of wilderness has a place and serves a public need.²¹

Wilderness areas are open to the public without restrictions except those essential for protection from fire. Hunting and fishing are permitted in wilderness areas in accordance with State laws.

Plans for the future.—The Forest Service reports no specific plans for additional wilderness areas at the present time, although several relatively small areas are in the process of being studied for possible establishment. Also, it is contemplated that some wilderness areas may be established in the extensive national forests in Alaska when the industrial development and population increase of that region make it desirable to preserve some of the area as wilderness, in the public interest.

Responsibilities of the Forest Service under international treaty provisions.—The United States Forest Service is concerned with one international situation insofar as wilderness areas are concerned. The Quebec-Superior Committee, a group appointed by the President to advise him in matters relating to the wilderness canoe country in northern Minnesota, has contacted Canadian officials with the end in view of creating a similar wilderness north of the United States-Canadian border, adjacent to the Superior roadless area in the Superior National Forest. It is believed that there will eventually be dedicated an International Peace Memorial Forest, which will include the two adjoining areas, one American and one Canadian.

Cooperation with other governmental agencies.—In the establishment of wilderness areas, cooperation with other Federal agencies is not an element since only lands within national forest boundaries are involved.

²¹ Mimeographed publication National Forest Wilderness Areas, May (?) 1949, U. S. Forest Service, pp. 2-3.

Where State and private lands are included within the exterior boundaries of a wilderness or roadless area the classification of the area has no effect on the rights of the State or private parties. Public notice and hearings are held in accordance with the regulations and all parties have an opportunity to express objection or approval.

Cooperation with the several States is desired and considered necessary by the Forest Service in the establishment and management of wilderness areas. This is particularly true in the matter of hunting and fishing, important uses in most of the areas, which are regulated by State laws. The inaccessibility of wilderness areas affects the game and fish resources, contributing in some cases to overpopulation of game animals, and in other instances benefiting game by providing needed protection.

Opposition to wilderness areas in national forests.—The Forest Service states that in general there has been little opposition to the establishment of wilderness areas, and that there has been need for only a few modifications and two revocations of wilderness areas in the past 10 years.

The modifications in wilderness area boundaries have resulted in only a minor reduction in total acreage and have been largely due to the fact that the original area included land not primarily valuable for wilderness. Additional modifications have been made in some instances in order to eliminate private lands and mining claims within the original boundaries of the wilderness area.

As noted, two wilderness areas have been revoked, the Mount Shavano wilderness area in Colorado and the Olympic wilderness area in Washington. The former was revoked because the mining activity, which necessitated access roads, rendered the area unfit for wilderness purposes. This was simply a matter of recognizing altered circumstances, not due to any opposition to the area as such. In the case of the Olympic wilderness area, much of the heart of the original area was acquired by the Olympic National Park. That portion remaining was such a small remnant of the original that, again, the Forest Service was forced to recognize a new situation wherein the remainder was valueless for wilderness purposes, and revoked the original order.

There has been considerable controversy over the continuance of the San Geronimo wild area in California, at least in its present form. The California Ski Association and similar groups interested in winter sports attempted to have an important portion of the area eliminated so as to permit access roads and the construction of ski lifts. Other groups such as the Wilderness Society, the Izaak Walton League, Sierra Club, and similar conservation organizations opposed modification of the boundaries. A public hearing was held at which the Forest Service states the great preponderance of opinion expressed was in favor of retention of the wild area. After considering the various interests and values, the Forest Service slightly modified the boundary of the area but it was not opened up to development.

Values of wilderness areas.—It is the view of the Forest Service that wilderness areas have public values which are not measurable in terms of dollars and cents. It states that in 1947 an estimated 200,000 people spent an average of 2½ days each in the wilderness areas located in the national forests. No monetary value can be placed on the value to these people of their wilderness outing or on the value to the Nation in preserving some portions of it largely in

the condition in which it was discovered. The Forest Service policies have for many years recognized the need to provide for this type of recreation and this sort of representative area is something that can never be replaced once it is altered.

The Forest Service believes that as the Nation's population increases some of the wilderness country may be invaded but that the demand for wilderness will probably increase, and that generations of the future will exert a stronger and stronger demand for the inspiration and relaxation which wilderness alone affords. It notes that there has been a remarkable development of wilderness sentiment in the last decade.

Potential wilderness areas.—The Forest Service has no reliable information as to the possibilities of wilderness areas on lands outside of the national forests.

On the basis of the Service's definition that 5,000 acres is the smallest area which should be designated as a wilderness, that is, wild area, it expresses doubt whether there are any such tracts of private land which are still in primitive condition.

National wilderness policy.—Although the United States Forest Service has already given the subject of possible legislation a great deal of consideration it is not yet prepared to take a positive position without further study.

It is the Service's belief, and it would seem to be borne out by many of the replies received from State officials and conservation organizations, that the present system of designation and administration under regulations U-1 and U-2 are favored by wilderness and conservation groups. These groups, however, are cognizant of the threats to the wilderness which are beyond the control of the Secretary of Agriculture, and it is to remove these threats that they advocate legislation to insure permanence for wilderness areas.

Wilderness areas are subject to three potential threats to the existence. They are:

1. Location and entry under the United States mining law (30 U. S. C. 21, et seq.).
2. Exploitation of mineral resources under the Mineral Lands Leasing Act of February 25, 1920 (30 U. S. C. 181, et seq.).
3. Development of reservoir sites for reclamation and power under the Reclamation Act of June 17, 1902 (43 U. S. C. 421).

The United States mining laws are considered by the Forest Service to be the greatest threat, since under these laws all lands which have been withdrawn from the public domain for national forest purposes are subject to location, entry, and patent, provided only that a valuable discovery of mineral be made—with certain exceptions covered by the Mineral Lands Leasing Act. Other public values such as watershed, wilderness, or timber are not given consideration in the mining law. No discretion is permitted to Government officials in the matter of location, entry, and patenting of land under this act. The act provides that if there is sufficient discovery of minerals to justify a prudent man in committing himself to further expenditures of time and money to develop the resources, then the claim is valid and must be patented. In order to alter this application to wilderness areas legislation would be required.

The Mineral Lands Leasing Act of February 25, 1920, is concerned with oil, oil shale, natural gas, sodium, potassium, phosphates, coal,

and sulfur. It applies to national forest lands which have been withdrawn from the public domain and the minerals thereon which are not subject to location under the United States mining laws.

Although no patents are granted, the intent of the law is clearly to encourage the leasing of mineral deposits with little discretion in the Secretary.

The Mineral Lands Leasing Act is preferred by the Forest Service over the United States mining laws because of the principle that the United States retains title to the land, may make needed specifications, and receives royalties from the mineral production. However, in the Service's view the development of a lease under that act may be just as destructive of wilderness as the development of a mining claim.

The Reclamation Act mentioned above authorizes the Secretary of the Interior to plan the development of reclamation projects on certain national forest lands, including those in wilderness areas. There is nothing in the act giving the Secretary of Agriculture—in the interests of the Forest Service—any voice in the decision as to whether the benefits accruing from an individual reclamation project are greater than the loss of other values which might be destroyed by the project.

The Forest Service recognizes that no one will wish to prevent the utilization of mineral, reclamation, or hydroelectric power values needed by the United States, that the utilization of valuable mineral resources and the impounding of water for reclamation or power will always rank high among uses of national forest land. Still, it believes there should be some provision for development in such a way that these necessary resources can be obtained without needless damage to watersheds, timber, recreation, wilderness, or other values.

The Service believes that over-all public interest should be the criterion in the disposal of the public resources. There are lands belonging to the United States on which mineral utilization is unquestionably the best use of the land; however, it believes that there are other areas on which, although there is some value for mineral resources, other values are undoubtedly higher. It cannot be decided whether a particular area is most valuable as a reservoir site for irrigation or power, as a mining site, or as a public timber, grazing, or recreation area, by evaluating only one resource. It requires a comparison of all present and future public values to determine which use yields the greatest net return to the public in the long run.

The Forest Service suggests that it should be the function of the Secretary of Agriculture, who is charged with the primary responsibility for the management and administration of the national forests, to decide important land use issues in accordance with the principles set forth above. In order that this may be done it would seem that additional legislation would be needed.

C. STATE AGENCIES

Out of 209 State officials concerned with the various phases of conservation, forestry, wildlife, planning and recreation, who were questioned, 112 replied to the questionnaire. As was to be expected, the replies varied in detail and in the amount of information contained. It was evident from many of the replies that there was considerable confusion, or at least lack of uniformity, among this group as to the interpretation of the term "wilderness area" and the

conditions which would warrant protection. Interpretations ranged downward from that held by the Wilderness Society and the Forest Service, among others—briefly, of a primeval, natural, undeveloped area—to almost any kind of recreational area.

Apparent, too, was the fact that the immediate efforts of these administrative and policy forming officials, acting under the limitations placed upon them by their State legislatures, are more pressing concerned with other phases of the recreation needs of the people.

As a result of the rapid growth in recent years of our cities at the expense of the rural sections, there has grown up a demand for areas, easily accessible to the motorist, the week-ender and the two-weeks vacationer for satisfaction of their recreation needs. While these people feel the need for getting away from the busy hubbub of city life, in general they still want most of the comforts of home. Although they want the fresh air and sunshine, the sport and relaxation of camping, hunting, fishing, and hiking, the majority want also, since they have neither the time nor inclination for the more rugged wilderness experience, such things as roads to the greater heights in the mountain regions, easily negotiable and prominently marked trails, and comfortable accommodations at night. To these ends the park, game and fish commissioners, and the State foresters of many of the States are devoting much of their time and effort as well as money and planning. They have constructed trails, roads, roadside picnic areas, swimming pools, drinking fountains, refreshment stands, nicely equipped lodges, cottages, and hotels, auto trailer camps, parking areas, and many other of the niceties of life. For the sportsman there have been provided public hunting grounds; streams, lakes, and rivers have been stocked with fish; athletic fields, ski lifts, trails and lodges have been constructed.

It is evident that the long-term planning necessary for a program of wilderness preservation will suffer until a large proportion of this demand is cared for. It is possible, too, that some potential wilderness land, State-owned, may have been developed to the extent of destroying its wilderness values.

Summaries of answers to individual questions follow.

Question 1: If your State has any areas presently receiving special protection as wilderness or roadless areas: (a). Description of each (size, location, date of establishment, special characteristics, administering agency, and maps).

Answer: Protected wilderness areas were reported for only 14 States. These States are Connecticut, Georgia, Idaho, Indiana, Louisiana, Maine, Maryland, Michigan, Minnesota, New York, Oklahoma, Tennessee, and Wisconsin. The areas are listed in the appendix, just as they are described by the State agencies.

In addition, a number of the State officials have contributed some rather interesting information worth noting here.

The Planning Board of Alabama reports that the preservation of primitive areas was apparently one of the major objectives of the State park authorities at the time the State assumed responsibilities for such interests in 1927. In later years, however, this objective became less prominent. Some of the State parks originally created mainly for the preservation of such areas were either abandoned, converted to other purposes, or altered through sale of the primeval forest stands. Under Alabama statutes, wilderness or primitive areas,

if preserved by State action, are included in the category of State parks. The governing legal provision is title 8, section 172, Code of Alabama, 1940. This section states that "the term *park* shall mean any area of land primarily valuable for *recreational purposes* because of its *scenic*, historic, prehistoric, archaeological, *scientific*, or other distinctive characteristics, or *nature features*."²²

An official from another State writes: "Some areas owned by the State * * * might be comparable to the wilderness or primitive areas as owned by the Federal Government but no provision by law is made for their continuance in that state." However, another official of the same State says: "There are in the State * * * no State-owned areas comparable to the wilderness or primitive areas of the Federal Government"; while yet another says: "Under State jurisdiction are the State parks, areas that are comparable with the wilderness areas." This would seem to indicate that even in a State in which there are a number of well-established Federal wilderness areas there is still considerable confusion over the term.

In another State, an official reports a wilderness area, included below in the appendix, yet states: "While it is undoubtedly true that there are a few individuals who are interested in wilderness areas, the question is of such little importance in this State that I do not think it fair to state any policy on it. Our Commission has no policy in regard to this; in fact the State * * * is too small to be considered as a wilderness area, so you can see what little chance there would ever be of establishing one here. Perhaps the largest area in this State that does not have roads through it is between 2,000 and 3,000 acres." Another official from the same State calls attention to the large population and small size of the State, which he says makes "it difficult to reserve any considerable area for wilderness on a permanent basis * * *. There are at present no areas in the State receiving special protection as wilderness or roadless areas."

A reply received from Florida notes: "Our agency is interested in preserving scenic and historic areas typical of Florida. All areas described in * * * Florida's State Parks Invite You are administered by the Florida Park Service, under the direction of the Florida Board of Forestry and Parks. We consider portions of our larger State parks as wilderness areas, but they are not large in size and are designated by law as park areas for recreational use. We do not feel that they can be considered as designated wilderness areas. Our general policy is to preserve the natural character of our park areas, introducing a minimum of improvements."

Kansas constitutes a different case, in that there is no State-owned public land in the entire State.

An interesting comment is received from Iowa: "* * * while Iowa has no such areas and it would be difficult to find a spot in this State more than 2 miles removed from habitation, we nevertheless have a deep interest in the establishment of such areas in localities that lend themselves to such management. Rapidity and ease of transportation make such areas anywhere on the continent available for use to a substantial percentage of Iowa's residents."

Another interesting indication of lack of unanimity is apparent in the case of Louisiana, where one official names areas while another

²² Their italics.

says that "the State is constantly endeavoring to build more roads thereby increasing the value of the land and allowing us to supply better fire protection to the forest areas of Louisiana. As a result, we do not have any such areas."

Although a Michigan official reports two wilderness areas designated in the State he adds this statement: "I question whether the two areas in Michigan which are regarded as wilderness areas are qualified under the definition of wilderness areas as set forth by the Wilderness Service [sic]. Nevertheless, I will describe the areas * * *." He notes further that each of the areas is entered by a road. In one case it is proposed to extend the road to the top of an escarpment for the purpose of letting the public view the scenic beauty of the mountains without the necessity of an arduous hill climb, and in the other the road leads to a public camp ground. However, in both areas the major portion of the area is roadless and "partakes of a wilderness character." While no timber cutting is contemplated in either area on a commercial basis, yet the State will, if necessary, clear out blow-downs to eliminate fire hazard.

Montana calls attention to a circumstance which in the case of the Western States might militate against wilderness areas being established by the States. An official from that State says: "* * * all of the wildlands, forest and otherwise, in State ownership were granted by the Federal Government at the time Montana was accepted as a State in the Union. The total land-grant area originally involved is approximately 6,000,000 acres. About 1,000,000 acres of this was forested. The State does not have title to any very extensive areas that could be classified as wilderness areas. It could not, even though it was in possession of such areas, set them aside primarily for wilderness areas in a manner similar to those set aside by the United States Forest Service. The grant lands were given by the Federal Government in the form of endowment to our common schools and other State institutions to assist in the cost of maintaining these institutions; hence, none of these lands can be set aside exclusively for the free use of the public. Hunting, fishing, and other recreational uses are permissible.

A reply from New Hampshire says: "* * * unfortunately our State has very little wilderness area left except in certain sections of the White Mountain National Forest, and in certain portions on the easterly side of the northerly tip of New Hampshire." This is the case in a few States, that is, there are areas which might be considered wilderness, but are not so designated, and are not receiving any protection to continue in that condition. Such areas are not included in the list given below except in a few cases where the State officials have chosen to suggest them as potential wilderness areas. Another statement from New Hampshire notes that there are areas of swamp and subalpine slopes on the higher mountains which are undoubtedly in primeval condition. The same individual calls attention to the fact that the Federal Government did lay out several areas in the White Mountain National Forest to be protected so as to maintain existing natural conditions. These were more or less disturbed or destroyed by the 1938 hurricane.

It is interesting to note that a New Jersey official tells of the existence within the State of both Federal and State wildlife sanctuaries, but does not consider them as of a size and character to

justify their classification as wilderness areas; the United States Fish and Wildlife Service, however, has included several of them in their statement.

While Ohio has no officially designated areas, and in view of the intensive utilization of its land resources, is not likely to have any, it is interesting to have from that State such a statement as "It is very doubtful, in even a few instances, if our legislature would approve taking lands off the tax duplicate for such exclusive purposes."

In Oregon is found the case of an official who is not in a position, within the range of his duties, to further a program of wilderness preservation but who endeavors to preserve the State lands under his jurisdiction in as near the natural state as possible, with development kept to a minimum.

Pennsylvania has many thousands of acres of State-owned lands. It has a definite program eventually to have at least one park in each county. While these parks are primarily for recreational purposes, when feasible a portion of the parks is set aside for the protection of wildlife, and access is by means of foot trails only. There are 860,000 acres of land in 195 blocks called State game lands, which are dedicated to wildlife uses, including game refuges, wherein hunting is prohibited at all times, and public hunting grounds. While these areas may be considered as wild land, the State officials do not consider them to be wilderness areas.

It is logically within the less populated and developed States of the West that one would expect to find most of the remaining wilderness of the Nation. From the questionnaires, however, it appears that there is less interest there than is apparent in other parts of the country, in a State program for preservation of wilderness areas. Generally expressed by the officials from those States is the belief that the Federal Government has already set aside enough of this type of land, and nothing further need be contributed to the program by the State government.

Although the State of Wisconsin does not report any areas designated at this time as wilderness areas, it does have portions of State forests and parks where the natural wilderness character is to be preserved, and policy designed to accomplish this end has been established. Here no further access roads will be permitted and these portions can be reached only by the natural water courses and portage trails or on foot. The policy also provides there shall be no cutting of timber within generous distances of the rivers and lakes. Desirable wilderness areas of sufficient magnitude to be considered as such are becoming a thing of the past in Wisconsin. There are, however, areas up to several thousand acres in extent with sufficient naturalness to make them desirable for public ownership for the purposes of protection and general recreation, and the acquisition of forest and park lands is still going forward as rapidly as funds and opportunities permit.

Question 1 (b): By what land classification categories or definitions are they designated?

Answer: There is no uniformity among the States as to the designation of areas which might be considered as wilderness areas. They are called, variously, State parks, wildlife refuges or sanctuaries, State forests, recreational areas. A majority of these areas is designated by the term "State park."

Question 1 (c): How established?

Answer: Information on this point is included with the description in the listing to be found below in the appendix.

Question 1 (d): Degree of permanence?

Answer: This information also is included with the listings to be found in the appendix. In general, however, it may be stated that with few exceptions wilderness areas on State-owned lands are not assured of permanent protection. In a few instances adequate provision is made, e. g., in the State of New York, provision is contained in the State constitution; and in Maine, one of the conditions by which the Baxter State Park was given to the State was that permanence was to be assured through legislation.

Question 1 (e): Administration (what is the agency, what are the permissible uses, policy as to roads, shelters, camping, aircraft, hunting, wildlife, and game preserves, etc.)?

Answer: Such information as it applies to specific areas is listed below in the appendix; such details vary with each wilderness. However, many State officials without jurisdiction over any land areas specified as wild or wilderness areas answered the question in part, commenting upon the uses to be permitted in such areas. Opinion is sharply divided as to hunting and fishing, with a slight majority in favor of permitting them. Hiking and camping are agreed to by all who express an opinion, and there is general agreement for permitting scientific and nature study, canoeing and use of pack horses and mules. Access to the areas is advocated by most only by trails, one advocates "a bare minimum of roads," while three suggest that no roads at all be permitted, and another only those roads needed for fire protection. Other suggestions are "no exploitation at all," "only pioneer use," and grazing.

Uses to be expressly forbidden include permanent shelters, landing of airplanes, resorts, commercial development of any kind, automobiles, and logging. One individual even goes so far as to suggest that the general public be excluded. Another believes that wilderness areas located in the alpine portions of the principal mountain ranges should be closed to hunting and fishing.

In general it may be said that opinion among State officials is that legitimate uses of wilderness areas encompass camping, hiking, horseback riding and packing, a minimum amount of trails, study of the flora and fauna, and as mentioned above, hunting and fishing. Since a bare majority support the latter two uses it would seem that it could be determined on a local basis.

Opposition to resorts and commercial development of any kind is agreed to by all who express opinion. Use of mechanical transport including airplanes is likewise opposed, as is the construction of roads, with the possible exception of those needed for fire protection.

Question 1 (f): How are conflicts resolved between the desirability of maintaining a given area as wilderness, as opposed to other uses on the same land?

Answer: One State official comments on this question as follows: "Although conflicts as to land use in the wilderness areas have not as yet risen, in all probability any conflicts would be resolved only after rigorous argument on the part of park personnel interested in maintaining sound policies."

Most of the other officials do not answer this question specifically. Of those who do all state that there has been no conflict, or that the

State law is so specific as to preclude the necessity of resolving any conflict.

Question 1 (g): What plans has your State for adding to the present areas or the creation of others?

Answer: Only a few of the States report plans for the future creation of wilderness areas. Of those who do, some express it more as a hope than as a matter of established policy. Several States make the flat statement that no thought has ever been given to the idea at all, while one questions the value of such an area. Seven States have areas which it is hoped will be designated as wilderness areas and four have areas which in the opinion of the officials could be so designated. Many of the States either omitted the question or reported no plans for the future.

In general it may be stated that future plans are nebulous in all save a few States and there is no definite stated policy in any but four States.

Question 2: If your State does not have any areas designated as wilderness areas: (a) Does the State have any statutory or legislative basis for future creation of such areas?

Answer: Of the 42 replies to this question 19 said that there was no statutory or legislative basis for the establishment of wilderness areas and 9 know of no such provisions in law. Four of the replies expressed the belief that present laws could be interpreted so as to permit establishment of wilderness areas. Only 10 stated outright that there was a legal basis for such action. One other believed that while there was a legal basis for the establishment, there was no provision for permanence.

Of those stating that present law could be so interpreted, one thinks it can be done by a "broad interpretation," another said that present law provides for the establishment of "sanctuaries," which can be so interpreted, while a third claims no particular law will accomplish this but that administration under the general laws affecting wildlife management, conservation, and parks can do so.

It seems fair from this to conclude that not much thought has been given by the State legislatures to the problem of preservation. This can, of course, in many States be laid to the fact that there is little or no wilderness left within their boundaries, and there is no need for legislation of this type.

Question 2 (b): Are there any areas within the State which are potentially wilderness areas?

Answer: Replies to this question vary considerably. It is believed that they might better be included with the suggestions from other sources in the appendix below.

Question 2 (c): Are there organizations, public or private, advocating such action? What opposition is there to such disposition of land? Is it at present publicly or privately owned?

Answer: Only 14 replies report support by various organizations or public sentiment within their States favoring establishment of wilderness areas. This varies all the way from such general statements as: "A number of organizations support," "sentiment favors," to such statements as: "considerable support," "very active," "very general interest through the State." However, there are nine officials reporting that the subject has never come up before the public, one reports no demand for it, another "there doesn't seem to be any great public demand," and one says that the State planning board is the

only interested party. Finally, one reports "no apparent opposition," and another "no particular conflict."

Slight opposition is recognized by three correspondents; they say there is "a little," "some," or "there is weak opposition." One State official is concerned lest the cattle and sheep industry upon which his State is so dependent be affected by a wilderness area program; he deems it "unwise to unduly hamper the ranchers by restricting their movements." Of those who note a considerable amount of opposition two attribute it to the livestock interests, the others variously to industries using the raw materials procured from the areas in question, hunters, "largely private interests," and those interested in reservoir sites for the irrigation and grazing people, and "those who use it." Two note that there is considerable opposition by those who object to removal of additional lands from the tax base of local government units.

In general it seems that those favoring wilderness areas are less active at the local or State level or that the State officials are not aware of any great sentiment of that type, whereas, the opposition seems to be much more active and positive, or at least the State officials are more conscious of its existence.

Question 2 (d): In what way would a definite national policy be of assistance to the State in preserving the wilderness character of such land? In what ways would your State cooperate with the Federal Government on this?

Answer: It has been found that the answers to this question and to question 3 (c) have been treated in much the same vein by the correspondents. In some cases they have answered one and not the other. These answers will be considered together below under 3 (c).

Question 3: In general: (a) What, in your opinion, should determine the setting aside of a given land area as wilderness as opposed to other uses?

Answer: The replies received to this question seem to indicate some lack of understanding of the question, indecision as to whether to answer it only insofar as the officer's own State is concerned, opposition to the whole idea, or concentration on one point. Perhaps a dozen have a clear-cut viewpoint and suggest a standard measure of determining factors.

A few select a single factor as a final determinant, such as "character of resources of the region," "the wishes of the people," "need for sanctuaries to preserve wildlife * * *," "where the economic income from lands is not sufficient to allow the administration of the land by private interests," "accessibility (not specified)," character of land, e. g., whether it has little other use, or is totally unfit for any other use.

Of those primarily concerned with the question as it applied to the officials' own State one suggestion is that the pressure of population on the recreational area and the natural resources contained within the area in question should be balanced against the demand for a wilderness area, concluding that in his State the first factor would preclude establishment of such areas there. Another conceded that other States might have large areas of wild land, and that certain portions thereof might be set aside, as well as smaller areas which do not lend themselves to the construction of roads and other recreational facilities. At this point several correspondents again call attention

to the more crucial demand for such recreational facilities as public hunting and fishing areas which must be met first before a long-range program of wilderness preservation can be justified.

Officials in States with wilderness areas were reluctant to express opinions as to establishment in other States. Several correspondents note, however, that wilderness areas in their State have popular support and advocate more, but are very hazy as to the determining factors, while one insists that final determination should be left to "local discretion."

Special consideration of particular factors is asked for by a few. In one case it is the need of water storage for irrigation in the Western States, and in another the loss of a potential source of timber, mineral resources, and land for grazing. Others are: That the area be truly representative of its type, and that the area have such value that too intensive use would ruin it from a recreational, botanical, or geological standpoint.

Of those commenting in detail, three consider large size as the most important factor; and another considers it a primary factor when considered in connection with its merits as wilderness, as being representative of its type, and being freely accessible. Another believes the area must be large enough to permit the environment remaining undisturbed by any general public use, if it can be spared from other possible uses. "Comparatively large" is mentioned as a secondary factor. Isolation or inaccessibility is considered a primary determining factor by a number of correspondents, and one, surprisingly, considers an area's proximity and accessibility as a factor. One reply considers the matter of convenience of access as unimportant so long as it is actually wild or primitive in character, is comparatively large, or has some unique or unusual feature; in the latter case it need not even be large. The uniqueness, or possession of outstanding scenic values is a primary determining factor in the minds of four officials, and an area's outstanding value for scientific study is sufficient reason for setting an area aside for protection as a wilderness area in the view of four others.

Other primary determining factors mentioned are:

An area's proximity to previously determined areas of the highly developed type, to care for the demand for that type of recreation.

Lack of conflict with other conservation agencies.

An aesthetic value greater than other values that might be attributed to the area.

Noninterference with the economic pattern of the region.

Presence of a sufficient demand for the type of recreation provided by wilderness areas.

Possession of "that something" which reflects the native condition of the land before the coming of the white man, since this is the impression to be preserved.

The long-range value of the land to the people of the State and Nation as a whole for watershed protection, recreation, and scientific study.

Some land by its very nature is best left in a natural condition.

Three of the correspondents, evidencing a doubtful view as to wilderness areas having any real value, suggest limitations such as:

Limit wilderness areas to regions which have a large amount of wild land and where there is a demand, need and purpose for their establishment.

Limit the number to a few laboratory areas, not too large. (Believes there is little need for them since few are located near schools, colleges, etc., which might use them, and only a few people would get any use from them.)

Depends on the condition and location of the land; that having any economically valuable use should be so used. A few such areas "can do no harm," having a cultural if not an economic value.

Finally one conservation official considers the whole idea unsound and believes that it is impossible to maintain ecological conditions in their original state with no alterations—which, if possible, would be the only justification for establishment of wilderness areas.

It is obvious that there is no agreement as to the determining factors between land use for wilderness areas as against other uses. Most of the replies would seem to indicate that little thought has been given to this question in the past, and few States have established any measurement or gage for determining whether a particular area of land should be set aside as wilderness or devoted to other uses. In part, this may be due to the fact that few of the States have a long-range program to provide for recreational needs. As mentioned before, the main effort is being devoted to the short term, immediate demand for highly developed recreational facilities.

Question 3 (b): What are the principal values of wilderness areas?

Answer: Thirty-seven replies were received to this particular question. The most mentioned values are those which might be termed "recreational," "scientific," and "aesthetic." Seventeen emphasized the recreational values, including within the term such values as provision for future recreation, providing a new experience in traveling through the wilderness, experiencing an uncommercialized type of recreation, physical enjoyment, and opportunities for hunting not to be found elsewhere.

Scientific values, advanced as among the principal ones, are: As an example to contrast with present conditions after the coming of the white man, his development and exploitation, for the protection of flora and fauna in its natural environment, and for an opportunity to study plant-animal-land-human relationship. This is considered by several to outweigh any other value, even possible exploitation for the land's economic values. A wilderness area can serve as a source of seeds and of animal life for transfer to other regions where plant and animal life of certain types are becoming extinct, and as a laboratory for the study of the problem of what has happened to our other lands. Several consider the preservation of soil and cover types, virgin forests, and native wildlife as principal values. The observation of plant succession, and vegetative competition and the interrelation of soil, flora and fauna, and utilization of such study in future land management policies and practices is considered of great value by some.

Nearly all who answered the question as to values to be gained by creation of wilderness areas emphasized the scientific.

The esthetic values are considered important in about one-half of the replies. Four correspondents stated simply that the mere fact of existence as a wilderness constitutes a value to the American people, even though, as one states, individuals may not have the opportunity to make use of the area. The opportunity to enjoy nature undisturbed by man, a sense of security gained by relaxation and restoration of mental balance, and enjoyment of the outstanding scenic,

topographical, and geologic phenomena are ranked high in the scale of values. Two officials emphasize the value of protecting the scenic attractions from vandalism and exhaustive exploitation.

The value of wilderness areas for conservation is recognized in the statements of one-third of the replies. Among the particular values advanced are: Relief of hunting and fishing pressure on other areas more intensively hunted and fished; conservation of human and natural resources by protection from excessive exploitation; setting aside a reserve of timber for a possible future emergency; and, protection of watersheds and prevention of soil erosion by preservation of ground cover.

One correspondent considers the promotion of local business in the region nearby wilderness areas through supplying and equipping travelers in those areas as an important value.

Among those who give evidence of opposing the principle of wilderness preservation slight recognition is given to its values. One concedes a slight value as a game sanctuary, another can see some value for scientific study, but since the ecological conditions in a wilderness are not duplicated elsewhere, such value is limited. What values the wilderness may have are limited to a few wealthy sportsmen, artists, hikers, scholars, etc. And finally one correspondent can see no value at all to anyone.

Question 2 (d): (See p. 58.)

Question 3 (c): Have you any suggestions as to what the Federal Government's policy should be?

Answer: As has been noted above, answers to these two questions have been treated in much the same vein by the correspondents and, therefore, will be considered together here under question 3 (c).

Need.—Slightly more than one-half of the correspondents answered one or both of these questions concerning a national wilderness policy. Of those a dozen express a positive need for a national policy, one of whom believes it is the only way in which certain desirable areas may be preserved and protected, and another believes it to be the only course open. One correspondent considers it a necessary part of a general reconsideration of the Federal public land use policy. A half-dozen others note that there is widespread public interest in such a policy within their States.

Some 20 officials state that the establishment of a national policy would be helpful to them and to their States, although one insists that the States should also have their own policy and another believes that the States might well adopt such portions of the Federal policies as might be applicable to those States.

Of the less enthusiastic replies two are positive in expressing their belief that no such policy is needed. There are already too many wilderness areas according to one. Four State officials express themselves as content with the present policies of Federal agencies such as the Forest Service, National Park Service, and Fish and Wildlife Service. Two express the lukewarm sentiment that they can see "some" need for a national policy, three see little need for it, and seven report little or no sentiment for or interest in it within their States. One cautious correspondent wants to see the policy first before expressing himself.

Four replies express a lack of sympathy with the whole idea of wilderness preservation in the first place. Their views on the need for a national policy are:



It might do more harm than good.

The real need is for redesignating present wilderness areas to higher and more productive uses.

Establishing and preserving wilderness areas involve the wishes of the States and their people; the Federal Government should have no part in forming policy concerning that issue.

The Federal Government might better devote its efforts to soil, mineral, wildlife and forest conservation.

Conclusions to be drawn from expressions of this group seem to be that there is a need for a national program and it is expected to be extremely helpful to the States, although there is definite dissent on the part of a substantial minority.

Cooperation.—Most of the State officials express willingness to cooperate with the Federal Government in furthering a program of wilderness protection. Methods of cooperation will vary. They include planning and locating suitable areas, reserving areas in State parks from timber cutting, and basing the State policy on the Federal policy. However, most replies indicate that methods of cooperation will depend upon details of the policy, and whether it will require legislation or merely administrative action by the States. One assumption is that such cooperation will take the same form as present cooperation of the State parks and State forests with the National Park Service and the United States Forest Service.

Effects.—Extremely varied views are expressed as to the effects of a national policy. Among the expressions are:

It will stabilize local sentiment in favor of the creation and permanent protection of primitive areas.

It will be an influence for a better program of wilderness preservation to have strong backing by the Federal Government.

Constitutes a great forward step in conservation.

Will set the basic policy and example leading to a more consistent treatment of the question throughout the Nation.

Will probably result in more permanent control of the land in its natural state.

It is the only hope for the preservation of some desirable areas.

Will be of great assistance to the States in furthering their own programs.

One official believes that a national policy might promote the whole wilderness idea but a strong educational program in support of the objectives and benefits of a wilderness program will be needed before State appropriations for the acquisition and management of such areas will be forthcoming.

In general it may be said that State officials approve of the idea of a national wilderness policy, indicate their willingness to cooperate, although not quite sure in what ways they will do so, and believe that such a policy will be helpful to the States.

Form and content of the national policy.—Only three State officials express their conviction that such a policy calls for a special act of Congress. The others make no suggestions as to how a national policy is to be expressed.

Many suggestions are made as to what a national wilderness policy might include. Suggestions as to elements to be included follow; it will be noted that some are contradictory:

Participation by the States.—1. Assistance to the States by grants-in-aid for acquisition of wilderness areas.

2. Transfer of Federal land to the States, title to lie in the States with "ironclad" provisions for permanence of protected status.

3. Payments in lieu of taxes, allocated to States for counties in which areas are located.

4. Permit States to participate in a mutually acceptable basis in the selection and administration of the areas.

Objectives of policy.—1. To preserve the principal soil and cover types of the Nation.

2. To assist the States in administration.

3. To establish a reserve of unexploited land available in the distant future should the Nation's resources approach exhaustion.

4. In general, apply present National Forest Service policy to the entire program.

5. Development as one component of a general over-all program of land use for the public lands.

6. To reach certain problems now within Federal control alone such as air-space reservations, reservoir construction, etc.

7. To accomplish the greatest good for the greatest number for the longest period of time.

Administration.—1. No new Federal agency is needed.

2. Administer through Department of the Interior.

3. The Federal Government should administer the entire program even though States participate.

4. Federal Government to assist the States.

5. Present Federal policies concerning wilderness areas should be considerably revised to permit more productive use.

6. By whatever agency, excessive use should be avoided lest it destroy the wilderness values.

7. Allow no special-interest groups to dominate the policies.

8. Administer as part of the State parks and State forests systems within the States.

9. Local administrative responsibility is best, as evidenced by results under the supervisors of national forests.

10. Exclude all but researchers, and a few qualified persons, such as hunters for correction of animal overpopulation.

Views expressed as to the extension of present wilderness areas or the creation of new ones include such as:

1. The fewer the better.

2. There are plenty now.

3. Many more are needed.

4. Distribute as widely as possible wherever land may qualify for the purpose.

5. Only areas which are accessible to and within the means of all to enjoy "pioneer" experience.

6. No more should be permitted to lock up more of the Nation's natural resources.

7. Present areas should be examined as to possibility of rededicating them to more productive uses.

8. Consideration should be given to establishment of smaller areas, permitting a small amount of marked trails but still preserving the wilderness character. There are many such areas available and accessible to more people.

9. A wilderness-areas program should be as fully developed and carried out as that for the national forests.

10. All areas which meet requirements to be immediately designated.

11. Limitations on expansion program:

- (a) Only where wild land is available in quantity.
- (b) Only those most spectacular as to scenery, topography, geology, flora, and fauna.
- (c) Only those in the public interest for some major economic use to which the wilderness feature is incidental and of low cost.
- (d) That having little or no value for grazing or timber production.
- (e) Preserve only a few, typical areas.

D. NONPUBLIC ORGANIZATIONS

1. Introduction

As a result of the questionnaire sent to various organizations replies were received from 72. These may be roughly classified as follows: Sportsmen's groups, 5; associations of officials concerned with conservation, 8; recreational groups, 10; agricultural interests, 5; labor organizations, 1; professional groups of varied character, 6; scientific organizations, 13; trade associations, 4; conservations (including planning) groups, 13; and miscellaneous organizations which include the Girl Scouts of America, General Federation of Women's Clubs, the American Automobile Association, the Southern Regional Council, New England Council, and the Chamber of Commerce of the United States.

As was the case with the State agencies, these replies vary considerably. Some of them answered the questions as they were presented in the questionnaire, but in a number of instances replies were limited to general discussion or to consideration of a part only of the 10 questions. Answers to question 8 (suggestions as to regions potentially wilderness areas which the correspondent believes worthy of special protection) are listed below in the appendix with like suggestions from other sources.

Otherwise replies are considered in the same order as in the questionnaire.

2. Discussion

Question 1. Does your organization advocate or approve of the preservation of wilderness areas as such?

Answer: Of all the replies received only one expressed complete disapproval of the whole idea of preservation of wilderness areas, and one expressed approval so hedged with limitations as to actually amount to disapproval in effect. Six noted that their organizations have taken no position whatever on the subject; 28 expressed most emphatic approval, while 16 more answer simply "Yes" with no comment. Three organizations, although not officially on record as favoring wilderness areas, may be considered as favorable from a reading of their resolutions and literature concerning such subjects as national parks, national forests, wildlife refuges, and the like. The officials answering on behalf of four others state that, while the organizations have not gone on record, it is their belief that the majority of their members favor it.

A west coast federation of outdoor clubs states that its constituent members are badly divided on the subject, and it thus can take no position on behalf of the whole group, leaving it to individual members to take a stand.

A very large organization of motorists also has no position to take on the question, observing, however, that it notes a tremendous increase of inquiries concerning areas where motorists may go "to get away from things."

While taking no position on the general question, one organization gives its opinion that the maximum proportion of forest lands should be retained in private taxpaying hands and that only nonproductive land should be acquired by public agencies.

It may be interesting to include the comments of the remainder of the replies to this question which impose some qualification or limitation on their approval.

1. A majority of the members, it can fairly be said, would heartily approve in principle.
2. Approve if the areas are controlled by a specific policy, and limited to the areas actually needed to accomplish their purpose.
3. Favors, if defined in such a way as to permit the taking of fish and game by properly licensed persons.
4. Approval if confined to the outstanding examples of each type, so much so as to make their preservation of national importance.
5. The only limitation to approval is that where suitable, outstanding winter sports areas may be developed for maximum use.
6. Would approve if their boundaries are not extended beyond that area needed to preserve the natural conditions for scientific and recreational purposes.

7. Approves only if the area is used for scientific purposes and the intention is to maintain it in such condition as may permit it to continue to serve scientific and technical purposes.

8. Would not oppose if that is the chief value indicated for the particular area. They should be limited to the high country and to that area actually needed to accomplish their purposes.

The general conclusions to be drawn from the replies to this question are that, at least so far as those who answered the questionnaire are concerned, there is very little opposition expressed to the principle of the dedication and preservation of wilderness areas as such. What opposition there is seems to be felt largely on a local basis and is confined to specific cases, such as that of the winter sports enthusiasts to the San Geronimo Wild Area in California.

On the other hand, there are a number of organizations such as the Wilderness Society, Izaak Walton League, American Forestry Association, and the Ecologist's Union which are most active nationally in favoring more areas, and greater protection for existing ones.

Some few qualify their approval with limitations, most of which even the more enthusiastic supporters of the wilderness movement might agree to.

Question 2. If your answer to question 1 is "Yes," what, in your opinion, are the characteristics of a "wilderness area" which may make its preservation in its present state desirable?

Answer: This question presents two aspects of the problem—first, the essential characteristics of "wilderness," and second, the characteristics of a given tract which make its preservation desirable.

The answers fall naturally into two categories—those which deal only with the wilderness characteristics, and those which discuss the desirability of some public agency assuming responsibility for the preservation of wilderness so designated.

As the Wilderness Society, one of the most active organizations in the movement advocating preservation of wilderness areas, observes:

"It is not surprising that the use of the word 'wilderness' both as a description and as a designation should result in some confusion, when it is realized that the cultural values have only comparatively recently been placed on the quality of wildness and that attempts to apply this sense of values to practical land management is much more recent. The terminology of both the philosophy and land-management technic is still formative. It is still necessary to be aware of context in using precisely the vocabulary of the movement. It is not yet feasible to insist on limited usage of the term 'wilderness,' nor is it expedient to restrict one's own use of the word."

This observation points up the need for clear definition of the term.

Those definitions using the term "wilderness area" as a characterization of the land itself, will be considered first. It may be worth noting that a few of the replies consider both this aspect and the land-management aspect, while a few others confuse the two.

One characteristic which is substantially agreed to by nearly half of those stressing this angle is as follows:

"* * * a true wilderness is one in which the mature, balanced community of plant and animal life, as it existed before the appearance of man on this continent, has been preserved without human intervention."

Another element considered in a large proportion of the definitions is size. There is no unanimity on this point. One reply specifically states that no particular size is determinative. However, by far the majority consider large size important; the size most often mentioned is over 100,000 acres.

As an indication of the varied conceptions of "wilderness" it may be interesting to include at this point some excerpts from definitions offered:

"* * * wilderness may be thought of as areas not yet occupied and exploited by civilized man * * *. The area must be country that is still beyond the roadhead and therefore unencumbered by the improvements of civilization. It should be an area of great natural beauty, with lakes, streams, and a good forest cover * * * large enough to insulate it as much as possible from the sight and sound of automobiles, speedboats, and mountain resorts."

"For a wilderness area to have the greatest ecological value, it should have the original virgin vegetation, or at least mature undisturbed second growth * * * large enough to have a balanced population of all original animal species. Usually this requires an area from 100,000 to 2,000,000 acres. Areas of smaller size are of value to plant ecologists but usually they cannot support populations of the larger ungulates and predators."

"Untouched and unspoiled areas where plants and animals exist without the help or hindrance of mankind. Areas that are rugged, somewhat unexplored, without trails, or roads. Places where humans can still make their own way and camp in the most primitive style."

"An ecologically representative area of the earth's surface on which the forces of nature exclusively have operated for at least 100 years, and which have not suffered any extensive or marked alteration due to natural causes—such as fire, insect, or rodent plague—destroying its unique character or identity."

"An environment of solitude with no destruction of the vegetative balance, and free from the sights and sounds of a mechanically disturbed nature * * * an area of sufficient size to prevent any interference by outside influences."

"* * * land which has not yet been settled or exploited, and on which the marks of travel and use are not yet too apparent. The explorer or camper still is on his own, relying on what he can carry with him * * *"

"Primitive, unspoiled lands and waters, which because of their singular characteristics, typify original environment."

"* * * in substantially natural condition, i. e., still exhibiting the physical conditions, including those of topography, soil, water and ecology, characteristic of some stage in the natural evolution of the area substantially unaltered by human interference * * * not so close to large bodies of population as to attract so many visitors as to destroy its essential values"

"An unchanged sample of original America, in which one may enjoy the experience of traveling and living under completely natural conditions. A region which is physiographically remarkable, or of exceptional beauty or interest, but which could not withstand development for exhibition. A region of which the most important recreational use is as a wilderness. An area which in its present condition can serve as a laboratory wherein the layman and the scientist may study undisturbed wildlife, plant, and soil association. A primitive area, even though small or of diminished caliber, near a center of population to which more adequate wilderness is not available. Large enough that, even allowing for the transition or buffer zones within the borders, the wild core is of significant size."

"* * * an area of land and water that is extensively primeval in environment or influence, and free from mechanized transportation and human installations."

"* * * a region which contains no permanent inhabitants, possesses no possibility of conveyance by any mechanical means, and is sufficiently spacious that a person in crossing it must have the experience of sleeping out. The dominant attributes of such an area are: First, that it requires anyone who exists in it to depend exclusively on his own effort for survival; and, second, that it preserves as nearly as possible the primitive environment."

"A large region in excess of 20,000 acres which does not have ready access by road * * * which has game, fish, or other recreational values by reason of its topography or vegetative cover * * * presently owned by any public or private agency."

"Wilderness areas are museum pieces of primitive America, large enough so that one may travel perhaps for several days without coming into contact with any evidence of civilization. Removed from established lines of modern transportation, all travel is by foot, canoe, or by horse. Isolation is a major requirement."

"A region that still remains in its natural state—or as nearly so as it is possible to find. Having more than ordinary mountainous, botanical, scenic, forestry, or other like characteristics."

One correspondent cautions that the definition of wilderness areas should not be too restrictive, as such areas might include many different types of terrain—forest, prairie, mountain, desert, river, etc.

The Wilderness Society, referred to above, is the most specific of all in its definitions. It divides wilderness into five categories each with its own characteristics. They are as follows:

"Wilderness areas are regions which possess no means of mechanical conveyance and which are sufficiently spacious that a person may spend at least a week of travel in them without crossing his own tracks. They may include timber, range lands, bare rocks, snowfields, marshes, deserts, or water. The dominant attributes of such areas are: First, that visitors to them must depend on their own efforts and their own competence for survival; and, second, that they be free from all mechanical disturbances.

"Primeval areas: Virgin tracts in which human activities have never modified the normal processes of nature. They thus preserve the native vegetative and physiographic conditions which have existed for an inestimable period. They present the culmination of an unbroken series of natural events stretching infinitely into the past, and a richness of beauty beyond description or compare. Consequently, primeval areas not only are of surpassing value from the standpoint of scenery, but of great scientific value.

"Superlatively scenic areas are localities with scenic values so surpassing and stupendous in their beauty as to affect almost everyone who sees them. They may also include natural features of unique scientific interest, such as the geysers of the Yellowstone.

"Restricted wild areas: Tracts of land in regions of concentrated population which even though not having great size, virgin conditions, or superlative scenery, are at least free from the sights and sounds of mechanization. They are the closest approximation to wilderness conditions available to millions of people.

"Wilderness zones: Strips along the backbones of mountain ranges or rivers which, although they may be crossed here and there by railroads and highways, nevertheless maintain primitive travel conditions along their major axes. Such zones not only are primarily free from man-made sights and sounds, but also permit long journeys under the impetus of one's own energies instead of those of a machine."

Several correspondents call attention to, and agree with, the definitions of outdoor recreational areas as stated by the National Resources Committee in 1936:

Roadless area: At least 100,000 acres which contains no provision for the passage of motorized transport.

Virgin area: At least 5,000 acres in which there has been virtually no disturbance of the natural vegetative balances.

Wildlife area: Provides protection for all wildlife species therein.

Wilderness area: Combines roadless and virgin area characteristics.

Sanctuary: Combines virgin and wildlife area characteristics.

Primeval area: Combines characteristics of all three.

A definition based largely on the management aspect of wilderness, in shortest terms may be stated as—primitive tracts that have characteristics of unspoiled environment that should be preserved in the public interest. Variations, refinements, additions, and interpretations of this definition are contained in the replies of the correspondents.

One of the most common refinements referred to is that the area should be of national importance, to justify the Federal Government's intervention. To reach national importance it is suggested

that areas contain outstanding vegetative, floral, faunal, topographical, or geological features; or that they be superior to average examples of their particular types.

As to State preservation of wilderness areas, those few who mention it all agree that qualifications need not be so rigid, but only the best examples in the State should be preserved.

A more detailed listing is here given of some of the characteristics, which have been considered to make a specific area worthy of dedication as wilderness area and of protection to preserve it in that condition:

Outstanding native flora and fauna which may be best preserved for present and future ecological studies in an area guarded against commercial development and exploitation.

Recreational opportunities for those who find rest and stimulation in the simple enjoyment of nature.

Lands which will not be available for timber cutting for many years.

Largely inaccessible to the general public and not of great specific value because of stored resources.

An area of any size, from an acre upwards, which constitutes a potential natural habitat for wildlife and plants characteristic of the area.

Areas that are vital for watershed protection, wildlife propagation and protection, flood prevention, which are in a natural state.

Typical, natural ecological areas having unique fauna, flora, native landscape or historical interest of value for conservation, recreation, scientific or nature study purposes.

A composite of the various definitions of a wilderness area, including the characteristics whose presence is necessary to make it worth while for public dedication and preservation, appears about as follows: An area which is in its natural, primitive state, reasonably close to it, or capable of reverting to that state.

Relatively isolated, lacking commercial development and facilities for mechanized transport.

Large enough to preserve its primitive nature from outside influences.

Possessing outstanding, or superior to average of type, features of soil types, vegetative cover, wildlife, scenery, topography or geology, preservation of which is necessary or valuable for scientific study or for recreational purposes.

Question 3. What are the determining factors which decide whether a particular area should be preserved as a wilderness as against other uses?

Answer: Many and varied are the factors listed in answer to this question.

However, they do lend themselves to a general grouping.

Economic.—Relative need of the Nation for the natural resources, potential or known, of the region.

Value of the area for other uses.

The pattern of ownership, whether private or public, in whole or in part.

Possible loss of income to the region of potential economic development or exploitation and the related one of loss of tax returns to local governmental units.

Value of the area for flood control and protection; as well as for watershed protection.

Value for protection of wildlife.

Future value as a reserve for resources which may be needed more than now.

Availability of other sites for flood-control or stream-control projects, power and irrigation reservoirs and dams.

General welfare of future generations takes preference over non-essential, additional, or temporary advantages to be gained by individuals or local interests by immediate exploitation.

Trend of future industrial development.

The national interests as opposed to local interests.

The percentage gained by dedication as wilderness as against the percentage loss of total area potentially valuable for other uses.

In cases where a choice must be made between several areas of a particular type, that which is least likely to be disturbed for access to minerals or commercial development should be chosen.

If use as a wilderness area is the chief value indicated.

Economic factors should alone be the decisive ones.

In addition to the factors listed above, one correspondent observes that if there was any economic value attached to a particular tract of land it would long since have been exploited, and another, that each case should be determined on its own merits as to whether it possesses more value left as wilderness or by exploitation.

Scientific.—Special value for scientific studies.

The need for sample areas for comparison with exploited land of the same general type.

Greater importance of scientific values over any possible commercial use.

Need for preserving unique examples of soil or timber types geologic phenomena, ecological relationships, etc., which might be destroyed if not protected.

Value of the area as a factor of climatic stabilization.

Aesthetic.—Scenic values.

Desirability of retaining areas in their natural state which are truly untouched by mass human activities.

The area's ability to preserve a sense of remoteness, of isolation, from mechanized civilization.

The pure aesthetic value alone is sufficient reason for dedication as wilderness.

Moral.—The obligation to preserve for future generations samples of the original wilderness.

Need for utilization of land for that purpose which will accomplish the greatest good for the greatest number of people.

Recreational.—Need or demand for the wilderness type of recreational use.

Relative need for the more developed types of recreational areas.

The nature of the possible visitors, what the needs of those particular people are.

Availability of other types of recreational facilities.

General.—Accessibility. (Some favor wilderness areas in only the most remote or isolated areas, some believe it to be an advantage for one to be near large centers of population.)

Relative scarcity either of type or of location.

Number of similar areas already dedicated.

Uniqueness.

Persistence of the primeval environment or influence.

The benefits to be derived from its dedication as wilderness.

In résumé it is found that the following are the most often mentioned determining factors:

Value for scientific study and preservation of unique or outstanding examples of flora, fauna, and topography.

Obligation to preserve for future generations a sample of the wilderness which our forefathers conquered in building a nation.

Comparative values of economic development as opposed to its value as wilderness.

Need of man for a place of refuge from present-day mechanized civilization, for relaxation and recreation.

Availability of the various types of recreational facilities.

The Nation's need for the natural resources within the area.

Relative isolation.

Actual primitive or natural condition, freedom from mechanization.

Present ownership.

Question 4. What are the values of such an area?

Answer: Although many seemingly different values are named by the correspondents they are susceptible of a rough classification into recreational, scientific, inspirational, historical, esthetic, and practical. They will be considered under those headings.

Recreational.—The value of wilderness areas for recreation is by far the most generally mentioned, two-thirds of the replies naming either recreation in general or some particular phase. Among the special aspects of the recreational values mentioned are:

Satisfaction of a demand for a special type of recreation.

As a vital part of a national scheme of recreational facilities.

The benefits to health accruing from wilderness experiences.

Opportunities for beneficial exercise of a rugged type.

Opportunities for peaceful, quiet relaxation.

Scientific.—Approximately two-thirds of the replies mention some aspect of scientific values. Besides the general statement of the scientific values of wilderness areas a number emphasized some special aspect. Among those mentioned are:

Opportunity to study nature as it was before the coming of the white man.

As a control area or reference type for comparison with other areas which are depleted, overdeveloped, or in need of rehabilitation.

Opportunity for the study of the interrelation of plants, animals, soil, and climate.

Educational value for group study.

Preservation of rare species which otherwise might be forever lost.

As a control area for cultivated or managed areas.

Opportunity for ecological study.

Inspirational.—Under this classification are included the esthetic,

spiritual, and inspirational values, some aspect of which is named as a value to be derived from wilderness areas by a great number of correspondents. Approximately one-third include a simple statement "spiritual," "inspirational," or "esthetic." Some more particular phase of these values is named by an even larger number.

Among them are:

Knowledge of the existence of such areas engenders a feeling of patriotism and pride, even though individuals may make no actual use of the areas themselves.

Provides an opportunity for escape from mechanization.

Develops a sense of self-reliance in sojourners within the areas.

Permits devotees to return to nature to whatever degree they wish. Provides an environment for the restoration of the physical, spiritual, and moral being.

Has a therapeutic value for the mentally disturbed.

Allows individuals time and space for thinking, contemplation, and communing with the forces of nature.

Encourages the development of the inner man free from the disturbing influences of modern civilization.

A sense of pleasure and enjoyment is derived from contemplation of nature before the coming of the white man, and from viewing scenic wonders.

Historical.—Approximately one-third of the replies name the historical value as of primary importance. That is, they stress preservation of wilderness areas, as museum exhibits of the original wilderness conquered by our ancestors in the process of developing the Nation. Some particular aspect of this value is emphasized by some, such as—

Preservation of the original wildlife in its natural habitat.

Preservation of characteristic (some state unique as the more important) species of animal and plant life for observation.

Presents a sample of what the country looked like at one time.

Saves some of the last remnants of virgin timber.

Preserves areas which may never be duplicated.

Practical.—In itemizing the values of wilderness areas approximately one-third listed some practical value. The use of the term "practical" rather than "economic" is deliberate, so that some of the values offered in reply to this question might be included, which are not strictly economic. Among the varied values suggested of this character are:

As a source of meat and fish for food, and of skins for clothing.

As a field laboratory for the landscape architect, the technical observer, the ecologist, the geologist, the artist, and taxonomist.

Benefit to communities nearby from the money spent by users of the wilderness for food and equipment for their sojourns therein.

Provides a protected, natural breeding ground for wildlife, some of which will migrate and increase the total supply of game.

Has a great value for the protection of the watersheds of rivers and streams, since much of the wilderness remaining contains headwaters.

By retaining much of the rainfall which might otherwise quickly run off it has great value in preventing floods and soil erosion.

In preventing soil erosion there is a direct benefit to navigation in lessening the amount of silt in navigable waters.

Protects much land from unwise and destructive development, for lumber particularly.

Retains a possible future source of natural resources for the time when they may be more needed, especially wood and mineral resources.

Several correspondents concede little value to wilderness areas. One declares it depends upon the demand for and the use of the areas.

themselves whether they have any value at all. Another states that it depends upon whether such areas are actually used for scientific research whether there is any value attached to the preservation of those areas. Finally, one sports organization gages the value of wilderness in terms of the facilities offered for winter sports.

In conclusion, while there are many and varied conceptions as to the values of wilderness areas, they are rather easily combined or grouped into a few on which there seems to be general agreement. Those values may be listed as follows:

Recreational.—Providing a special type of recreation, of particular value through its freedom from mechanization and modern civilization; it is thus an important part of the over-all recreational program. *Historical.*—Preserving a sample of the past, available for observation, not available elsewhere.

Inspirational.—Inspiring a feeling of pride and patriotism in the citizen, whether he uses it or not; providing an opportunity for quiet, relaxed contemplation, which has a therapeutic value, both mental and physical, and giving pleasure through its scenic wonders, and a sense of being at one with nature.

Practical.—Saving some very fine forests from destruction, retaining a reservoir of resources for future development, when they may be more urgently needed, giving employment and economic return to a large number in supplying devotees of the wilderness. Helping to prevent floods, soil erosion, and decimation of game and fish through protection of the watershed and natural vegetative cover.

Question 5. What do you consider permissible uses of wilderness areas?

Answer: There is considerable variance on this point. As one organization says, to permit any use at all is to defeat the true purpose of creating wilderness areas. Permissible uses as listed by the respondents vary from extremely limited or controlled use to very general, intense use, even to the extent of permitting a considerable amount of development of facilities. One cautions against overuse of wilderness areas.

The permissible use most generally mentioned of course is for recreation. In general terms many state in effect that any use which is consistent with the preservation of the natural state is permissible.

Among the recreational uses listed are: hiking, picnicking, camping, nature study, mountain climbing, winter sports including skiing, ski touring, skating, and cross-country snowshoeing, canoeing, boating, sailing, painting, photographing, horseback riding, ecological recreation, hunting and fishing. In order to facilitate these activities or to limit them a number of qualifications or limitations are suggested. Some of these involve construction. Quite a few would permit the construction of simple trails; three would have them unmarked, while one would permit them to be "adequately marked." Others would permit trails for fire protection only, or for access only, or for canoe portage. Horseback trails would be allowed by two and one other specifies that such trails should follow contours and disturb the area as little as possible.

Two organizations advocate a "reasonable" amount of roads, one "adequate," and another a minimum amount, or that which is necessary for access to outstanding scenic features and the like. One would permit roads to encircle the area for access but not actually

to enter the wilderness. Three would permit the construction of roads for fire-protection purposes only; another specifies that such roads permit access by trucks; finally, one would permit roads for fire protection with the further limitation that they be kept locked except for emergency use. Two other spokesmen would permit access to some areas by mechanical vehicles, motor and airplanes.

Only four would permit the construction of service facilities and one would specifically bar such construction. One of the four would limit construction to that needed for fire protection and another to that needed for sanitation purposes.

While camping is specifically considered a permissible use by nearly one-half of the correspondents a number of them would limit such activity to some extent. Among the limitations suggested are: by permit only, as suggested by three; limiting camping in one place to one or two nights. Insofar as camp sites are concerned, while one would supply "adequate" overnight lodges, two would specifically prohibit any permanent shelter. Shelter would be allowed by seven but of different kinds. The Adirondack shelter is considered suitable by one, tents are sufficient in the view of another, only those which are the simplest or most primitive are preferred by three, and one each advocate only that which is sufficient to permit adequate maintenance and proper use, and that which is necessary for the use of Government employees on the business of the administering agency.

Over one-third of the replies name horseback travel as a permissible use of wilderness areas. However, only six would allow the use of pack animals, one would limit it to a few areas, one specifies "limited" horseback travel, and one each would limit such travel or closely supervise it, perhaps by limiting it to conducted parties. A single correspondent would forbid the use of horses in any wilderness areas. Scientific use is another category of generally accepted activity in wilderness areas. Three organizations would confine access to wilderness areas to scientific groups alone, one to representatives of land use agencies and another to those engaged in forest research.

Two organizations look upon wilderness areas as being principally useful as wildlife sanctuaries. However, over one-third would permit hunting to some extent. Nine would strictly regulate hunting, while one would limit it to the few areas sufficiently large to permit it without permanent damage to the game population of the area. One organization would confine hunting to the use of the bow (even that extremely limited), and another to noncommercial hunting, prohibiting hunting camps and lodges.

Nearly half of the groups consider fishing a permissible use of the wilderness, although suggested restrictions include limiting it to the natural yield of the waters, to noncommercial fishing, and six would closely regulate it. One would prohibit fishing in those waters where a species is in danger of being destroyed.

Grazing, commercial as well as domestic, is already permitted on some of the wilderness areas. While six correspondents consider this a permissible use, most of them would limit it: e. g., only if conditions warrant, only until it can be eliminated, only to ensure that the area itself will become a wilderness area if that is a necessary condition, to whatever extent will not damage the area, or to that necessary for cover management.

Of all the replies received only one would permit lumbering, and that limited to the extent necessary for cover management, and only if no roads are required.

Further detailed limitations on the uses of wilderness areas are suggested by a number of correspondents. One would limit use to passive observation, while two would determine permissible uses on a local basis, by the administering agency for each area. Seven specify that uses should be confined to those which are least likely to disturb the natural balance and relationships of animal and plant life. Two would limit the picking of floral specimens and collecting of fauna to what is necessary for scientific purposes, and then only with special permission.

The use of firearms would be forbidden by one, except in cases of emergency or in certain specified areas.

One correspondent notes that it would be advantageous, if an area is large enough, to separate portions of the area where scientific study only would be permitted from that where recreational uses would be permitted, to be accomplished by zoning. Another suggests the dedication of an additional classification of land use, that of semi-wilderness, wherein a certain amount of development might be permitted, such as roads, permanent shelters and campsites. This would serve to preserve the natural condition of the true wilderness by supplying an area for folks who like the wilderness but want some of the amenities of civilization at the same time, leaving the real wilderness to those willing to lead a more rugged existence.

Consideration of the replies to the question of permissible uses of wilderness areas reveals a fair amount of agreement. Uses on which there is substantial agreement are:

Recreational.—Hiking, mountain climbing, horseback travel, nature study, winter sports, hunting and fishing (with some limitation), canoeing, and camping (with some limitation).

Scientific.—Research by individuals and by groups, study of the flora, fauna, and soil types, and their interrelationship, and ecological, taxonomical, topographical, geological and silvicultural research.

Grazing.—Only by sufferance and with a view to its eventual elimination.

Construction.—No roads, simple trails, the most primitive of shelters (temporary), and the least necessary amount of fire protection facilities.

In general.—Only those uses which will not destroy or lessen the wilderness character of the area.

Question 6.—Does your organization believe this to be a State or Federal responsibility or both?

Answer: Replies to this question range from insistence on State responsibility, through "any" to joint responsibility, to Federal responsibility, and finally to, as one expresses it, international responsibility.

Since opinions are so much at variance, it might be well to present here some of the reasons offered for opinions as stated.

State responsibility.—Only four state with no qualifications their belief that preservation of wilderness areas is strictly a State responsibility. One spokesman says that, although he has worked for years for Federal assistance for the States, he is now convinced that the States "should take care of these problems themselves, because it will be

cheaper in the long run and the job will be just as well done. We have gone far enough in our policy of going to Washington to get help to do the jobs we ought to do ourselves."

"* * * that in States such as New York without federally administered public lands it is the responsibility of the State to see that such reserves are established."

A regional conservation organization observes that the State in which it is most active has considered this a State responsibility.

One reply states that in other than the public-land States there is little justification for establishing such areas, and that the States are less likely to look up tremendous resources of timber for the satisfaction of a very small percentage of the population.

Several believe the problem to be one primarily for State responsibility but that, because of the magnitude of many of the areas and because many of them cross State lines or are in Federal ownership, to that extent it is a Federal responsibility.

One interesting variant expresses the opinion that the Federal Government has control of entirely too much of the area of the Western States; it is pointed out that there is also some need for better cooperation in responsibility for game on public lands, since overpopulation has become a real problem in some areas.

Joint responsibility.—Over a dozen replies assert that it is a joint responsibility, although two thought it might rest with either one. Most of these qualify their statements to some extent. Among the qualifications mentioned are:

"It would seem to us that it should be a joint responsibility. On the other hand, if it is a Federal responsibility it might be possible to have more areas, have them sooner, and have them all with the same standards of management."

"It should be a responsibility of each State to make sure that the maximum possible area of wilderness within its border is preserved and that no last remaining sample of a type of wilderness within the State is allowed to be destroyed."

"It should be a Federal responsibility to see that the maximum possible area of wilderness in the United States is preserved, that so far as possible every type of land and water area is represented in the wilderness preserved, and that no last remaining sample of a type of the American wilderness is permitted to be destroyed."

"* * * this will depend on the regions in which the area is located and upon the existing degree of cooperation between the State and Federal Governments in those regions."

"* * * depending on the size and significance of the area."

"* * * depending on ownership and whether the need is State or National."

"* * * although in our observation Federal supervision would be preferable in those States where State regulation departments are lax or inadequate"

"Perhaps more especially Federal, since the bulk of such areas are on Federal lands * * *"

Federal responsibility.—Approximately half of the replies state that the organizations believe wilderness areas to be the responsibility of the Federal Government. Half of these, however, believe that the States have some degree of responsibility. Some of the reasons offered

by those who believe that it is a completely Federal responsibility may be of interest:

"* * * since practically all of the areas now properly to be classified as wilderness and preserved as such are in Federal ownership, and since a philosophy of wilderness control and administration can best be developed on a Federal level."

"* * * because in some instances areas will overlap State boundaries, and experience has shown the difficulties of getting States to agree on what is best for the areas. A Federal agency such as the Forest Service which is composed of highly trained men * * * are in our opinion best fitted for the supervision and management of such areas."

"The administration of wilderness areas should remain a national responsibility and, further, that their continued existence be assured by strengthening them by the adoption of a Federal law to protect the areas * * *"

"Most examples of a wilderness program by States has resulted in the wilderness area being set up for recreation activities with commercial projects. Nearly all State parks are small motor camping grounds. In many cases the rules for administration have been altered by popular political pressure that has harmed greatly wilderness preservation."

"* * * consider this to be a Federal responsibility, since it should not be affected by local politics."

"* * * should be Federal owned for best control, as State ownership brings too much political pressure on such areas for recreational hunting and fishing privileges. State sanctuaries and State forests can best serve these purposes."

"Many States permit excessive exploitation and in many cases appear not to have reached the point where they realize the importance of protecting their own wilderness resources."

Federal responsibility with some State responsibility.—The rest of those believing in Federal responsibility, but who would not relieve the States entirely of responsibility, offer a number of reasons for varying degrees of State responsibility. A few state that some responsibility rests in the States, without specifying the extent. Typical of these is the statement, "Still there are certain State responsibilities," and, "* * * also might be regarded as a duty of the States."

One large organization of conservationists believes that, since the larger number of wilderness areas are on national parks and national forests, it is a Federal responsibility; however, it adopts the view that wilderness areas should be preserved on whatever land is suitable, whether Federal, State, or county. The agencies which are to administer them doubtless should be those best able to maintain them for the benefit of the most people.

Among further comments on this subject are the following:

"* * * most areas suitable for this purpose are located within federally owned lands. However, there are a number of States where State-owned property, or property which could be acquired by the State, are capable of such responsibility."

"The Federal Government is the only body with the necessary funds and invested with an obligation to maintain a long-range outlook for the Nation's welfare in all its diversified phases. The Federal Government might well establish a central core or nucleus of primary

preserves over the country. State and other organizations could then add supplementary areas of smaller sizes or lesser importance to this system."

"Responsibility belongs to any unit of government able to maintain the protection. So far, Federal protection has usually been better than State protection."

"Primarily Federal, but there are many places which should be handled as a State preserve."

"* * * it is well within the purview of State obligations."

"Since in the West, and particularly California, practically all of the uniquely excellent skiing and winter recreation areas are in charge of the Forest Service, we believe this to be primarily a Federal responsibility, although the State should also have a voice in determining whether or not the area is so particularly good and useful for skiing that the development of adequate facilities should be permitted."

Several interesting variants from the usual pattern of the replies to this question may be noted. One such is as follows: Responsibility may be "Federal, State, or other political divisions such as county or city; or groups of interested citizens—for example, Friends of the Native Landscape, an organization which contributes valuable assistance to the preservation of native areas." Another is that city, county, State, or Federal Governments assume responsibility "depending on size, location, accessibility to centers of population, jurisdiction, and supporting public interest. Favor close cooperation between various governmental agencies."

One organization suggests that "Since these values affect all mankind, the responsibility for their preservation should be international when our civilization advances to that stage. In the meantime the primary responsibility should be Federal with State assistance."

The considered opinion expressed by the spokesman for one conservation organization active in the wilderness movement would seem to be fairly representative, considering all shades and varieties of opinion on this point. In summary it is: Wherever wilderness is in public ownership, the governmental agency (Federal, State, regional [TVA], county, municipal, or other) administering the area should include in its responsibilities the preservation of wilderness and wilderness values. Private agencies should likewise recognize these values—universities, clubs, and individuals who have extensive tracts of wild land. In the case of an area to be newly acquired and to be placed under public administration for the first time, it is deemed wise, if the area would be of size and character to attract national notice, for the Federal Government to acquire and administer. The larger and more inclusive government is more likely to serve the purpose of wilderness preservation. The larger the unit of government, the more effective the support for preservation of the area, since pressure for release to exploitation is usually local in character. The society does not advocate a separate agency to administer all wilderness areas, nor Federal acquisition of the State areas. It does urge, however, that both Federal and State Governments properly recognize a public responsibility for preservation of the areas in their hands.

In conclusion it is clear that there is no general agreement as to whether preservation of wilderness areas is a Federal or State responsibility as such. However, it would seem fair to state that at least a majority would agree that the major responsibility is on the Federal

Government but that some responsibility should be given to or taken by the States or even local governmental agencies. The extent of local responsibility is not clear but might be left to negotiation or come as a result of a statement of a national wilderness policy.

Question 7. Does your organization engage in any activities favoring or opposing creation or extension of these areas? Please describe.

Answer: It is reasonable to assume that the act of answering the questionnaire indicates some active interest in the wilderness problem. Thus, it is to be expected that the replies will disclose considerable activity in the movement concerning these areas, either for or against. This is found to be the case. Of all those answering, only 13 indicate that they do not engage in any positive activities. Eleven more note that they have no continuing programs, but many of these state that on specific occasions involving an individual area or a particular region they have become very active.

Thirty organizations state that they have a constant, continuing, active program of support of the wilderness movement, expressed in many ways. One organization is opposed to any new areas, believing that there are already a sufficient number of wilderness areas, and another is opposed to all wilderness areas which might tend to lessen the availability of winter-sports opportunities.

All conservation measures, of which the wilderness program is considered a part, are supported by 16 organizations. Almost all of the organizations cooperate in varying degree with other societies in specific instances or in furthering the main cause of extension and protection of wilderness areas.

Several groups confine their activities to instances within their special sphere of interest or to occasions where the State or particular region involved coincides with their main interests.

The form which these activities take is extremely varied. In most instances the publications of the organization (magazines, special bulletins, or separate reprints) are circulated among their memberships and in many instances sent to other organizations, legislators (State and National), administrative officials, and the daily press. Many of these publications contain special articles concerning the wilderness program, many state the official position of the organizations themselves, and many advocate creation of wilderness areas in specific locations.

Some three-fourths of the organizations state that they have at some time in the past been actively engaged in support of specific areas and express their intention of doing so in the future; four note that they have opposed creation of individual areas or extensions or have supported movements to diminish specific areas.

Other activities engaged in by these organizations are forwarding of organizational resolutions to legislators or administrators; encouraging wider use of the areas already in existence, some to the extent of organizing or sponsoring trips into the wilderness; giving publicity to the values of the wilderness, educating the public to its advantages and uses; and, as stated by 14, actively sponsoring individual areas for designation as wilderness areas, 4 of whom are actively engaged in surveying the country or particular regions for potential wilderness areas and contacting agencies or legislative bodies by whose authority such areas may be created and preserved. One such organization has even purchased land from private owners for resale to or presenta-

tion to the Federal Government, and in some instances its local branches have done the same for local governmental agencies.

Summing up, it is found that only two of the organizations circumscribed claim that they have never engaged nor will ever engage in positive activity affecting the wilderness program. All of the others have, either sporadically or consistently. The usual activity takes the form of articles in the organizations' publications, presentation of resolutions to responsible parties, cooperation with other organizations in specific instances, and appearances at hearings before legislative and administrative bodies on questions affecting the wilderness program. Perhaps a half-dozen organizations form the backbone of the entire movement and are the most active continuously.

Question 8. Are there any areas or regions which you may consider suitable to be preserved as wilderness areas which are not now receiving special protection as such? Please describe.

Answer: The areas suggested as potential wilderness areas are included in the appendix below, grouped for convenience with those suggested from other sources.

Question 9. Are there any extensions or contractions of present

reservations which you would suggest? Please give details.

Answer: Sentiment on this question is extremely divided, varying all the way from the assertion that many contractions are called for to complete opposition to any contraction of wilderness areas now existing—from the belief that no extensions are called for to some specific suggestions for additional land areas for existent wilderness areas.

Belief is expressed in two replies that many of the present areas are too large, particularly in California and Wyoming, while another makes a general statement that wilderness areas should be strictly limited in size to what, in the balanced judgment of the Federal and State governments affected, is warranted and reasonable in the light of any other possible use more in the public interest.

Replies opposing any contractions of present area boundaries number eight; six additional know of no changes necessary or advocated to the present boundaries. However, seven state that although they possess no specific knowledge it is their belief that some changes are called for, mostly by way of contractions. One suggests that no changes be made in the boundaries of any wilderness area until a full check has been made on the effect such changes may have on the watershed-protection values of the area.

The largest single group, 10 in number, choose to reserve judgment on this point until more information is available or until they can consult with their membership. One suggestion is made that such questions might better be left to local interests more familiar with the particular circumstances involved. Ten replies hold that a survey on a national basis should be made of the present areas or any areas being considered for dedication and protection as wilderness areas with the purpose of determining the validity of present or contemplated boundary lines.

One trade association finds after an examination of the areas already established and classified as wilderness areas within the national forests that with possible minor exceptions "an excellent job has been done in delineating these areas * * * no further extensions of wilderness areas on a major scale appears desirable."

One reply suggests fuller advantage should be taken of the views and special knowledge of scientists, naturalists, ecologists, and the like in

the formulation of land-use policies and management programs involving wilderness areas.

While not in answer to this particular question, nevertheless the related subject of encroachment of commercial and mechanical developments on the wilderness is a matter of concern to eight organizations who believe that such activities should be resisted by all administrators of wilderness areas. Another organization spokesman specifies grazing by saddle horses, use of mechanical vehicles, and building of permanent shelters as practices which tend to destroy wilderness values and consequently should be eliminated where they have become a problem.

More than half of those replying to this question make some recommendation concerning the land areas now in dedicated wilderness areas. Seventeen of these confine their interest to recommendations that private in-holdings of land be acquired by the administering agencies as soon as possible; three of these specify holdings within the New York State forest preserves (Catskill and Adirondack), and seven are interested particularly in those areas located within the Superior National Forest in Minnesota.

Specific recommendations are listed below:

Great Smoky Mountain National Park, N. C. and Tenn.—While no boundary change is suggested, one correspondent notes the need for more roads and more developed facilities. This is one of the most intensely used national parks in the country, being one of the most accessible to large centers of population. Facilities are needed to accommodate the constantly increasing volume of visitors. It may even be necessary to somewhat alter the wilderness characteristics of portions of the park in order to accomplish this.

Mount Rainier National Park, Wash.—The boundaries of this park should be extended. Present area is much too small and does not even include the entire mountain. No exact delineation of areas to be added are given.

Everglades National Park, Fla.—Four replies have been received suggesting additions to this very recently dedicated park. It is suggested that the boundaries be extended to the north and west to include some of the magnificent cypress and cabbage-palm lands, the finest of which are to be found along the Tamiami Trail west of the loop road to Collier-Seminole State Park. The extension should include the Fakahatchee slough north of the village of Everglades and the Big Cypress Swamp.

Cloud Peak primitive area, Big Horn National Forest, Wyo.—Not yet being given the special protection to which it is entitled as a primitive area, this protection should be extended at once. At the present time its primitive character is being threatened by a proposed reclamation dam to be built just below Lake Solitude, a principal feature of the area. This dam would destroy the lake.

Okefenokee National Wildlife Refuge, Ga.—The boundaries of this wildlife refuge, which is a natural wilderness area, should be extended to include all of the swampy area, some parts of which are not included at the present time.

Kings Canyon National Park, Calif.—Two small areas which were not included in the original delineation of boundaries because of projected dams should be added. These areas are one below the Tehipite Dome on the Middle Fork of the Kings River and at Cedar Grove, on the South Fork. "We feel that it would be advantageous,

in view of the probable superiority of other dam sites farther downstream, to even up the park boundaries and thereby assure better protection for the wilderness adjacent to the portions still free of damaging developments, which are now outside of the boundaries of the park but within the lines that would constitute a logical western boundary."

Olympic National Park, Wash.—Several organizations give special consideration to the boundaries of this national park.

One considers it highly desirable to include the Bogachiel "corridor" within the boundaries. This, it is stated, will provide a more sound ecological protection to the western extension of the park.

Three groups agree in that administration and protection of wilderness values will be greatly facilitated by including the coastal strip to the west of present boundaries.

However, one group estimates that all but 100,000 acres of the entire park might better be eliminated and thrown open to commercial development such as lumbering. That would leave within the park the higher mountain areas and a liberal area of the lowland forests as a sample of the typical rain forest of the general region. This group maintains that the rest of the park should be logged, claiming that it is typically good commercial forest, in no way different from much of the Olympic Peninsula, and is necessary to support a considerable number of people dependent on logging operations which are slowing down for lack of forest resources.

Grand Canyon National Park, Ariz.—Believes that much of the area might be eliminated since it includes land many miles on either side of the canyon not necessary for the protection of the wilderness state of the canyon itself. No specific boundary line is suggested. Further states that the Federal Government has acquired or set aside, removing from any possible economically productive use, entirely too much land in the Western States.

San Geronio wild area, California.—This area has been the subject of considerable controversy for several years. Winter-sports advocates have sought to have a portion of the area opened up for development of ski towns, warming huts, etc., on the slopes of San Geronio Peak. After extensive hearings by the Forest Service in 1947, a slight adjustment, eliminating 1,400 acres from the area, permitted construction of a good road to what is known as Poop-Out Hill. However, one sportsmen's association seeks further elimination of land from the wild area to permit of further development. They would like that area's boundaries to be realigned to exclude the area from that eliminated in 1947 eastward to the boundary line of the San Bernardino National Forest.

Cedar Breaks National Monument, Utah.—One suggestion received in reply to this question is that this monument be greatly extended or that the area around it be protected by creation of a new wilderness area. It is stated that the whole plateau extending to and around Bryce Canyon National Park is badly in need of protection from grazing and fire. This is an important area from the scenic and watershed-protection standpoint.

Yosemite National Park, Calif.—The boundaries of this park might be extended to include adjoining areas containing ancient stands of the big sugar pines.

Adirondack Forest Preserve, N. Y.; Catskill Forest Preserve, N. Y.—It is suggested in one reply to this question that purchase or acquisition

of private inholdings in both these areas be stepped up in order to include certain areas, contributing the most to wilderness values. Specific areas mentioned are High Peak wilderness area; Ausable Lake, Elk Lake, Boreas Pond, and Sanford Lake Basins. Also such smaller areas as Moose River wilderness area, the projected site of Panther Mountain Dam, some of the Gould land between Moose River Plains and Canada Lakes, and some of the Adirondack Club lands.

Miscellaneous.—One scientific society suggests better legal protection be given to wilderness areas in national forests, private inholdings be acquired, buffer zones be established around wilderness areas, recreational areas be carefully studied and restricted so as to interfere as little as possible with natural conditions in wilderness areas, and that no artificial improvements be introduced or changes made in natural areas except possibly those which might tend to diminish the impact of the white man's disturbing influences.

Suggestions contained in a number of replies are not so much for changes in boundaries as for resistance to numerous attempts to modify the character of the areas or to contract their boundaries.

Among the particular areas mentioned are—

Kings Canyon National Park, Calif.

Rogue River Valley, Oreg.

Olympic National Park, Wash.

Glacier National Park, Mont.

Robert Marshall wilderness area, Montana.

Big Horn National Forest, Lake Solitude area, Wyoming.

A final suggestion by one correspondent is that many of the wilderness areas are probably larger than justified by such standards as that organization deems proper, that they possess scenic qualities and beauty so outstandingly superior to average examples of their types as to make them of national importance and make their preservation intact and in their entirety mandatory for the enjoyment, education, and inspiration of all the people for all time. Those particularly mentioned as being larger than necessary are—

Olympic National Park (its timber is needed).

Dinosaur National Monument.

Katmai National Monument.

Glacier Bay National Monument.

Organ Pipe National Monument.

It is apparent from the replies received to this question that the feeling of the correspondents representing the various organizations, societies, etc., as to necessary contractions or extensions of present wilderness or wild areas follow their sentiment on the general question of their creation and protection. That is, those who favor the program strongly call for extensions, and those who are lukewarm to the entire program have no suggestions to make on this point, and those who oppose the idea in general favor either outright abolition of some, as in the case of one, or considerable contractions of the boundaries. More than half feel that they do not have sufficient information to make specific suggestions or that they cannot make suggestions without consulting with their memberships. The few concrete suggested boundary changes are not too specific. Those organizations which favor the wilderness program seem more concerned with the related questions of acquisition of private inholdings and of resistance to commercial or mechanical developments within the areas now

existent. More than one-third of the replies expressed concern on this score.

Question 10. Do you have any suggestions as to what a national wilderness policy would or should be?

Answer: All but 13 answered this question, besides the 1 trade association which states that it has taken no position at all on the subject of wilderness areas. Three others state that they take no position on a national policy; one has no suggestions to make; and one seeks to defer judgment until it consults its membership or there is something concrete to comment upon.

Fifty-three organizations in all are on record as having some positive view of a national policy. Of this number 22 definitely favor a national wilderness policy, while 10 more may be considered favorable, for, while not specifically stating that they are, they have some suggestions as to the form or contents of such a policy, and one simply states that "it is not wise to leave the protection of wilderness areas to purely administrative action." Replies received from five correspondents indicate that they consider this question is a part of the over-all problem of Federal land use or management and should be so treated. Two spokesmen indicate their organizations' opposition to a national policy, and two do not believe there is need for any more rules or regulations than are in effect at present. Two more believe that the States should manage the whole program, one believing that the States can accomplish the same thing the Federal Government can, and more cheaply. Two organizations express their opinion that the States should cease to depend on the Federal Government for everything, while two others believe the better course would be to turn the question over to an advisory committee or board to make a study of the whole matter and let any national policy depend upon the results of their study and recommendations.

As to the need for legislation to implement a national policy, opinion is much divided. Nine replies indicated they feel legislation is necessary, while two see no need for legislation. Two feel that there is need for some sort of statement by the Federal Government but have no suggestions as to what form it might take. One reply cautions against establishing another Federal agency to take responsibility for wilderness-area administration, believing that present agencies can take care of the situation.

Of the remaining organizations from which replies were received but whose replies were expressions of personal opinion either of the officers answering or of a committee or group of the membership, five expressed approval of the creation of a national wilderness policy, and another stated that his organization probably would favor it. One spokesman says his organization has not as yet formulated its policy, and two more ask that they may be permitted to defer an expression of opinion until their membership can be consulted or polled. Two spokesmen indicate their organizations have not expressed an opinion on the subject, while two others indicate they are in no position to state an opinion on the subject or that their organization has no definite policy. Of those favoring a national policy, two believe it might best be accomplished by specific legislation or by an expression of the sentiment of Congress.

The present policies of Federal agencies now responsible for the protection of wilderness areas are considered adequate by one group

of correspondents. Of these, four prefer the policies of the National Park Service; five, those of the United States Forest Service. As a basis for formulation of a national policy on wilderness areas, five organizations suggest that the articles of the Wilderness Society be taken as a guide; and two, those formulated by the National Parks Association in their primeval park standards.

Suggestions for inclusion in such a national policy when and if established vary considerably. As many as 17 correspondents suggest as either incidental to the formulation of such a policy or as a desirable component, some sort of a survey. This might be undertaken before or after the formulation in order to locate potential areas, as a means of discovering the fitness of present areas to be continued as wilderness areas, or as a means of correcting boundaries by expansion or contraction.

As near as possible to a majority opinion drawn from the extremely varied expressions of opinion on this question may be put somewhat like this. A survey of the public lands of the Nation, and some private lands as well, should be made with a view to determining two facts: (1) Whether the present dedicated wilderness areas meet all of the qualifications and whether they are too large or too small and (2) for the purpose of locating additional areas capable of meeting those qualifications. This may be done at the direction of Congress, possibly by a joint resolution or concurrent resolution authorizing the survey. Some suggestions are made that State and local government representatives, as well as private citizens or organizations, be consulted as to the availability and suitability of land for this purpose.

Opinion is general that a simple, clear definition should be decided upon that is not too restrictive. Based on this definition, it is also generally believed that all ecological types should be represented in a national system, as well as typical samples of all vegetative, topographic, and soil types.

A national-wilderness policy would probably require national legislation. The policy should have the same status as the national-parks policy. It should contain some provisions for State and local government participation, either in the selection of areas or in their administration. Federal assistance may be both financial as well as technical.

Permissible uses should be spelled out, as well as those which should be prohibited. Among those uses suggested as permissible are camping, hiking, canoeing, horseback and pack-horse travel. Prohibited uses suggested are any means of mechanical travel, especially autos and airplanes. Construction of roads should be barred except for the barest minimum for access to but not through the areas, and only the most simple trails are believed to be desirable in the eyes of most of the correspondents. All but a very few suggest that all commercial development such as cabins, lodges, stores, hotels, ski towns, and the like be barred. Opinion is divided on permitting hunting and fishing, although a majority would permit them. This might well depend on local conditions.

Some sentiment is apparent for changes in the application of the mineral laws so as to prevent prospecting and mining in wilderness areas.

Nearly all writers agree that permanence of the wilderness nature of these areas must be provided for in any statement of national

policy, most of them believing it should be to the same degree as that assuring the permanence of national parks.

A small group of spokesmen for organizations, societies, and the like look upon the establishment of a national wilderness policy as one of the steps necessary to an over-all national land-use policy, some considering it a minor and others as a major step.

APPENDICES

APPENDIX A

WILDERNESS AREAS OF THE UNITED STATES^{1,2}

ALABAMA (AND MISSISSIPPI)

Petit Bois Island Bird Reservation I

Established May 16, 1913. An island in the Gulf of Mexico 5 miles south of the mainland, from which it is separated by Mississippi Sound; 134 acres in Alabama and 596 acres in Mississippi, since the projected boundary line between the two States divides the island. Situated in Mobile County, Ala., and Jackson County, Miss. Primarily for the preservation of brown pelican, herons, gulls, and shore birds. Under the jurisdiction of the United States Fish and Wildlife Service

ALASKA

Aleutian Islands National Wildlife Refuge I

Established March 3, 1913. The refuge is a chain of islands with vegetation characteristic of the treeless Arctic plains, extending westward 1,200 miles from the Alaska Peninsula. It is maintained for the protection of native birds and game animals, primarily the fulmar, whiskered auklet, eiders, as well as caribou, brown bears, sea otter, and blue fox. Total area is 2,720,235 acres. The United States Fish and Wildlife Service considers this an area of largely natural, primeval wilderness environment, although some of the islands are settled, principally by native fishermen.

Bogoslof National Wildlife Refuge I

Established March 2, 1909. Consists of the small volcanic Bogoslof Islands in the Bering Sea, about 40 miles north of Umnak and Unalaska of the Aleutian Islands Refuge. It is noted for its large colonies of sea lions and as the home of millions of murres, as well as puffins and various types of gulls. The total area is only 390 acres. It is maintained by the United States Fish and Wildlife Service in its natural primitive state.

¹ The National Park Service does not designate any wilderness areas as such. The national parks included below do, however, qualify, more or less, as wilderness areas, according to U. S. Forest Service and Wilderness Society standards. Parks listed are not necessarily wholly wilderness in character, but portions, and in some instances several portions, of the larger parks may be so considered.

² National wildlife refuges and other areas under the jurisdiction of the U. S. Fish and Wildlife Service are divided into two categories. The roman numeral I following the name of the area signifies, according to the Service, an area being administered so as to remain in its original natural state, while the roman numeral II indicates larger areas, parts of which are being preserved in their natural state, and in some cases several such areas are to be found in one refuge. Because of the usual presence of roads and other man-made construction, no claim is made that areas of this latter type are wilderness or primitive areas in their entirety.

Chamisso Bird Refuge I

Established December 7, 1912. A small island near the head of Kotzebue Bay and several nearby rocky islets which total 641 acres. This refuge is in its primitive state. Set aside primarily to protect its kittiwakes, murres, and puffins. It is one of the most important breeding rookeries of Arctic birds. Under the jurisdiction of the United States Fish and Wildlife Service, it is in the second judicial district of the Territory of Alaska.

Glacier Bay National Monument

Established February 26, 1925, by Presidential proclamation. Situated in southeastern Alaska about 50 miles west of Juneau; 2,297,456.27 acres (2,063.73 additional non-Federal land within boundaries).

Undeveloped; great tidewater glaciers and exhibit of early stages of postglacial forests.

Hazen Bay Migratory Waterfowl Refuge I

Established by Executive order dated December 12, 1937. In the fourth judicial district of the Territory of Alaska. Situated on two small islands in Hazen Bay, north of Nelson Island. It has a total area of 6,800 acres. Created primarily for the protection of the emperor goose and Stellar's eider. Has been left in its natural primitive state by the United States Fish and Wildlife Service, under whose jurisdiction it is.

Katmai National Monument

Established September 24, 1918, by Presidential proclamation. Boundary changes April 24, 1931, and August 4, 1942.

Situated at the base of Alaska Peninsula, west shore of Cook Inlet, northwest of Kodiak Island; 2,697,590 acres.

Undeveloped; dying volcanic region; includes the Valley of the Ten Thousand Smokes, scene of a violent eruption in 1912.

Kenai National Moose Range II

Established December 16, 1941. Situated in the third judicial district of Alaska on the Kenai Peninsula, the northwestern corner, facing to the northwest on Cook Inlet. Total area is 2,057,213 acres. Roughly triangular in shape, it is largely mountainous, wooded country, bounded on the south by the Kenai River, which rises in the Kenai Mountains to the east of the range. The United States Fish and Wildlife Service maintains much of the area as a natural wilderness area. It was established primarily for the protection of the Kenai moose.

Kodiak National Wildlife Refuge II

Established August 19, 1941. Located in the third judicial district of the Territory of Alaska on Kodiak Island, southeast of the base of the Alaskan Peninsula. This large area, totaling 1,954,611 acres, was created primarily to protect the native habitat of the Kodiak bear, caribou, black-tailed deer, green-winged teal, mallard, gulls, and harlequin duck. Although settled by the Russians as long ago as 1763 and having supported a small native population for an unknown number of years, the island is still largely a natural primeval wilderness. It is under the jurisdiction of the United States Fish and Wildlife Service.

Mount McKinley National Park

Established by act of Congress February 26, 1917. Boundary changes January 30, 1922, and March 19, 1932.

Situated in south central Alaska; 1,939,319.04 acres (173.96 non-Federal land in addition within boundaries).

Contains Mount McKinley, highest mountain in North America; large glaciers of the Alaska Range; caribou, Dall or white sheep, moose, grizzly bears, wolves, and other spectacular wildlife.

Nunivak National Wildlife Refuge I

Established April 15, 1929. This is a treeless, fog-bound island located in the Bering Sea some 25 miles off Nelson Island, which faces Baird Inlet. Total area of the refuge is 1,109,390 acres. Although some natives inhabit the island, it is otherwise seldom visited, principally because of its extreme Arctic climate. Plant life consists of lichens, sedges, and shrubs. It was primarily set aside to protect its reindeer, ptarmigan, little brown crane, and shore birds. It was originally set aside for the use of the Department of Agriculture in conducting experiments in the crossing and propagation of reindeer and native caribou. The United States Fish and Wildlife Service has transplanted a herd of Greenland musk ox to this area to replace the Alaskan musk ox, formerly plentiful but now extinct. This refuge is maintained largely in its natural primitive wilderness state.

Semidi Islands National Wildlife Refuge I

Established June 17, 1932. Situated in the third judicial district of Alaska on a group of small islands nearly 100 miles southwest of Kodiak Island. Total area is 8,422 acres. Primarily set aside to protect its murre, kittiwakes, eiders, and fulmars. It is considered a natural primeval or wilderness area by the United States Fish and Wildlife Service, under whose jurisdiction the refuge is administered.

Tuxedni National Wildlife Refuge I

Established February 27, 1909. Situated on a group of small islands at the mouth of a small bay, Tuxedni Harbor, on the west side of Cook Inlet some 50 miles northwest of Seldovia. The refuge is in the third judicial district of Alaska and is a natural primitive area of 6,459 acres. It was established primarily for the protection of its eiders, Pacific kittiwake, and gulls. It is under the jurisdiction of the United States Fish and Wildlife Service.

ARIZONA

Black River roadless area

Established October 25, 1937, by Order No. 486 of the Commissioner of Indian Affairs. Approved by the Secretary of the Interior October 29, 1937.

Located on the Fort Apache Indian Reservation and the San Carlos Indian Reservation in eastern Arizona; 325,000 acres.

Includes a portion of the drainage basin of the Black River, from the Crook National Forest on the east to a point on the Black River just below where Indian and Nash Creeks enter the river; most of the Natanes Plateau and some of the southern lower portion of the White Mountains. High points within the area are Poker Mountain and West Poker Mountain, Chiricahua Butte, and Natanes Peak. The northern boundary skirts the southern slopes of Maverick Mountain.

Black Mesa roadless area

Established October 25, 1937, by the Commissioner of Indian Affairs, approved October 29, 1937, by the Secretary of the Interior, by Order No. 486 (under the authority of 5 U. S. C. 22).

Located in northeastern Arizona, in the north central portion of the Navajo Indian Reservation, and in the northern third of the Hopi Indian Reservation. South and east of Rainbow Bridge roadless area. Total area 820,000 acres.

Consists largely of the area known as the Black Mesa, a plateau, which is slashed by the Moencopie Wash which has cut a deep canyon in the mesa, this canyon is called the Dot Klish Canyon. The plateau is noted for its intricate system of smaller streams and creeks most of which drain into the Little Colorado River.

Blue Range wilderness area

Established 1933. Located in central eastern Arizona, adjoining the New Mexico border in Apache and Crook National Forests; 218,164 acres. Largest remaining wilderness area in Arizona. Traversed by Mogollon Kim with spruce and fir above and broken country in ponderosa pine below. Big game is plentiful.

Grand Canyon roadless area

Established October 25, 1937, by the Commissioner of Indian Affairs, Order No. 486. Located on the Hualapai Indian Reservation in northwestern Arizona. Includes the south bank of the Colorado River, from Cataract Creek to Travertine Springs and distances up to 15 miles from the river, within the eastern and western boundary lines of the reservation; the lower reaches of the Peach Springs Canyon, Diamond Creek, Merivithic and numerous lesser canyons opening into the Grand Canyon. Total area is approximately 530,000 acres.

Cabeza Prieta game range II

Established January 25, 1939. Located in Yuma and Pima Counties, Ariz. This large reservation of 860,040 acres, in the southwestern portion of Arizona, is adjoining the Mexican border and situated just west of the Organ Pipe National Monument.

This reservation is traversed by the Tule, Sierra Pinta, Granite, Growler, Little Ajo and Ajo mountain ranges. The territory is traversed by several roads but is very arid, barren, rocky and much of the area is as nature left it and man found it. Water is scarce and there are no permanent waterways of any size. The United States Fish and Wildlife Service administers it primarily for the bighorn sheep, Mexican antelope, peccary, Gambel's quail and white-winged dove, which are to be found there.

Chiricahua wild area

Established 1933. Located in southeastern Arizona on the crest of the Chiricahua Mountain Range in the Coronado National Forest; 18,000 acres. Scenic attractions and rock formations similar to Chiricahua National Monument. Among game species is the Chiricahua squirrel, apparently found only in these mountains.

Galileo wild area

Established 1932. Located in the southeast portion of Arizona in the Crook National Forest; 55,000 acres. Knife-like mountains jutting out of the Arizona plain. Average slope is probably in excess of 85 percent. For experienced mountain hunters, good hunting.

Grand Canyon National Monument

Grand Canyon National Monument was established December 22, 1932, by Presidential proclamation. Boundary changes April 4, 1940. Situated in northwest Arizona, on both sides of the Colorado River. 196,051 acres (5,240 acres additional non-Federal land within boundaries).

▲ Undeveloped; contains part of the Grand Canyon of the Colorado River, includes Toroweap Point with its unusual view of the Inner Gorge and recent lava dam.

Grand Canyon National Park

Created by act of Congress, February 26, 1919, in place of a former national monument established by Presidential proclamation, January 11, 1908. Formerly a game preserve. Additions February 25, 1927, and March 7, 1928.

Situated along the Colorado River upstream from the Grand Canyon National Monument (see above); 645,295.91 acres; 512.88 acres additional non-Federal land within boundaries.

Contains 105 miles of the 217-mile-long Grand Canyon of the Colorado from the west side of Marble Canyon above Cape Solitude through the mile deep gorge of the Colorado to the Grand Canyon National Monument. Extends 4 to 18 miles back from the river. Includes the Kaibab Forest, Walhalla Plateau, Powell Plateau, Bright Angel Creek and Cape Final. Noted for its fantastically eroded and colored rock masses.

Organ Pipe Cactus National Monument

Established April 13, 1937, by Presidential proclamation. Situated about 10 miles south of Ajo, in southwestern Arizona, running south to the United States-Mexico boundary; 328,161.73 acres (2,528.27 acres non-Federal land within boundaries).

Here is found the organ pipe cactus and other desert plants found nowhere else in the United States; traces of the Camino del Diablo, historic Spanish route.

Kofa game range II

Established January 25, 1939. Located in Yuma County, in southwest Arizona. Total area is 660,040 acres. From a flat desert floor on the west this area rises in several ranges, reaching a peak at Castle Dome in the southwest corner of the reservation of nearly 4,000 feet. There are a few springs and rough mining roads, otherwise this is characteristic arid high desert country cut through by many arroyos. Most of the area may be characterized by the term "wilderness" for such development as has taken place is largely abandoned. The United States Fish and Wildlife Service maintains most of it as wilderness primarily for the benefit of its bighorn sheep, white-winged dove, and Gambel's quail.

Mazatzal wilderness area

Established 1932. Located in central Arizona on the Tonto National Forest; 205,346 acres. Of precipitous topography containing many geologic formations.

Mount Baldy wild area

Established 1932. Located in eastern Arizona, in the western portion of the Apache National Forest; 7,400 acres. On the northeastern

slope of Mount Baldy at the head of the West Fork of the Little Colorado River. Elevations to 11,496 feet.

Mount Thomas roadless area

Established October 25, 1937, by Order No. 486 of the Commissioner of Indian Affairs, approved by the Secretary of the Interior October 29, 1937. Some changes in the boundary lines were made by office letter of the Office of Indian Affairs dated October 15, 1945, approved November 27, 1945, by the Assistant Secretary of the Interior.

Approximately 109,670 acres of the Fort Apache Indian Reservation in eastern Arizona, bounded on the east by the Apache National Forest. Includes sizable portion of the White Mountains, the highest peak of which is Baldy (11,590 feet), Mount Thomas, from which the area gets its name, and other peaks 10,000 feet or more. From these mountains streams descend in all directions. Diamond Creek, East Fork of White River, and North Fork of the White River are the more important ones. There are some swampy and marshy lands at the foot of the slopes of the White Mountains generally on the edges of the area, sources of many streams.

Painted Desert roadless area

Established October 25, 1937 by the Commissioner of Indian Affairs, Order No. 486 (approved October 29, 1937 by the Secretary of the Interior).

Located on the western part of the Navajo Indian Reservation in north central Arizona just south of Tuba City. The boundaries follow south of the road southwest from Tuba City to the Little Colorado River, an area west of that river, south along the river to Grand Falls, northeasterly, skirting the west side of Howell Mesa to the junction of two roads near Oraibi, thence on the south side of the road back northwesterly to near Tuba City. It covers an area approximately 525,000 acres. The eastern side is a high plateau Moenkopi sloping down into the Painted Desert, a good portion of which is included in the area. Dinnebito Wash cuts diagonally down across the Painted Desert, northeast to southwest, to the Little Colorado. The Painted Desert consists of brilliantly colored rocky plateaus and low mesa or tablelands. Unusual plant and animal life of the desert type abound.

Pine Mountain wild area

Established 1933. Located in central Arizona in the Prescott and Tonto National Forests; 17,500 acres. Moderately rough terrain along the Verde Rim. Included in a State game refuge.

Rainbow Bridge roadless area

Established by the Indian Service October 25, 1937, by authority of the Commissioner of Indian Affairs, approved by the Secretary of the Interior, October 29, 1937 (Order No. 486) (Title 25 Code of Federal Regulations pt. 281).

Located in north central Arizona, in northwest corner of the Navajo Indian Reservation. Within the bounds of the Colorado River at Lees Ferry upstream to its junction with the San Juan, up the latter stream nearly to Mexican Hat, Utah; thence paralleling the interior of the roads already in existence, reaching as far south as near Tonolea; with some indentations due to existing roads.

Included in the area are approximately 1,590,000 acres. Navajo Mountain (10,416 feet), Rainbow Bridge National Monument, reachable only by pack trail, the drainage basin of Navajo Creek, the cliff dwellings of the Navajo National Monument, and other interesting spots are included. The area is largely tableland, some of it heavily forested.

This area is under the jurisdiction of the Office of Indian Affairs. Approximately one-fourth of the area is in Utah, the larger part in Arizona.

Sierra Ancha wild area

Established 1933. Located in central Arizona in the Tonto National Forests; 34,000 acres. Precipitous mountains, including prehistoric cliff dwellings. Large game abundant.

Superstition wilderness area

Established 1939. Located in south central Arizona on the Crook and Tonto National Forests; 131,820 acres. A land of desert and mountain brush types with occasional prominent peaks. Has been called a land of enchantment.

Sycamore Canyon wild area

Established 1935. Located in north central Arizona in the Cocopino, Kuibab, and Prescott National Forests; 47,230 acres. Includes a good representation of the canyon types of flora and fauna of northern Arizona. United States Forest Service.

ARKANSAS

White River National Wildlife Refuge II

Established September 4, 1935. Located in southeastern Arkansas, in Desha, Monroe, and Phillips Counties, including both sides of the White River from its junction with the Arkansas, upstream some 30 miles. Total area of 110,354 acres is mostly marshy forest land, with numerous small streams. The United States Fish and Wildlife Service maintains much of this area in its primitive state primarily for the protection of the natural environment of the mallard, pintail, black duck, Canada goose, teal, woodcock, herons, rails, black bear, raccoon, and mink.

CALIFORNIA

Agua Tibia wild area

Established 1931. Located in southern California in the Cleveland National Forest; 35,116 acres. Includes some of the most scenic country in southern California.

Caribou Peak wild area

Established 1931. Located in northeastern California in Lassen National Forest; 16,443 acres. A gentle, rolling, forested plateau adjoining Silver Lake.

Cucamonga wild area

Established 1931. Located in southern California in the San Bernardino National Forest; 5,000 acres. Gentle to rugged topography reaching a maximum altitude of 9,000 feet.

Death Valley National Monument

Established February 11, 1933, by Presidential proclamation. Boundary changes August 22, 1935, March 26, 1937, October 17, 1940.

Located near the boundary of California and Nevada (in California 1,735,365.20 acres, Nevada 115,200 acres), in the depression between the High Sierras and the Amargosa-Inyo Ranges, principally in Inyo County, Calif., and Nye County, Nev. 57,154.80 acres within the boundaries are in private ownership.

Vast desert solitude, with weird natural phenomena, extensive salt beds, and borax formations; includes the lowest point in the United States, 280 feet below sea level.

Desolation Valley wild area

Established 1931. Located in eastern California in the Eldorado National Forest; 41,380 acres. Extremely rough, rugged, and alpine in every respect. Elevations are from 6,500 to 10,020 feet.

Devil Canyon-Bear Canyon wild area

Established 1932. Located in southern California, 40 miles from Los Angeles, in the Angeles National Forest; 36,200 acres. An area of deep canyons.

Emigrant Basin wild area

Established 1931. Located in east central California in the Stanislaus National Forest; 98,043 acres. Includes many lakes, fine fishing, high granite topography.

High Sierra wilderness area

Established 1931. Located in central eastern California, in Inyo, Sierra, and Sequoia National Forests; 393,945 acres. Extends to an elevation of 12,000 feet on Goat Mountain with timber ranging from Jeffrey pine to alpine types.

Hoover wild area

Established 1931. Located in east central California, in Toiyabe and Inyo National Forests; 20,540 acres. Adjacent to Yosemite National Park. Granite peaks approach 13,000 feet elevation. Heavy snows and glaciers occur.

Joshua Tree National Monument

Established August 10, 1936. Located in southeastern California, San Bernardino and Riverside Counties; 655,961 acres. Contains a representative stand of the rare and rapidly diminishing Joshua Tree and other varieties of desert flora. Traversed by several dirt roads, but much of the back country is typical desert wilderness.

King's Canyon National Park

Established by act of March 4, 1940, combining the former General Grant National Park with other National Park Service lands. Changes in boundaries June 21, 1940, and June 5, 1942.

Located in the heart of the Sierra Nevada Mountains in California, east of Fresno; 454,600 acres (1,695.18 nonfederally owned).

Mountain wilderness dominated by the two enormous canyons of the Kings River and the summit peaks of the High Sierras. Contains massive peaks, glacier cirques, and lake-covered plateaus, forming some of the wildest and most beautiful scenery in the Nation; much

of it is 10,000 to 14,000 feet above sea level. Spectacular granite gorges, waterfalls, and cascades. Only one road enters the park, and this reaches into it for only a few miles. A recent addition, Redwood Mountain, included the last great grove of giant sequoias in private ownership.

Marble Mountain wilderness area

Established 1931. Located in northwestern California in the Klamath National Forest; 237,527 acres. Supports a wide variety of timber types and species, including the Brewer's spruce, a rare tree.

Middle Eel-Yolla-Bolly wilderness area

Established 1931. Located in northwestern California in Mendocino and Trinity National Forests; 143,426 acres. Large variety of natural rugged scenery. Wildlife abundant, with some good fishing in early part of the season.

Mount Dana-Minaretts wild area

Established 1931. Located in southern California in the Inyo and Sierra National Forests; 82,376 acres. Highest mountain range in southern California. Adjacent and southeast of Yosemite National Park.

Salmon Trinity Alps wilderness area

Established 1932. Located in northwestern California, includes parts of Klamath, Shasta, and Trinity National Forests; 285,432 acres. A region of scenic beauty, including granite peaks, many alpine lakes, and numerous streams teeming with trout.

San Geronio wild area

Established 1931. Located north and east of Los Angeles in the San Bernardino National Forest; 19,083 acres. Contains San Geronio Peak, 11,485 feet, desert to alpine scenery and vegetation.

San Jacinto wild area

Established 1931. Located in southern California in the San Bernardino National Forest east of Los Angeles; 33,291 acres. Level flats to precipitous cliffs.

San Rafael wild area

Established 1932. Located in southern California northwest of Los Angeles, in the Los Padres National Forest; 74,990 acres. Embraces the main range of the San Rafael Mountains.

Sequoia National Park

Established by act of September 25, 1890. Boundary changes October 1, 1890, July 3, 1926, and December 21, 1943.

Located on the western slopes of the Sierra Nevada in central California, just south of and adjoining Kings Canyon National Park; 385,100.13 acres of Federal and 1,459.87 acres non-Federal land.

Contains the finest of remaining stands of the big trees (Sequoia gigantea) not to be confused with the coast redwood. To the east of the groves the park rises along the boundary to the crest of the High Sierras, and includes the highest peak in the United States, Mount Whitney, the magnificent Kern River Canyon, more than 40 peaks over 13,000 feet in height, and many streams, as well as magnificent forests and outstanding flower fields and meadows.

Yosemite National Park

Established by act of October 1, 1890. Many boundary changes, effective as of February 7, 1905, June 11, 1906, May 13, 1914, May 28, 1928, March 2, 1929, April 14, 1930, August 13, 1932, July 9, 1937, and May 26, 1938.

Located west of the crest of the Sierra Nevada Mountains in middle-eastern California. The irregular eastern boundary is the crest of the Sierra; 756,440.62 acres Federal and 4,510.48 acres non-Federal land.

Mountainous region of unusual beauty. The eastern boundary consists of massive granite peaks, spattered by snow fields and is uncrossable by road except at one high point, Tioga Pass. Westward from the snowfields flow innumerable streams, which converge in two river systems. One of these streams passes through the Hetchy Hetchy Gorge and the other the Yosemite Valley. Contains the headwaters of the Tuolumne and Merced Rivers, innumerable lakes, waterfalls, lofty granite domes, deep ice-sculptured canyons, cata-racts, and glaciers. Waterfalls are numerous and spectacular, better known ones are Yosemite, Lower Yosemite, Vernal Illilouette, Nevada, Bridalveil, and Ribbon. There are three groves of Sequoia trees. While the Valley of Yosemite is well developed, there is in the higher reaches of the park, in the High Sierra particularly, a large area of undeveloped, wild country.

South Warner wild area

Established 1931. Located in extreme northeastern portion of California in the Modoc National Forest, near the Nevada State line; 70,682 acres. Contains a 15-mile ridge mostly over 9,000 feet in elevation, numerous noted peaks, many small meadows and lakes.

Thousand Lake Valley wild area

Established 1931. Located in northeastern California in the Lassen National Forest; 16,335 acres. Of varying topography, including the level Thousand Lake Valley of about 200 acres.

Ventana wild area

Established 1931. Located in southwest central California near the coast in the northern section of the Los Padres National Forest; 55,884 acres. An area of low elevation but rugged terrain.

COLORADO

Dinosaur National Monument

Established by Presidential proclamation October 4, 1915. Adjustments of boundaries July 14, 1938, and July 8, 1943.

Located in the northwest corner of Moffat County, Colo., extends westward into Utah (Uintah County). From a point 5 miles west of Lily, Colo., it includes both sides of the Yampa River, from 6 to 10 miles wide, to the point at which it is joined with the Green River, on downstream into Utah to a point some 43 miles from the eastern boundary; also from the junction of the two rivers up the Green River approximately 20 miles; 159,314.03 acres, including 14,398.35 acres non-Federal lands (144,915.68 acres in Colorado and 45,882.81 acres in Utah).

Included in the monument are the Yampa Canyon and Canyon of Lodge (Green River) which are 2,000 to 4,000 feet deep and Split Mountain. That portion in Utah contains the Nation's richest fossil deposits, including the remains of the dinosaur.

Mesa Verde roadless area

Established by Order No. 486 of the Commissioner of Indian Affairs on October 25, 1937, approved by the Secretary of the Interior October 29, 1937; 115,000 acres of the Consolidated Ute Indian Reservation in the southwest corner of Colorado, east of Highway No. 666 and north of the Mancos River running from the highway to a point 2 miles south of the entrance of Cliff Canyon to the Mancos River, easterly and northeasterly till it reaches the boundary line of the reservation at Kraft Reservoir. From that point north about 2 miles, thence west for 4 miles and dips down to stay about a mile from the Government road, i. e., enclosing the Mesa Verde National Park on the south, then it adheres to the reservation boundaries till it approaches Highway No. 666 again.

Consists largely of high rocky mesa country, scattered about are cliff dwellings such as are found in Mesa Verde National Park. The center is pierced by Navajo Canyon while the eastern and western portions are criss-crossed by a myriad of mountain streams, the western portion draining into the Ute Canyon and the eastern portion into the Mancos River.

Mount Zirkel-Dome Peak wild area

Established 1931. Located in north-central Colorado in the northern portions of Routt National Forest; 43,120 acres. Includes several high rugged peaks, beautiful fishing lakes, and protection stands of lodgepole pine and Engelmann spruce timber.

Rawah wild area

Established 1932. Located in northern Colorado in the Roosevelt National Forest; 25,720 acres. In the Medicine Bow Range. Includes a small glacier and numerous glacial lakes. Part of the area is exceptionally rugged.

Rocky Mountain National Park

Established by act of January 26, 1915. Many additions have been made to the original park, the latest of which was that authorized August 24, 1949.

Located in north-central Colorado, 70 miles northwest of Denver. Total present area: 252,906 acres of Federal land and 6,628 acres non-Federal land.

Includes the principal part of the Rocky Mountain Range. These mountains are part of the Continental Divide. The highest point in the park is Longs Peak. Fourteen other peaks reach over 13,000 feet. The park contains some 90 named peaks, most of which are over 12,000 feet. Natural habitat of the Rocky Mountain bighorn mountain sheep. Once known for big-game hunting, it has now become a wildlife sanctuary, and wildlife of all kinds abounds. Most of the park is accessible only by trail. There is no region of America where glacial records of such prominence are more numerous and more easily reached and studied than in this park. Glacier beds, now grown with forests, huge moraines, cirques and still-existent small glaciers,

form, next to the vast rocky peaks themselves, the most prominent features of the park.

Flat Tops wilderness area

Established 1932. Located in northwestern Colorado in the White River National Forest; 117,800 acres. Unique wilderness with attractions, including excellent fishing and hunting. Has numerous ideal camping places.

Gore Range-Eagle Nest wild area

Established 1933. Located in north-central Colorado in the Arapaho and White River National Forests; 61,275 acres. One of the most rugged, picturesque mountain ranges in Colorado.

La Garita-Sheep Mountain wild area

Established 1932. Located in southwestern Colorado in the Gunnison, Rio Grande and San Isabel National Forests; 38,030 acres. Considerable portion is above the timber line. Within a game refuge, it affords unusual opportunity for observation of mountain sheep and elk.

Maroon-Snowmass wild area

Established 1933. Located in west-central Colorado in the White River National Forest; 64,600 acres. This awe-inspiring area includes Snowmass Lake, Maroon Bells, and Pyramid Peak. Mountain sheep summer and winter at Conundrum Hot Springs.

San Juan wilderness area

Established 1932. Located in southwestern Colorado in the San Juan National Forest; 240,000 acres. Includes virgin forests and rugged mountains with extensive and varied timber-line areas. Fish and game abundant.

Uncompahgre wild area

Established 1932. Located in southwestern Colorado in the Uncompahgre National Forest; 69,253 acres. A region of extremely rugged mountains, lakes and waterfalls. Wildlife is varied and abundant.

Upper Rio Grande wild area

Established 1932. Located in southwestern Colorado, in the Rio Grande National Forest, adjacent to and north of San Juan wilderness area; 56,600 acres. A mountainous area where wildlife is plentiful and fishing is the major recreational activity.

West Elk wild area

Established 1932. Located in west-central Colorado in the Gunnison National Forest; 52,000 acres. Embraces portions of several high mountain ranges, open park ranges, lakes and rushing streams. Part of a game refuge.

Wilson Mountains wild area

Established 1932. Located in southwestern Colorado in the San Juan National Forest; 27,347 acres. Includes five mountains and two major peaks of the Wilson Range. Large and small game are found in considerable numbers.

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San Juan wilderness area

Established 1932. Located in southwestern Colorado in the San Juan National Forest; 240,000 acres. Includes virgin forests and rugged mountains with extensive and varied timberline areas. Fish and game abundant.

Uncompahgre wild area

Established 1932. Located in southwestern Colorado in the Uncompahgre National Forest; 69,253 acres. A region of extremely rugged mountains, lakes, and waterfalls. Wildlife is varied and abundant.

Upper Rio Grande wild area

Established 1932. Located in southwestern Colorado, in the Rio Grande National Forest, adjacent to and north of the San Juan wilderness area; 56,600 acres. A mountainous area where wildlife is plentiful and fishing is the major recreational activity.

West Elk wild area

Established 1932. Located in west-central Colorado in the Gunnison National Forest; 52,000 acres. Embraces portions of several high mountain ranges, open park ranges, lakes and rushing streams. Part of a game refuge.

Wilson Mountains wild area

Established 1932. Located in southwestern Colorado in the San Juan National Forest; 27,347 acres. Includes five mountains and two major peaks of the Wilson Range. Large and small game are found in considerable numbers.

CONNECTICUT

Canaan Mountain Block or Housatonic State forest

One thousand nine hundred and ninety-five acres of forest land, never under any other usage. Located in the town of North Canaan.

Contains second highest point in the State (1,927 feet). Several old, perhaps virgin stands of mixed hardwood, hemlock, and white pine with scattered white pine. Established by purchase, has no permanent legislative protection. Administered by State park and forest commission. No roads or shelters, but hiking over well-developed trails and hunting are permitted. Occupies western plateau of the Great Mountain with west and north cliffs rising 600 or more feet above the Housatonic Valley. Bradford Mountain is the high point. Several plant associations of interest to botanists are found in the area. Eastern timber rattlesnake is abundant.

FLORIDA

Anclote National Wildlife Refuge I

Established April 5, 1939. Located in Pasco and Pinellas Counties, Fla., consisting of several small keys off Tarpon Springs, in their natural primitive state. Total area, 197 acres. Primarily for the protection of the native American egret, snowy egret, man-of-war, cormorant, gulls, and terns. Under the jurisdiction of the United States Fish and Wildlife Service.

Cedar Keys National Wildlife Refuge I

Established July 7, 1929. Group of small keys offshore from Levy County, Fla., separating Suwannee Sound and Waccasassa Bay on the west coast, having a total area of 379 acres, and is administered by the United States Fish and Wildlife Service so as to preserve its natural primitive state. Primarily for the protection of the native brown pelican, white ibis, and herons.

Collier-Seminole State Park

This State park lies in Collier County near Everglades. The area of 6,423 acres includes Barron Collier Memorial Park, Royal Palm Hammock, about 4,500 acres of mangrove and marsh. Through the mangrove and marsh areas, there is a maze of waterways, all flowing to the "Ten Thousand Islands" area in the Gulf of Mexico.

This park, in addition to the botanic and scenic values of unspoiled tropical Florida, offers boating and game fishing at its best. It is one of the finest tarpon-fishing areas along the Florida coast. Development work has not begun, but the memorial park is open to the public. The tallest royal palm tree in Florida is located in this State park and is 90 feet high.

Everglades National Park

The act of March 1, 1929, authorized investigation and report on advisability and practicability of establishing a park in the Everglades. The park was authorized by act of May 30, 1934. On March 14, 1947, the Secretary of the Interior accepted Florida State deed executed on December 28, 1944, transferring more than 850,000 acres of State land to the Federal Government for temporary administration as a wildlife refuge. The Secretary of the Interior accepted a check for \$2,000,000 appropriated by the State of Florida for park-land acquisition and signed an order, as authorized by Congress, establishing the park. Order was published June 20, 1947 (Federal Register June 20, 1947).

Located at the southern tip of the Florida Peninsula; 271,007.81 acres of Federal land, 183,392.20 acres of non-Federal land. Includes

Monroe County and parts of Collier and Dade Counties. Can be reached from Fort Myers and Miami, each 70 miles away.

The park includes the only subtropical area in the United States. It preserves a vast expanse of jungle and prairie marshland, one of the most unusual and abundant wildlife habitats on the North American continent. Here are found the roseate spoonbill, extinct elsewhere; the reddish egret, the wood ibis, the white ibis, and other rare bird life; are found only in the lower Everglades. Few of the points of interest are accessible except by boat and hiking. There is a large amount of virgin timber, including cypress and mangrove, the latter the world's tallest. Included is a 14-mile stretch of the most remote and desolate beach area in the United States. Animal life is abundant and varied, including the only specimens in North America of the North American crocodile, many alligators, black bears, panthers, wildcats, otters, raccoons, and white-tailed deer. In the abundant and intricate waterways weaving in and about the area are found sea cows (giant manatees), giant sea turtles and many varieties of fish. The principal remaining virgin stand of the royal palm, formerly known as the Royal Palm State Park is included.

Great White Heron National Wildlife Refuge I

Established October 27, 1938. Located on a group of small keys off the southern tip of Florida above the group connected by the trans-oceanic highway to Key West, having a total area of 1,000 acres. Preserved by the United States Fish and Wildlife Service in their natural primitive state. Primarily for the protection of the native great white heron as well as the brown pelican, white-crowned pigeon, key deer, and shorebirds.

Indian Key National Wildlife Refuge I

Established February 10, 1906. Located on a small group of keys situated at the mouth of Tampa Bay, with a total area of 191 acres. Set aside in their natural state primarily for the preservation of its roseate spoonbill, white ibis, brown pelican, man-of-war bird, and herons. Under the jurisdiction of the United States Fish and Wildlife Service.

Jupiter State park

This State park consists of 11,124 acres and it is located at Hobe Sound, south of Stuart. Lies west of United States Highway No. 1, and fronts on Jupiter River. Two tributaries of this river run through the park. It offers probably as much from a scenic standpoint as any area along the entire east coast of Florida. The sand dunes are the largest and least spoiled in the State; and Hobe Sound is as beautiful as any place along the Indian River, or any of the inland waterways.

The sound offers quieter sport with less gamey species. To those who prefer fresh water, there are upper waters of the Loxahatchee, long noted for its splendid black bass fishing.

Key West National Wildlife Refuge I

Set aside August 8, 1908, in its natural primitive state on a group of keys beyond that on which Key West is located, off the southern tip of Florida. The group has a total area of 2,033 acres. Primarily for the preservation of the great white heron, brown pelican, white-crowned pigeon, and gulls. Under the jurisdiction of the United States Fish and Wildlife Service.

Maitlacha Pass National Wildlife Refuge I

Established September 26, 1908, on a group of islets in the waterway separating Pine Island from the mainland, west of Fort Myers and south of Punta Gorda, Fla., in Lee County. Set aside in their natural primitive state by the United States Fish and Wildlife Service for the protection of brown pelican, cormorant, and herons. Total area 10 acres.

Palma Sola National Wildlife Refuge I

This small 2-acre refuge was established by the United States Fish and Wildlife Service, September 26, 1908, as a natural, protected haven for brown pelican and various shore birds. Situated on the north of Palma Sola Bay west of Bradentown.

Passage Key National Wildlife Refuge I

Established October 10, 1905. This is a 36-acre island at the mouth of Tampa Bay, set aside in its natural wild state by the United States Fish and Wildlife Service for the protection of brown pelican, herons, shore birds, gulls, and terns.

Pelican Island National Wildlife Refuge I

Established March 14, 1903, on two small islands in the waters between the mainland and the barrier reef southwest of Sebastian, Indian River County, Fla. This 15-acre reservation was set aside in its natural state for the protection of brown pelican, white ibis, and herons.

Pine Island National Wildlife Refuge

Established September 15, 1908, on several tiny islands, totaling only 31 acres in area, in Pine Island Sound, west of Fort Myers. These natural surroundings were preserved by the United States Fish and Wildlife Service for the protection of brown pelican, white ibis, and herons.

St. Andrews State park

Situated on St. Andrews Bay, near Panama City, an ocean front consisting of 758 acres. It occupies the lower end of the peninsula which extends southeasterly from Panama City Beach to the ship channel. Included in this area there are three islands extending beyond the ship channel, and this portion will be maintained as a wilderness area until use demands some of it be developed for active recreation. The development will consist of a beach bathing area, fishing facilities, and vacation cottages. The park eventually will be 1,500 acres in extent and composed of a variety of topography from Gulf Beach to high sand dunes and fresh water lakes to bay front.

GEORGIA

Black Beard Island National Wildlife Refuge I

Established February 15, 1924. Located on Sapelo Island, one of the Georgian sea islands. The northeastern portions, facing on Sapelo Sound and the Atlantic Ocean chosen by the United States Fish and Wildlife Service as a natural primitive wild area for the protection of the habitat of the sea turtle, scarp, ruddy duck, pintail, blue-winged teal, shore birds, herons, and deer. The refuge has a total area of 4,854 acres.



Jekyll Island State park

One of the sea islands in Glynn County, near Brunswick, Ga., just south of St. Simon Island and Sound; 11,000 acres. Established by legislation as a State park. Cannot be sold or used for other purposes except by action of the legislature. Open for camping and public use. Hunting is not allowed. Under the jurisdiction of the State forestry department.

Okefenokee National Wildlife Refuge I

Established March 30, 1937. Situated in southeast Georgia in Charlton, Ware, and Clinch Counties. This natural wilderness area contains 328,551 acres, and is largely swampy, although pine ridges occur throughout, on which are found pine forests and dense low vegetation. Thicker forests in the lower portions contain black gum, cypress, and other swamp trees. There are also many open grassy "prairies" and little lakes. The headwaters of the Suwannee River arise within the refuge. The United States Fish and Wildlife Service set aside this area primarily for the protection of limpkin, white ibis, Florida crane, wood duck, swallow-tailed kite, herons, alligator, black bear, and otter.

Piedmont National Wildlife Refuge II

Established January 18, 1939. Located in central Georgia in Jones and Jasper Counties. Includes 29,211 acres on the east bank of the Ocmulgee River north of Macon. Hilly, wooded country, mostly pine. The United States Fish and Wildlife Service maintains most of it in its natural state primarily for the protection of its quail, mourning dove, and beaver.

HAWAII

Hawaii National Park

Established August 1, 1916, by act of Congress. Boundary changes May 1, 1922, February 12, 1927, April 11, 1928, June 20, 1938, and July 16, 1940.

Located on two of the Hawaiian islands, the larger portion on the island of Hawaii and a lesser portion on Maui; 209,872.23 acres, 36,467.63 acres, non-Federal acres. Only tropical park in the national park system. On Hawaii, the park climbs from the south coast up the jungle-grown slopes of Kilauea and Mauna Loa, still active volcanoes. The Kilauea crater is 4,090 feet high and the crater of Mauna Loa is 13,680 feet (called Mokuaweoweo). The latter is reached only by a 30-mile hike or on horseback. The flora of the park is extensive and exceptional, consisting of giant tree ferns, white ginger, wild roses, fuchsia and kukui. Tropical birds are plentiful and variegated. That portion of the park on Maui is in the southeast central portion of the island. It contains the extinct volcano Haleakala, the largest of its type in the world, the floor of the crater covering 19 square miles. The area can be explored only on foot or horseback. Rare tropical plants found in the volcanic remains and in breaks of the walls are located springs and green meadows.

IDAHO

"The Idaho State Fish and Game Commission is now leasing several of our State sections adjacent to the wilderness area of Idaho to preclude others leasing the land for commercial recreational purposes.

"The land department of the State of Idaho has control and supervision of State lands in which are included some lands within the primitive area. The preponderance of land in the primitive area is owned by the United States Forest Service * * *,"

Idaho wilderness area

Established 1931. Located in north central Idaho, portions lying in three different national forests—Challis, Salmon, and Payette; 1,232,744 acres. Rough, mountainous country with many large open areas and some small lakes. Fishing in some of the lakes and in Salmon River and its tributaries is excellent.

Sawtooth wilderness area

Established 1937. Located in central Idaho, in the Boise, Challis, and Sawtooth National Forests; 200,942 acres. Abruptly rising, broken topography with camping places along lakes and streams. Interesting fishing and a wide variety of small game.

IDAHO-MONTANA

Selway-Bitterroot wilderness area

Established 1936. Located in central northeast Idaho and central west Montana, in portions of four national forests—Clearwater, Nez Perce, Lolo, and Bitterroot; 1,581,210 acres in Idaho and 291,085 acres in Montana, total area, 1,872,295 acres. Mountainous, wooded area lying mostly west of the Bitterroot Range, and north of Idaho wilderness area. Wildlife of great variety and abundance.

INDIANA

Brown County State park

Near Nashville, Ind., comprises approximately 11,000 acres of mature second growth forests which are and will remain totally undeveloped except for access by foot and horse trails currently leading through the area. The area involved is largely in the southwestern half of the property.

Indiana Dunes State park

Near Chesterton, Ind., in Porter County, it has a semivilderness area of approximately 1,500 acres characterized by shifting sand dunes, extensive bogs, and mature second-growth timber with largest individual specimens of several specific tree species. This area in the eastern three-fourths of the park is available only for hiking.

Turkey Run State park

Near Marshall, Ind., in Park County, it comprises 1,400 acres of virgin and semivirgin timber north of Sugar Creek. Deep gorges cut into sandstone by glacial streams typify this terrain.

Shades State park

Shades State park near Waveland, Ind., in Parke and Montgomery Counties consists of 1,300 acres of virgin and semivirgin timber of northern and southern forest growth. Limited foot trails make only a relatively small portion of the area available to the average park visitor.

"The acreages indicated above do not include the entire State park property since it is our desire to only list those undeveloped, comparatively inaccessible portions of each property.



"Several State parks contain stands of virgin timber and large areas recently in cultivation which will be permitted to develop unmolested into a climax forest, accessible only by foot and horse trails. This latter type of land currently has too many marks of civilization to be classed as wild areas."

"* * * our policy prohibits interference of natural biological development, providing only the simplest possible access by trail."

KENTUCKY

"The State of Kentucky, through its forestry division, has three large areas designated the Pennyroyal Forest, Kentucky Ridge Forest, and Kenton Forest. They average approximately 15,000 acres each in size. The United States Forest Service has under its control the Cumberland National Forest encompassing approximately 450,000 acres in eastern Kentucky. These areas are not designated as wilderness areas, but are managed as State and National forest areas."

"The State game and fish division has established seven large game refuges, three of which are under public ownership. These three include: Kentucky Ridge Forest, Pennyroyal Forest and Robinson Forest in Breathitt County, Ky. Four other areas have been established on a lease basis, leases having been from private individuals holding title to the land. The State division, operating through its Federal aid unit, has in operation a refuge-establishment program to continue with the establishment of similar refuge areas. It is the intention of the State to establish not less than 20 such areas averaging 15,000 acres in size * * *."

There are only a few remnant virgin forest tracts in the State.

Kentucky Woodlands National Wildlife Refuge II

Established August 30, 1938. Located in western Kentucky extending from the eastern bank of the Tennessee River to the west banks of the Cumberland River, in Trigg and Lyon Counties. The 63,323 acres have, to some extent, been developed at one time, but the United States Fish and Wildlife Service is maintaining it in such a fashion as to restore its original character as nearly as possible, and maintain that portion which has remained wild and wooded in that condition. Primarily for the protection and restoration of the wild turkey, deer, and waterfowl,

LOUISIANA

Breton Island National Wildlife Refuge I

Established October 4, 1904. Located on a group of islands forming Breton Sound east of St. Bernard Parish, La., directly south of Biloxi, Miss. Total area of these natural primitive islands is 7,158 acres. They were set aside by the United States Fish and Wildlife Service primarily for the protection of the habitat of baldpate, pintail, redhead sculp, brown pelican, man-o-war, shore birds, gulls, and terns.

Delta National Wildlife Refuge I

Established November 19, 1935. Consists of the lower Delta of the Mississippi River. This low-lying wilderness area was set aside by the United States Fish and Wildlife Service as a migratory waterfowl

refuge, for the protection of the native habitat of blue goose, pintail, mottled duck, gadwall, baldpate, blue-winged teal, mourning dove and also for the protection of its racoon, mink, otter, alligator, and muskrat. Total area of this refuge amounts to 48,788 acres. Most of the area is accessible only by boat.

East Timbalier Island Reservation I

Established December 7, 1907. Situated on an island in the southeast portion of Timbalier Bay, off Terrebonne Parish, La. This wild island of 337 acres was set aside by the United States Fish and Wildlife Service as a reservation for brown pelican, gulls, and terns.

Marsh Island Wildlife Refuge and Game Preserve

Administered by the State wildlife department from Russell Sage funds.

Rainey Wildlife Refuge

Administered by the National Audubon Society.

"There are other wildlife refuges and game preserves in the State but I do not believe they would fall in the category of wilderness areas inasmuch as they are readily accessible by roads and several of them are areas in which other activities such as lumbering operations occur."

Shell Keys National Wildlife Refuge I

Established August 17, 1907. Situated on a small, wild, island of 77 acres south of Marsh Island in Cote Blanche Bay. United States Fish and Wildlife Service has reserved it primarily for the protection of brown pelicans and royal terns.

Tern Island Bird Reservation I

Established by the United States Fish and Wildlife Service at the mouth of South Pass, in the Mississippi River Delta. A natural, wild area, primarily for the protection of brown pelicans, gulls, and terns, consisting of about 1,000 acres.

MAINE

Barter State park

Established in 1931 as a result of land acquisitions and gift to the State of Maine by former Gov. Percival P. Baxter.

Administered by the Baxter State Park Authority.

Some 50 miles north-northeast of the geographical center of the State.

Generally known as the Katahdin region, the area contains Maine's highest elevation, Mount Katahdin, with other mountains, lakes, forests, and wildlife characteristics of northern Maine.

Trust provisions accepted by the legislature provide the basic use policy: "The area shall forever remain as a sanctuary for wild beasts and birds, to remain in its natural state, and no further roads or ways for motor vehicles to be constructed thereon."

The area was established as a game preserve as early as 1922 and is now called the Katahdin Wildlife Sanctuary. Within the park simple foot trails and shelters are permitted providing for limited access beyond the present auto roads which pass through a small portion of the area.

"The park is generally of mountainous terrain. The valleys are 1,000 to 1,500 feet above sea level rising to 3,000- to 4,000-foot moun-

tains. These are dominated by Mount Katahdin which rises to 5,267 feet, the highest elevation in Maine.

"The higher elevations of Katahdin form the largest and most elevated subalpine area in Maine and the most northern subalpine area in the United States east of Montana. The park lies within the Canadian life zone, with a narrow Hudsonian life zone on the higher mountain slopes and an Arctic-alpine zone on the tableland of Mount Katahdin.

"The present land area has been increased to 141,712 acres as a result of a recent gift by former Governor Baxter. Airplanes are not permitted to land on the ground or waters of the park, being so specified in the trust provisions."

Moosehorn National Wildlife Refuge (migratory bird) II

Established July 1, 1937. Located in Washington County, south of Calais and east of Meddyhemp Lake. Total area 21,972 acres, a large proportion of which is maintained in a primitive state primarily for the woodcock, spruce grouse, and ruffed grouse. It is under the jurisdiction of the United States Fish and Wildlife Service.

MARYLAND

Chincoteague National Wildlife Refuge I

See under Virginia.

MICHIGAN

Isle Royale National Park

Authorized by act of Congress March 3, 1931, the park was established April 3, 1940.

An island located in the western portion of Lake Superior. To be included in the United States the Canadian-United States boundary varies from the center-of-the-lake line elsewhere applicable. The only national park in the Great Lakes area; 45 miles long and up to 9 miles wide; 133,838.51 acres.

A highly irregular coast line, indented with rocky, fjordlike bays and protected by innumerable outer islands and skerries, causes it to resemble Scandinavia somewhat. Two parallel ranges of hills reach a height of 700 feet. No roads are to be found, since no autos are permitted, the only national park where this is so. No horses are permitted, boat and foot are the only means of getting about. A thin cover of soil supports a surprisingly heavy growth of hardwood and coniferous trees. The vegetation differs from the surrounding mainland. Swamp and desert plants grow close together, while mountain and prairie type flora are found nearby. Varieties range from orchids to arctic-type lichens. Because the island was long left relatively isolated and untouched by civilization, moose have thrived and bird life is plentiful, though many animals of the mainland are missing.

Wilderness State Park

Seven-thousand-five hundred acres in Emmet County at the tip of the lower peninsula.

Established in 1927 under the authority of the act creating the department of conservation, but is not protected by permanent legislation. Consists largely of land of swamp types. The area borders both on Lake Michigan and the Straits of Mackinac. The administering agency is the parks division of the department of conservation.

The area is administered by the Parks Division of the Department of Conservation. It has a number of trails and some shelters. It has a main entrance road leading to the caretaker's residence and to a public camping ground. Most of the area is open to public hunting. Authorities will clear out blow-downs to eliminate fire hazard.

Porcupine Mountain State Park

Established as a State park by action of the conservation commission on March 15, 1946, though land acquisition had been in progress since 1944.

Sixty thousand acres when purchase is complete, most of which will be in a wilderness or roadless category.

The lands were either purchased or secured through exchange with the Federal Government. Funds for its purchase were authorized by the State legislature.

The area is being administered by the division of parks and recreation for the State conservation department. Consideration is being given to the construction of shelters, patrol stations, and trails. The area is open to hunting and fishing but due to its inaccessibility both activities are extremely limited.

Consists of the rugged and rocky terrain adjacent to Lake Superior shore about 15 miles west of Ontonagon, noted for its scenic beauty and virgin forest. Rising to an extreme elevation of 2,023 feet above sea level a series of irregular ranges of mountains parallel the shore of Lake Superior.

Hunting is permitted within the area within season. At other times no firearms are permitted without special permit. There are deer, bears, and coyotes in the mountains and normally grouse shooting is excellent.

The trails and grades of the mountain area are particularly adaptable to skiing. Plans are being prepared for development of ski slides and other winter sports development.

Seney National Wildlife Refuge II

Established December 10, 1935. This is a 91,097-acre reservation located on the northern peninsula of Michigan in Schoolcraft County, just east of the Hiawatha National Forest and just west of Manistique Lake. Much of the refuge is maintained as wilderness area by the United States Fish and Wildlife Service. It is characterized by a low rolling drift-covered hill country, with some pine forest cover and some low-lying marshy areas. It is maintained primarily for the protection of its Canada goose, black duck, mallard, spruce grouse, ruffed grouse, sandhill crane, prairie chicken, and muskrat.

MINNESOTA

Caribou roadless area

Established 1948. Located in northeastern Minnesota in the Superior National Forest, along the Pigeon River, at the eastern end of the forest; 45,750 acres. This is excellent canoe country. Together with the two other roadless areas in the Superior National Forest helps form the largest wilderness area west of the Rockies.

Quetico-Superior area

One hundred and thirteen thousand four hundred and eighty-three acres of the Quetico-Superior roadless areas are owned by the State

of Minnesota. The State claims that these lands have substantially the same protective restrictions as that under Federal jurisdiction.

In 1933 the State passed legislation reserving the State lands in the area from sale, protecting the timber along the lakes and rivers from any cutting and restricting the alteration of water levels for power development or other purposes in the area.

Little Indian Sioux roadless area

Established 1939. Located in northeast Minnesota, in the western portion of Superior National Forest; 103,018 acres. Includes Trout Lake, east to Burntside Lake. Fine canoe country. (See Caribou, above.)

Fort Charlotte wild area

Grand Portage wild area

Established October 25, 1937, by Order No. 486 of the Commissioner of Indian Affairs; approved October 29, 1937, by the Secretary of the Interior.

Located on the Grand Portage Indian Reservation in the northeast corner of Minnesota. Fort Charlotte wild area (19,000 acres) and Grand Portage wild area (11,000) are separated by a road (U S 61) running through the reservation, and constitute together that portion of the reservation above the highway, and an eastern spur extending to the point to the east of Grand Portage Island.

These two wild areas are part of the great canoe wilderness of the Pigeon River watershed, which also includes the Superior National Forest, immediately to the west, with its roadless areas, and the Quetico area in Canada, to the north of the Pigeon River, which here forms the United States-Canadian boundary.

Superior roadless area

Established 1926, considerable boundary changes in 1948. Located in northeastern Minnesota in Superior National Forest; 889,975 acres. Along the United States-Canadian border line for approximately 100 miles. Contains a considerable portion of the drainage area of the Rainy Lake, Lac La Croix, Basswood Lake, and many other lakes, many connecting with each other. Together with the Caribou and Little Indian Sioux roadless areas forms the Nation's finest canoe country.

MISSISSIPPI

Petit Bois Island Bird Reservation I

See under Alabama.

Norube National Wildlife Refuge II

Established June 14, 1940, located in east central Mississippi, in Winston, Noxubee, and Oktibbeha Counties. Consists of 38,120 acres of short-leaf pine country northeast of Louisville, Miss., much of which is being maintained in its natural primitive state by the United States Fish and Wildlife Service for the benefit of its mallard, wood duck, turkey, deer, quail, and mourning dove.

MONTANA

Anaconda-Pinlar wilderness area

Established 1937. Located in western Montana, just east of the Selway-Bitterroot wilderness area; 145,000 acres. Rough mountain

country distinguished by a chain of barren, precipitous peaks, from which drop long forested slopes. United States Forest Service jurisdiction.

Absaroka wild area

Established 1932. Located in southern Montana in the Gallatin National Forest, just north of the Yellowstone National Park, and west of Beartooth wilderness area; 64,000 acres. High mountain area, mainly wooded, typical peaks. Very good fishing; fair hunting, especially for moose.

Beartooth wilderness area

Established 1932. Located in central southern Montana, in Custer National Forest near the Wyoming border line; 230,000 acres. Rugged high mountain area. Includes Granite Peak, most lofty in Montana and Grasshopper Glacier.

Bob Marshall wilderness area

Established 1931, boundary changes 1933 and 1940. Located in northwestern Montana, part in Flahhead and part in Lewis and Clark National Forests; 950,000 acres. High mountainous area noted for good hunting and fishing, remoteness from commercial activity, and historic and geologic interest.

Cabinet Mountains wild area

Established 1935. Located in northwest corner of Montana in the Cabinet and Kootenai National Forests; 90,000 acres. A lofty, peak-studded area of scenic grandeur. Big game and wildflowers in abundance.

Gates of the Mountains wild area

Established 1948. Located in west central Montana in the Helena National Forest; 28,562 acres. Spectacular limestone cliffs and Indian writing. Much of this area was damaged by fire in the summer of 1949.

Glacier National Park

Established by act of May 11, 1910, with some alteration in boundary effective July 31, 1949.

Located in northwest Montana, forms the American portion of the Waterton-Glacier International Peace Park; 997,247.85 acres of Federal land, 15,881.27 acres of non-Federal land.

So named because in the hollow of its rugged mountains are more than 60 small glaciers, remnants of the former glacial age. Most of the park is skirted by highways from which access to the park is obtained. Within the park one road crosses the park and several enter it for varying distances. However, access to most of the park is by trails. Glacier is the foremost trail park in the Nation and one of the most unspoiled primitive regions. Areas nearest the Canadian border are particularly wild and are seldom visited. There may be found grizzly bears, moose, elk, mountain goats, and mountain sheep. The Continental Divide zigzags back and forth between the Front Range and the Livingstone Range. The mountain scenery is unlike that in any other park. The mountains arise abruptly from a treeless plain. They are tremendously tumbled and broken, with many abrupt and deep valleys, mostly filled with glacier-fed streams or lakes. There are some 19 principal valleys descending from the

Continental Divide, 7 on the east and 12 on the west side, each with its smaller tributary valleys. Many of the valleys have not yet been completely explored; it is believed that some have never been visited unless by Indians. There are some 200 known lakes, and some small ones are believed to exist which have as yet never been seen by white men.

The Waterton-Glacier International Peace Park was established in 1932 by Presidential proclamation, as authorized by Congress and the Canadian Parliament. In administration of these areas each component part retains its nationality and individuality. The Chief Mountain International Highway connects the two sections. The American section is under the jurisdiction of the National Park Service.

Mission Mountains wild area

Established 1931. Located in northwestern Montana in the Flathead National Forest; 75,500 acres. High mountainous area of alpine lakes, glaciers, and peaks, and containing unique glacial evidence. Grizzly bear and mountain goat plentiful.

Mission Range roadless area

Established October 25, 1937, by Order No. 486 of the Commissioner of Indian Affairs, approved by the Secretary of the Interior October 29, 1937.

Located in western Montana in the Flathead Indian Reservation. At a point back a half mile from the lakeside road just east of Yellow Bay on Flathead Lake the area extends with slight variations east and west of a straight line about 45 miles south to an irrigation canal just east of the Catholic mission school at St. Ignatius subagency, at which point it turns east to parallel the canal to upper Jocko Lake, at which point it curves back generally northwest and north, following the boundaries of the Indian reservation to its northern boundary. The area includes a portion of the main ridge of Mission Range Mountains, which reach heights of 10,000 feet, and their western slopes; 115,000 acres, located in an area of interesting variations in topography, flora, and fauna.

The area is under the jurisdiction of the Office of Indian Affairs.

National bison range II

Established May 23, 1908. Located in Sanders and Lake Counties, Mont. Located in the south central portion of the Flathead Indian Reservation in western Montana, just west of the St. Ignatius Mission. The whole range of 18,451 acres is fenced to hold the second largest herd of bison in the country in the foothills of the Cabinet Mountains, which the United States Fish and Wildlife Service has set aside as a wilderness, a natural environment for the bison, deer, bighorn sheep, blue grouse, Franklin's grouse, and mallard.

Red Rock Lakes Migratory Waterfowl Refuge II

Established April 22, 1935. Located in the extreme south of western Montana, where the southern boundary line of the State turns south, west of the Wyoming State line. On the northern face of the Centennial Mountain Range, which forms part of the Continental Divide. Although a road penetrates the eastern section, the United States Fish and Wildlife Service maintains most of the refuge in wilderness condition to protect the characteristic fauna in the high areas surrounding the two Red Rock Lakes (lower and upper) and Swan

Lakes. This consists primarily of trumpeter swan, whistling swan, redhead, canvasback, pintail, scaup, sage hen, Columbian sharp-tailed grouse, Shiras moose, and muskrat. Total area of the refuge is 32,174 acres.

Selway-Bitterroot wilderness area

See under Idaho.

Spanish Peaks wild area

Established 1932. Located in southwestern Montana in the Gallatin National Forest; 50,000 acres. Wild, but not too rough topography. Fishing is outstanding.

NEBRASKA

Crescent Lake National Wildlife Refuge (migratory waterfowl) II

Established March 16, 1931. Located in Garden County north of the Platte River in western Nebraska. Includes a number of lakes and swamps, the largest of which is Crescent Lake, also the largest in the State. Although a road pierces the center of the refuge of 46,547 acres much of the area is maintained in a wilderness state by the United States Fish and Wildlife Service primarily for the protection of the many migratory waterfowl that summer here, such as the Canada goose, mallard, pintail, shoveller, canvasback, ruddy duck, sandhill crane, long-billed curlew, as well as some antelope.

Valentine National Wildlife Refuge (migratory waterfowl refuge) II

Established August 14, 1935. Total area 69,719 acres, administered by the United States Fish and Wildlife Service. Consists of a group of lakes, directly on a flyway of migratory fowl, and a favorite recreational area. Much of the area, however, is maintained in a wilderness state by the United States Fish and Wildlife Service. The lakes lie in pockets in the sand hills of the surrounding country. Wild rice, hedge, and pine weed, desired by migratory waterfowl, grow in abundance about the lakes. The Service has set aside this area primarily for the protection of the natural environment of the mallard, blue-winged teal, shoveller, pintail, redhead, canvasback, sharp-tailed grouse, pheasant, shorebirds, and muskrat.

NEVADA

Charles Sheldon Antelope Range II

Established on December 21, 1936. Located in northwest Nevada (548,373 acres), Washoe and Humboldt Counties, and a small parcel over the line in eastern Oregon (627 acres). Although a State road (8A) traverses the range in the lower portions the eroded hill country is little developed and is maintained largely in its primitive state by the United States Fish and Wildlife Service primarily to protect its native antelope, mule deer, sage hen, and waterfowl.

Sheldon National Antelope Refuge

Established January 26, 1931. Situated in Washoe County, Nev., and adjoining the Charles Sheldon Antelope Range on the west, this area is maintained by the United States Fish and Wildlife Service in nearly primitive condition to protect the largest herd of the native pronghorn antelope in the country as well as the mule deer, sage hen, and waterfowl.



Desert game range II

Established May 20, 1936. Located in Clark and Lincoln Counties, in southeastern Nevada, it has a total area of 2,022,000 acres. Several roads traverse the range and in the southern portion there are several developed recreational areas which provide shelter and picnic areas as well as permanent camp sites. The roads run roughly north-south following the valleys between the parallel high mountain ranges. Sheep Peak, in the easternmost Sheep Range reaches a height of nearly 10,000 feet. Vegetation is of the subalpine type, water is scarce, there are few year-round streams, however, there are a number of springs. There are several dry lake beds in the valleys. The United States Fish and Wildlife Service reports that there are several large areas within the range which are maintained in their primitive state. Bighorn sheep, mule deer, elk, Gambel's quail, and the mourning dove are characteristic of the area and fairly numerous.

NEW HAMPSHIRE

"Although New Hampshire has hundreds of square miles of roadless forest land, the State government has never established a policy of setting aside any of these under special protection or reservation as wilderness areas. * * *

"The second college grant, a virtually roadless area of 27,072 acres, owned by Dartmouth College might be considered a wilderness area under the present administrative policy of the college."

NEW MEXICO

The Black Range wilderness area

Designated by administrative order of the Chief of the Forest Service in 1933.

It includes approximately 169,984 acres of the Gila National Forest, and was set aside as a separate wilderness area in 1936, originally having been included as a part of the Gila wilderness area.

The wilderness embraces the north half of the Black Mountains with drainage to the Gila and Mimbres Rivers on the west and to the Rio Grande on the east. Highest elevations reach to nearly 9,800 feet.

Game is abundant on the area with hunting, fishing, camping, and grazing uses continued but road construction, timber cutting, etc., prohibited.

Gila wilderness area

"The Gila wilderness area, first established in 1924, was officially designated as such in 1938 by administrative order of the Chief of the Forest Service. The area embraces slightly over 567,054 acres. Elevations range from 4,500 to approximately 11,000 feet."

Hunting, fishing, camping, and grazing by wildlife and domestic livestock are continued, but road construction, timber cutting, etc., are prohibited.

The area is very rugged with many deep box canyons, and is well stocked with wildlife, and was a favorite of prehistoric Indians. The famous Gila cliff dwellings are included within its boundaries.

Pecos Division wilderness area

Established 1933. Located in the Sangre de Cristo Mountains in north central New Mexico in the Santa Fe National Forest (eastern portion); 137,820 acres; high back country, elevations 9,000 to 13,000 feet, adjoining an area of high recreational use, accessible from southwestern Kansas, west Texas, and Oklahoma. Much of the crest is above timber line.

San Andres National Wildlife Refuge II

Established January 22, 1941. Located in Dona Ana County, south central New Mexico. Has a total area of 57,215 acres. Is just west of the White Sand National Monument and east of Jornada del Muerte (Journey of Death). Contains the lower reaches of the San Andres Mountains, some of which reach heights of 9,000 feet. Little developed, and is maintained largely in its primitive state by the United States Fish and Wildlife Service primarily for the protection of the bighorn sheep, mule deer, white-winged dove, Mearns' quail, Gambel's quail, and scaled quail.

San Pedro parks wild area

Established 1931. Located in north central New Mexico in the Santa Fe National Forest (western portion). A high plateau containing numerous old pueblos, cliff dwellings, and other evidence of historic and prehistoric Indian occupancy; 41,132 total area, in acres.

White Mountain wild area

Established 1933. Located in south central New Mexico in the Lincoln National Forest; 24,000 acres. A variety of mountain scenery and forest-cover types is represented. Elevation 6,000 to 11,000 feet.

	NEW YORK
<i>New York forest preserves</i>	
Adirondack Forest Preserve	2,177,476.41
Catskill Forest Preserve	232,422.96

Total forest preserve-----2,409,899.37

The Adirondack Forest Preserve was created in 1885; the Catskill Forest Preserve in 1892. Both are wilderness areas, almost entirely forested. They are administered by the State conservation department.

The forest preserve is permanent, since section 1 of article XIV of the State constitution provides that the lands shall be forever kept as wild forest land and provides further that the timber thereon shall not be sold, removed or destroyed.

The Adirondack Preserve is situated in extreme north New York, including much of the Adirondack Mountains, and much of the headwaters of the Hudson River. The area is almost entirely forested except where there are some small cities interconnected with a system of motor roads, along which there is considerable commercial development. Within the preserve are some 2,200 lakes, many small streams and numerous peaks over 4,000 feet. Much of the area is accessible only by trail, and is preserved in its wilderness character.

The Catskill Forest Preserve is located west of the Hudson River, mostly in Greene and Ulster Counties. Generally mountainous,

heights up to 4,000 feet. There is considerable commercial development, and roads traverse the preserve but there are areas penetrable only by trails giving access to numerous pretty cascades and small river gorges.

NORTH CAROLINA

There are some areas in State ownership which, because of their inaccessibility and the protection which is afforded them, serve as wilderness areas. The largest of these is the Holly Shelter wildlife area, in Pender County consisting of 48,470 acres. This area has one truck trail crossing the area, which trail is closed to public travel. Approximately half of the area is hunted for deer, while the remainder is inaccessible both by foot and by any type of conveyance. The vegetation is typically that of the eastern bays or pocosins, and has little economic value. The high expense of developing land of this type will automatically result in the greater portion of the area being left in a primitive state. The same comments apply to the Angola wildlife area also owned by the State of North Carolina in Pender County. This area consists of 21,134 acres, and to date has not been hunted or developed for any type of public use. Both of these areas serve primarily as deer refuges, but do contain several other wildlife species such as bear, raccoon, opossum, alligator, and a number of marsh- and swamp-dwelling birds.

There are other tracts of similar nature which could well come under public ownership in the eastern part of this State. Their general sameness, however, limits their value for any such purpose.

Mattamuskeet National Wildlife Refuge (migratory waterfowl) II

Established December 18, 1934. Located just north of Pamlico Sound, Hyde County, eastern North Carolina. Contains Lake Mattamuskeet, and, despite several roads penetrating the area, and the presence of a lodge for visitors, accommodations (in a former pump house for draining Lake Mattamuskeet) it contains some of the wildest country of the Atlantic coast. There are dense woods of pine, cypress, and gum, and considerable marshy areas. This is located on the Atlantic flyway for migratory waterfowl, and is maintained by the United States Fish and Wildlife Service for the protection, primarily, of such fowl as Canada goose, whistling swan, pintail, black duck, and mallard. Total area is 50,228 acres.

Great Smoky Mountains National Park (North Carolina and Tennessee)

Authorized May 22, 1926, a limited portion of perhaps 150,000 acres was established for administration and protection only on February 6, 1930, since the act of 1925 provided a minimum acceptable for a national park to be 427,000 acres. More acreage was added July 19, 1932, and the act of June 15, 1934, reduced the required minimum to 400,000 acres. On September 2, 1940, the park was dedicated and opened to the public. Purchase of the lands, all privately owned, was financed largely by the two States of North Carolina and Tennessee, and private funds. The most primitive areas were owned by lumber companies. Total area within the confines of the park now amounts to 232,858.68 acres, of which 3,270.38 are non-Federal land.

Located near the center of the North Carolina-Tennessee border line. The Great Smoky Mountains run the entire length of the park, one of their ridges carrying the boundary line between the two States.

The park includes the most massive mountain uplift in the eastern section of the United States. It is the wildest and most picturesque highland east of the Rockies. There is a motor road traversing the park from North Carolina (Cherokee) to Tennessee (Gatlinburg), with a western spur to Townsend, Tenn.; two or three lesser roads penetrate a short distance, the rest of the park is accessible only by trails. There are believed still to be some parts not yet penetrated. The Appalachian Trail traverses the park close to the ridge which forms the boundary between the two States.

The slopes of the Great Smoky Mountains and their crests are covered with a luxuriant growth of trees and shrubs. The southern Appalachians are recognized as one of the outstanding vegetational centers of the world because of high rainfall, good drainage, and long growing season. The region in the park finds the plant life of the southern Appalachian at its highest expression. The country's largest virgin forest of red spruce is found within the park. Its flowering shrubs are well known.

The larger animals are relatively scarce but fish are numerous. The second highest peak in the east, Clingman's Dome, is near the center of the park. The area is known for its so-called "balds," mountain-tops with grass and flowering shrubs cover instead of trees.

Pea Island National Wildlife Refuge I

Established April 8, 1938. Until very recently this has been one of the most remote and inaccessible places on the Atlantic coast—the North Carolina Banks south of Roanoke Island. Bounded on one side by Pamlico Sound and the other by the Atlantic. A narrow barrier island, the refuge contains 5,880 acres, consisting of beach, dunes, and marsh, without roads. The refuge begins at Oregon Inlet and runs south almost to the town of Rodanthe. This is one of the winter homes of probably one-half of the greater snow goose. It was set aside for their protection as well as for its American brant, Canada goose, shore birds, gulls, terns, as well as its diamond-backed terrapin and otter. It is under the jurisdiction of the Fish and Wildlife Service (United States).

NORTH DAKOTA

Lower Souris National Wildlife Refuge (migratory waterfowl) II

Established September 4, 1935. Located in north central North Dakota in Bottineau and McHenry Counties. Includes both shores of the lower Souris River from Souris National Forest, north, to the Canadian border. Although a number of roads cross the area, and some of the area has been extensively developed, there are portions, difficult of access, which are maintained by the United States Fish and Wildlife Service as natural primitive or wilderness area. Total area of 58,565 acres is administered for the protection of such migratory fowl as geese, mallard, pintail, blue-winged teal, red head, and other indigenous wildlife such as prairie chicken, sharp-tailed grouse, white pelican, mourning dove, muskrat, and beaver.

OKLAHOMA

State Game Preserve

Consists of 15,200 acres, in the oak pine forests region of southeast Oklahoma. This area was obtained by purchase through legislative authority in 1918 and has remained in its original condition.

It is covered with a first-growth timber, principally short-leaf yellow pine and various upland hardwoods.

Its purpose is to serve as a big game refuge.

Permissible uses are: Camping, in a restricted portion. The State Game and Fish Department is the administrative agency.

Wichita Mountains Wildlife Refuge I

Established February 2, 1905. Located in southwestern Oklahoma, Comanche County, the refuge of 61,287 acres includes the principal range of the Wichita Mountains, which reach a height of 2,400 feet. Characterized by rolling granite hills and fairly open hardwood and pine forest cover, with some open meadow areas. Although a highway crosses the refuge it is not otherwise developed to any great extent. It is under the jurisdiction of the United States Fish and Wildlife Service to protect the natural habitat of the buffalo, elk, antelope, deer, wild turkey, quail, mallard, and Mississippi kite.

OREGON

Eagle Cap wilderness area

Established 1930. Located in northeastern Oregon, portions in two national forests—Wallown and Whitman; 220,280 acres. Embraces some of the highest peaks (to 10,000 feet) and includes some of the best fishing waters in eastern Oregon.

Gearhart Mountain wild area

Established 1943. Located in Fremont National Forest in central south Oregon. Notable for the 300-foot "Gearhart Notch," near the top of mountain; good deer hunting.

Kalmiopsis wild area

Established 1946. Located in the extreme southwest portion of Oregon in the Siskiyou National Forest; 78,850 acres. In the Port Orford cedar region; notable for the 17 species of conifers.

Mount Hood wild area

Established 1931. Located in northern Oregon in the Mount Hood National Forest; 14,160 acres. Occupies the high country north and west of the summit of the famous Mount Hood, with two outstanding examples of alpine meadow.

Mount Jefferson wild area

Established 1933. Located in north-central Oregon, containing portions of three national forests—Deschutes, Mount Hood, and Willamette; 86,700 acres. Includes snow-capped Mount Jefferson, with perpetual glaciers. Second highest peak in Oregon.

Mount Jefferson roadless area

Established by order No. 486, October 25, 1937, of the Commissioner of Indian Affairs, approved by the Secretary of the Interior on October 29, 1937.

Located in north-central Oregon on the Warm Springs Reservation, it is bounded on the north by Mount Hood National Forest, on the southwest and south by the Mount Jefferson primitive area, on the southeast and south by the Deschutes National Forest, from which it is separated by the Metolius River. Approximately 105,000 acres. Included Mount Jefferson (10,495 feet) in the southwest corner, a

portion of the Cascade Mountain Range which contains the head waters of Shitike Creek, Mill Creek, Badger Creek, Warm Springs River, most of which descend to the east to the Deschutes River.

Mountain Lake wild area

Established 1930. Located in southern Oregon in the Rouge River National Forest; 23,071 acres. A rugged area 80 percent of which is between 6,000 and 7,000 elevation.

Strawberry Mountain wild area

Established 1942. Located in eastern Oregon in the Malheur National Forest; 34,080 acres. Specially notable for bow and arrow deer hunting and good fishing in alpine lakes.

Three Sisters wilderness area

Established 1937. Located in west-central Oregon, including parts of two national forests—Deschutes and Willamette. Includes the Three Sisters Mountains and numerous peaks and glaciers, among them the Collier Glacier, Oregon's largest.

SOUTH CAROLINA

Cape Romain National Wildlife Refuge I

Established June 6, 1932. Located in Charleston County, S. C., consisting of portions of the mainland and numerous islands along the Atlantic Coast from the Santee River south to Capers Island, in and around Bull Bay. Although at one point a highway penetrates several miles into the refuge, it is in the main a natural primitive area, set aside for the protection of the native habitat of the black duck, teal, scaup, wild turkey, brown pelican, shorebirds, terns, deer, sea turtle, and raccoon. It is one of the series of sanctuaries forming the Atlantic flyway of migratory waterfowl. It totals 34,015 acres under the jurisdiction of the United States Fish and Wildlife Service.

TENNESSEE

Reelfoot National Wildlife Refuge I

Established August 28, 1941, by the United States Fish and Wildlife Service. Located in the northwest corner of Tennessee. Consists of 9,275 acres containing Reelfoot Lake and its surroundings; a natural primitive area valuable as a protected environment primarily for ring-necked duck, gadwall, wood duck, canvasback, mallard, quail, mourning dove, herons, muskrat, raccoon, and mink.

Smoky Mountains National Park

See under North Carolina.

TEXAS

Aransas National Wildlife Refuge (migratory fowl) II

Established December 31, 1937. Located in Refugio and Aransas Counties in southeast Texas. Consists of the peninsula formed by an inlet from Aransas Bay on the west and San Antonio Bay on the east, with an area of 47,261 acres. It is partly wooded with live oak and mesquite. In the center of a popular recreational area, it can be reached by highway but much of it is being administered by the

United States Fish and Wildlife Service in its primitive condition, primarily for the protection of its varied wildlife which includes: roseate spoonbill, whooping crane, sandhill crane, reddish egret, herons, geese, mottled duck, pintail, wild turkey, Attwater's prairie chicken, shorebirds, deer, and peccary.

Big Bend National Park

Authorized by act of June 20, 1935, established June 12, 1944, and opened to the public.

Located in the right angle of the Rio Grande, which forms the boundary between the United States and Mexico, where it dips down into Mexico in west Texas. (707,895.45 acres Federal and 16,556.50 non-Federal lands.)

Spectacular mountain and desert scenery with a variety of unusual geological formations. Constitutes the last great wilderness in Texas. Nowhere else is there to be found so wide a variety of plant life, varying from the subtropical cactus and mesquite in its arid lowlands to the hardy Douglas fir in the mountains. In the deserts are found peccaries and many tropical birds including rare hummingbirds; in the mountains are to be found Mexican mule deer, bighorn sheep, lynx, and golden eagles. A fir-covered range of 8,000 foot mountains, the Chisos, forms a basin in the center of the park. The mountains are of volcanic origin. The Rio Grande flows through three spectacular canyons, parts of which have never been surveyed. There is little development in the park and much of it can be reached only on foot.

Santa Ana National Wildlife Refuge I

Established September 1, 1943. Located in southeastern Texas, Hidalgo County. Contains 1,980 acres along the lower Rio Grande River, south of Pharr, Tex. A natural primitive area primarily for its tree ducks, doves, chachalacas, and red-billed pigeons. Under the jurisdiction of the United States Fish and Wildlife Service.

UTAH

High Uintas wilderness area

Established 1931. Located in northeastern Utah in the Ashley and Wasatch National Forests; 240,717 acres. A wild, picturesque region in the Uinta Range, the highest in Utah and the only prominent east-west range in the United States. Rich in scenic, geological, and biological interest. Innumerable small lakes.

Zion National Park

Zion National Monument

Zion National Park was established as Mukuntuweap National Monument on July 31, 1909, the name was changed to Zion National Park March 18, 1918. Enlarged and created a national park by act of November 19, 1919.

Located in southwestern Utah; 94,881.07 acres (640.01 acres non-Federal land). Colorful erosional formations, contains a spectacular gorge, the Zion Canyon, cut by the Virgin River through sandstone to depths of a half mile, with vertical walls. The valley of the Zion Canyon has about the same dimensions as the Yosemite Valley. Distinguished for the amazing variety of color to be found in the cliffs and the fantastically carved monoliths found throughout the park.

Zion National Monument adjoins the national park of the same name on the northwest. Established by Presidential proclamation of January 22, 1937; 48,413.61 acres (14,492.86 non-Federal land).

Largely undeveloped, accessible only by trail, on foot or horseback. Contains the colorful Kolob Canyon, cutting the Kolob Plateau, the famous Hurricane fault, an outstanding geologic phenomena.

VIRGINIA

Back Bay National Wildlife Refuge I

Established June 6, 1938. Located in Princess Anne County, Va., on that portion in Virginia of the long barrier enclosing Back Bay which extends along the Atlantic coast line past Kitty Hawk, N. C.

Total area is 4,589 acres, primarily for the whistling swan, greater snow goose, Canada goose, ring-necked duck, canvasback, baldpate, pintail, shore birds, and muskrat. This area was set aside to be preserved in its natural, primitive state by the United States Fish and Wildlife Service.

Chincoteague National Wildlife Refuge I

Established May 13, 1943. Located across Chincoteague Bay from Princess Anne County, Va., and Pocomoke County, Md. Consists of 8,809 acres in Virginia and 95 acres in Maryland, on Assateague Island. This is a long narrow strip of land with an excellent beach stretching its wooded and meadowy area, without habitation, in its natural state. Wild ponies roam the island, similar to the famous Chincoteague Island ponies. The United States Fish and Wildlife Service has set it aside primarily to protect the waterfowl and shore birds, particularly the greater snow goose, American brant, and scaup. One of the refuges placed at strategic points along the Atlantic flyway for migratory waterfowl.

WASHINGTON

Cape Flattery wild area (roadless)

Established October 25, 1937, by the Commissioner of Indian Affairs (Order No. 486), approved October 29, 1937, by the Secretary of the Interior.

Located on the Makah Indian Reservation at the very northwest tip of the United States, in Washington, north of Mukkah Bay and west of Neah Bay. It is small, embracing approximately 6,000 acres in all, forming the tip of the Olympic Peninsula. Extremely isolated.

Columbia-San Poil Divide roadless area

Established October 25, 1937, by the Commissioner of Indian Affairs. (Order No. 486), approved by the Secretary of the Interior, October 29, 1937.

One hundred and fifty-five thousand acres on the Colville Indian Reservation in north central Washington. Its boundaries run from west to east along the line separating it from the Colville National Forest to within a half mile of Hall Creek, whose course it parallels till just over a mile of day school No. 4, just north of Impach, thence west north of a road leading west around the north shores of the upper of Twin Lakes to a point where a bridge carries this road over the San Poil River; thence north paralleling the San Poil River to the boundary



of Colville National Forest. A long indentation from the southwest corner of the area, starting up Thirty-mile Creek, continuing generally northeast about 15 miles long and about a mile and a half wide, reaching to Seventeenmile Mountain, is excluded from the roadless area. Includes the lower reaches of the Kettle River Range which causes the great bend of the Columbia River above the Grand Coulee. Includes also the headwaters of several streams which flow down from the range east to the Columbia or west to the San Poil River.

Goat Rocks wild area

Established 1931. Located in south central Washington in the Columbia and Snoqualmie National Forests. Eighty-two thousand six hundred and eighty acres. Notable for its extremely precipitous peaks, glaciers, several large lakes and great profusion of mountain flora. Mountain goats are abundant.

Goat Rocks roadless area Mount Adams wild area

These two areas were established October 25, 1937, by Order No. 486 of the Commissioner of Indian Affairs, which was approved by the Secretary of the Interior on October 29, 1937.

The two areas are situated on the Yakima Indian Reservation in south central Washington, in the northwest corner of the reservation. Goat Rocks (approximate area 105,000 acres) is the northernmost and slightly northeast of Mount Adams wild area (48,000 acres), separated by a narrow corridor and small area of roads. Together the two form much of the headwater drainage basin of the Klickitat River which flows into the Columbia. The country alternates high rocky crags and buttes with swampy areas and mountain meadows. High points within the areas are Diamond Butte (Goat Rocks) in the northeast at 5,796 and in the southern section (Mount Adams), generally higher, are to be found Red Butte (7,203), Goat Butte (7,487). There are numerous sizable lakes and streams throughout the areas.

Jones Island National Wildlife Refuge I

Established March 30, 1937. Located on a small island of 179 acres left in its natural primitive state in the waterway between Vancouver Island and the American mainland, one of the islands composing San Juan County, Wash.

Primarily for white-winged scoter, band-tailed pigeon, and guillemots.

Under the jurisdiction of the United States Fish and Wildlife Service.

Mount Adams wild area

Established 1942. Located in south central Washington in the Columbia National Forest; 42,411 acres. Largely above the timberline; spectacular "Around the Mountain" trail.

Mount Rainier National Park

Established by act of Congress March 2, 1899, with some adjustments in boundaries May 28, 1926, and January 31, 1931.

Located in west central Washington; 241,782 acres (257.23 acres of non-Federal land).

Includes the greatest single-peak glacial system in the United States, radiating from the summit and slopes of Mount Rainier, an extinct

volcano, reaching a height of 14,408 feet, visible from as far away as Puget Sound. Noted for its varied plant life, dense forests, and 28 named glaciers. Plant life is plentiful and notable for its wildflowers, and splendid covers of fir, hemlock, and cedar.

The glaciers cover 48 square miles and range in width from 500 feet to more than a mile and from 50 feet to many hundreds of feet deep.

North Cascade wilderness area

Established 1931. Located in extreme northern Washington, adjoining Canadian border; 801,000 acres. Portion in Chelan and Mount Baker National Forests. Includes some of the most primitive and wildest mountain regions in the country. Largely unexplored, many heavily timbered gorges and ice-streaked ridges above which rise mighty glaciated peaks. An area to satisfy the demands of the most strenuous wilderness seeker, where he can travel for months without retracing his steps.

Olympic National Park

Established March 2, 1909, as Mount Olympus National Monument by Presidential proclamation, under the jurisdiction of the United States Forest Service. In area it amounted to 622,000 acres. By act of June 29, 1938, the Olympic National Park was established with an area of 648,000 acres. The act authorized the President to make additions to the park to a grand total of 898,292 acres. Additions were made effective January 2, 1940, and December 22, 1942. Formal dedication of the park took place on June 15, 1946.

Located in the northwest corner of Washington, on the Olympic Peninsula; 854,775 acres (8,056.29 acres non-Federal land).

Finest remnant of Pacific Northwest "Rain Forests," one of the few remaining sizable stands of virgin timber, typical of the original timberlands of the Northwest. Tropical in luxuriance, due to the temperate climate and heavy seasonal rainfall, and there are vast stands of Douglas fir, Sitka spruce, western hemlock, western red cedar, and silver fir, with many individual trees of tremendous size.

A mass of tumbled, jagged peaks, many of which are not even named, arising abruptly from sea level to the highest, Mount Olympus, at 7,915 feet. There are no particular ranges, the entire area is very rugged and impressive. Much of it has never been completely explored. The highest peaks are snow covered the year round. The snowfall of the interior, said to be the greatest in the Nation, has produced one of the largest glacier systems on the continent. There are some 50 or more living glaciers. From these glaciers many streams and rivers are formed and have carved deep narrow canyons. The area is dotted with lakes.

Native habitat of the Olympic or Roosevelt elk, which is largest of the American wapiti and largely nonmigratory. Other wildlife is plentiful and varied. Wildflowers are amazing in variety in the open spaces.

Park policy has been to leave this wilderness region as nearly as possible in its primeval state. There are no roads except the approach spurs leading into the park from the encircling highways. There are over 400 miles of trails, most of which, however, are very narrow and elementary.

Flambeau River State Forest

The Flambeau River State Forest is a large wildwood area of forested land traversed by the north and south forks of the Flambeau River and interspersed by glacial lakes. Through purchase the State has acquired ownership of approximately 41,500 acres of this area, including many miles along the rivers. It is intended that this area may become a large recreational forest of the naturalistic type, through which the middle reaches of the Flambeau River may flow, unimpeded by improvements of any kind, and where the old growth forest may remain undisturbed and the cut-over areas may again restore themselves to a forest growth.

The Flambeau River State forest may be reached over reasonably good local roads. Beyond these roads which bring one to the river, accessibility is difficult. There are no facilities provided such as drinking water (except at natural springs), tables, benches, or fire-places. For those who would like a trip into a wilderness area, this forest has its attractions. It is as fine a piece of natural wildwood country, through which flows a large and free-flowing river and interspersed by first-class lakes, as any in this part of the United States.

It is wild, canoe country. It includes approximately 8,000 acres of virgin hardwood, 1,800 acres in one solid block, the largest remaining in the State. It is the last chance to preserve a natural northwoods river and the life that goes with it.

WYOMING

Bridger wilderness area

Established 1931. Located in western Wyoming in the Bridger National Forest; 383,000 acres. Includes barren, grassland, water, and timbered areas, rising to 13,785 feet at the summit of Gannett Peak, the high point in Wyoming.

Cloud Peak wild area

Established 1932. Located in northern Wyoming in the Bighorn National Forest; 94,000 acres. Rugged, precipitous country rising to 13,165 feet.

Glacier wilderness area

Established 1937. Located in western Wyoming, adjoining the Bridger wilderness area, and in the Shoshone National Forest; 177,000 acres. Of extremely rugged topography, including Fremont Peak, innumerable alpine lakes, and some of the largest living glaciers in the United States.

Grand Teton National Park

Established February 26, 1929, by act of Congress.

Located in northwest Wyoming just 11 miles south of the Yellowstone National Park. Contains 96,000 acres (1,107.08 acres non-Federal land).

Notable particularly for the spectacular Teton Mountains. This range, running north and south, arises abruptly from the surrounding plains to a peak of 13,766 feet (Grand Teton, for which the park was named). Twenty-seven miles of the 40-mile-long range is contained in the park environs, and that the most scenic portion. The profile of the range is very jagged and spectacular. Most of the range is above

the timber line. There is a series of lakes at the foot of the range on the east, surrounded by dense forests. Glaciers have left their marks on the scenic features. From the plain and lakesides many trails lead up into the wild country of the mountains and their many scenic features.

North Absaroka wilderness area

Established 1932. Located in northwestern Wyoming, adjoining Yellowstone National Park on the east, and in Shoshone National Forest; 379,460 acres. Includes glaciers, natural bridge, standing petrified trees. Affords excellent hunting, fishing, and camping.

Papo Agie wild area

Established 1937. Located in western Wyoming just north and east of the adjoining Bridger wilderness area, in the Shoshone National Forest; 70,000 acres. Extremely rough topography along the Continental Divide. Contains 75 lakes and is rich in historical lore.

South Absaroka wilderness area

Established 1932. Located in northwestern Wyoming, adjoining Yellowstone National Park, south of United States Highways 14 and 20, and in the Shoshone National Forest; 614,216 acres. Includes Fishhawk Glacier, deep straight-walled canyons. Features back country pack horse trips.

Stratified wilderness area

Established 1932. Located in northwestern Wyoming, south and east of the Yellowstone National Park and in the Shoshone National Forest; 147,000 acres. A region of narrow valleys and broad flat-topped mountains, built up of lava flow. Rich in petrified forest remains and abounds in game of relative tameness.

Teton wilderness area

Established 1934. Located in northwestern Wyoming just south of the Yellowstone National Park, in Teton National Forest; 565,291 acres. Outstanding in the amount of big game. An area of high plateaus, large valleys, and mountain meadows that can be traversed without undue danger.

Wind River Mountains roadless area

Established October 25, 1937, by Order No. 486 of the Commissioner of Indian Affairs; approved by the Secretary of the Interior, October 29, 1937.

Originally had an area of approximately 220,000 acres, later boundary adjustments reduced this to 183,520 acres.

Located on the Wind River of Shoshone Indian Reservation in west central Wyoming. Surrounded on the west and south by Washakie National Forest. The irregular southwestern boundary line follows the continental divide of the Wind River Range. High rugged country, particularly in the southern portions, with numerous irregular ridges and containing hundreds of spring-fed lakes and streams, most of which drain off to the north and east to the Wind River.

Yellowstone National Park

Established March 1, 1872, by act of Congress, thus becoming the first national park, as well as the largest. Boundary adjustments



have been made effective May 26, 1926; March 1, 1929; April 19, 1930; and October 20, 1932.

Located in the middle Rocky Mountains in the northwest corner of Wyoming, with some portions in Idaho and Montana (Wyoming 2,039,216.98 acres; Montana, 142,501.57 acres; Idaho, 31,488 acres).

Area is largely of volcanic origin, accounting for the large number of geysers, the geyser field is the greatest in the world, there being more and larger geysers here than in the rest of the world. The mountains around the park and those within it are products of or remainders of volcanoes.

The forested region includes numerous lakes, meadows, waterfalls, and canyons. Its wilderness areas, away from the network of over 300 miles of roads forming a figure 8 in the center of the park, are extensive and provide habitat for many native American species of animals, plants, and birds. The four corners of the park can be reached only by trail.

The Grand Canyon of the Yellowstone River is spectacular. The park forms one of the largest wildlife sanctuaries in the world and animal life is plentiful. In the eastern portion of the park, accessible only by trail, is found a bison range. Birdlife is varied and plentiful, particularly around the 139 square-mile Yellowstone Lake.

APPENDIX B

AREAS SUGGESTED FOR PRESERVATION AS WILDERNESS AREAS

Listed below are suggestions received from all sources of areas to be considered for dedication as wilderness areas. In all instances information is given as received in the answers to the questionnaires. The information given on that account will vary. Listed first are some suggested types of areas or regions to be considered, and, following that, more or less specific areas in particular States. Each area is listed under the State in which it, or the major portion thereof, is located.

GENERAL

Some suitable fiord areas in Alaska.

Representative areas in 11 principal land and water types—Lake State pines, short-grass prairie. Rocky Mountain conifer, Northwest conifer, Southwest bushfield, Southwest desert, coastal prairie, coastal swamp, south Appalachian, Northeast conifer, and tundra.

Such small natural areas as yet remain from the following types—Lake State hardwood, oak hickory, high-grass prairie, coastal pine, Piedmont, Atlantic coast line, and Pacific coast line.

A national grassland monument: To include what virgin prairie land there may be found, or acquisition of as much as 2,000,000 acres of former grass prairie land which would then be allowed to revert to its natural state and preserved in that condition.

Some adequate typical examples, in their natural condition and at various stages of their evolutionary development, of the kinds of coastal terrain characterized by barrier-beach lagoons and their gradual transformation into tidal marsh and creek areas interspersed and surrounded with unsubmerged fragments of upland, such as are

scattered in great variety along our coast from Maine to Texas. Many of them are very beautiful in their peculiar ways. Their characteristic qualities are easily altered by human interference and "improvements," and great areas of them have been and are being so altered—for the most part inevitably, in connection with urban and industrial expansions and to a less extent in connection with resort developments associated with the beaches. Well-chosen examples of those not yet "messed up," if carefully preserved from human interference and allowed to continue their slow, natural evolution would be of great interest in the future not only because of their peculiar landscape qualities but also for their geological and biological interest, and in some cases for limited kinds of aquatic recreation under controls suitable for protecting their wilderness character.

The cases on the Pacific coast were much less numerous and more limited in extent, and on the whole less interesting; and relatively few of them still retain a true wilderness character.

Alpine zone lands not now developed, as in the railway and highway passes, where many of our greatest winter sports centers are located, are suitable for wilderness classification. These Alpine zones should be preserved. Up to now higher level forests have scarcely been touched, but with increasing wood utilization, particularly along chemical lines, Alpine species are in danger of attack.

An irregular strip along the crest of the Sierra from Yosemite to Kings Canyon National Park.

Samples of grassland and marshland, especially salt marshes, are most urgently in need of protection and study.

Appalachian trailway—bordering the Appalachian Trail from Mount Katahdin, Maine, to Mount Oglethorpe, Ga.

In each of the seven major floral areas in which probably around 50 percent or more of the tree, shrub and herbaceous flora is fairly distinct from that of the adjoining areas, these being: (a) Northeastern States; (b) Southeastern States; (c) Great Plains States; (d) Rocky Mountain States; (e) Southwestern States; (f) Great Basin States; (g) Pacific coast States.

Native prairie regions preserved as wilderness. Some of these exist in Iowa, Illinois, Kansas, Nebraska, North Dakota, and Oklahoma and are very beautiful in character and deserve preservation as they have escaped so far the plow and are unique in the extreme.

ALASKA

The approximately 50-mile wide strip of practically virgin forest along the coast of Alaska.

The drainage area of the north fork of the Koyukuk River, from a little north of its confluence with the middle fork, to the Arctic Divide. Perhaps some area north of the Divide should also be included; * * * Certainly the mountain area just over the Divide should be included.

ARIZONA

Land, State-owned, in the lower desert regions would also be ideal for this purpose. Our thought is not to include large expanses, but rather a greater number of smaller areas—10 to 50 square miles in size.

Aravaipa Canyon, located in southeastern Arizona about 60 miles northwest of Tucson in Pinal and Graham Counties, extending for some distance back from the canyon rims, in order to preclude any future attempt to build rim drives, for these would destroy the primitive and the many scientific values we seek to preserve.

ARKANSAS

The Caddo River region in the foothills of the Ouachitas.

CALIFORNIA

Kern River area: South of Mount Whitney the Sierra Nevada summit region sinks rapidly below 10,000 feet and spreads out in a forested, rocky plateau of 7,500 feet altitude, the Divide between the south fork and the main Kern River extending by the Pacific Crest Trail 80 miles to Walker Pass Road, where the desert country is. The Kern River and its tributaries are the finest trout streams in the Sierra, and this entire area of 150,000 acres is a wilderness for campers, fishermen and not too difficult mountaineering. It is the wildest remaining forested area left that is close to the 4,000,000 people of southern California. The Walker Pass Road is an easy approach on the south, and from the west approach is from a good road with public camps in Kern Canyon. Approach from the east is only by long, poor trails.

Kings Canyon National Park: Two areas (below Tehipite Dome, on the middle fork of the Kings River; and at Cedar Grove, on the south fork) which were excluded at the time the park was formed so as to allow for projected dam building. It would be advantageous, in view of the probable superiority of other dam sites farther downstream, to even up the park boundaries and thereby assure better protection for the wilderness adjacent to the portions, still free of damaging developments, which are now outside of the boundaries of the park but within the lines that would constitute a logical western boundary.

COLORADO

The State of Colorado is contemplating a survey which will show in part areas which might well be protected as wilderness areas. It is to be expected that some of the outlying areas adjoining or near national forests and national parks might well be protected.

CONNECTICUT

The best potential wilderness areas would appear to be in Litchfield County in the towns of Norfolk, Canaan, and Goshen. Another sizable potential wilderness area might be found in the northwest corner of the town of Salisbury, all privately owned.

FLORIDA

Everglades, Fla.: The entire area should be preserved. Other wilderness areas belong to the North. Everglades is almost tropical, and of unusual value, by way of contrast, for that reason.

The Royal Palm-Big Cypress Forest, Fakahatchee slough, north of the village of Everglades, Fla.

Suwanee River area: Portions are still in wilderness.

HAWAII

Some additional area is needed for the Hawaii National Park to insure the inclusion of some plants, notably tree ferns, in sufficient quantity to insure their perpetuation. Also, the nene, or Hawaiian goose, nearly extinct, is found there and efforts are now being made to preserve the species in the park.

IDAHO

A large area, the exact acreage not known, on each side of the Salmon River and immediately west of the Bitterroot Mountains. There are no roads except a few pack trails within the boundaries and a very few small isolated airports. This is privately owned.

ILLINOIS

Prairie State Park, south of Wilmington, along the Kankakee River, as a sanctuary for flora and fauna.

Volo bog, a few miles north of Chicago, "is the most perfect bog in the United States and though small should be preserved."

LOUISIANA

Parts of the Tensas swamp, where the last ivory-bill woodpeckers are to be found.

MAINE

The Allagash River country. Still wilderness. Excellent for canoeing. Believed to be privately owned. Could be a suitable area for woodland caribou.

MARYLAND

Potential areas which come to mind are the dune areas along the Atlantic coast of Worcester County, Zekiah swamp in Charles County, marshlands in Dorchester County, areas along the Pocomoke River in Somerset and Worcester Counties and certain islands in the Chesapeake Bay off Somerset and Dorchester Counties.

MISSOURI

There are areas along certain of the Ozark streams in Missouri which we believe worth consideration as wilderness areas. In certain respects the spring-fed Ozark streams are unique in America. We are not at this time prepared to make specific recommendations as to the boundaries or extent of such areas, but we have in mind, for example, a region of wild country along Jack's Fork, a tributary of the Current River.

The Fristoe division of Clark National Forest in the southeastern portion of the State.

In Douglas and Ozark Counties. Here two sections of the Mark Twain National Forest enclose an area of wild land.

MONTANA

Hilgard-Taylor Peaks area in the Gallatin National Forest. Many of us feel that this beautiful mountain range is certainly of wilderness caliber and might well be considered for such a purpose. Prairie Fork area. At the headwaters of the San Gabriel River, in the Angeles National Forest, near Mount San Antonio.

NEW HAMPSHIRE

The Second College Grant, a virtually roadless area of 27,082 acres owned by Dartmouth College, might be considered a wilderness area under the present administrative policy of the college.

There are extensive areas within the State which are potential wilderness areas. The policy of the Forest Service regarding the White Mountain National Forest is perhaps most important.

NEW JERSEY

Some of the south Jersey pine barrens, which contain flora found in few other places.

In borough of Island Beach in Ocean County, N. J., 2,200 acres; land between Seaside Park and Barnegat Inlet. Nearly untouched and the last such area along the New Jersey shore.

A wonderful chance to preserve a sample of the original vegetation of the offshore bars. This is the best developed bar in terms of vegetation that is available. It has beach, dune, thicket, shrub, forest, swamp, bog and marsh communities, none large but surprisingly well represented.

Has been under consideration by the National Park Service.

The section of Island Beach extending from just below Seaside Park to Barnegat Inlet, sometimes referred to as the "Phipps' Estate," is the only barrier beach in the State of New Jersey that today still possesses a semblance of its primitive state. Large colonies of herons and seabirds nest there. Many rare and unusual plant associations are found there, and botanists journey from far and wide to study there.

Greenwood Lake area, New York, New Jersey boundary, and the Delaware Valley south of Port Jervis, N. Y., mostly in New Jersey and Pennsylvania.

NEW MEXICO

We do have some State lands and some private lands in comparatively remote areas, but I don't think there is anything that would really be suitable for a wilderness area with the possible exception of a tract on the Vermejo Park, which is in private ownership.

NORTH CAROLINA

The Core Banks off Cartaret County, N. C., south of Pamlico Sound. Suggested as a national seashore wilderness.

So-called outer banks of the North Carolina coast; Oregon Inlet to Hatteras Inlet and Hatteras Inlet to Ocracoke. Partly already under National Park Service jurisdiction. Original characteristics are being subordinated to create waterfowl refuge.

(Note.—Includes Cape Hatteras national seashore recreational area, and Cape Hatteras State Park.)

The following wild and natural areas: Pisgah National Forest, a natural area of some 2,000 acres in vicinity of Black Brothers Mountains.

Linville Gorge, a wild area part of the Pisgah National Forest.

Joyce Kilmer Forest, part of Nantahala National Forest.

Mount Guyot area, Smoky Mountains National Park.

A national wilderness seashore on the North Carolina keys.

Santeeelah Creek Watershed, Nantahala National Forest, Graham County, N. C. This area is adjacent to the Joyce Kilmer Memorial Forest, a wild area in virgin timber.

Grandfather Mountain, N. C., within the gross boundaries of the Pisgah National Forest but in private ownership.

NORTH CAROLINA-VIRGINIA

Continue the Great Smoky National Park to the Shenandoah National Park.

NORTH DAKOTA

Some portions of Theodore Roosevelt National Park which, I understand, will be kept in their natural state.

OREGON

The Siskiyou Mountains wilderness between the Illinois and Rogue Rivers in Curry and Josephine Counties of southwestern Oregon. At present, most of this area, if not all, is controlled by the United States Forest Service, but it has not as yet been set aside as a wilderness area by them.

The Siskiyou Mountains wilderness is important as a sort of botanical island where grow many species of plants not found elsewhere, botanists tell me. It is the only home of the Port Orford white cedar, a valuable species for commercial purposes, and which has been cut far beyond the point where growth replaces the cutting. The area which I have specifically outlined contains only a slight percentage of commercial Port Orford white cedar, however. The rugged and rather inaccessible character of much of this wilderness has made it a haven for wildlife. It is a common sight to see deer along the banks of the Rogue River.

Oregon has vast national forests under the administration of the United States Forest Service, also the Oregon and California Administration under the Department of the Interior. Further, the State Forestry Department of Oregon has forests adaptable to wilderness areas. Within these organizations lies the future of wilderness areas in the State of Oregon.

OREGON AND WASHINGTON

Summit regions of the entire Cascade Range.

SOUTH CAROLINA

Within the State, there are very few potential wilderness areas except possibly a portion of the lower Santee River, and this, of course, is an area much of which has returned to more or less wilderness con-



ditions after having been in use for rice planting and cotton and other crop cultivation during the time when labor was cheap.

A considerable portion of the lower Santee area, I believe is in public ownership, in that it is a portion of the Francis Marion National Forest, but much of the balance of it is in private ownership.

TENNESSEE

There are few, if any such, outside of Smoky Mountain National Park and Cherokee National Forest, which contain original forest growth, which could qualify as wilderness areas. Large wilderness areas would not appear to fit too well into the already developed road system and the land-use customs of this State. Small wild areas to develop wild vegetation rather than wilderness wildlife might be feasible on State-owned lands as laboratories for educational institutions, etc.

The Cumberland Plateau area of Tennessee centering around the Catoosa game-management area now under the jurisdiction of the Tennessee Department of Conservation.

Norris Central Peninsula, Norris Lake, Tenn., now under jurisdiction of the TVA.

TEXAS

Suggest examples of the following types be included:

Panhandle grasslands (in the High Plains).

Longleaf pine. (There is very little of this anywhere in Texas, that I know of; a few thousand acres in east Texas.)

Post-oak woodland (the cross-timbers type).

Tall-grass prairie. (This would include the Texas black land.)

Edwards Plateau live-oak savannah (one of the most productive livestock and white-tailed deer areas in the continent).

South Texas brushland (the Rio Grande Plains south of San Antonio, Tex.; one of the most interesting biological areas in the North American continent).

Rolling Prairie type (the south end of the Great Plains grasslands lying at the base of the high plains region through central and northern Texas).

Trans-Pecos mountain and valley land (partly preserved in the Big Bend National Park).

UTAH

Cedar Breaks National Monument, which is now insignificant in size (12,000 acres) should be greatly extended, or the area around protected as a wilderness area. This whole high plateau, extending to and around Bryce Canyon National Park, is badly in need of protection from grazing and fire. It is now a sheep pasture (partly private, partly national forest), badly eroded and an important watershed and scenic area, elevation up to 11,000 feet.

Red Butte Canyon, an area close to Salt Lake City, should, by all means, be left in its present well-preserved condition.

VIRGINIA

Nine thousand acres in Giles County, Va. (in Jefferson National Forest); privately owned.

The area contains a rich variety of animal and plant life. Elevation ranges 1,500 to 4,500 and has a large variety of soil and moisture conditions based on the geology, the altitude, and exposure. The entire tract is drained by Little Stony Creek.

Since this is inside of the purchase-unit boundary of the Jefferson National Forest, it is suggested that the public interest would best be served if funds were made available in sufficient quantity to enable this purchase to be undertaken. While this may be an unusual example of outstanding wilderness values, it is a fact that the national forest in the southern Appalachians could be consolidated small area by small area to build up a respectable wilderness if this is fully realized and funds appropriated for this purpose. Many examples of small wild areas of rather outstanding quality are known in the area of southwest Virginia that certainly deserve consideration.

The Dismal Swamp area, Virginia and North Carolina. This large tract of wilderness has been used and abused for years, but even the great stimulus of the late war was not enough to complete its destruction.

The area is unique in many ways—the plant and animal communities—its proximity to the sea—and most heartening, its long association with the white man (Jamestown, Va., about 50 miles away).

It may be that the adverse economy of lumbering has been adequately demonstrated and the land available for purchase.

WASHINGTON

The summit ridge of the Cascades, north of Snoqualmie Pass, alpine area.

The proposed Glacier Peak wilderness area. This area includes Glacier Peak, a glacier-hung mountain about 10,000 feet in elevation in the Cascade Range in the State of Washington. This wilderness area proposed by the United States Forest Service lies within the boundaries of the national forests on both sides of the summit, and extends southward from the southern boundary of the North Cascades wilderness area to the northern boundary of the Snoqualmie National Forest.

It was first proposed by the late Robert Marshall, but sometime before 1940 the United States Forest Service released the northern half of it from the prohibition against roads. A road already penetrates the area released, coming up the Stehekin River as far as Horseshoe Basin, and subsequent to 1940 a road was completed through Barlow Pass in the southwest corner of the area.

In spite of these roads, it would still be possible to preserve most of the region as a wilderness area. Its boundaries are shown on a map by the United States Forest Service dated August 19, 1940.

Most of the high country on both sides of the summit of the Cascade Range in the States of Washington and Oregon should have all the protection possible and should be kept free from further roads. All of it is in national forests and could have special protection under one of the designations used by the United States Forest Service for reserved areas.

The entire area is valuable chiefly for its recreational possibilities. The coastal strip is west of Olympic National Park.

WISCONSIN

Conservation Commission plans call for the eventual establishment of the Flambeau River State Forest in Price, Rusk, and Sawyer Counties as a wilderness area.

Portions along the course of the Wisconsin River between Rhineland, Wis., and Prairie du Chien, Wis.

WYOMING

Cloud Peak primitive area in the Big Horn National Forest of Wyoming. This is not now being given special protection as a primitive area but should be so classified.

One area that has been suggested is a piece of timber-line country lying on the east side of Jackson Hole, Wyo. It comprises the upper slopes of Sheep Mountain, the divide between Flat Creek, and the headwaters of Crystal Creek and Granite Creek, and some high divides bordering on forks of Crystal Creek. Preliminary information so far available indicates no minerals that might involve complications; it is largely a lodgepole pine forest reaching up to timber-line forest that has no commercial value. It is an outstanding mountain sheep summer range that should always be guarded for such purpose. It is a favorite hiking country, is rugged and spectacular, and has very high recreation values of the wilderness type. The boundaries of this area would have to be determined by study on the ground by the proper officials. The area lies within the Teton National Forest, administered from the regional office at Ogden.

APPENDIX C

COPIES OF QUESTIONNAIRE

QUESTIONNAIRE SENT TO STATE CONSERVATION OFFICIALS

The Legislative Reference Service of the Library of Congress has been asked to undertake a study of the question of preservation of wilderness areas. For such a study it is evident that information is needed as to the present status of such areas, present plans for their protection and possible extension, plans for future additions and the like. We are appealing to Federal and State officials concerned with conservation matters, forestry, parks, fish, and wildlife for such information and would appreciate any assistance you might give us. We would like to be able to present a fairly comprehensive picture of the present situation, which could be used as a basis for possible formulation of a national wilderness area policy.

Answers to the specific questions listed below would be greatly appreciated, and any further comment you would care to make either in your official capacity or personally would be helpful.

1. If your State has any areas presently receiving special protection as wilderness or roadless areas:

(a) Description of each (size, location, date of establishment, special characteristics, administering agency, maps).

(b) By what land-classification categories or definitions are they designated?

(c) How established (legislation, administrative order, gift, etc.)?

(d) Degree of permanence. (Are they protected by permanent legislation; is their use insured as wilderness areas?)

(e) Administration. (What is the agency, what are the permissible uses, policy as to roads, shelters, camping, hunting, wildlife, and game preserves, etc.?)

(f) How are conflicts resolved between the desirability of maintaining a given area as wilderness, as opposed to other uses of the same land?

(g) What plans has your State for adding to the present areas or the creation of others?

2. If your State does not at present have any areas designated as wilderness areas:

(a) Does the State have any statutory or legislative basis for future creation of such areas?

(b) Are there any areas within the State which are potentially wilderness areas?

(c) Are there organizations, public or private, advocating such action? What opposition is there to such disposition of land? Is it at present publicly or privately owned?

(d) In what way would a definite national policy be of assistance to the State in preserving the wilderness character of such land? In what ways would your State cooperate with the Federal Government on this?

3. In general:

(a) What, in your opinion, should determine the setting aside of a given land area as wilderness as opposed to other uses?

(b) What are the principal values of wilderness areas?

(c) Have you any suggestions as to what the Federal Government's policy should be?

It may be that some of the questions above will not apply to your State, or permit of a categorical answer. However, your answers to as many as possible, together with any pertinent comment you may care to make, will be helpful in developing a cross section of the feeling of responsible officials on the question.

Sincerely yours,

ERNEST S. GRIFFITH,

Director, Legislative Reference Service.

QUESTIONNAIRE SENT TO ORGANIZATIONS, SOCIETIES,
ASSOCIATIONS, ETC.

The Legislative Reference Service of the Library of Congress has been asked to undertake a study of the question of preservation of wilderness areas.

Official sources, both State and Federal, are being contacted. In order to have a representative cross section of opinion on the subject, we are writing to some of the outstanding organizations such as yours which are engaged in activities in some phase of conservation, recreation, or nature study.

It would be greatly appreciated if you would cooperate with us to the extent of answering such questions listed below as may be applicable.

1. Does your organization advocate or approve of the preservation of wilderness areas as such?
2. If your answer to question 1 is "Yes," what, in your opinion, are the characteristics of a "wilderness area" which may make its preservation in its present state desirable?
3. What are the determining factors which would decide whether a particular area should be preserved as a wilderness as against other uses?
4. What are the values of such an area?
5. What do you consider permissible uses of wilderness areas?
6. Does your organization believe this to be a State or Federal responsibility or both?
7. Does your organization engage in any activities favoring or opposing creation or extension of these areas? Please describe.
8. Are there any areas or regions which you may consider suitable to be preserved as wilderness areas which are not now receiving special protection as such? Please describe.
9. Are there any extensions or contractions of present reservations which you would suggest? Please give details.
10. Do you have any suggestions as to what a national wilderness policy would or should be?

Your answers to as many of the above questions as possible, together with any further comment you might care to make, will be helpful in developing a cross section of opinion on this question.

Sincerely yours,

ERNEST S. GRIFFITH,
Director, Legislative Reference Service.

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