LIBRARIES
UNIVERSITY OF WISCONSIN–MADISON

Organizations, Committees: NRC committees.

Leopold, Aldo, 1887-1948
[s.l.]: [s.n.], [s.d.]

https://digital.library.wisc.edu/1711.dl/EF3LOH6K3J4BM8S

http://rightsstatements.org/vocab/InC/1.0/

The copyright for all material in this collection is held by the Aldo Leopold Foundation. Written authorization from the Aldo Leopold Foundation is required prior to reproducing items in the collection for publication or exhibition.

For higher quality digital or print copies please contact the University of Wisconsin Digital Collections Center.

The libraries provide public access to a wide range of material, including online exhibits, digitized collections, archival finding aids, our catalog, online articles, and a growing range of materials in many media.

When possible, we provide rights information in catalog records, finding aids, and other metadata that accompanies collections or items. However, it is always the user's obligation to evaluate copyright and rights issues in light of their own use.

728 State Street | Madison, Wisconsin 53706 | library.wisc.edu

Not for publication

NATIONAL RESEARCH COUNCIL
DIVISION OF BIOLOGY AND AGRICULTURE

PROPOSED COMMITTEE ON WILD LIFE

Minutes of the meeting of a group of individuals called together by Dr. W. C. Curtis, Chairman of the Division of Biology and Agriculture, to discuss the organization of a Committee on Wild Life, held in the Board Room of the building of the National Academy of Sciences and National Research Council, B and 21st Streets, N.W., Washington, D. C., Monday, February 2, 1951.

PRESENT:

Ovid Butler, American Forestry Association
L. J. Cole, University of Wisconsin
W. C. Curtis, Chairman, Division of Biology and Agriculture
W. C. Etheridge, Bottom Land Experiment Stations
W. B. Bell, Biological Survey
A. B. Howell, Secretary, American Society of Mammalogists
Aldo Leopold, Game Survey
C. F. Marbut, U. S. Department of Agriculture
J. G. Needham, Committee on Aquiculture, National Research Council
T. Gilbert Pearson, Audubon Societies
Paul G. Redington, U. S. Biological Survey
V. E. Shelford, Ecology
L. W. T. Waller, Wilmington, Delaware
Alexander Wetmore, U. S. National Museum (for part of morning)
E. P. Walker, National Zoological Park
William Charles White, Committee on the Microbiology of the Soil, National Research Council.

ABSENT:

W. C. Henderson, U. S. Biological Survey
Ross L. Leffler, President, Board of Game Commissioners, Harrisburg, Pa.
Lewis Radcliffe, U. S. Bureau of Fisheries
Senator Frederic C. Walcott, Chairman, U. S. Senate Committee on Conservation of Wild-life Resources

The conference was convened at 9:30 a.m. with Dr. Curtis presiding. Copies of the agenda were available to all present, fourteen headings being listed therein for the consideration of the group.

I. The Proposed Committee on Wild Life

Dr. Curtis opened the meeting by explaining to the group that the purpose of the meeting was to secure recommendations, for presentation at the Annual Meeting of the Division of Biology and Agriculture, for the establishment of a Committee on Wild Life. He stated that he was personally inclined to recommend the establishment of such a committee.

CURTIS:

The National Research Council can occupy a key position if it is agreeable to parties concerned, because we are so representative of the committee as a whole and more independent of political and social aspects than other organizations, and can thus form a correlating function in this connection although the amount of money is insignificant in comparison with that of other committees. The committee might do things which other agencies, such as the U. S. Bureau of Fisheries, could not do.

With reference to setting up a committee of the Research Council it is my feeling that there are two main justifications for such a committee. It may either undertake surveys of fields in which the expense involved is not very great and in which we can call upon the services of men whose salaries are otherwise provided, or it may undertake the research by administration of funds, as in many of our committees.

II. Report of the United States Senate Committee on Conservation of Wild-life Resources

In the absence of Senator Frederic C. Walcott, Dr. Curtis asked Dr. Alexander Wetmore to substitute for him.

WETMORE:

I have some interest in matters of conservation through membership on two boards, one of which is national in scope and the other international. The problems of conservation are highly complex in their political and social aspects. There are many troublesome factors involved which the National Research Council may wish us to consider. Dr. Curtis has indicated that the work of this committee is to deal with the higher vertebrates in their relationships to some of the lower groups in general. It seems to me there is no limit to such a project of the committee, if established. In view of the state-

ment of the Chairman that requests should come to the Research Council, the committee might serve perhaps a technical capacity. In a technical sense such a committee might serve to coordinate biological interests which are looking for certain information or put them in touch with those agencies which might give the information desired. The Biological Survey in the Department of Agriculture is carrying on definite investigations in these very matters. The Smithsonian Institution in the National Museum and, in a less degree, the National Zoological Park have interests along the same lines. Inquiries may come which would ordinarily come to the Biological Survey and if they come to the National Research Council they could be referred to the agencies concerned. A natural history survey is always welcome when funds can be provided. The committee might give definite information which can be applied in considering the status of wild life at any time. The matter of such surveys is largely one of money and if money can be found it will be well to go ahead.
Discussed by Dr. Curtis.

III. Wild Life Research as a Preliminary to Conservation

HOWELL:

The present plight of wild life is due to a certain amount of passive and active persecution. Under passive persecution we class lack of food and crowding by civilisation, etc. Under the active would come hunting and control measures. Hunters are entitled to a reasonable ownership of wild life but not to the point of public ownership. The only big game animals left in North America are the deer, bear and moose. The others have ceased to be game. Some game have gotten to the point where they are worth more as non-game than as game, the duck for instance, while quail is worth more to agriculture than to the sportsman. Allow me to mention a few points in that connection.

The present tendency is not only for the 7,000,000 hunters in this country to hunt everything which furnishes sport, whether it is good to eat or not, but also for different organizations and individuals to adopt control measures against certain species, and the tendency seems to be directed to almost all forms of life. There are some groups who wish the reduction of almost every species. The majority of hawks are really beneficial and are worth more perhaps than was the case when they were more prevalent. Maryland and Virginia have bounty laws on hawks. In Maryland the state paid one man alone $91.00 last summer for the destruction of hawks. On the west coast a bounty is placed on sea lions because they are said to feed on salmon. Sea lions do not largely feed on salmon but mostly on lampreys and other forms which are destructive to fish as a food. There are two viewpoints which we have to consider in studying this matter, that of the hunter and that of the recreation seeker, and this will have to be done through research and education. This committee has been proposed as the one agency for heading the situation and it seems that the committee should be handled in an effort to prevent controversy. The function of the committee should be more of an advertising capacity directed toward the securing of entirely adequate research in anticipation of any control measures. The committee should know that if control measures are adopted it should be done only after adequate research on the question. In order for such a committee to function adequately and to conduct its responsibilities to the best advantage the committee as a whole should be very carefully composed of members who could not possibly have any axe to grind.

Major Waller added the following remarks to this same topic:

WALLER:

I think that a good deal of what Dr. Howell has said is very evident

to most of us and we want some point to start from. Many of us are interested in the conservation of game and we find that the further we go the more complex the situation becomes. There is probably no one subject which touches as many people about which there is as little known as game and its ramifications. Conservation has been carried on by numerous organizations and based largely on sentiment. We must put it on a sound foundation. It is obvious to anyone who has gone into it any length of time that sooner or later we run against a blank wall. That is the fundamental starting point. Anything that has to do with game or wild life is so much bound up with sentiment that no matter what organization undertakes a study of it, it is practically sure to get bricks from other organizations. So we need some such organization as the National Research Council which has no axe to grind which can give information. How that is to be obtained is the object of this meeting. All organizations interested in conservation are quite willing to cooperate and if the National Research Council can secure funds for the proposed committee, all problems might quite readily be referred to the Council. The governmental agencies are very good but we all know that there is too much red tape connected with them and we must get to the source of things. It is my firm conviction that research is the basis of conservation and the National Research Council can be of inestimable service in this.

Dr. White:

It seems to me that the main question coming before the Council is whether it can serve a useful purpose in the field of research underlying this problem of wild life. There are certain phases of the question which seem to be of fundamental importance:

1. Relation to pigment in bird life, about which practically nothing has been done. We know that pigments are important in chlorophyll and hemoglobin

but we know very little about them.

2. Bacterial strains which come through the intestinal tract of the birds and their relation to the soil.

3. Relation to parasites, that is bacterial parasites. The economic phase of this whole problem might well be considered and not so much the sentimental one. With the Council acting as a correlating center we might do very much in this line. Research should confine itself to the research of the economic field and not to the sentimental side.

Dr. Curtis:

While research is necessary, there is often no money for it. We may be forced to do the best we can under the circumstances. It seems that in all probability we shall be obliged before a great many years to really restrict hunters to a very few forms like deer and quail. We do not think of ourselves as a guide, philosopher and friend except in cases where other agencies feel disposed to have us represent them. Any function the Council may have in guiding is only effective if that relationship is quite agreeable to the parties concerned.

At this point Dr. White asked Major Waller about where he thought funds might be raised, and Major Waller responded that he felt certain the funds would be forthcoming if the committee were established.

IV. Wild Life Preserves in Relation to Other Interests From the Viewpoint of the Ecologist

SHELFORD:

I shall first discuss the point of view of ecologists as I know them. The ecologist is interested in the primary biotic communities. There is no community where there are no useful animals. All of them are important and they

must all be studied together and no ecologist ever for one moment questioned that statement. We feel that we must first study these communities in order to get at nature's fundamental laws. After that we can take up secondary communities, namely those which man has produced. We try to deal out various important functions as we study these communities. We try to determine their trend and laws. We can do this only through basic research. Sincerely speaking I do not think ecologists are troubled with the balance in numbers. Numbers have always fluctuated and always will. Certainly the fluctuations of the bottom fauna of the sea have not been effected by man, and still there are fluctuations running over periods of years.

The research in question must be carried on with a view to determining these fluctuations. The training of men to do this work constitutes a very serious situation, if the National Research Council recognizes this as a legitimate study. There are very few institutions that are equipped to present the modern ecology. There are just a few men in the field. Few institutions are equipped to train men. I believe in the fundamental importance of insects. This work does not progress because it is impossible to find out what is large in importance and what is small. The work must be all fundamentally quantitative. The best we can do is to start with the figures we have and then keep track of what happens. It is obvious that work of this nature would take more than one man and they must be trained in recognizing these animals. It is difficult to remedy the situation without increasing expenses, and this is where I think the National Research Council could exercise an important influence. As to the conduct of the work that needs to be done, I do not believe that it is any more difficult to do this than any other kind of work. But it has to be continuous. The continuity is extremely important because the fluctuation of certain animals is important. In the plankton study we

have the ideal for doing what I call sometimes the oceanography of the land, and we have some plans in view but I am sure we will need the aid of the Research Council.

Discussed by Dr. Curtis.

V. The Biological Survey and Wild Life

Mr. Henderson was scheduled to talk on this topic, but in his absence Dr. Curtis called on Mr. Redington.

REDINGTON:

I have been deeply interested and greatly heartened in what the former speakers have said. We are dealing with subjects which almost daily come up at the Survey for consideration. I am not a trained biologist and have depended largely upon men of the Survey and their cooperation for what I need. We cannot advance our research until we have the basic facts, and I realize that the Biological Survey is very weak in some of its research programs. We have, however, secured an increase of about $145,000 in research programs and I think we have not reached the end. I see a growing interest. We have many things to look forward to which we can not handle in our present work. We are trying to make a continuity of our research work. Quail in Georgia has been very carefully studied. We now have a man stationed in Jackson Hall and we have been able to place five men in different forest experimental stations throughout the country to learn the facts as to the population of birds, animals and diseases, etc. We should have a trained biologist for every one of these forest experiment stations in this country to carry on this research work. Undoubtedly funds are not available to put men on as we would like, and this is a serious drawback. In our refuge acquisitions we will eventually have areas which can be studied in their natural

conditions, but it is going to be difficult in some places to hold what we have of these primitive areas. We must face the fact that pressure shall come from men who can not at all realize that it would be to the best interests to have primitive areas. We have always to fight this battle. I can see that a committee of the National Research Council could help us extremely not only in securing basic information from a life history standpoint, but also from an economic standpoint, and I agree that the committee would have to interest itself in both angles.

Discussed by Dr. Curtis, Dr. Shelford, and Dr. Cole.

Dr. Bell added the following remakrs to this same topic:

BELL:

Much of our research must be done while considering things which will be useful to the public. We must carry scientific research along while we are trying to do a reasonable service to the public. The opinion that will be offered by the reservation program, which is now being carried on by the Biological Survey, will be helpful in making studies of the biological areas. We are struggling with these things and we want the cooperation of the National Research Council and others who are able to help in this problem. The Biological Survey is for a get-together of all agencies to help in getting facts which we need. It takes a lot of driving power to get these things going.

Discussed by Dr. Shelford.

VI. The Life of Streams and agriculture

NEEDHAM:

One function which the committee may perform in state as well as in federal government is to get lands for public use. A committee of the Research

Council might give aid in having reserves made permanent. Food is the basic and most important thing of all living things. And therefore studies of foods have given us the largest body of information we have and the basis we have of forming an estimate of what these things are worth. Funds is all that is necessary.

The relationship of streams to aquiculture and agriculture is very important. We should do for aquiculture what we have already done for agriculture. The methods of experiment stations, which have made agriculture what it is, would undoubtedly do the same for aquiculture. It is toward that that the Committee on Aquiculture is directing its attention at the present time. What we need there is more fact-finding. There are too little means for getting knowledge where it is needed. I believe a committee like the one proposed can help in this fact-finding.

VII. The Proposed Bottom-land Agricultural Experiment Stations and their Relation to other Problems

ETHERIDGE:

Bottom-land experiment stations, if established and properly conducted, would become an extremely fertile field of research in the field of agronomy. They would become an almost equal agency in the field of research in wild life and the field of general biology. Nearly all of our bottom-lands are found east of the 100th meridian. I wish to deal particularly with Missouri because Missouri furnishes the same condition which is found in a number of other states on the Mississippi, Ohio and other rivers smaller in size but bordered by very important flood plains. The agriculture of bottom-lands is not by far so extensive as that practiced on the up-lands. There is a serious

lack of scientific information in regard to bottom-land farming. Agriculture has been restricted almost wholly to the up-land districts, so we have a very meager scientific knowledge of just how to farm in the bottom-lands. The bottom-lands are extremely fertile and can raise much more than the up-lands. We have on hand a program of research in bottom-land agriculture, but an adequate program of research depends upon funds. It seems logical that we should have a federal program of research in bottom-lands in such a way as now exists between the Department of Agriculture and the experiment stations. We need to know just what part of this is adequate for growing crops. This is based upon the assumption that the flood controls will make these lands safe for agriculture.

As to the relation of this project to the one of wild life and biological research, if there should be established a series of agricultural experiment stations located in the bottom-lands, these stations should certainly provide working quarters for the agents of biological research whose problems lend them to the same situations. I see every reason why we could cooperate and coordinate to the mutual advantage of all concerned. If agricultural production should become concentrated on the flood plains the food supply of wild life would also become relatively concentrated in those areas, which would set up some entirely new problems. We believe that rice can be produced so cheaply in the bottom-lands as to make it an entirely successful competitor of corn, as it is quite as good a food for hogs and cattle as corn. We have noticed changes in the wild life population since we have been growing rice. If the production of rice as a feed crop should become extended we will come upon some important changes in the wild life along the Mississippi River. The bottom-land experiment stations certainly could afford a new facility

for biological research along the Mississippi, Missouri and other rivers, because they could provide a good working headquarters. If they develop as we hope there will be a possibility that they could provide laboratories for research. It is possible that by broadening the project so as to make it include a larger biological field and the economic phase of agriculture, we could develop these bottom-land experiment stations in the first place on the basis of aid of these biological researches.

Discussed by Dr. Needham and Dr. Curtis, Dr. Needham pointing out the fact that other countries like Roumania, British Guiana and China are very successful in cultivating their flood plains.

12:40 o'clock the meeting adjourned for luncheon.

2:20 o'clock meeting reconvened.

Dr. Marbut added the following remarks to topic VII:

MARBUT:

We are facing in this country the question of a complete readjustment of agriculture. It is inevitable. That readjustment will take the form of the abandonment of the poor lands and confinement of agriculture to the rich lands. Bottom-lands are productive, but they are not the only rich lands. Within any given region the illuvial lands of that region are more productive than the adjacent up-lands. Agriculture in the western part of the country will decline and there must be more in the eastern part of the country where the most productive lands are the bottom-lands. This botton-land can not be reserved for the preservation of wild life. The southern part of the country has about all the bottom-lands in the East. The soils of part of the South are poor and therefore this applies more to them than to the North. From my point of view, to talk about preserving any considerable part of the lower Mississippi Valley, except that part that will be left open by this new scheme of the War Department to leave the great broad belt for overflow, this section is going to be used for agriculture and we will have to put our birds and wild life in the up-lands. It is not wise to use the lakes of the lower Mississippi as preserves for wild life as they will be mostly drained and put into agriculture. The illuvial lands of the United States in the future will be used for agriculture and we will have to hunt some other place for wild life preserves.

Discussed by Dr. Curtis.

VIII. Forestry, National Parks and Wild Life

BUTLER:

I must of necessity speak of this subject as a forester because my

knowledge of wild life is only that of the average layman. I am tremendously interested in research because I think so many of our conservation problems will have to be worked out by research. I think public sentiment is essential, not only to secure the research we need but to make application of it. Foresters have spoken in the last few years about forest land and the amount of rough land which is not useful for agriculture, the best use of which seems to be for forests. Forest trees, birds and wild life are intimately related. We cannot see to what extent now, but can only learn through research. The point is that in the whole problem of forestry and the development of our forest lands we must combine wild life with the forests. It is otherwise impossible, it seems to me, to work out the forest problem sufficiently and to its largest end. Until the last five years I would say that foresters have given little thought to the wild life feature. I think it is equally true that until recent years the wild life advocates have not given full appreciation to the full importance of research. It is certainly true that the whole field of forestry lacks research men to tackle the problem of forest wild life. At the present time the amount of research in wild life, as it relates to forestry, is hardly scratching the surface. I do not know how we are going to get the men we need to tackle the question. I do not know where we are to get the money we need to tackle it. The forests seem to divide into public lands and private lands. The question of wild life research on the public lands, while it is difficult, it seems to me it is not as difficult as meeting the problem on the private lands. The point I want to make is that at the present state of both forest and wild life research, it seems to me that we need some agency that can take an outstanding leadership in coordinating the whole program of wild life research and I look upon this suggestion of a committee with very great enthusiasm because it seems to me that the National Research Council would be just the type

of agency to gather public support as no other agency could. And I think the undertaking would be well worth while if it were only to undertake a survey of the whole situation from every standpoint. I think there would be also great opportunity for it to function further. I feel very sure that the Forestry Association will look upon such a committee with enthusiasm equal to mine. I know the Forestry Association would be very glad to help raise funds for the committee if it is formed, and if desirable projects are set up. An organization like ours can often help to raise money where the agency is one like the National Research Council, with much greater success than when attempting to raise it for itself or some other organization in the conservation field where there is entirely too much jealousy and rivalry.

Dr. Curtis:

I feel that there is very little to be done without going into definite programs. There are not enough men who are interested in or adequately trained for this work, so that if we are to have positions for men who might have these interests, the thing the universities and colleges must do is to educate them, and unless there are suggestions or criticisms to that point of view, I will represent the National Research Council as favoring it.

Bell:

I think that the universities and colleges should train men fundamentally in biology through chemistry, anatomy, English, physiology, etc., so that they may bring out more specialized lines of work. If they attempt to train a man in a specialized line they will steer him off into a much

too narrow field.

Discussed further by Drs. Needham, Marbut, Cole, White and Shelford.

IX. Bird Sanctuaries and Wild Life Conservation

PEARSON:

It is probably known to everyone present that in countries thickly settled forms of wild life disappear very rapidly. Large quantities of game are not now found in many parts of the world except where crowded conditions do not exist, or except where man has provided for conservation, as in Scotland. In this country the legislature declares that the game belongs to the state and is in the keeping of the government. It is therefore not to the individual's interest to preserve the game as it would be if it were on his own land. Therefore much of the game is gone in large areas of our country. In areas where game is privately owned it is much better preserved. I expect to see the big game of America disappear, in fact it is already largely gone, but I cannot conceive of the buffalo and elk disappearing. Sheep, goats, birds are all going. The sportsmen are responsible for this. There are 7,000,000 hunters in the country. There are about 700,000 of these whose object is to conserve the wild life. Their object is to preserve game. We should certainly realize that the large number of licenses sold are to killers. Many people have done much work in restocking the country in certain forms of wild life. We will find that the measures for this preservation did not come directly from the legislature, but through them by the small number of people who were interested in it. We found it was necessary to try to do something to protect the game. These laws did not extend to gulls and other non-game birds and it has become necessary to make laws to protect

them. The bird sanctuary idea originated with the Audubon Society. A project is now on hand for making bird sanctuaries out of golf courses. There are a large number of problems in connection with this bird proposition. There needs to be a great deal of teaching along lines of preservation of birds. The subject of game administration should spring as readily from the mouths of people as conservation. There needs to be a tremendous amount of common sense taught by this committee on this wild life proposition. One of the many things which the Research Council should do, if possible, is to teach some practical ideas.

Discussed by Needham and Waller.

Mr. Ross L. Leffler was to have discussed topic X, but since he was absent this topic was omitted.

XI. The Game Survey of the Sporting Arms and Ammunition Manufacturers' Institute

LEOPOLD:

I think there has been a sufficient description of the fact that the conservation movement is a very large and useful one on the part of the American people. I think we can advance this as an axiom that biological science uncovers facts that make the differences between biological factors shrink. The mere pushing of the function of research will not itself have a pacifying and coordinating effect that will make for team work. What are some of the ideas with which these factors are wrestling? They have first the idea of restriction. The first weapon we use in conserving something is that of restriction. I believe that has always been the case. We always say that that is the line of evolution. I think that the present movement

in American conservation may be described in this way -- that it is witnessing the birth of cropping. Of course no sooner are the sportsmen embarked upon this idea than they run into the question of cropping methods. I can see in the public mind almost a demand on the part of the conservation movement for greater speed in developing cropping methods. Again biological science is uncovering factors that thought they were at war with each other and I think such a committee as the one proposed can go a long way in this. The following are possible functions of the committee:

1. The rapid development of cropping methods in game. This of course is applied research project.

2. Reminding the conservation movement that fundamental research must keep up with applied research. Our knowledge of the physiology of game birds is almost nil. It seems that the National Research Council should keep on urging the fundamental research as well as applied research.

3. A committee of the National Research Council could do a very great deal toward the financing of the fundamental research.

4. I believe that this proposed committee can discharge a very useful function in the guidance of conservation education.

Due to the fact that so many of the members of the gathering were compelled to leave early the last three items on the agenda were not discussed.

There being no further suggestions, Dr. Curtis stated that he thought he would recommend the establishment of the committee to the Division of Biology and Agriculture when it meets in April, and the meeting was adjourned at 4:10 p.m.

Newcomb's Johnson
See Cy Rev Biol & Agric

File Copy
NRC

905 University Avenue
Madison, Wisconsin
December 30, 1931

Messrs. Charles C. Adams)
H. E. Anthony)
Harold C. Bryant) Committee on Wild Life,
E. A. Goldman) National Research Council
V. E. Shelford)

Gentlemen:

Dr. John C. Merriam asked me to send you the attached proposal, which I prepared for him after a brief verbal conference.

As I understand it, Dr. Merriam desires this matter to come up at the next meeting of the Committee.

Yours sincerely,

ALDO LEOPOLD

Proposed Game Survey

by the

Wild Life Committee, National Research Council

The Game Situation. For fifty years this nation has been attempting to evolve a system whereby certain species of wild life may be utilized and at the same time perpetuated. In spite of a large and growing public interest, the attempt has been a failure. Decimation has, with some exceptions, kept a step ahead of restoration.

The problem is peculiar in one outstanding respect: there is a time limit on its solution. Too tardy a success will hardly be a success at all, because many valuable species will have disappeared.

Realizing this, the component groups representing the wild life conservation movement have begun to blame each other for the failure of their common enterprise. New cleavages are developing annually, each group offering its own separate formula as the remedy for their common failure.

Although diverse in motive and method, all these groups fall into one or the other of two broad classes: (1) those who believe that utilization can be made the means to restoration, and (2) those who do not. The first group insists that the human effort necessary to protect wild life, and provide it with a favorable environment, will not be forthcoming without some material reward. The second group replies that such a cure is worse than the disease, and implies that ultimate non-utilization is the only way out.

It does not stand to reason that either of these two fundamental formulas is wholly true and the other wholly false. It is also a safe

conjecture that the ultimate utility of either depends on the biological skill and insight exercised in its application. Furthermore it is increasingly clear from current researches that neither faction possesses, nor has it access to, the biological skill and insight requisite for the execution of its program. Such knowledge does not yet exist.

It would be futile and impossible to call a moratorium on effort, pending the acquisition of such knowledge. The conservation movement must continue to fight out its differences according to its lights. The situation, however, offers an inestimable opportunity for public service in speeding up the process of getting more and better lights. The future of wild life depends on how quickly and how energetically this opportunity is seized upon.

Who seizes it is also of vital import. Even the partisans, in their past sporadic efforts to develop wild life research, have had the good judgment to realize that such work must be done largely through non-partisan institutions, like universities. It would be better if the game research work of such institutions also had some non-partisan focal centre free of administrative commitments. I know of no better focal centre than the National Research Council.

The obvious function of wild life research is to search for all those facts about wild life and its environment which bear on conservation, and let the public decide what policies will fit them. Policies have so far been built from the top down. Research will enable them to be built from the bottom up.

The following captions outline a way in which the National Research Council might start its fact-finding function.

Objectives: To stimulate research in the ecology of wild life, with a view to:

(a) Developing conservation technique for each species in each region. This work should, in so far as possible, be done by local scientific institutions, with a view to providing a factual basis for the policies of local administrative agencies, and the practices of landowners.

(b) Creating a trained manpower versed in both the ecology of wild life and its application to conservation problems and to actual land-use. Such men are now scarce. Better practice depends on making such men available to local educational institutions, administrative agencies, and land-using industries.

(c) Enhancing the social values of wild life. The instinctive enjoyment of contact with wild life, inherent in most people, is enhanced in proportion to their understanding of its ecology.

Since the game birds and mammals are the ones now most in need of attention, it is proposed to deal with them first. Other species are to be dealt with in so far as they affect game conservation.

Activities. It is proposed to institute:

1. Wild life Surveys, to appraise local situations, and to isolate the local problems most in need of research.
2. Conservation Fellowships to enable selected men to work on those problems, to develop techniques for their solution,

and to demonstrate the efficacy of such techniques. Such fellowships would at the same time create a trained manpower.

3. Scientific Fellowships or Grants to resolve such questions fundamental to (1) or (2) as may arise from time to time.

Organization. It is proposed that game surveys be conducted by a "Director of Game Surveys" to be employed by the Committee. He should utilize such local cooperation as may be available.

Problems for conservation fellowships, and the funds wherewith to attack them, will grow out of the surveys. The Committee can administer the funds for such fellowships, or allow their donors to place them directly in local institutions. In either event the Committee's advice should be available as to subject matter and administration.

Scientific fellowships, or other foundational scientific projects, should be administered by the Committee, in accordance with the established policy and procedure of the National Research Council.

Finance. At the outset the only funds needed are:

$ 10,000 per year for Director's salary.

$ 5,000 ? per year for Director's expenses.

$ 2,500 ? per year for travel of Committee members in attending semi-annual meetings.

2500 For fellowship advisors

$ 20,000 Total per year

It is proposed to finance this initial program for 3 years by accepting, if offered, a donation of $ 7500 per year from the Sporting Arms and Ammunition Manufacturers' Institute, and a donation of $_____ per year from _____.

Publication of the findings of surveys will ordinarily be paid for by the state or other unit cooperating. Publication of the findings of conservation fellowships will ordinarily be paid for either by the local institution in which the fellowship is placed, or by the donor of the fellowship. Funds for scientific fellowships or grants will have to be obtained as the need arises.

Example. The intended meaning of this proposal may be clarified by citing an illustrative sequence of events, based on a game survey actually now in progress in Iowa.

About a year ago Iowa conservationists, long dissatisfied with the administration of conservation matters then obtaining in that state, passed two bills, one creating a State Conservation Commission, the other appropriating $25,000 for a conservation survey.

The Commission asked for the loan of my services to make the game part of the conservation survey. This I am now doing, Iowa paying my expense and the Ammunition Institute contributing my salary. I report to the state. The findings are to be published by the state.

The survey, although only half done, has already disclosed the need for a local life history study of at least four game species. I have recommended that these studies be conducted through fellowships to be established at the Agricultural College, with the advisory guidance of the U. S. Biological Survey. Funds for one such fellowship ($3,000 per year for 3 years) have already been offered by an interested citizen. I am confident that additional fellowships will be offered.

If this survey had been conducted through the National Research Council instead of through the Sporting Arms and Ammunition Manufacturers'

Institute, every move thus far made would have been the same, but the eventual outcome might be improved in several respects:

There would, I think, be additional public assurance that the source of the funds, as well as the findings of the Survey, are unbiased. Citizens would be more likely to contribute research funds and the public would be the more ready to accept and act on the results. The general idea of states seeking scientific advice in developing their conservation policies would grow faster and further.

The Iowa Survey, or the subsequent researches conducted under local fellowships, may at any moment disclose underlying scientific questions, general rather than local in their significance. No Iowa institution may be competent to handle them, and no local citizen may feel impelled to finance them. For these purposes the Council should have a special fund, available for use anywhere on any wild life question, under any set-up which the particular question may demand.

For instance, nearly all game management practices, both in this country and in Europe, proceed on the assumption that inbreeding is injurious and should be guarded against. Any attempt to evolve management techniques will eventually need a scientific answer to this underlying assumption. The special fund will enable the Committee to build, under its direct auspices, such scientific foundations as the conservation fellowships, locally conducted under its advisory guidance, may seem to need.

There are pending applications from several other states which wish to proceed in a manner paralleling the Iowa Survey.

2/25/32.

Function of the Wild Life Committee
National Research Council

Aldo Leopold.

Need of manpower. The salient need of wild life conservation is a trained personnel capable of evolving and executing sound technique and policy.

There is no such personnel at the present time. There is a tendency for scientific groups to assume they know how to do it. They criticize the administrative groups for unsound policies. These criticisms are usually well founded, but negative. To point out the failure of past policies is a useful and necessary step, but of little avail unless followed by the prompt evolution of positive and constructive new ones.

Men trained only in pure science are not qualified for this function. Dendrologists are seldom foresters; botanists are not usually agronomists; bacteriologists are hardly physicians; zoologists, ecologists, and ornithologists are seldom wild life managers or conservation administrators.

There are few existing organizations fitted to undertake the task of creating a manpower for applying science to conservation. It is a 20-year job. Organizations supported by dues, appropriations, or short-term contribution must show quick results, and are disqualified at the outset. The National Research Council is one of the few organizations which can afford the time and patience to begin at the bottom.

It is of extreme importance that this proposed manpower should not all be tarred by any one intellectual brush. The job is to evolve a conservation technique by the competition of ideas, rather than to build one to somebody's preconceived specifications. It follows that the training function should be allocated among a large number of independent institutions. It will save time, of course, to procure for these institutions the advisory assistance of such centralized bodies and individual persons as have a little information already--such as the U. S. Biological Survey. Experience has shown that such advisory assistance can stimulate and speed up research without dominating its findings.

As in other branches of applied science, the human raw material should be young men already trained in biology of some sort.

Need of localization. Few concepts in applied biology become useful as guides to land-use until defined in terms of local conditions. The predator issue, the issue of exotic species, and the group of disharmonies between wild life needs on the one hand and farm or forestry practice on the other, are current examples of how sound principles insisted upon by scientists are of little avail until their local applications are worked out. Controversy and deadlocks disappear in proportion to the degree to which their subject matter is split up and subjected to research.

The training program in diverse local institutions will therefore serve not only to create a competent manpower but to clear their future field of action of human impediments.

Need of coordination. Conservation of wild life is impossible without the conservation of environment. Environment is determined largely by the practices of land-using industries. To secure the necessary modification of these practices, wild life management research should be conducted largely where those practices are evolved--namely in the agricultural colleges and forest schools. The dovetailing of land-use techniques will thus be assured.

Pure science. The pure science of wild life ecology could receive no greater stimulus than will result from the attempt to develop its applications to a management technique. Application means controls on a large scale, and controls mean progress. Already the few attempts to experimentally manipulate wild life environments through research fellowships have resulted in new ecological concepts which seem to me to have great significance. The differential selectivity of predators; the role of soil chemistry in game bird distribution, and the concept of uniform saturation densities over large areas are cases in point.

Finance. The National Research Council need not assume the financial burden of training the new manpower. Local funds are available, and are preferable because they stimulate the sense of local self-help. The only needed expense on the part of the Council is that of sharing the cost of preliminary surveys to find out what the local problems are, and to state them in terms which the various local groups can understand.

The Council probably should assume the task of finding funds for the pure science problems which will arise out of the local work. This, however, is a matter for time to work out.

Report of the Sub-committee on the Training of Men for Administrative and Educational Work in Wild Life Problems of the Committee on Wild Life.

Your committee has continued its consideration of the status, prospects, and problems of wild-life and their relation to the training of a personnel increasingly competent to work out satisfactory solutions for such problems. We now feel in position to supplement our brief statement of last year, and to make further report and recommendations, as follow:

1. Increasing population, better transportation, shifts from rural to urban centers, ill-advised agricultural extensions, and so on, have brought about great and presumably permanent demands for recreation facilities (among which generous supplies of wild-life are a major factor), coupled with a steady and long-continued shrinkage in such wild-life supplies.

2. There has been widespread recognition of these facts and factors and much poorly organized interest in ways and means to improve the status and future of our wild-life affairs, but there has been very little recognition of the increasing inadequacy of the generally accepted measures to be taken for such improvement - as through further shortening of seasons and bag limits, "better law enforcement", "vermin control", expansions in artificial propagation, and so on.

3. While there is certainly occasion and place for such long-standard measures, it seems evident that they are and will continue to be inadequate and that a comparatively new concept and

practice must be involved if any adequate or permanent supply of wild-life is to be secured or thereafter maintained: the concept and practice of "wild-life management". In essence this signifies only the crop- wise servicing of desired wild-life forms.

4. Formulae and sound proceedures for such crop-servicing operations have been well tested in connection with agriculture, forestry and allied phases of medicine and engineering.

5. The essential elements in such crop-wise theory and practice will involve broad biological backgrounds and the consistent recognition that each wild-life form is constantly subject to a vast complex of limiting factors. The precise determination of such limiting factors and the continuous and clever devising of methods for their control and inter-balancing must underlie all sound "management".

6. In setting up and operating agencies to facilitate and implement such wild-life management (servicing) a duplication of the corresponding facilities which have proved effective in the servicing of the farm and forest crops will evidently be needed, and practicable: as technical schools, experiment stations, provisions for providing young specialists with broad field experience and contacts with the administrative aspects so as to recruit for and utilize increasing technical competence in the administrative divisions and bureaus and so forth, plus corresponding "extension" facilities and personnel to bridge across from the laboratories to the lands and waters which must constitute the habitats of the wild-life forms under management.

7. Experience in the operation of such agencies and systems seems to make it evident that three primary phases should be recognized and provided for:

   a. Technical ---------- What may prove useful or otherwise.

   b. Economic ---------- What it will "pay" or be "worthwhile" to do or try.

   c. Social and political ---- What the interested persons or groups will or will not accept or "stand for".

   These three primaries seem very evident in connection with our wild-life affairs, and to be recognized and provided for accordingly.

8. The present condition of our wild-life affairs has resulted from the rapid transition from pioneering to the current status, and so as to develop a large gap of lag between the most modern concepts and practices, and the concepts and practices still in actual effect through most of the nation. The primary question is how best to close up this gap and short such lag.

9. It will obviously prove inadequate merely to "train" competent specialists, without at the same time making provision for increasingly rapid absorption of their technic and personnel into positions where they may function effectively, and so as to replace the inadequate concepts and personnel with a minimum of friction and delay. Such replacement in Agriculture seems to have required some fifty years, and in Forestry perhaps thirty years. But there seems good reason to assume that such replacement in connection with the crop-wise handling of wild-life

may require much less time if the precedents and momentums of the parallel lines are intelligently utilized so as to escape another and separate trial-and-error series.

10. The recent announcement of the Secretary of Agriculture, that the wild-life resources of the National Forests will at once be placed "under management" and the recognition of the grade and title of "Conservationist - wild-life" by the U.S. Civil Service, are indicative of what is happening in many places. The National Park Service, and the Divisions of Erosion Control, Indian Affairs, and so on, are undertaking large wild-life investigations and operations, and the U.S. Biological Survey is rapidly expanding its interests and activities in such connection, especially as related to waterfowl. In various states the Conservation Departments are rapidly expanding their recognition of game and fish "management" and employing increasing numbers of men with training or experience along such lines.

In the literature of the day various editors and special writers have begun to develop regular features of the sort, and the recent hearings of a U.S. Senate Committee (Hawes) and the resulting documents further illustrate the manner and rapidity of growth recently characteristic in such connection.

As a result of these recent expansions of interest in the servicing of wild-life affairs and the land-use programs of the federal agencies, the supply of personnel at all competent to handle such investigations and operations has been almost wholely

exhausted, and many poorly trained and inexperienced men are being absorbed into such positions with consequent jeopardy to the sound advance of such undertakings.

11. The stage would appear to be set for a very rapid expansion of wild-life servicing operations, and with excellent prospect of resulting hypertrophies among the educational institutions undertaking to offer such training. Some thirty years ago a similar situation developed a similar hypertrophy of schools of forestry, with many very weak schools presently disappearing as a large surplus of graduates appeared and as federal employment became more and more limited. It would appear highly inadvisable to now duplicate this proceedure.

In the report of last year the suggestion was made that several well qualified institutions be designated as centers for the training of wild-life specialists. It would now seem a proper time for a more specific consideration of this idea. There is probably no institution or group of related institutions at present financially able to undertake large or rapid expansion along such lines. However, there are individual groups of institutions with the nuclei of personnel available for immediate action, provided they could be implemented in a modest financial way. The precedent of Federal assistance to agricultural research (experiment stations); and to agricultural extension, seems to offer a proper and practicable formula for similar organization and proceedure in terms of wild-life problems. Prompt inquiry looking toward action along such lines is urged for consideration.

12. There is, evidently, much occasion for some central agency to survey and report upon the situation so as to focus all pertinent data in forms such as will permit all interested institutions and agencies to act with understanding and in cooperation with each other.

13. Such canvass and report should presumably cover the following items:

a. Inquiry into the agencies now employing or shortly apt to employ specialists in wild-life affairs; for what purposes and with what prospects for permanence and enlargement of function.

b. Inquiry into the scope and probable permanence of the several fields evidently needing such technically competent servicing (as big game, small game, farm-game, waterfowl, game fish, predators, non-game forms etc.).

c. Probable rate at which opportunities for employment will appear, Federal, State, and other.

d. Type and distribution of educational institutions which should be encouraged to develop first-class facilities for training such men.

e. Type and distribution of educational institutions which should be encouraged to develop second-class facilities and to serve, in the main, to recruit material for (d.).

f. Measures through which the spread of information concerning the best modern technic and consequent demand for its application may be facilitated so as to shrink the gap or lag noted in (8) above. (As by organized and sustained

publicity such as proved effective in stimulating agricultural and forestry technology and applications. The early assignment to county agricultural agents and similar "Extension" organizations, of responsibilities in such connection, and the recognition by Agricultural Colleges that wild-life is a "crop", and to be serviced as such, may be practicable and in order. The specific encouragement of editors and special writers with demonstrated interest and skill in such presentations might prove practicable and desirable.)

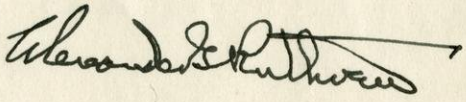
g. Integration of federal agencies now separately engaged in wild-life investigations and operations, so as to focus and utilize to the best advantage, all available technic and personnel, and so as to set up and maintain high (or decently adequate) standards for such undertakings and personnel; thus encouraging the Schools in developing and respecting such standards; and encouraging State and other organizations in their recognition and use of such standards and personnel.

14. Your committee recommends that such a canvass and report be undertaken as promptly as may be, and through some competent agency. There is precedent in agriculture and forestry for such canvassing and reporting through a Federal Department or Bureau, and in medicine and engineering and so on, through a Professional Society. It would seem that the Science Advisory Board might be a proper and available agency for such an undertaking.

We therefore recommend that some appropriate Committee of the N.R.C. be given authority and instructions to:

1. Canvass all available Institutions with proven interest in and facilities for such an undertaking, and if such is found, and willing to undertake such canvassing and report, to
2. Create an Advisory Committee of the N.R.C. which act in advisory capacity to the Secretary or Investigator assigned to do the work as sketched in (13) above.

15. Pending consideration of and action on the above recommendations, the Sub-Committee on the Training of Men for Administrative and Educational Work in Wild Life here reporting will consider itself discharged, though available, on occasion, for further activities in case there appears occasion.



File

May 22, 1935

Report of the Committee on Wild Life Studies
National Research Council
On the Proposed Wild Life Research Program of the
U. S. Biological Survey

The sum of $42,000 has been appropriated by Congress to the Biological Survey for a wild life research program to be undertaken in cooperation with the states. An additional private contribution, as yet undetermined as to amount, is to be made available to the Biological Survey for the same purpose. This report, submitted at the request of the Biological Survey, deals with the question of how to set up the proposed program.

We first of all heartily commend Congress and the private donors of funds for making possible an expansion of wild life research at this time. The existing research base is entirely too small for the great recent expansion in wild life projects.

We take it for granted that the work carried on with private donations will be safeguarded in the same manner as other private grants made to public scientific institutions for research purposes. The essential point is that the research institution should have entire freedom to select personnel and to publish results.

We approve the intention to allocate the new funds to local research institutions which are in direct contact with landowners. Such local work will have a superior research atmosphere, and will have a spreading power far greater than if the work were centralized in Washington.

We approve the stipulation that the local institution and the state conservation department participate financially in the costs.

We have some misgivings about limiting the system to land grant colleges

exclusively. We suggest that quality of personnel, interest in the work, and equipment for the work be the criteria for selecting the institutions which are to receive the funds.

RESEARCH ORGANIZATION

Manpower. We take it for granted that graduate students are, in the main, to constitute the manpower for this research. Not only are they available for less than half the cost of salaried investigators, but they constitute the best available vehicle for professional training. Game research can be taught only by doing it.

Coordinator. The system will have to head up in one Biological Survey coordinator who must spend his time making the round of the local institutions doing the work. The success of the whole enterprise will depend on the skill exercised in his selection. He should first of all be familiar with university research, and with the fact that university workers usually enjoy a wider latitude for individual initiative than has been customary in bureau research. He will need enthusiasm for research and skill in field ecology. If possible he should be experienced both in doing and in supervising this kind of work. His personality must be acceptable to scientists, game officials, farmers, sportsmen, and protectionists. He must be an organizer.

Resident Biologists. Institutions embarking de novo in wild life research will need more and different help from the Biological Survey than those already doing it. They will usually lack field skill, and often there will be large hiatuses in the consultation facilities available from the local faculty. The proposed assignment of an experienced Biological Survey man to the local faculty will be a good way to get the work started in such new institutions.

Institutions already experienced in wild life research, however, have

less need of a resident biologist. Such institutions will often have developed distinctive methods for executing rpojects which they should be free to follow if their methods are effective. The periodic visits of the coordinator will suffice for their needs.

Research Program. Every search for wild life management methods develops offshoots in two directions. First it develops conclusions which must betested by trying them out on a piece of land. Second, it develops unanswered questions in the basic sciences, and in technical fields with which game men are not familiar.

When this occurs, the wild life project is in a blind alley until the specialist in the related field does some actual work to again open the way for a further advance. The basic advantage of working in universities is that the needed specialists in other fields are usually available and willing to help.

Wild life research is now unbalanced in that the older projects are confronted by numerous blind alleys in specialized fields. It is also short on practical tests or demonstrations of conclusions already developed.

The proposed participation of conservation departments will presumably tend to emphasize the practical tests or demonstrations. Some corresponding emphasis on the clearing up of blind alleys will be needed.

The coordinator can do much toward bringing about this balancing of the program if he brings to the job a sufficient insight and skill.

We see little present danger of duplication of work as between institutions. The best insurance against duplication is prompt publication of findings. Some research projects which now bear identical labels do not actually duplicate each other. They are simply two phases of one subject.

We call attention to the fact that following game species have never been the subject of any published research having conservation technique as

its objective: Wild Turkey, Cottontail, Fox Squirrel, Gray Squirrel, Sage Hen, Blue Grouse, Jacksnipe, Mountain Sheep, Antelope, Javelina, Mountain Goat, Columbian Blacktail Deer, Black Bear, Grizzly Bear. No duck, goose, swan, shorebird, dove or pigeon has yet been adequately studied as a species. No fur species,with the partial exception of beaver,has as yet been studied.

Non-game species remain virtually untouched, except for incidental studies of a few predators.

Study Areas. In addition to the field tests or "demonstration areas" already specified in the plan, and on which management techniques are to be tested and illustrated, we recommend that each state cooperating in this plan set up unmanaged "natural areas," as checks or controls for comparison with managed areas. These areas should be permanent sanctuaries. Each such area must be surrounded by a suitable protected zone. Population fluctuations, for example, cannot be effectively studied except where both managed and undisturbed areas are measured. Specifications for such "natural areas" are set forth in the report of the Ecological Society's Committee on Natural Areas (Ecology, Vol. XIV, No. 2, April, 1933, pp. 240-245).

Funds should be made available to the Biological Survey for the purchase of such study areas as are needed in the execution of this program, but which are not obtainable by the use of existing funds.

RESEARCH FACILITIES

Management Literature is growing rapidly in volume. It is scattered widely in many biological, conservation, and sporting journals. This scattering we believe is right and proper, in that it tends to make many sciences and professions aware of the subject. Some central servicing is needed, however, to make it accessible to field officers remote from libraries.

The Biological Survey might well consider setting up a central service whereby students and field workers would get current reprints or abstracts at some regular subscription cost. Bibliographies of accumulated material are also needed.

Consulting Facilities. Special precaution is needed to build up variety and balance in the faculty personnel available to wild life students for consultation. In the long run this counts for more than any other one thing, save only the intellectual quality of the students themselves.

We urgently recommend that at appropriate intervals a suitable sum be set aside for the purpose of employing, for a temporary period, a scientific advisor for a scientific overhaul or inventory of such institutions as ask for his services. His job should be to make a round of such institutions, appraising the scientific validity of their current findings in wild life research and advising what items of faculty strength are lacking from each institution in respect of its consulting facilities for wild life research.

Among the items now commonly lacking from local faculties are:

(1) Men sympathetic to both field and laboratory research technique, and skilled in combining the two.

(2) Men who recognize and value field skill in the diagnosis of ecological problems.

(3) Representation in those overlapping fields ordinarily called physiology, endocrinology, biochemistry, nutrition, and genetics.

(4) Men with a well balanced view of mathematical methods for the evaluation of data.

Central Services. While heartily endorsing the proposed decentralization of game research, it is nevertheless evident to this committee that certain scientific services are best kept centralized. The present servicing of food habits and of banding work are good examples. This servicing of local game projects is a going concern, and has operated to the mutual benefit and satisfaction of central and local personnel.

TEACHING AND EXTENSION

We warn against unduly stimulating the tendency to develop half-trained wild life technicians, to the neglect of real scientific training on the one hand and of vocational training for field wardens and landowners on the other. This error was made in forestry and should not be repeated in game.

We warn against encouraging any institution to undertake formal teaching of any kind before it has built up skilled teachers, study areas, local facts, and the cooperation of pre-existing departments.

We especially commend the intention to teach management technique to farmers, but we emphasize the fact that all empirical instruction must deal in local subject matter. Such local matter must be created before it can be taught.

We urge outdoor rather than blackboard pedagogy for all farmer and warden schools.

We urge local rather than national manuals or handbooks for farmers, wardens, boys' clubs, etc.

It is not implied that the proposed plan is in error on these points, but rather that its specifications in respect of these points are obscure.

GENERAL REMARKS

It is our understanding that the documents before us, while using the terms "game" and "wild life" interchangeably, are actually intended to set up a research system covering game, fur, and predatory birds and mammals and their habitats.

We call attention to the fact that an equally attractive opportunity exists in other classes of mammals and birds and in fish, and we hope that

similar funds for research in this field may soon be forthcoming.

The proposed allocation of funds to particular institutions will influence the ultimate distribution of educational and research functions among them. We call attention to the report of our subcommittee on this subject, submitted to the Division of Biology and Agriculture under date of April 12, 1935. This report emphasizes the fact that wild life management is merely one phase of land utilization, hence that research and teaching can best be developed in those institutions which are becoming centers of land-utilization study.

It is a conspicuous fact that the technology of wild life production, while lagging far behind the need for conservation, has nevertheless forged far ahead of actual land-practice. That is to say, few landowners as yet apply the information already available to them. The same is true, to an equal or greater degree, of forestry, erosion control, range management, and other conservation fields. This presumably indicates some basic defect either in the public mind, or in the extension methods used to reach the public mind, or in the economic status of land, or in the conservation idea itself. A thorough analysis of these questions must sooner or later go hand-in-hand with such elaborations of cropping technique as the one here proposed.

###

New Soils Building
May 22, 1935

Dr. Ivey F. Lewis, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington, D. C.

Dear Dr. Lewis:

I enclose the report of the Committee on Wild Life Studies, made at the request of Mr. Darling of the Biological Survey.

If satisfactory to you, will you please transmit this report to Mr. Darling?

All members were present except the following: Ruthven, Lovejoy, Merriam, and Goldman. I am sending them copies of the report.

In a recent letter you raised the question of continuance, and I notice you have since reappointed the committee. I do not believe our continuance is advisable unless funds for at least one meeting are available (about $300).

If, however, we can have one meeting, I think we can perform a useful function. Mr. Darling, for one thing, will probably need advisory work from time to time (see page 5 of our report).

Will you let me know our finances, if any, for the coming year?

Yours sincerely,

Aldo Leopold
Chairman

vh
Encl.

New Soils Building
May 22, 1935

Mr. Jay N. Darling, Chief
Bureau of Biological Survey
U. S. Department of Agriculture
Washington, D. C.

Dear Jay:

The report of the National Research Council committee on your wild life set-up will reach you formally through Dr. Lewis, but to expedite matters I am also sending you a copy direct, herewith.

There was much earnest discussion among our members as to whether a suitable man for heading up this thing is available to you. There was unanimous agreement that the wrong coordinator would probably wreck the whole thing.

I was asked to transmit to you informally the opinion of the members that Walter P. Taylor meets the qualifications set down on page 2, whereas no other individual was thought of who seemed to be both qualified and available. We combed most of the active institutions in the whole country.

This informal letter would be incomplete if I failed to express our gratification over your success in assembling the materials for the proposed set-up.

Yours sincerely,

Aldo Leopold
Chairman

vh
Encl.

(Rough Draft)

PROPOSAL FOR

A CONSERVATION INVENTORY OF THREATENED SPECIES

Aldo Leopold

Premises. The volume of effort expended on wild life conservation shows a large and sudden increase.

This effort originates from diverse sources, and flows through diverse channels toward diverse ends.

There is a widespread realization that it lacks coordination and focus.

Government is attempting to secure coordination and focus through reorganization of departments, laws, and appropriations.

Citizen groups are attempting the same thing through reorganization of associations and private funds--witness the Wildlife Institute and the Wildlife Conference.

But the easiest and most obvious means to coordination has been overlooked: explicit definition of the immediate needs of particular species in particular places.

For example: Scores of millions are being spent for land purchase, CCC labor, fences, roads, trails, planting, predator-control, erosion control, poisoning, investigations, water developments, silviculture, irrigation, nurseries, wilderness areas, power dams, refuges, etc. within the natural range of the grizzly bear.

Few would question the assertion that to perpetuate the grizzly as a part of our national fauna is a prime duty of the conservation movement.

Few would question the assertion that any one of these undertakings, at any time and place, may vitally affect the restoration of the grizzly, and make it either easy or impossible of accomplishment.

Yet no one has made a list of the specific needs of the grizzly, in each and every spot where he survives, and in each and every spot where he might be re-introduced, so that conservation projects in or near that spot may be judged in the light of whether they help or hinder the perpetuation of the noblest of American mammals.

On the contrary, our plans, departments, bureaus, associations, and movements are all focused on abstract categories such as recreation, forestry, parks, nature education, wild life research, more game, fire control, marsh restoration, etc. Nobody cares anything for these except as means toward ends. What ends? There are of course many ends which cannot and many others which need not be precisely defined at this time. But it admits of no doubt that the immediate needs of threatened members of our fauna and flora must be defined now, or not at all.

Until they are defined and made public, we cannot blame public agencies, or even private ones, for misdirected effort, crossed wires, or lost opportunities. It must not be forgotten that the abstract categories we have set up as conservation objectives may serve as alibis for blunders, as well as ends for worthy work. I cite in evidence the CCC crew which chopped down one of the few remaining eagle's

nests in northern Wisconsin, in the name of "timber stand improvement." To be sure, the tree was dead, and according to the rules, constituted a fire risk.

Scope. Most species of shootable non-migratory game have at least a fighting chance of being saved through that process of purposeful manipulation of laws and environment called management. However great the blunders, delays, and confusion in getting management of game species under way, it remains true that powerful motives of local self-interest are at work in their behalf. European countries, through the operation of these motives, have saved their resident game. It is an ecological probability that we will evolve ways to do so.

The same cannot be said, however, of those species of wilderness game which do not adapt themselves to economic land-use, or of migratory birds which are owned in common, or of non-game forms classed as predators, or of rare plant associations which must compete with economic plants and livestock, or in general of all wild native forms which fly at large or have only an esthetic and scientific value to man. These, then, are the special and immediate concern of this inventory.

Like game, these forms depend for their perpetuation on protection and a favorable environment. They need "management" (i.e., perpetuation of good habitat) just as game does, but the ordinary motives for providing it are lacking. They are the threatened element in "outdoor America,"-the crux of conservation policy. The new organizations which have now assumed the name "wild life" instead of "game," and which aspire to implement the wild life movement, are I think obligated to focus a substantial part of their effort on these threatened forms.

Inventory. This is a proposal, not only for an inventory of threatened forms in each of their respective places of survival, but an inventory of the information, techniques, and devices applicable to each species in each place, and of local human agencies capable of applying them. Much information exists, but it is scattered in many minds and documents. Many agencies are or would be willing to use it, if it were laid under their noses. If for a given problem no information exists, or no agency exists, that in itself is useful inventory.

For example, certain ornithologists have discovered a remnant of the Ivory-billed Woodpecker--a bird inextricably interwoven with our pioneer tradition--the very spirit of that "dark and bloody ground" which has become the locus of the national culture. It is known that the Ivory-bill requires as its habitat large stretches of virgin hardwood. The present remnant lives in such a forest, owned and held by an industry as reserve stumpage. Cutting may begin, and the Ivory-bill may be done for, at any moment. The Park Service has or can get funds to buy virgin forests, but it does not know of the Ivory-bill or its predicament. It is absorbed in the intricate problem of accommodating the public which is mobbing its parks. When it buys a new park, it is likely to do so in some " scenic" spot, with the general objective of making room for more visitors, rather than with the specific objective of perpetuating some definite thing to visit. Its wild life program is befogged with the abstract concept of inviolate sanctuary. Is it not time to establish particular parks (or equivalent) for particular "natural wonders" like the Ivory-bill? You may say, of course, that one rare bird is no park project--that the Biological S urvey should buy a refuge, or the Forest Service a National Forest, to take care of the situation. Whereupon the question bounces back: the Survey has only duck money; the Forest Service would have to cut. But is there anything to prevent the three possible agencies concerned from getting together and agreeing whose job this is, and while they are at it, a thousand other jobs of like character? And how much each would cost? And just what needs

to be done in each case? And can anyone doubt that the public, through Congress, would support such a program? Well--this is what I mean by an "Inventory and Plan."

Some sample lists of the items which need to be covered:

Wilderness & Other Game Species	Predator & Allied Species	Migratory Birds	Plant Associations
Grizzly	Wolf	Trumpeter Swan	Prairie floras
Desert Sheep	Fisher	Curlews	Bog floras
Bighorn	Otter	Sandhill Crane (U.S.breeders)	Alpine floras
Caribou (Minnesota remnant)	Wolverine	Brewster's Warbler	Swamp floras
Spruce Partridge	Condor		
Masked Bobwhite			
Sonora Deer			
Peccary			
Sagehen			

In addition to these forms, which are rare everywhere, there is the equally important problem of preserving the attentuated edges of species common at their respective centres. Thus the turkey in Colorado, or the ruffed grouse in Missouri, or the antelope in Nebraska, are rare species within the meaning of this document. That there are grizzlies in Alaska is no excuse for letting the species disappear from New Mexico.

Organization. It is important that the Inventory represent not merely a protest of those privileged to think, but an agreement of those empowered to act. This means that the Inventory should be made by a joint committee of the conservation bureaus, plus representatives of the Wildlife Conference as representing the states and the associations. The Plan for each species should be a joint commitment of what is to be done and who is to do it. The bureaus, with their avalanche of appropriations, ought to be able to loan the necessary expert personnel for such a committee, without extra cost.

To sift out any possible imputation of bureaucratic, financial, or clique interest, the inter-bureau committee should feed its findings to the public through a suitable group in the National Research Council, and subject to the Council's approval.

The necessary incidental funds for a secretary, for expense of gathering testimony and maps, and for publications might well come from the Wildlife Institute, or from one of the scientific foundations.

Custodianships. There is one cog lacking in the hoped-for machine: a means to get some kind of responsible care of remnants of wild life remote from any bureau or its field officers. F unds can hardly be found to set up special paid personnel for each such detached remnant. It is of course proved long ago that closed seasons and refuge posters without personnel are of no avail.

Here is where associations with their far-flung chapters, state officers or departments, or even private individuals can come to the rescue. One of the tragedies of contemporary conservation is the isolated individual or group who complains of having no job. The lack is not of jobs, but of eyes to see them.

The Inventory should be the conservationist's eye. Every remnant should be definitely entrusted to a custodian--ranger, warden, game manager, chapter, ornithologist, farmer, stockman, lumberjack. Every conservation meeting--national, state, or local--should occupy itself with hearing their annual reports. Every field inspector should contact these custodians--he might often learn as well as teach. I am satisfied that thousands of enthusiastic conservationists would be proud of such a public trust, and many would execute it with fidelity and intelligence.

Conclusion. I can see in this set-up more conservation than could be bought with millions of new dollars, more coordination of bureaus than Congress can get by new organization charts, more genuine contacts between factions than will ever occur in the war of the inkpots, more research than would accrue from many gifts, and more public education than would accrue from an army of orators and organizers. It is, in effect, a vehicle for putting Jay Darling's concept of "ancestral ranges" into action on a quicker and wider scale than could be done by appropriations alone.

ECOLOGICAL SOCIETY OF AMERICA
COMMITTEE ON THE PRESERVATION OF NATURAL CONDITIONS
FOR THE UNITED STATES

Established in 1917

Francis Ramaley,
Bioecology
University of Colorado
Boulder, Colorado
C. Juday, Aquatic Ecology
University of Wisconsin
Madison, Wisconsin
Robert F. Griggs,
Plant Ecology
George Washington Univ.
Washington, D. C.

V. E. Shelford, Chairman
Expt. Zool. Lab.
Wright & Healey Sts.
Champaign, Illinois
Animal Ecology

R. E. Yeatter, Sec.
Expt. Zool. Lab.
Wright & Healey Sts.
Champaign, Illinois
Birds and Mammals

Office of the Chairman
January 15, 1936

To the United States Forest Service:

With the aid and approval of an Advisory Board, thirty-two of the leading ecologists of the United States and Canada, The Committee on Preservation of Natural Conditions, prepared the following resolution to be addressed to the United States Forest Service, which was unanimously adopted at the Society's meeting at St. Louis on January 2, 1936.

1. Whereas, thinking persons do not wish to bequeath to future generations a purely mechanical and industrial world,

2. Whereas, the threat of insufficient food which called for the utilization of all possible land as urged by economists thirty years ago is and will be void for many generations and economic conditions are such that it is necessary to withdraw land from cultivation and remove settlers from poor land,

3. Whereas, the larger wild animals, especially carnivores, are of value in the economy of nature, and, therefore, of importance in the proper development of the science of ecology (evolution, etc.) which supplies information to be used in interpreting the past and predicting the future of biological events in relation to weather, etc.,

4. Whereas, several of the National Parks are too small to support wide ranging carnivores and experience has shown that they cannot be maintained in the existing parks,

Be it resolved, that the Ecological Society of America

a. Urges that the United States Forest Service cooperate with the National Park Service in protecting roaming animals in forests surrounding or adjacent to National Parks, especially Yellowstone, Yosemite, Lassen Peak, and Great Smoky. This can be accomplished only by setting aside a zone of protection for roaming animals agreed upon with the Park Service, as follows: Not less than fifty miles wide around Yellowstone and twenty-five miles wide around the other three.

b. The Society further urges that the Forest Service cooperate with the Park Service in the acquirement of lands surrounding National Parks wherever possible, to be used for tree growing and other forest experiments while acting as buffers for roaming animals. In particular, acquire areas of deciduous forest surrounding the Great Smoky National Park which may serve for tree growing experiments while acting as buffers for roaming animals. We also urge such use of forest or portions of existing forests adjacent to National Parks as buffer areas. Furthermore, we urge

the enlarging of forest type areas already set apart so that they may serve as animal sanctuaries and that control measures applied to birds and mammals be kept out of these sample plot areas and also out of a large zone surrounding each.

c. The Society also urges that the Forest Service set aside one or more tracts and the Idaho Primitive Area in which puma, bobcat, wolf and wolverine be allowed to breed unmolested, surrounded by a second area in which breeding will be discouraged if found, and around this a third in which roaming animals will not be molested. We request consideration of the possibility of similar action in the Uintas and Wind River Range.

V. E. Shelford

Chairman

Committee on Wild Life

NATIONAL RESEARCH COUNCIL

February 7 and 8, 1936

* * *

The Committee met in the National Research Council Building with the following present: Charles C. Adams, H. E. Anthony, H. C. Bryant, V. E. Shelford, Aldo Leopold, and P. S. Lovejoy representing the Sub-committee on the Training of Men for Administrative and Educational Work in Wild Life Problems. The Committee adopted the following statements which are here presented in lieu of minutes.

I. Proposal for International Studies of Wild Life Problems.

The members of the Committee on Wild Life attended the meetings of President Roosevelt's Wild Life Conference. They took this opportunity to discuss current wild life problems and have agreed on the following program for committee action:

It is generally conceded that a constructive program for various wild life projects is urgently needed today and of these the consideration of plans for water, shore and other migratory birds, as well as game fish, is of outstanding importance. Significant and acute wild life problems have been created by such factors as reclamation, drainage, drouth, overshooting and a lack of proper coordination between State, Federal and International agencies. The Committee on Wild Life proposes a constructive research program that will provide a basis for a sound conservation policy.

We propose immediate international studies of these subjects with the cooperation of Canadian officials, under the auspices of the

National Research Council and the Canadian Research Council and a later extension of the idea might bring about cooperation with other countries. This study should include such items as field studies, present status, life histories, and wild life conservation policies. An informal conference was held on February 6, 1936, with the Hon. J. B. Harkin, Commissioner of the National Parks of Canada, Department of the Interior, and Mr. Hoyes Lloyd, Superintendent of Wild Life Protection, National Parks of Canada. They responded cordially to a proposal of cooperation and it was suggested that such a project might be conducted jointly through these two Research Councils.

A possible source of funds to finance cooperative studies of this character is known to the Committee and, therefore, it is recommended that the conservation agencies of the Dominion of Canada and of the United States be invited, through the proper diplomatic channels, to consider such a plan and to cooperate in drafting the details for a specific program.

II. Proposal for an Interbureau Conservation Inventory of Rare Species.

An urgent current wild life problem is the perpetuation of rare or threatened forms. There has been no deliberate emphasis on rare species problems. Much could be accomplished by such a focus in research and administration, and especially in planning.

We propose that an inventory be made of surviving remnants now in jeopardy, with a plan, or list of needed actions, for each. In order that the inventory may result in a list of practicable actions, rather than of "wishful thoughts", we suggest that it be made by a joint committee of the federal conservation bureaus. Coordination would thus be

secured during the planning process.

Such a committee would need an executive officer to gather data and act as liaison between bureaus. He should have outstanding qualifications in wild life research and administration, but should be independent of any bureau. We urge that the National Resources Board employ such an executive officer. This would incidentally tend to secure much needed representation of wild life interests in the staff of the National Resources Board.

We estimate that the Inventory would require two years' work. The findings should be published under the sponsorship of the National Resources Board, after review by the National Research Council.

III. Buffer or Protective Zones.

The larger wild animals, especially carnivores, are of value in the economy of nature and, therefore, of importance in the proper development of the science of ecology and its applications which supply information for the interpretation of past and prediction of future biological events. Areas in which these animals still occur are of scientific value as checks on managed and modified areas, with reference to the study of cycles of abundance and interaction. The original mature (climax) vegetation and natural conditions are not renewable resources.

The National Parks are generally too small to support wide ranging carnivores and experience has shown that they cannot be maintained in the existing parks. The few wolves which remained in Yellowstone Park when their protection began have disappeared, having wandered outside the park and been destroyed. Again a report on the grizzly bears by the National Park Service indicates that the National Parks are inadequate

to prevent final extermination of this species. Park enlargement is not usually practicable but protective zones are necessary to complete the preservation of biotic communities which include representatives of all the species of wildlife.

We recommend the establishment around National Parks and Monuments, wherever needed to maintain natural conditions, of zones of complete protection for roaming animals, based on the extent of their wandering range. Lands devoted to multiple uses such as tree growing, watershed protection, and recreation may constitute these zones. We also recommend zoned sanctuaries in National Forests and the Public Domain. It is highly desirable that the establishment of protective zones be considered in all national and state land use planning.

The principle of zoning for animals should also be applied to the smaller reserved areas such as the Forest Service "natural areas" and to certain state parks and forests. Aquatic reserves should include a suitable protective zone of shoreline.

Copy to members

Madison, Wisconsin
1532 University Avenue
March 2, 1936

Dr. Ivey F. Lewis, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington, D. C.

Dear Dr. Lewis:

I respectfully submit the following report on the work of the Committee on Wildlife Studies during the past year.

Organization of Biological Survey Research Units

In May, 1935, Mr. Jay N. Darling, chief of the Biological Survey, secured a fund amounting to approximately $80,000 per year to set up a series of wildlife research units in land grant colleges not previously engaged in such work, but desirous of initiating it.

This marked a departure in Biological Survey policy, since it had not previously handled industrial funds, nor had it previously initiated a policy of decentralization in research. Hence Mr. Darling asked for the advice of our committee. We met on May 10 and submitted a report dated May 22 which may have had some small influence on the manner of initiating these projects.

Wildlife Conference, Federation & Institute

In February, 1936, the President called the Wildlife Conference in Washington. This was the culmination of an effort extending over the past two years to organize two new bodies:

(a) The Wildlife Institute, an organization for the collection and allocation of some $200,000 in industrial funds, and

(b) The Wildlife Federation, which replaces the former American Game Association, and is intended as a forum for the expression of public sentiment.

The function of crystallizing public opinion is entirely separated from the function of financing research. Hence the new set-up seems basically sound. The Institute has a research committee paralleling the National Research Council committee. For the coming year it has in hand the budget of $200,000 above referred to. About half this sum is for fish research, and the other half for other wildlife. About $40,000 is already obligated to maintain nine U. S. Biological Survey units at the following land grant colleges: Texas, Maine, Virginia, Connecticut, Alabama, Iowa, Washington, Utah, and Ohio.

A meeting of the National Research Council committee was called in order to discuss and formulate a logical relationship between the National Research Council on the one hand and the Institute, the Federation and the Conference on the other. The meeting was held on February 8, and a joint meeting with the research committee ("Technical Committee") of the Institute followed on the same day. Both committees have now submitted reports duly dovetailed with each other, outlining the direction of future undertakings. In general, it is agreed that the N.R.C. can advantageously handle for the Institute certain work which involves controversial questions, or which involves advice to educational institutions. The more precise definition of this work, and of the funds needed for handling it, hinges on a further meeting of the Institute committee in May.

Future Work. The committee is of the opinion that despite the handicap of insufficient funds for meetings, the time is now arrived for it to play a useful role in shaping national policy. We therefore believe that it would be a mistake to dissolve the committee at this time. There is a rather definite prospect that the Institute will want us to handle, in cooperation with the Canadian Research Council, an international research program on migratory waterfowl. There is a probability that certain future questions bearing on university relationships may be entrusted to our committee, together with the funds for handling them.

All of the jobs referred to above offer useful opportunities for interbureau correlation. Some of these have already begun to be acted upon by us.

I happened to be chairman of both the N.R.C. and the Institute committees and have recommended to you that you appoint another chairman for the N.R.C. committee in order that possible embarrassments as to allocation of funds or functions may be avoided.

Yours sincerely,

Aldo Leopold
Chairman

vh

June 8, 1936

Mr. Aldo Leopold
New Soils Building
University of Wisconsin
Madison, Wisconsin

Dear Mr. Leopold:

At its meeting in April the Division of Biology and Agriculture discussed fully the functions of the Committee on Wild Life. The services of the old committee are greatly appreciated, but the Division felt that there were new elements in the situation that would make it advisable to change the emphasis by the complete reorganization of the committee under the title of Committee on Wild Life and Nature Reserves with the following personnel: H. E. Anthony, Chairman, C. C. Adams, Henry I. Baldwin, R. E. Coker, William S. Cooper, Herbert C. Hanson, G. E. Nichols, Edward A. Preble and A. H. Wright. In the set-up of the new committee the attempt was made to include members representing different points of view with the idea of putting primary emphasis on the setting aside of certain natural areas for permanent preservation. It was felt that it would be best to have this committee completely independent of governmental agencies and for this reason the membership does not include any persons in the government employ. The reason for this will be obvious to you. The committee hopes to work in close cooperation with governmental agencies and will probably find the approach more effective if it comes entirely from an outside body.

One of the new factors in the situation is the existence of the committee of the Wild Life Institute of which you are chairman. This committee has the opportunity of doing the sort of thing we had in mind for our old Wild Life Committee, and it has, of course, the substantial backing of the Institute. We hope the new arrangement will avoid any duplication of effort and at the same time increase the effectiveness of the wild life agencies.

I wish to express to you, on behalf of the Division, our thanks for the time and attention you devoted to the committee as chairman and to assure you that the Division will be glad to cooperate in any way with the Wild Life Institute Committee.

Sincerely yours,

Ivey F. Lewis
Chairman

June 8, 1936

Dr. P. S. Lovejoy
University of Michigan
Ann Arbor, Michigan

Dear Dr. Lovejoy:

The Division of Biology and Agriculture, at its meeting in April, gave full and careful consideration to the wild life problem. It seemed of especial importance at this time to place the emphasis on the preservation of certain natural areas. The formation of a wild life committee by the Wild Life Institute makes it less necessary for the Division to continue the old committee. It was decided, therefore, to organize a new Committee on Wild Life and Nature Reserves with the following personnel: H. E. Anthony, Chairman, C. C. Adams, Henry I. Baldwin, R. E. Coker, William S. Cooper, Herbert C. Hanson, G. E. Nichols, Edward A. Preble and A. H. Wright.

Since this committee hopes to work in close cooperation with governmental agencies it was decided that the membership should include only those not connected with the government. It seems likely that an outside body would have a more natural and easy approach to governmental bureaus than one on which the bureaus themselves might or might not be represented. The committee is especially desirous of retaining your active interest and I hope that you will permit it to avail itself of your experience and influence in helping along projects as they may develop.

On behalf of the Division I wish to thank you for your participation in the activities of the committee and assure you of our appreciation of your services as a member.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

UNIVERSITY OF WISCONSIN
COLLEGE OF AGRICULTURE
MADISON, WISCONSIN

DEPARTMENT OF AGRICULTURAL ECONOMICS

1532 University Ave.
May 25, 1936

Dr. Ivy F. Lewis, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington, D. C.

Dear Dr. Lewis:

Thanks for letting me know about the May 21 meeting called by the National Resources Committee. I did not get your letter in time to appoint a member to represent our committee. I suggest that if a similar occasion should arise in the future, you notify Dr. H.C. Bryant of the National Park Service, Washington, to represent us.

Hearing from you reminds me that I still occupy the somewhat embarrassing position of chairman of two committees with cooperative relations. Have you been able to reach a decision on the matter of a new chairman?

Yours sincerely,

Aldo Leopold

Aldo Leopold
Professor of Game Management

vh

Wild Life Data

COPY

NEW YORK OFFICE
The Engineering Foundation, 29 West 39th Street

CABLE ADDRESS
NARECO, Washington, D. C.

NATIONAL RESEARCH COUNCIL

2101 CONSTITUTION AVENUE, WASHINGTON, D. C.

Established in 1916 by the National Academy of Sciences under its Congressional Charter and organized with the cooperation of the National Scientific and Technical Societies of the United States

April 20, 1936

Mr. Kermit Roosevelt, President
National Association of Audubon Societies
1775 Broadway
New York City

Dear Mr. Roosevelt:

I beg to assure you of our wholehearted interest in the campaign to protect our national Wild life inheritance. As you may know, the problems of wild life have engaged the interest of our Division of Biology and Agriculture for many years. Their standing Committee on Wild Life will be very glad to cooperate with you in feasible ways.

Very truly yours,

Frank R. Lillie
Chairman

FRL nw

Copy to Dr. Lewis

National Association of Audubon Societies

For the Protection of Wild Birds and Animals

1775 Broadway, New York, N. Y.

April 17, 1936

Dr. Frank R. Lillie, Chairman,
National Research Council,
Washington, D. C.

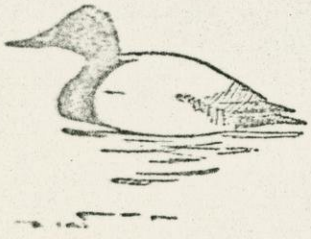
Dear Dr. Lillie:

Those recognizing the value of our wildlife resources, and the urgent need of coordination of effort of conservation agencies will, we trust, take full advantage of the opportunity presented by the National Association of Audubon Societies, as disclosed in the enclosed leaflet entitled "Wildlife in the Balance."

From such participation in educational, sanctuary and legislative activities, spreading appreciation of nature and preserving for this and future generations our beautiful and marvelous native flora and fauna, your club or society may derive great satisfaction, stimulus and enhanced prestige and influence.

We shall deeply appreciate your organization's support in aggressive national action to protect our wildlife inheritance from the assaults of human greed.

Very truly yours,



Kermit Roosevelt,
President.

NEW YORK OFFICE
The Engineering Foundation, 29 West 39th Street

CABLE ADDRESS
NARECO, Washington, D. C.

NATIONAL RESEARCH COUNCIL

2101 CONSTITUTION AVENUE, WASHINGTON, D. C.

Established in 1916 by the National Academy of Sciences under its Congressional Charter and organized with the cooperation of the National Scientific and Technical Societies of the United States

April 6, 1936

Mr. Frederick A. Delano, Vice-Chairman
National Resources Committee
Interior Building
Washington, D. C.

My dear Mr. Delano:

The Committee on Wild Life of the National Research Council, at a recent meeting, discussed certain problems which they requested me to bring to your attention. The North American Wild Life Conference, recently held in Washington, gave evidence that there is a nation-wide movement for better correlation of conservation activities. The need for better coordination of effort in the protection of wild life, including fish, indicates that some competent central agency of the Government could properly take the leadership in such matters.

One of the constructive results of the conference was the evidence of agencies working at cross purposes and the evident need for correlation. The Committee on Wild Life feels that the National Resources Board, in correlating land uses, should give particular attention to wild life needs. Local committees on wild life are already functioning in connection with state planning boards. It is desirable that equal recognition of this important subject should be given on the staff of the Resources Board itself.

The Wild Life Committee has recommended and the Division of Biology and Agriculture of the National Research Council, therefore, passes the suggestion to you, that, in order to give due recognition to wild life values, a competent ecologist be appointed as a permanent member of your executive staff to act as advisor to your Board on wild life problems, to initiate and carry out necessary research projects, and to act as liaison officer on all matters relating to this field.

Just at present there is a need for an inventory of those species threatened with extinction, if means are to be found to save these valuable forms of American wild life. Considerable data on this subject are available from governmental agencies and various state and private institutions, but some coordinating organization should call together an interbureau committee and provide an executive officer to collate these data. If the National Resources Board could appoint such a staff officer he could initiate this urgent undertaking at once. The Wild Life Committee of the National Research Council will be glad to offer suggestions as to emergency needs.

It is hoped that you will see the need for such a coordinating officer and will find means to further this enterprise.

I enclose copy of a resolution adopted by the Committee on Wild Life of the National Research Council for your information. I enclose also a statement drawn up by Mr. Aldo Leopold, but not voted on by the Committee, concerning the questions raised in this letter. I trust that you will realize that the only desire of the Committee is to be of service to our country through what seems to us the logical agency to handle such matters.

Some of the important problems the Committee had in mind which should engage the attention of federal rather than state authorities include the threatened commercial extinction of certain valuable food fish in the Great Lakes; the danger to the great salmon industry of the Pacific Coast by the construction of power dams which block their spawning migrations; the destruction of fish environment by excessive drainage; the extinction of certain game fishes such as grayling and mountain trout by the introduction of exotic species and others referred to in the draft of Mr. Leopold's proposal enclosed herewith.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

IFL:B

Dictated by Dr. Lewis and
signed in his absence.

April 6, 1936

Mr. Aldo Leopold
1532 University Avenue
Madison, Wisconsin

Dear Mr. Leopold:

I am very glad to have for presentation to the approaching meeting of the Division of Biology and Agriculture the report from your committee. I have not yet been able to do much with the material prepared at your last meeting, but am forwarding the resolution of Drs. Lovejoy and Hubbs to the National Resources Board.

With best wishes,

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

IFL:B

National Research Council
Committee on Wild Life

The Wildlife Affairs Committee of the Committee on Biology and Agriculture recommends to the National Research Council that it urge upon the appropriate authorities the undertaking of a comprehensive inventory of drainage affairs.

We find that much drainage, originally undertaken for the advancement of agriculture, and involving very large aggregates of public and of private funds, has in fact resulted in disappointments, facilities or failures; and often in the creation of great and persistent liabilities, physical, economic and social, with major wildlife and recreational resources often involved.

Other drainage projects, meanwhile, have proved highly successful and satisfactory, and have resulted in generous and permanent benefits to both public and private interests.

It seems obvious that existing precedents and agencies, federal, state, or private, are for the most part inadequate to determine, dependably and in advance, whether a given drainage project will or will not result in permanent benefits greater than the liabilities which it may create.

It is therefore recommended that t thorough checking of the history and status of typical projects be undertaken in and for each region, state and district, so as to identify the essential facts and factors which may be involved, and so as to help in creating precedents and agencies which shall presently be functioning dependably and in advance so as to segregate projects which are quite certainly desirable and sound, from those which are dubious or unsound.

Such checkings and inventories of drainage, and plans for its adequate control, should involve national, state and local cooperation, and should be undertaken as an integral part of a broad land and water use-planning as outlined in the 1935 reports of the National Resources Board.

UNIVERSITY OF WISCONSIN
COLLEGE OF AGRICULTURE
MADISON, WISCONSIN

DEPARTMENT OF AGRICULTURAL ECONOMICS

1532 University Ave.
March 27, 1936

Dr. Ivey F. Lewis, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington, D. C.

Dear Dr. Lewis:

At the recent meeting of the Wild Life Committee, a resolution was passed asking the National Resources Board to make a special study of land drainage. Lovejoy and Hubbs were asked to prepare a formal resolution. This they have now done (copy attached).

They have also ascertained that Dr. L. C. Gray of the Resettlement Administration is interested in conducting such a study, although he does not commit himself as to whether funds are available. The Resources Board might wish to work through Dr. Gray.

I suggest you transmit this to the Resources Board as supplementary to our other recommendations.

Yours sincerely,

Aldo Leopold

Aldo Leopold
Chairman, Wild Life Committee

vh
Encl.

March 28, 1935

Madison, Wisconsin.

Memorandum for
DR. LEWIS:

It is the consensus of the Committee on Wildlife of the National Research Council that a basic step looking toward solution of pressing wildlife problems could be made if there were systematic effort to correlate governmental activity and secure basic data. The National Resources Board is the logical medium for correlating all land uses and the recommendation is made that the National Research Council send a letter to this board, suggesting that a competent, wildlife ecologist be appointed to act as advisor on wildlife problems and act as liaison officer on all matters relative to this field.

At this time the most pressing conservation problem pertains to the saving of now rare species endangered by changing ecological relationships of food and cover. An inventory of threatened species is necessary to determine the most pressing needs and in order to find ways and means of protecting remnants of species which must receive consideration immediately, if they are to be saved. Considerable data are available from governmental agencies but some neutral organization such as the National Resources Board should collate these data.

Attached will be found a draft of a letter which it is hoped will be helpful to you in conveying the above suggestion to the National Resources Board. Approval was also given the proposal indicated in enclosure #2.

Aldo Leopold
Chairman,
Committee on Wildlife.

Enclosure #1
Enclosure #2

Wild Life

Washington, D. C.

Mr. Frederic A. Delano,
Vice Chairman, National Resources Committee,
Interior Building,
Washington, D. C.

Dear Mr. Delano:

At a recent meeting of the Committee on Wildlife Studies of the National Research Council, ways and means were discussed for bringing about better coordination of effort in the protection of wildlife, including fish. The North American Wildlife Conference recently held in Washington gave evidence that there is a Nation-wide movement being developed for better correlated conservation activities, and better governmental support is necessary for progress.

One of the constructive results of the conference was the evidence of agencies working at cross purposes and the evident need for correlation. The Committee on Wildlife Studies feels that the National Resources Board in correlating land uses should give particular attention to wildlife needs. Local committees on wildlife are already functioning in connection with state planning boards. Hence it is needful that equal recognition of this important subject should be given on the staff of the Resources Board itself.

The Wildlife Committee has recommended and the Division of Biology and Agriculture of the National Research Council, therefore, passes the suggestion to you that, in order to give due recognition to wildlife values, a competent wildlife ecologist be appointed as a permanent member of your executive staff to act as advisor to your board on wildlife problems, to initiate and carry out necessary research projects, and to act as liaison officer on all matters relative to this field.

Just at present there is a need for an inventory of species threatened with extinction which must receive consideration immediately, if means are to be found to save these valuable forms of American life. Considerable data on this subject are available from governmental agencies and various state and private institutions, but some coordinating organization should call together

an inter-bureau committee and provide its executive officer to collate these data. If the National Resources Board could appoint such a staff officer, he could initiate this urgent undertaking at once and then initiate like projects. The Wildlife Committee of the National Research Council will be glad to offer further suggestions as to emergency needs.

It is hoped that you will see the need for such a coordinating officer and will find means to further this enterprise.

_____
Chairman.

D R A F T

The President's North American Wildlife Conference just concluded emphasized the importance of fishes and other aquatic life as a great national resource, now demanding special recognition and conservation action. After discussing this problem, the Committee on Wildlife of the National Research Council recommends that this need be met by the appointment of a man technically trained in the field of aquatic biological resources, to the Water Resources Division of your board.

Important problems, some of an emergency nature, on which the counsel of this additional staff member would be valuable, include the threatened commercial extinction of certain valuable food fish in the Great Lakes; the danger to the great salmon industry of the Pacific Coast by the construction of power dams which block their spawning migrations; the destruction of fish environment by excessive drainage;; the extinction of certain game fish species, such as grayling and mountain trout, by the introduction of exotic species.

THE UNIVERSITY OF THE STATE OF NEW YORK
THE STATE EDUCATION DEPARTMENT
NEW YORK STATE MUSEUM
ALBANY, N. Y.

CHARLES C. ADAMS
DIRECTOR
ALVIN G. WHITNEY
ASSISTANT DIRECTOR

RUDOLF RUEDEMANN
STATE PALEONTOLOGIST
D. H. NEWLAND
STATE GEOLOGIST
R. D. GLASGOW
STATE ENTOMOLOGIST
H. D. HOUSE
STATE BOTANIST
C. A. HARTNAGEL
ASSISTANT STATE GEOLOGIST
WINIFRED GOLDRING
ASSISTANT STATE PALEONTOLOGIST
K. F. CHAMBERLAIN
ASSISTANT STATE ENTOMOLOGIST
ELSIE G. WHITNEY
ASSISTANT STATE BOTANIST
DAYTON STONER
STATE ZOOLOGIST
W. J. SCHOONMAKER
ASSISTANT STATE ZOOLOGIST
NOAH T. CLARKE
STATE ARCHEOLOGIST

OFFICE OF DIRECTOR

March 10, 1936.

FUNCTION OF THE WILD LIFE COMMITTEE

Dr. Ivey F. Lewis, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington, D. C.

Dear Doctor Lewis:-

In connection with the discussion of the work of the Wild Life Committee, a difference of opinion has developed among its members as to its functions. I will appreciate learning your opinion on this matter.

According to one view the function of the Wild Life Committee is to decide upon the selection of important problems related to wild life research and/ or the training of men for such research, and recommend such projects to the National Research Council or other agencies, for execution.

The other view is that the function of the Committee is to decide upon certain definite wild life research problems and/ or related educational problems, and then proceed to secure the funds and direct the projects through the National Research Council.

So far as known to me our Committee has never been specifically instructed so as to decide which of these methods of procedure is expected of the Committee.

When talking with you after our last Committee meeting I forgot to raise this question with you.

Very sincerely,

Chas. C. Adams,

Wild life Committee

Copy for Dr. Lewis

the Chairman
March 3, 1936

Dr. Aldo Leopold
Professor of Game Management,
1532 University Avenue
Madison, Wisconsin

Dear Dr. Leopold:

Your letter of February 14 resigning from the chairmanship of the committee on Wild-life is at hand.

Throughout our discussions in this committee we seemed to have lacked a common ground as to what we are supposed to cover as the work of the committee. Can you not send a letter of inquiry to the members of the committee asking for a statement of the scope of its work? Can you not then draw up a sort of constitution to be handed over to the next chairman?

I think ~~that this~~ would help a great deal.

Cordially yours,

V. E. Shelford

VES:VKJ

FOR INFORMATION OF

March 2, 1936

REPORT OF THE COMMITTEE ON WILDLIFE STUDIES

Organization of Biological Survey Research Units

In May, 1935, Mr. Jay N. Darling, chief of the Biological Survey, secured a fund amounting to approximately $80,000 per year to set up a series of wildlife research units in land grant colleges not previously engaged in such work, but desirous of initiating it.

This marked a departure in Biological Survey policy, since it had not previously handled industrial funds, nor had it previously initiated a policy of decentralization in research. Hence Mr. Darling asked for the advice of our committee. We met on May 10 and submitted a report dated May 22 which may have had some small influence on the manner of initiating these projects.

Wildlife Conference, Federation & Institute

In February, 1936, the President called the Wildlife Conference in Washington. This was the culmination of an effort extending over the past two years to organize two new bodies:

(a) The Wildlife Institute, an organization for the collection and allocation of some $200,000 in industrial funds, and

(b) The Wildlife Federation, which replaces the former American Game Association, and is intended as a forum for the expression of public sentiment.

The function of crystallizing public opinion is entirely separated from the function of financing research. Hence the new set-up seems basically sound. The Institute has a research committee paralleling the National Research Council committee. For the coming year it has in hand the budget of $200,000 above referred to. About half this sum is for fish research, and the other half for other wildlife. About $40,000 is already obligated to maintain nine U. S. Biological Survey units at the following land grant colleges: Texas, Maine, Virginia, Connecticut, Alabama, Iowa, Washington, Utah and Ohio.

A meeting of the National Research Council committee was called in order to discuss and formulate a logical relationship between the National Research Council on the one hand and the Institute, the Federation and the Conference on the other. The meeting was held on February 8, and a joint meeting with the research committee ("Technical Committee") of the Institute followed on the same day. Both committees have now submitted reports duly dovetailed with each other, outlining the direction of future undertakings. In general, it is agreed that the N.R.C. can advantageously handle for the Institute certain work which involves controversial questions, or which involves advice to educational institutions. The more precise definition of this work, and of the funds needed for handling it, hinges on a further meeting of the Institute committee in May.

Future Work. The committee is of the opinion that despite the handicap of insufficient funds for meetings, the time is now arrived for it to play a useful role in shaping national policy. We, therefore, believe that it would be a mistake to dissolve the committee at this time. There is a rather definite prospect that the Institute will want us to handle, in cooperation with the Canadian Research Council, an international research program on migratory waterfowl. There is a probability that certain future questions bearing on university relationships may be entrusted to our committee, together with the funds for handling them.

All of the jobs referred to above offer useful opportunities for interbureau correlation. Some of these have already begun to be acted upon by us.

I happened to be chairman of both the N.R.C. and the Institute committees and have recommended to you that you appoint another chairman for the N.R.C. committee in order that possible embarrassments as to allocation of funds or functions may be avoided.

Aldo Leopold
Chairman

February 26, 1936

Dr. Aldo Leopold
New Soils Building
University of Wisconsin
Madison, Wisconsin

Dear Dr. Leopold:

The 1936 annual meeting of the Division of Biology and Agriculture of the National Research Council is to be held on April 25, and at that time we shall wish to present to the members a review of the work of our committees and projects for the past fiscal year. May we have from you a report on the activities of the Committee on Wild Life, together with any recommendations which you may wish to have considered by the Division.

All committees of the National Research Council automatically go out of existence on June 30 of each year and special action is required to continue them. If you wish to have your committee continued, will you please send in your recommendations to that effect. It is entirely in order to make any changes or additions in the personnel which seem desirable, as committees must be voted anew each year.

The Division office would like to receive reports and recommendations not later than March 20, in order that these may be manifolded and distributed to the members of the Division in advance of the meeting. If you can let us have your report by that date, it will be greatly appreciated.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

B

UNIVERSITY OF WISCONSIN
COLLEGE OF AGRICULTURE
MADISON, WISCONSIN

DEPARTMENT OF AGRICULTURAL ECONOMICS

1532 University Avenue
February 26, 1936

Dr. Ivey F. Lewis, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington, D. C.

Dear Dr. Lewis:

I approve the combined minutes sent me with your letter of February 20. I feel a little guilty, though, that you should have had to act as "secretary" in compiling these minutes.

I am also painfully aware that the statements as approved by the committee are indirect and full of circumlocution. I do not like such documents, but they are "as passed" and will have to do.

My mimeograph on rare species was not adopted. I left it to explain to you the meaning of Item II. I see no objection to your using it as explanatory of Item II, as long as you do not directly sanction it as part of the minutes. There was no objection to it, but I could not gracefully urge its adoption because it was my personal proposal.

I am aware that we are wishing on you a heavy job in taking these matters up with the bureaus. Let me know where, how and when I can help.

I enjoyed getting acquainted with you and wish we could have talked further.

Yours sincerely,

Aldo Leopold

Aldo Leopold
Professor of Game Management

vh

February 20, 1936

Mr. Aldo Leopold
1532 University Avenue
Madison, Wisconsin

Dear Mr. Leopold:

In reply to your letter of February 14 I have made a tentative draft of the three statements drawn up by the Committee on Wild Life. Included in the draft are Shelford's suggestions which you sent with your letter. I think it important that I should have your approval of the statement before taking any further steps. Please look it over carefully and let me know if you see any mistakes or if you wish to alter the wording. The only change I have made is to convert into a headline the short introductory sentence in the first paragraph of section 3 as it seemed more effective this way. You will note that the first paragraph in section 3 is at present a unified statement, whereas the headline really applies not to this paragraph but to the entire statement.

The mimeographed statement entitled "Proposal for a Conservation Inventory of Threatened Species" is marked in pencil "Not Official". It seems to me that this is a very effective statement and ought to be used when I approach the conservation organizations of the government. I would like instructions from you as to how to use this statement. It is marked "Rough Draft", so that you may wish to make some changes in it. Unless it was adopted in its present form by the committee I should like your authorization to submit it to members of the committee for approval and for permission to present it along with other material to those interested in the conservation of wild life. Since it is mimeographed I assume that you have a copy of it; if not I shall be glad to send the copy I have.

Please let me know whether the copy of the three statements is satisfactory and also whether I can use the mimeographed statement that accompanied them.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

IFL/c

UNIVERSITY OF WISCONSIN
COLLEGE OF AGRICULTURE
MADISON, WISCONSIN

DEPARTMENT OF AGRICULTURAL ECONOMICS

1532 University Avenue
February 14, 1936

Mrs. Barnum
National Research Council
2101 Constitution Avenue
Washington, D. C.

Dear Mrs. Barnum:

I told the members of the Wildlife Committee which met Saturday, February 8, to submit to Dr. Lewis their expense accounts on the basis of fare to and from Washington, plus two days' expense in Washington. I hope to have my expense taken care of by the Wildlife Institute, so you need not wait for it.

The $300 allotted by Dr. Lewis may, however, not be sufficient to cover the sum of the other accounts. If this is the case, I have already told the several members that you would scale down each account proportionately and send them reimbursement for whatever the $300 will cover. They were all given your regular forms on which to submit their accounts.

Lovejoy has sent his account to me instead of directly to your office. As far as I know, it does not require my formal approval, so I am attaching it herewith.

I have just received the attached letter from Shelford, in which he wishes to substitute in the proceedings or report of the committee the carbon sheet which accompanies his note for the one signed and left with you. I do not know the difference in wording, but think you can safely follow the present sheet.

Yours sincerely,

Aldo Leopold

Aldo Leopold
Professor of Game Management

vh
Encl.

Withother material on report

FOR INFORMATION OF Dr Lewis

February 13, 1936

Professor Aldo Leopold
University of Wisconsin
Madison, Wisconsin

Dear Professor Leopold:

Enclosed please find a revised copy of the buffer statement. I have added a few words to make it clearer. These words are underscored. You may recall that Lovejoy suggested that the first part was not clear. As it originally stood, it would over-emphasize vanishing species. Hoping that this will be satisfactory, I am

Cordially yours,

V. E. Shelford

VES:VB
Enc.

NATIONAL RESEARCH COUNCIL

Committee on Wild Life

To Dr. Ivey F. Lewis:

For the National Resources Board, Department of Interior, U. S. Forest Service, Park Service, Biological Survey, Bureau of Fisheries, Resettlement Administration, and Soil Erosion Service,

An important protective procedure is the buffer or protective zone:-

The larger wild animals, especially carnivores, are of value in the economy of nature, and, therefore, of importance in the proper development of the science of ecology and its applications which supply information for the interpretation of past and prediction of future biological events. Areas in which these animals still occur are of scientific value as checks on manned and modified areas, with reference to the study of cycles of abundance and interaction. The original mature (climax) ~~and late subclimax~~ vegetation and natural conditions are not renewable resources.

The National Parks are generally too small to support wide ranging carnivores and experience has shown that they cannot be maintained in the existing parks. The few wolves which remained in Yellowstone Park when their protection began have disappeared, having wandered outside the park and been destroyed. Again a report on the grizzly bears by the National Park Service indicates that the National Parks are inadequate to prevent final extermination of this species. Park enlargement is not

usually practicable but protective zones are necessary to complete the preservation of biotic communities which include representatives of all the species of wildlife.

We recommend the establishment around National Parks and Monuments, wherever needed to maintain natural conditions, of zones of complete protection for roaming animals, based on the extent of their wandering range. Lands devoted to multiple uses such as tree growing, water shed protection, and recreation may constitute these zones. We also recommend zoned sanctuaries in National forests and the Public Domain.

4. It is highly desirable that the establishment of protective zones be considered in all national and state land use planning.

The principle of zoning for animals should also be applied to the smaller reserved areas such as the Forest Service "natural areas" and to certain state parks and forests. Aquatic reserves should include a suitable protective zone of shoreline.

(1 an important aspect in protection procedure is the buffer protective zone.)

Dr Leopold
(For National Resources Board and Conservation Bureaus)

Passed by Wild Life Committee
Aldo Leopold
A.C. Bryant
Chas. G. Adams

The larger wild animals, especially carnivores, are of value in the economy of nature, and, therefore, of importance in the proper development of the science of ecology and its applications which supply information for the interpretation of past and prediction of future biological events. Areas in which these animals still occur are of scientific value as checks on managed and modified areas. The ~~original nature~~ (climax) vegetation and natural conditions are not renewable resources.

The National Parks are generally too small to support wide ranging carnivores and experience has shown that they cannot be maintained in the existing parks. The few wolves which remained in Yellowstone Park when their protection began have disappeared, having wandered outside the park and been destroyed. Again a report on the grizzly bears by the National Park Service indicates that the National Parks are inadequate to prevent final extermination of this species. Park enlargement is not usually practicable.

We recommend the establishment around National Parks and Monuments, wherever needed to maintain natural conditions, of zones of complete protection for roaming animals, based on the extent of their wandering range. Lands devoted to multiple uses such as tree growing, water shed protection, and recreation may constitute these zones. We also recommend zoned sanctuaries in National Forests and the Public Domain. ~~Park enlargement is not usually practicable and protective zones are necessary to complete the preservation~~ of biotic communities and include representatives of all the species of ~~wildlife.~~ It is highly desirable that the establishment of protective zones be considered in all national and state land use planning.

The principle of zoning for animals should also be applied to the smaller reserved areas such as the Forest Service "natural areas" ~~sample plots~~ and to certain state parks and forests. Aquatic reserves should include a suitable protective zone of shoreline. ~~Areas of protection which include the shores of streams, lakes and ponds and some land adjacent thereto are an essential part of aquatic reserves.~~

February 19, 1936

Mr. Aldo Leopold
1532 University Avenue
Madison, Wisconsin

Dear Mr. Leopold:

Thank you for your letter of February 14. We will regret to lose you as Chairman of our Committee but I respect your judgment in this matter. I think on the whole it would be better if I accept your suggestion that you make your contribution through the technical committee of the Wildlife Institute rather than have an overlapping membership.

I hope it is needless for me to say how much your services have been appreciated. The conditions were most difficult in every way and I feel that you have handled the Committee's activities with such force and sound judgment that you leave it in good condition to continue its efforts on behalf of wild life. I hope I will have the privilege of meeting you again in Washington when the affairs of the Institute call you this way.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

IFL/c

Dictated by Dr. Lewis
but signed in his absence.

Memorandum re Committee on Wild Life:

For chairman of the Wild Life Committee Leopold suggests Lovejoy. This is urgently opposed by Adams and Anthony. I get the impression that either Adams or Anthony would be much pleased to be given the chairmanship. Adams suggests Anthony, Anthony is reticent, Shelford nominates Adams.* Adams and Anthony agree that Leopold's connection with the technical committee of the Wildlife Institute might render it embarassing to him to serve on both committees and therefore suggest the reorganization of the committee with the addition of A. E. Preble, editor of Nature Magazine, and R. E. Coker. All this must be submitted to the Executive Committee. The subject is to touchy to be handled by an individual.

* afterwards in a letter
1. Anthony
2. Adams.

February 18, 1936

Transcan
Coker
A. K. Wright
Payne

UNIVERSITY OF WISCONSIN
COLLEGE OF AGRICULTURE
MADISON, WISCONSIN

DEPARTMENT OF AGRICULTURAL ECONOMICS

1532 University Ave.
February 14, 1936

Dr. Ivey F. Lewis, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington, D. C.

Dear Dr. Lewis:

The Wildlife Institute has asked me to serve as chairman of its technical committee, which closely parallels the National Research Council Committee on Wildlife Studies.

I do not think it would be proper for me to serve as chairman of both, since questions of allocating functions and funds between the two are bound to come up.

I request that you relieve me of the chairmanship of the National Research Council committee. I am willing to remain as a member if you think this is desirable and proper. On the other hand, I am willing to drop out entirely if you think this would be best.

In resigning the chair, I want to thank you cordially for your generous cooperation and sound advice.

I personally am convinced that the committee should be continued, even if there is no immediate way to meet its financial handicaps.

Yours sincerely,

Aldo Leopold

Aldo Leopold
Professor of Game Management

vh

ECOLOGICAL SOCIETY OF AMERICA

COMMITTEE ON THE PRESERVATION OF NATURAL CONDITIONS

FOR THE UNITED STATES

ESTABLISHED IN 1917

FRANCIS RAMALEY, BIOECOLOGY
UNIVERSITY OF COLORADO,
BOULDER, COLO.

C. JUDAY, AQUATIC ECOLOGY
UNIVERSITY OF WISCONSIN,
MADISON, WIS.

ROBERT F. GRIGGS, PLANT ECOLOGY
GEORGE WASHINGTON UNIVERSITY,
WASHINGTON, D. C.

V. E. SHELFORD, CHAIRMAN
VIVARIUM BUILDING
WRIGHT AND HEALEY STREETS
CHAMPAIGN, ILL.
ANIMAL ECOLOGY

R. E. YEATTER, SECRETARY
[redacted]
VIVARIUM BUILDING
WRIGHT AND HEALEY STREETS
CHAMPAIGN, ILL.
BIRDS AND MAMMALS

OFFICE OF the Chairman
February 10, 1936

Dr. Ivy F. Lewis
University of Virginia
Charlottsville, Virginia

Dear Dr. Lewis:

I wish to thank you very much for the trouble you took to see me Sunday afternoon and on two other occasions when I have passed through your territory.

In regard to the committee that you asked me about, after thinking it over it would seem to me that Anthony is best fitted for chairman for he is really astride the practical and pure science viewpoints. My second choice would be Dr. Adams who would be very effective. I believe that we should have a chairman who is not strictly an applied man as is the case with the man from Lansing. He has so long been connected with and interested in only Great Lakes problems that it would seem to me that he would be handicapped. If Goldman remains on the committee I do not believe that we should have both the gentlemen from Lansing and the gentlemen from Madison. This, I believe, would make a rather solid block of the same opinion and viewpoint, but I mention it primarily because it produces a kind of combination which has been one source of critisism and dissatisfaction in the past.

I regret that this meeting closed leaving various items of unfinished business and a number of general problems which might have been discussed, and I believe that when the committee meets at the expense of the council they should stay together until everybody is satisfied that no more can be done. I believe further that considerable in the way of polishing up statements and other work should be carried on after the meeting and that more discussion by mail should be stimulated in ~~both~~ meetings.

Cordially yours,

V. E. Shelford

VES:VMJ

Committee on Wild Life

NATIONAL RESEARCH COUNCIL

February 7 and 8, 1936

* * *

The Committee met in the National Research Council Building with the following present: Charles C. Adams, H. E. Anthony, H. C. Bryant, V. E. Shelford, Aldo Leopold, and P. S. Lovejoy representing the Sub-committee on the Training of Men for Administrative and Educational Work in Wild Life Problems. The Committee adopted the following statements which are here presented in lieu of minutes.

I. Proposal for International Studies of Wild Life Problems.

The members of the Committee on Wild Life attended the meetings of President Roosevelt's Wild Life Conference. They took this opportunity to discuss current wild life problems and have agreed on the following program for committee action:

It is generally conceded that a constructive program for various wild life projects is urgently needed today and of these the consideration of plans for water, shore and other migratory birds, as well as game fish, is of outstanding importance. Significant and acute wild life problems have been created by such factors as reclamation, drainage, drouth, overshooting and a lack of proper coordination between State, Federal and International agencies. The Committee on Wild Life proposes a constructive research program that will provide a basis for a sound conservation policy.

We propose immediate international studies of these subjects with the cooperation of Canadian officials, under the auspices of the

National Research Council and the Canadian Research Council and a later extension of the idea might bring about cooperation with other countries. This study should include such items as field studies, present status, life histories, and wild life conservation policies. An informal conference was held on February 6, 1936, with the Hon. J. B. Harkin, Commissioner of the National Parks of Canada, Department of the Interior, and Mr. Hoyes Lloyd, Superintendent of Wild Life Protection, National Parks of Canada. They responded cordially to a proposal of cooperation and it was suggested that such a project might be conducted jointly through these two Research Councils.

A possible source of funds to finance cooperative studies of this character is known to the Committee and, therefore, it is recommended that the conservation agencies of the Dominion of Canada and of the United States be invited, through the proper diplomatic channels, to consider such a plan and to cooperate in drafting the details for a specific program.

II. Proposal for an Interbureau Conservation Inventory of Rare Species.

An urgent current wild life problem is the perpetuation of rare or threatened forms. There has been no deliberate emphasis on rare species problems. Much could be accomplished by such a focus in research and administration, and especially in planning.

We propose that an inventory be made of surviving remnants now in jeopardy, with a plan, or list of needed actions, for each. In order that the inventory may result in a list of practicable actions, rather than of "wishful thoughts", we suggest that it be made by a joint committee of the federal conservation bureaus. Coordination would thus be

secured during the planning process.

Such a committee would need an executive officer to gather data and act as liaison between bureaus. He should have outstanding qualifications in wild life research and administration, but should be independent of any bureau. We urge that the National Resources Board employ such an executive officer. This would incidentally tend to secure much needed representation of wild life interests in the staff of the National Resources Board.

We estimate that the Inventory would require two years' work. The findings should be published under the sponsorship of the National Resources Board, after review by the National Research Council.

III. Buffer or Protective Zones.

The larger wild animals, especially carnivores, are of value in the economy of nature and, therefore, of importance in the proper development of the science of ecology and its applications which supply information for the interpretation of past and prediction of future biological events. Areas in which these animals still occur are of scientific value as checks on managed and modified areas, with reference to the study of cycles of abundance and interaction. The original mature (climax) vegetation and natural conditions are not renewable resources.

The National Parks are generally too small to support wide ranging carnivores and experience has shown that they cannot be maintained in the existing parks. The few wolves which remained in Yellowstone Park when their protection began have disappeared, having wandered outside the park and been destroyed. Again a report on the grizzly bears by the National Park Service indicates that the National Parks are inadequate

to prevent final extermination of this species. Park enlargement is not usually practicable but protective zones are necessary to complete the preservation of biotic communities which include representatives of all the species of wildlife.

We recommend the establishment around National Parks and Monuments, wherever needed to maintain natural conditions, of zones of complete protection for roaming animals, based on the extent of their wandering range. Lands devoted to multiple uses such as tree growing, watershed protection, and recreation may constitute these zones. We also recommend zoned sanctuaries in National Forests and the Public Domain. It is highly desirable that the establishment of protective zones be considered in all national and state land use planning.

The principle of zoning for animals should also be applied to the smaller reserved areas such as the Forest Service "natural areas" and to certain state parks and forests. Aquatic reserves should include a suitable protective zone of shoreline.

NEW YORK OFFICE
The Engineering Foundation, 29 West 39th Street

CABLE ADDRESS
NARECO, Washington, D. C.

NATIONAL RESEARCH COUNCIL

2101 CONSTITUTION AVENUE, WASHINGTON, D. C.

Established in 1916 by the National Academy of Sciences under its Congressional Charter and organized with the cooperation of the National Scientific and Technical Societies of the United States

February 5, 1936

Doctor I. F. Lewis
University of Virginia
University, Virginia

My dear Doctor Lewis:

I want to show you the enclosed memorandum of conversation yesterday with Professor Leopold. He is looking forward to seeing you here on Saturday and, if agreeable to you, would be glad if authorizations could be initiated through the Administrative Committee of the Council on that day to permit the solicitation of funds for the support of the coordinated inventories of disappearing species of wild life which he has in view.

Since talking with Professor Leopold, I am not sure but that you may wish to obtain the advice of your Executive Committee upon any recommendations which the Committee on Wild Life may make. In that case, the matter might be explained to the Administrative Committee on Saturday, by way of information, so that they could be prepared to take positive action by mail later, if your Executive Committee should endorse Professor Leopold's plan.

Sincerely yours,

Albert L. Barrows

Albert L. Barrows
Executive Secretary

ALB:P

Office Memorandum No. 281 - (Barrows) - February 4, 1936

Subject: Conversation with Professor Aldo Leopold and Doctor C. C. Adams concerning conservation of wild life.

I took lunch this afternoon with Professor Aldo Leopold, Chairman of the N.R.C. Committee on Wild Life, and Doctor C. C. Adams, a member of this Committee. We discussed procedures for cooperation on the part of the National Research Council with the movement for the conservation of wild life, which is given additional momentum through the President's conference here this week.

Professor Leopold wished to know under what conditions the National Research Council could administer funds for the support of conservation studies. I replied that of course all funds given to the Research Council should be untrammeled with respect to any limiting conditions except that they be expended for the specific purposes intended, and that the National Research Council would reserve the full decision as to the publishing of results with the expectation that ordinarily all results are fully published, the Council being guided in this matter mainly by the committees which it sets up to take charge of these specially financed projects.

I added that there are two steps to be taken in order to complete the authorization for the administration of research funds -

(1) To request authority from the National Academy of Sciences to solicit and administer funds for certain purposes (this usually strengthens solicitation on the part of the Committee because the Committee is then able to say that definite financial auspices are assured.)

(2) The funds when obtained are expended in accordance with a financial plan or budget which is approved by the Administrative Committee of the Research Council.

These two steps thus provide the treasurer of the Research Council with authorization to receive and also to expend these funds under the usual voucher-requisition system.

I suggested that with Doctor Lewis' permission it might be possible to request authorization for solicitation of wild life funds at the meeting of the Administrative Committee of the Council, which is to be held here on Saturday, February 8. A meeting of the Committee on Wild Life is also to be held that morning.

What Professor Leopold had in mind is providing a mechanism for making certain inventory studies of wild animals, not particularly game animals but rather animals which are threatened with extinction and which ought to be preserved for economic, aesthetic, or historical reasons, such as the grizzly bear, trumpeter swan, and a great many others which could be named. He proposes to make an inventory survey of the regions in which these rare or disappearing

animals are still to be found in order to establish the conditions which must be met if the populations of these animals are to be retained or increased. Professor Leopold feels that with the newly adopted policy of the government for returning certain sub-marginal land to the public domain by exchange, it might be possible to preserve areas in which these disappearing animals could be maintained. Ordinarily it is the cattle interests which interfere principally with wild life. If the activities of two or three ranches, for instance, can be discontinued in certain critical areas, these regions might again become secure refuges for certain animals. There are also a number of plants which are similarly threatened with extinction and which might be preserved by taking steps based upon systematic study.

To integrate the at present often conflicting interests of Federal bureaus in matters of wild life conservation, Professor Leopold feels that it would be necessary to set up an outside directing agency for these inventory studies, although the bureaus themselves should be able to contribute largely to the progress of these studies under a coordinated program. This would require the services of an exceedingly competent and experienced secretary or director, who should be paid from non-governmental funds, and whose main business would be to coordinate the contributions which the Federal agencies themselves, and perhaps certain other research agencies, would be able to make toward the general problem.

The funds for the support of such an outside agency, for which purpose perhaps $50,000 might be required, to be available for a period of at least three years, might perhaps be contributed by the Wild Life Institute through its Technical Committee, of which Professor Leopold is a member. Professor Leopold is looking for auspices for administering these funds in a way which would command the confidence of all concerned, in turning to the National Research Council in this connection.

Another very important problem is the conservation of ducks and wild geese. This, however, is an international question, since the nesting regions of most ducks are in Canada, while their feeding grounds during the usual open or hunting season are in the United States. Some attention was given in our conversation to the possibility of allocating funds administered by the United States National Research Council for use in studying the duck situation in Canada through the Canadian National Research Council or other Canadian institutions. It was suggested that any program of investigations for surveys of duck and wild geese be made cooperative, and that investigators from the United States be given opportunity to assist in studies in Canada, and that Canadian investigators be invited to aid in studies of feeding and wintering areas of ducks, for instance in the south Atlantic states.

The set-up, with respect to wild life organizations, is that the Wild Life Institute is supported mainly by arms and ammunition manufacturers, and hunting clubs. This Institute, however, can probably command considerable funds which Professor Leopold feels should be expended under the direction of some such agency as the Committee on Wild Life of the National Research Council. The President's conference of this week has been renamed as a "Wild Life" conference instead of a "Game" conference, as at first announced, which Professor Leopold regards as a favorable indication of widening conception of the problem on the part of the public.

The coordination of all wild life conservation agencies was one of the main things stressed by Mr. J. N. Darling in his keynote address before the President's conference yesterday. However, for the past year he has strenuously opposed the merging of a "Federation of Wild Life Agencies", which it is hoped may result from the President's conference, with the previously existing Wild Life Institute. (Mr. Darling also called attention to the importance of environment as a determining factor in the existence of wild species, pointing out that if the habitat areas of these species can be returned to their original natural condition the animals and plants which they support may be expected to propagate themselves, with perhaps certain aid by way of well-considered, limited hunting seasons.

I judge that Professor Leopold also feels that the purpose and modes of operation, as well as the constituents of these two organizations—the Federal and the Institute—are much that they ought to remain separate although in close cooperation.

Albert L. Barrows
Executive Secretary

ALB:P

January 9, 1936

Memorandum for Doctor Lillie:

Subject: Conservation of Wild Life

One of the functions of the Federal Government, about which there seems to be considerable confusion of purpose as well as administration, is the conservation of wild life on the public domain.

There are several bureaus of the government which are intimately concerned with the wild life problem -

Bureau of Biological Survey
Forest Service
National Parks Service
Bureau of Fisheries,

and, of course, the National Conservation Committee which, I understand, is concerned with the broader aspects of the utilization of the natural resources for the public good.

In so far as there may be lack of unanimity in the policies of these several organizations, it would appear to arise from different purposes which these organizations consider that they should fulfill. If it were divergence in methods or procedure, the problem of harmonization would be much simpler; but since it goes back to divergence of objectives, it would appear to be doubtful whether anything but a policy representing some compromise on the part of all interests concerned, in the direction of unanimity of administration as well as of objectives, can be effected if such unanimity is to be desired.

I think it can be shown, however, that pressing the interests of certain groups to the exclusion of the interests of other groups has, in the past, been inimical to the best interests of even the particular group dominating a given situation, as well as extremely detrimental in the long run to the maintenance of desirable natural resources. From some points of view, I cannot help thinking that it might be helpful to at least bring into clear definition the various purposes which these various agencies have sought to carry out, with the view that some adjustment might be made possible for the improvement of the present situation and for the better protection of the major interests of different groups of people and different parts of the country, through the recognition of the basic factors in the service of natural resources which ought to be protected in any event; and probably with some compromise to certain special

Doctor Lillie

interests in favor of the permanent preservation of wild life resources.

The first stage in any consideration of this sort which might be taken up could, however, go no further than the recognition of these various objectives; but if the several interests concerned could unite upon even a few basic principles to guide the conservative use of the natural resources of animal life, it would be a step in advance. Further progress would probably depend upon obtaining much more precise information than may be found to be available at present upon certain elements of the problem, and this may require considerable investigation.

A special conference has been called of state governors, or their representatives (probably state game commissioners, etc., in many cases) which is to meet in Washington next month for the consideration of the general problem of the conservation of wild life, and the problem may appear to be clearer after the discussion of that conference.

I cannot help thinking that although the approach to the problem on the part of the hunters and the arms and ammunition manufacturers seems to be different from that of the recreationist, educator, and general conservationist, it might still be possible for these two factions to unite upon a common program for the study of the problem and for the utilization of at least a certain part of the wild life of the country, for the motive which prompts the arms and ammunition manufacturers to desire to preserve an adequate amount of game throughout the country in order to provide hunting and thus augment their sales, requires that the stocks of game be maintained, if not increased, and to this extent this motive ought to be gratifying to the conservationist.

If the Government Relations and Science Advisory Committee should see a way clear in which to approach this confused and heretofore baffling problem with some promise of successful elucidation, perhaps the Committee would wish to consider taking up the matter. It could only be done, however, with the cordial cooperation of the major governmental interests concerned in a thoroughgoing study to determine the first basic principles which ought to guide the utilization, on the whole, of our wild life resources. This would mean agreement in advance on the part of the directors of the several government bureaus to support such an inquiry, not only with their interest but also with such funds as might be required by a central committee for its study of the problem.

Albert L. Barrows
Executive Secretary

ALB:P

December 9, 1935

Mr. Aldo Leopold
New Soils Building
Madison, Wisconsin

Dear Mr. Leopold:

The sum of $300 has been made available by the Committee on Grants-in-Aid of the National Research Council for use in defraying the expenses of a meeting of the Committee on Wild Life of the Division of Biology and Agriculture. No definite date or place was set for the meeting.

The funds for paying expenses of conferences is now exhausted and I am not sure that it will be possible to do anything further. In view of the possible relation of our committee to the Wild Life Institute, it was felt that at least one more meeting of the committee should be arranged with a view to possible contacts with the Institute by a non-partisan group without special interests.

Please let me know when you decide on the date and place of the meeting.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

IFL:B

December 4, 1935

Mr. Aldo Leopold
New Soils Building
University of Wisconsin
Madison, Wisconsin

Dear Mr. Leopold:

I was very much interested in your letter of November 22 and am going to request the Administrative Committee of the Council to appropriate $300 for the purpose of bringing your committee together for a conference on the present situation and on the relation of the committee to the Wildlife Institute. I am very sorry to say that there are no prospects for adequate funds for the committee and yet I realize how important it is for some such non-partisan and competent body to watch and have a hand in guiding the changes that are taking place in the nation in respect to the conservation of wild life. I think also that it is very desirable for the committee to meet again following the action of Mr. Darling last spring in the establishment of the several centers for wild life research.

I can let you know in a few days whether the money asked for will be available. Please in your turn let me know where you would wish the committee to meet.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

IFL:B

UNIVERSITY OF WISCONSIN
COLLEGE OF AGRICULTURE
MADISON, WISCONSIN

DEPARTMENT OF AGRICULTURAL ECONOMICS

New Soils Building
November 22, 1935

Dr. Ivey F. Lewis, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington, D. C.

Dear Dr. Lewis:

The delay in this acknowledgment of your letter of August 13 is due to my absence in Europe.

I am glad that our report was formally forwarded to Mr. Darling, but I am disappointed that there is no certainty of the $300 for another meeting this year. A committee working in such an uncertain status is, I am afraid, handicapped.

For example, at the present moment all of the national game organizations have pooled themselves into the Wildlife Institute, which has a lot of new money for game research. It is of crucial importance that the administration of these funds be separated in some decent way from the commercial interests which have donated them, and for all I know, those interests would be entirely amenable to such a plan. The National Research Council is a logical agency for performing the needed intermediary function, but as long as its Game Committee must be represented as a semi-hypothetical and barely active entity, it is hard for me or anyone to make a very strong case in offering its services.

I am, of course, nevertheless going to try and will report to you and the Committee as soon as I can appraise the present situation. Meanwhile I am sending a copy of this letter to each member.

Yours sincerely,

Aldo Leopold

Aldo Leopold
Chairman, Committee on Wild Life

vh

THE UNIVERSITY OF THE STATE OF NEW YORK
THE STATE EDUCATION DEPARTMENT
NEW YORK STATE MUSEUM
ALBANY, N. Y.

CHARLES C. ADAMS
DIRECTOR
ALVIN G. WHITNEY
ASSISTANT DIRECTOR

RUDOLF RUEDEMANN
STATE PALEONTOLOGIST
D. H. NEWLAND
STATE GEOLOGIST
R. D. GLASGOW
STATE ENTOMOLOGIST
H. D. HOUSE
STATE BOTANIST
C. A. HARTNAGEL
ASSISTANT STATE GEOLOGIST
WINIFRED GOLDRING
ASSISTANT STATE PALEONTOLOGIST
K. F. CHAMBERLAIN
ASSISTANT STATE ENTOMOLOGIST
ELSIE G. WHITNEY
ASSISTANT STATE BOTANIST
DAYTON STONER
STATE ZOOLOGIST
W. J. SCHOONMAKER
ASSISTANT STATE ZOOLOGIST
NOAH T. CLARKE
STATE ARCHEOLOGIST

OFFICE OF DIRECTOR

October 8, 1935.

Dr. Ivey F. Lewis, Chairman,

Division of Biology and Agriculture,
National Research Council,
2101 Constitution Avenue,

Washington, D. C.

Dear Doctor Lewis:-

I have your letter of August 13 about the work of the Wild Life Committee. I regret that I have been so slow in replying. I am sorry to learn that Dr. Merriam has resigned, as he should be able to help very much. No one doubts his genuine interest, and all appreciate his broad outlook. Of course, he is a very busy man.

I believe it is good for the future work of the Committee that Ruthven and Lovejoy have completed their report.

Regarding the meetings, I am gratified to know that you are willing to request funds for the Committee to meet. I believe that as this point can not be settled for some months, it might be well to begin plans for the meeting - so that we will have matured thought and have time for the busy members to devote attention to it. The wild life problem has become exceedingly acute, with the hordes of C.C.C. men at work without adequate supervision.

As a successor of Dr. Merriam, the best man I can suggest is Edward A. Preble, 3027 Newark Street, Washington, D. C., who only retired from the Biological Survey July 1. He was one of the few best men the Survey ever had. He knows the country thoroughly and the inside of governmental work. He thinks independently. We need just such a man on the Committee. I have made a careful canvas of the situation before suggesting this name.

You have no doubt heard of the new "American Wild Life Institute" and noted the character of its backers, and the huge funds available for their program. I have just met with a recent article in the "American Spectator" for October 1935, which throws much light upon the situation - and the work of the last meeting of our Committee - a background which we did not have at that time. It is our obligation to keep as free as possible from being used by any group, and to keep to our major objectives.

I have been reading the fine report of the "Science Advisory Board", and note that the wild life problems need similar attention. I do not know what agency is likely to consider wild life problems. As our Committee does not have funds, it is possible that the best thing that we could do would be to urge upon the proper authorities that the Wild Life problem be included in some comprehensive program. It seems to me that it should be composed of a non-governmental personnel.

It seems to me that we have two major groups of problems that need attention:-

1. A few broad fundamental research problems, and the training of men for research.

2. Special research and educational work which the present emergency and drouth has forced upon us, such as the duck problem, the poison campaigns, and the C.C.C, and other Relief agencies that may do harm, and have done so in some cases.

I have seen and heard much of the C.C.C. work in State Parks this summer, and as a wild life problem this influence is of much importance and needs attention.

I am making a special effort to size up Darling, as he seems to have good intentions.

I appreciate the interest which you take in our Committee.

Very sincerely,

Chas. C. Adams.

Copy of American Spectator
for October, 1935 enclosed.

10 CENTS

ALL THE NEWS PRINTED TO FIT"—Page 3

THE AMERICAN SPECTATOR

October, 1935

HE MUNITION MAKERS GO HUNTING

by H. C. ENGELBRECHT

who don't hunt and the beasts ... belong to them.
ls of this story are seasoned wit
ıd irony. It began in 1911. Tl
atents, generally adopted by the
ring hunters with repeating ar
uns that fired five or six shots
seconds. The hunters eage
e instruments of sport, and so
n owned weapons that multipli
their favor five times. Nobo
hat the sport itself became o
exciting.
seasons were long, bag limits w
the sale of game was still le
ıogs, or commercial hunters, st
er terrible heaps of bloody bo
ographed.
fourteen years, many specie
ıls and birds deemed safe b
re society in 1897 had been p
ed out. George O. Shields b
n against such mass destructio
ne. *Recreation* (1904). The
logical Society instructed the
Dr. Hornaday, head of the zo
e a bulletin against the autor
ple listened with respect to
mate. Various Canadian prov
e new guns, and many state
their country weighed bills fo
guns.
makers weren't so bright
e now. It took them six ye
counter-offensive. Dr. Horn
nding authority on wild life
conservationist, had managed
e Permanent Wild Life Prot
he was pushing his objectiv
th the small income available
y he received a letter from
vice-president of Winchester
an appointment. At first

NEXT to furnishing machines of slaughter for war, the biggest business of the munitions makers is in the hunting industry. There are 7,500,000 hunters in the United States. Their annual outlay, estimated modestly, is $300,000,000. Of this, $40,000,000 goes directly to the manufacturers of guns and ammunition. Hunting is obviously "big business."

Nobody knows exactly what our national kill is, but between 10,000,000 and 14,000,000 migratory birds alone go into the bag each year. And 8,000,000 humble little muskrats lay themselves on the altar of business and vanity. It's a gory altar.

Wild life began to disappear from our land about 1900. The cause was obvious. The number of hunters was growing with frenzied rapidity. What had been one hunter in 1890 was at least six hunters in 1900. The automatic and pump guns did the trick. Various conservation groups rushed into action to save our resources of life from this mechanical death. They fought against the automatic guns and tried to reduce the hunting season. In 1907 Pennsylvania barred the automatic gun, and nine other states considered following this example.

The gun-makers became jittery. An automatic gun costs more than the old-fashioned kind. And it uses a lot more shells! Something must be done to protect our tender industry of carnage.

And it was done. The bosses looked around and saw that what threatened their business was the conservation movement. One of them must have remembered the Biblical injunction, "Agree with thine adversary quickly." Instead of fighting the conservation movement, they joined it. Just the way the alligator joins the pickaninny when it

life!

The zeal of the manufacturers carried them even farther. They organized the American Game Conference. This is a yearly congress of state game commissioners, naturalists, conservationists, and hunters. Its meetings are open to all. But its programs and resolutions aren't. A dutiful committee does masterful editing. The conference every year publishes an elaborate volume of proceedings, full of learned papers on game breeding, predators, game surveys, and so on.

But one topic is taboo: Hunting. To declare that the elimination of automatic guns and the extending of closed seasons would solve 90% of the conservation problem would be blasphemy in this assembly. Everything rolled along nicely until 1929; and the revolt of that year did not really shake the gun-makers out of power. A few years later, when disastrous droughts had imperiled all migratory birds, the Game Conference still voted by a comfortable majority that there should be no closed seasons.

The next step in conservation as practiced by destroyers was to seize the Biological Survey of the Department of Agriculture in Washington. The federal government has supervision of migratory birds, and so vast legislative and executive authority rests in this department. An Advisory Board, appointed in 1911, was to counsel the Secretary of Agriculture on bag limits, shooting seasons, baited waters, live decoys, the use of automatic guns, and related matters. The chairman of this Board for seventeen years, through Republican and Democratic Administrations, was John B. Burnham, president of the American Game Protective Association. Burnham organized the Board!

August 13, 1935

Mr. Aldo Leopold
New Soils Building
University of Wisconsin
Madison, Wisconsin

Dear Mr. Leopold:

I have forwarded the report of the Committee on Wild Life to Mr. Darling. I feel sure that he has already benefited by the judgment of the Committee even though the submission of the formal report has been delayed.

The Sub-committee on the Training of Men for Administrative and Educational Work in Wild Life Problems concluded its work with the submission of a final report in April. This leaves the Standing Committee on Wild Life as follows: Aldo Leopold, Chairman, C. C. Adams, H. E. Anthony, Harold C. Bryant, E. A. Goldman, V. E. Shelford and the Chairman of the Division ex officio. No successor has as yet been named for Dr. Merriam who resigned from the Committee in June.

There are at present no funds available for a meeting of the Committee, but I will be glad to recommend to the Committee on Grants-in-Aid the appropriation of $300 for a meeting. This committee, however, does not meet for some months, so that I do not think it will be possible to provide expenses for a meeting before next spring. By this time Mr. Darling will have had some experience with the actual working out of his program and it is probable that the Committee on Wild Life can contribute in a very helpful way to its further development.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

IFL:B

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF BIOLOGICAL SURVEY
WASHINGTON, D. C.

ADDRESS REPLY TO
CHIEF, BUREAU OF BIOLOGICAL SURVEY
AND REFER TO

Z

June 12, 1935.

Dr. Ivey F. Lewis, Chairman,
Division of Biology and Agriculture,
National Research Council,
Washington, D.C.

Dear Dr. Lewis:

Receipt is acknowledged of your letter of May 15, to members of the Committee on Wildlife of the National Research Council, indicating the personnel that has been asked to serve for the fiscal year, July 1, 1935 to June 30, 1936.

I shall be glad to serve on the committee and hope that means can be found to make it more active than in the past. I regret that absence in Mexico prevented my attending the last meeting.

Sincerely yours,

E. A. Goldman

E. A. Goldman,
Senior Biologist,
Division of Wildlife Research.

THE UNIVERSITY OF THE STATE OF NEW YORK
THE STATE EDUCATION DEPARTMENT
NEW YORK STATE MUSEUM
ALBANY, N. Y.

CHARLES C. ADAMS
DIRECTOR
ALVIN G. WHITNEY
ASSISTANT DIRECTOR

RUDOLF RUEDEMANN
STATE PALEONTOLOGIST
D. H. NEWLAND
STATE GEOLOGIST
R. D. GLASGOW
STATE ENTOMOLOGIST
H. D. HOUSE
STATE BOTANIST
C. A. HARTNAGEL
ASSISTANT STATE GEOLOGIST
WINIFRED GOLDRING
ASSISTANT STATE PALEONTOLOGIST
K. F. CHAMBERLAIN
ASSISTANT STATE ENTOMOLOGIST
ELSIE G. WHITNEY
ASSISTANT STATE BOTANIST
DAYTON STONER
STATE ZOOLOGIST
W. J. SCHOONMAKER
ASSISTANT STATE ZOOLOGIST
NOAH T. CLARKE
STATE ARCHEOLOGIST

OFFICE OF DIRECTOR

May 31, 1935.

Dr. Ivey F. Lewis, Chairman,

Division of Biology and Agriculture,
National Research Council,
2101 Constitution Avenue,

Washington, D. C.

Dear Doctor Lewis:-

I have your letter of May 15, inviting me to serve for the fiscal year July 1, 1935 to June 30, 1936 on the Wild Life Committee of the National Research Council.

While I have had considerable hesitation about accepting, I have now decided to accept. I hope that our Committee will be able to have at least two meetings for which there will be ample time for preparation. It seems to me that in addition to matters of current interest, something constructive should be done on the major outstanding wild life problems.

Very sincerely,

Chas. C. Adams

Chas. 'C.' Adams.

CARNEGIE INSTITUTION OF WASHINGTON
WASHINGTON, D.C.

OFFICE OF THE PRESIDENT

May 20, 1935.

Dr. Ivey F. Lewis,
Division of Biology and Agriculture,
National Research Council,
2101 Constitution Avenue,
Washington, D.C.

My dear Dr. Lewis:

Just a note to thank you for your letter informing me that the Committee on Wild Life of the National Research Council has been asked to continue to serve for the fiscal year July 1, 1935, to June 30, 1936, with my name included in the personnel of the Committee. I appreciate the privilege of being a member of the Committee and have great interest in the projects, but I have had so many and varied duties in recent years that it has become necessary to give up some of these connections, as interesting as they are. In spite of my interest in the project, I would appreciate it if my name could be eliminated from the list.

With kindest regards, believe me

Very truly yours,

John Merriam

JCM:SC

May 15, 1935

To the Members of the
Committee on Wild Life and
Sub-committee on the Training of Men
National Research Council

Gentlemen:

At the recent annual meeting of the Division of Biology and Agriculture it was voted to ask the Committee on Wild Life and Sub-committee on the Training of Men to serve for the fiscal year July 1, 1935 to June 30, 1936, with the following personnel:

Committee on Wild Life

Aldo Leopold, Chairman, University of Wisconsin
Charles C. Adams, State Museum, Albany, New York
H. E. Anthony, American Museum of Natural History
Harold C. Bryant, National Park Service
E. A. Goldman, U. S. Department of Agriculture, Bureau of Biological Survey, Washington, D.C.
John C. Merriam, Carnegie Institution of Washington
V. E. Shelford, Vivarium Building, Champaign, Illinois, Chairman of Division, ex officio

Sub-committee on the Training of Men for Administrative and Educational Work in Wild Life Problems

A. G. Ruthven, Chairman, University of Michigan
Aldo Leopold, New Soils Building, University of Wisconsin
P. S. Lovejoy, Michigan Department of Conservation, Ann Arbor, Mich., Chairman of Division, ex officio

We hope very much that you will be able to serve on this Committee for the coming year.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

cf

March 11, 1935

Mr. Aldo Leopold
New Soils Building
University of Wisconsin
Madison, Wisconsin

Dear Mr. Leopold:

I quite agree with you that the Committee on Wild Life can hardly outline a program without a meeting for the discussion of the present situation with a view to outlining a wild life program. I would be glad to know how much money would be needed for such a conference so that I can attempt to provide for it. The sum of $100 has already been set aside for this purpose. I will be glad to supplement this, if possible, if you will let me know how much is needed.

If the Committee could assist in having more emphasis placed on wild life research by the various organizations now interested in this field it would perhaps be the most useful service that could be rendered. I hope the Committee can have the necessary conference for outlining a program along these lines.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

IFL:B

UNIVERSITY OF WISCONSIN
COLLEGE OF AGRICULTURE
MADISON

DEPARTMENT OF AGRICULTURAL ECONOMICS

New Soils Building
February 28, 1935

Dr. Ivey F. Lewis, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington, D. C.

Dear Dr. Lewis:

The Committee on Wild Life Studies has no report to make. An attempt was made during the year to get it oriented with a view to some genuine activity and a letter was written you under date of December 5, 1934, for some preliminary orientation. No reply was received and nothing further was done.

I recommend the continuance of the Committee, but only on condition that funds sufficient for at least one meeting be made available. I doubt my ability to do anything worth while as chairman unless a meeting can be held to furnish an exchange of ideas and a new starting point, ~~for our ideas~~. If a meeting can be held, I am quite sure that the Committee can be distinctly useful in outlining a wild life research policy for the guidance of the many new bureaus which are now embarking on this field. During the past year wild life research has been either initiated or expanded by the Forest Service, the National Park Service, the Soil Erosion Service, and the Biological Survey.

There has, however, been no corresponding growth in research activities. Consequently the whole governmental structure is headed straight for a blind alley. That is to say, certain administrative undertakings on which huge sums are being expended will fail because research information is lacking on which suitable techniques may be founded. It would, I think, be a worthwhile function for our Committee to call attention to that fact, and it was in connection with this that I wrote you.

I am sending copies of this letter to the members of the Committee.

Yours sincerely,

Aldo Leopold

Aldo Leopold
Chairman, Committee on Wild Life Studies

ch

February 23, 1935

Dr. Aldo Leopold
New Soils Building
University of Wisconsin
Madison, Wisconsin

Dear Doctor Leopold:

The 1935 annual meeting of the Division of Biology and Agriculture of the National Research Council is to be held on April 20 and 21 and, at that time, we shall wish to present to the members a review of the work of our committees and projects for the past fiscal year. May we have a report from you on the activities of the Committee on Wild Life, together with any recommendations which you may wish to have considered by the Division.

All committees of the National Research Council automatically go out of existence on June 30 of each year and special action is required to continue them. If you wish to have your Committee continued, will you please send in your recommendations to that effect. It is entirely in order to make any changes or additions in the personnel which seem desirable, as committees must be voted anew each year.

The Division office would like to receive reports and recommendations not later than March 15, in order that these may be manifolded and distributed to the members of the Division in advance of the meeting. If you can let us have your report by that date, it will be greatly appreciated.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

cf

UNIVERSITY OF WISCONSIN
COLLEGE OF AGRICULTURE
MADISON

DEPARTMENT OF AGRICULTURAL ECONOMICS

New Soils Building
December 5, 1934

Dr. Ivey F. Lewis, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington, D. C.

Dear Dr. Lewis:

Since June I have been chairman of your Committee on Wild Life Studies. In July I circularized the members to get their opinions about certain possible projects. Their replies have reinforced my previously existing opinion on one important point: The effective functioning of your committee on wild life research must await the initiative of the Council on the national research program as a whole.

With rare exceptions, wild life is not properly an exclusive dedication of land. Neither, then, is wild life research separable from land-use research. It is rather a component of it.

In respect of both, we face today two salient facts:

(1) Private sources of research funds are shrinking.
(2) Public expenditures for land use reformation have increased to unprecedented proportions, but virtually none of these funds are available for research.

These facts place upon the Research Council the obligation of pointing out, to the administration and the coming Congress, the extreme unwisdom of larger public expenditures unguarded by a parallel search for deeper facts and sounder techniques. A simple and positive paraphrase of this obvious truth would be to urge that a percentage of all land-use appropriations be made available to search for a sounder knowledge of land.

Your wild life committee stands ready to help set up such wild life researches as may be a logical part of such a broader program, but it seems not only footless but unsound to urge them as a separate undertaking when there are no funds for either the whole or the part.

The following random examples of misguided expenditure in the wild life field may help illustrate the present situation.

Wild Life Research

Waterfowl. $8,500,000 of new money is available for refuges, not one cent of which is available for learning the ecological characteristics of the score of species concerned, nor of the plants, animals, and soils which

form their environment and thus determine their welfare. No rounded evaluation of factors determining the population level has been made for even a single species of waterfowl. Marshes are being bought and reflooded without advance knowledge of what the vegetation will be, and hence without knowledge of their utility. We do not advocate postponing remedial action until these things are known; we do advocate shortening rather than further lengthening the lag between action and knowledge.

Forest Game. With the single exception of the ruffed grouse and possibly the mule deer, no forest game animal has so far been studied from the viewpoint of applied ecology or cropping. Yet an enormous fund of man-power and dollars is being spent, through the CCC and otherwise, to manipulate ecological conditions in public forests. The larger part of this expenditure is aimed directly at forestry and usually ignores wild life; a smaller part is aimed directly at wild life, and must proceed without knowledge. Not a cent is available from these funds to create the knowledge needed to make their expenditure fruitful for wild life conservation.

Farm Game. With the single exception of parts of the submarginal land program, the vast program of agricultural curtailment has ignored wild-life cropping as an alternative use for farms or parts of farms to be retired from the plow. The ecological research foundation for several species of farm game already exists. The rest is readily obtainable. In the stress of initial policy-making, it is natural that permanent alternatives for agriculture should be crowded out, but that is no reason for the indefinite continuance of such a lop-sided policy. The funds available for retiring land from the plow should be available for finding out what else to do with it.

Neglected Land Uses

It should also be mentioned that there are several land uses, of decided value to wild life, which have never had a Bureau to push them, and which therefore tend to be ignored, not only in the formulation of research programs, but even in the formulation of administrative policies.

Prairie. The Shelterbelt is a conspicuous example of how, under stress of a new pain in the body politic, the public snatches for anything labelled medicine. The natural restorative of a normal ecology on the great plains is not artificial trees, but natural prairie. Prairie is one of our important indigenous land crops. Barring wilderness mammals, it is the nearest extinct of any category of our native flora and fauna. As compared with forests and field crops, it is certainly unknown to science. If prairie is a means toward a balanced land use, is it not time for land use appropriations to finance a study of its ecology, its utilization, and its propagation? And for some competent agency to sponsor its claims to a place on the land-medicine shelf?

Marsh. This indigenous land use has been studied more than prairie, but still infinitely less than its now over-produced competitors for acreage. The nearly unanimous public determination to restore at least part of the marshes

which have been artificially drained, and the large appropriations now available for such restoration, call for a positive research program in marsh ecology. Many marsh soils have been so altered by drainage, fire, and grazing that the plant succession under any given degree of reflooding is wholly unpredictable.

Economic Vehicles

One basic reason why wild-life research cannot effectively proceed before land-utilization research lies in the fact that all conservation uses of land have one need in common: The need of new and more effective economic vehicles for encouraging private landholders to adopt them.

Only a few conservation uses can depend on the profit incentive for their private practice. Forestry can sell wood. Game management can sell shooting. Fur management can sell pelts. Erosion control is profitable if begun early, but not otherwise. There remain the highly important categories of advanced erosion, non-game wild life, scenic values, wild flowers, etc., which are entirely without any motivation for private practice except altruism. Public purchase of land is only a local remedy. There remains a clear need for public recognition, in terms of economic differentials, of private lands devoted to public purposes. Legal and economic research is needed to devise economic vehicles for such recognition.

Is there a chance that the Council as a whole may move on the whole question of land use? If so, this committee proffers its cooperation. If not, let us know and we will do the best we can on a separate basis.

Yours sincerely,

Aldo Leopold

Aldo Leopold
Chairman, Committee on Wild Life Studies

vh

September 14, 1934

Mr. Aldo Leopold, Chairman
Committee on Wild Life
New Soils Building
University of Wisconsin
Madison, Wisconsin

Dear Mr. Leopold:

Your attention has probably already been called to various conservation projects in Illinois. These have already been sent to the Beck Committee, signed by the President of the University of Illinois, the Dean of the College of Agriculture and the Director of the Natural History Survey. We are particularly interested in these projects because of the fact that they contain a good deal of natural grasslands which for some reason make their preservation especially desirable. We have a very active committee on Ecology of Grasslands of North America, headed by Dr. V. E. Shelford of the University of Illinois. I should be especially glad if your Committee on Wild Life could become familiar with the program of the Divisional Committee on the Ecology of Grasslands, as I think the Grasslands Committee has a program which fits in especially well with wild life conservation. I have asked Mr. Darling for a conference with Dr. Shelford so that the matter may be presented in full for the consideration of President Roosevelt's committee. I will appreciate any help the Wild Life Committee can give toward the consideration of these Illinois projects.

I am enclosing brief descriptions of the several areas studied by Dr. Shelford's committee which I would be glad to have you return after looking them over.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

IFL:B

August 31, 1934.

Memorandum to the Administrative Committee:

Dr. John C. Merriam has resigned as Chairman of the Committee on Wild Life of the Division of Biology and Agriculture. The Executive Committee has approved the appointment of Mr. Aldo Leopold of the University of Wisconsin as Chairman of this committee and his appointment is hereby submitted for the approval of the Administrative Committee.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture.

MM

August 18, 1934.

Professor Fernandus Payne
Indiana University
Bloomington, Indiana

Dear Dr. Payne:

Referring to your letter concerning the suggestion of C. C. Adams about the chairmanship of the Wild Life Committee, I am afraid the matter has gone too far to make any change. The question seems to be an extraordinarily thorny one. I have had enthusiastic letters about Mr. Leopold from members of the committee and others, but these are counter-balanced by the views of Drs. Adams and Anthony. They seem to fear that under Leopold the whole Wild Life program will be turned over to the sportsman. This is not the view, however, of Dr. Merriam, nor is it borne out by the report of the President's Committee on Wild Life restoration. If members of the Wild Life Committee who fear over-emphasis on game had been active as members of the committee I would be more disturbed than I am about the difference of opinion. However, the only sign of activity I saw in the committee came from Leopold. I think on the whole the nomination should stand, and have so written Dr. Adams and Dr. Anthony. I am very glad to say that neither one has said anything about retiring from the committee.

Thanking you for your suggestion and with best wishes,

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture.

IFL:mm

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF BIOLOGICAL SURVEY
WASHINGTON, D. C.

ADDRESS REPLY TO
CHIEF, BUREAU OF BIOLOGICAL SURVEY
AND REFER TO

July 16, 1934.

Z

Dr. Ivey F. Lewis, Chairman,
Division of Biology and Agriculture,
National Research Council,
Washington, D. C.

Dear Dr. Lewis:

Reference is made to your letter of June 20, which arrived during my absence on a field trip, announcing the appointment of Mr. Leopold as chairman of the committee on wild life.

I regretted very much to learn that Doctor Merriam felt it necessary to relinquish the chairmanship, though I believe that the post will be ably filled by Mr. Leopold. Current trends tend to bring the major problems of wild life conservation and management to public attention, and there is urgent need for clear thinking and wise planning. I have felt that the committee on wild life should be able to function along various lines and especially to be in a position to act in an advisory capacity and as a coordinating agency.

Sincerely yours,

E. A. Goldman

E. A. Goldman,
Senior Biologist,
Division of Biological Investigations.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
WASHINGTON

July 3, 1934

Dr. Ivey F. Lewis,
Chairman, Division of Biology and Agriculture,
National Research Council,
2101 Constitution Avenue,
Washington, D. C.

Dear Doctor Lewis:

I am most happy to find by your letter of June 20 that Mr. Aldo Leopold has been appointed chairman of the Committee on Wild Life.

I believe Mr. Leopold is exactly the man to undertake this work. There is so much to be accomplished in wildlife conservation that I hope there will be sufficient funds so that the committee can get together at frequent intervals.

Sincerely yours,

H. C. Bryant

H. C. Bryant,
Assistant Director

File

IN RE

CABLE ADDRESS "MUSNOLOGY NEW YORK"

THE AMERICAN MUSEUM OF NATURAL HISTORY

77TH STREET AND CENTRAL PARK WEST

NEW YORK CITY

DEPARTMENT OF MAMMALOGY

H. E. ANTHONY, M.A., CURATOR
GEORGE G. GOODWIN, ASSISTANT CURATOR
ROBERT T. HATT, PH.D., ASSISTANT CURATOR
G. H. H. TATE, M.A., ASSISTANT CURATOR OF SOUTH AMERICAN MAMMALS
T. DONALD CARTER, ASSISTANT CURATOR OF OLD WORLD MAMMALS

RICHARD ARCHBOLD, RESEARCH ASSOCIATE
WILLIAM J. MORDEN, PH.B., FIELD ASSOCIATE
ARTHUR S. VERNAY, FIELD ASSOCIATE

June 26, 1934.

Dear Dr. Lewis:

I have received your letter of June 19th and note that the Executive Committee of the Division of Biology and Agriculture has approved of Mr. Aldo Leopold as Chairman of the Committee on Wild Life. Dr. Merriam had written to me some weeks ago that he was resigning from the chairmanship and I knew that an appointment of a new Chairman was in order.

I have a very high opinion of Mr. Leopold in his chosen line of work and I think he is undoubtedly the most able and broad minded of those who are working on game management. However, since the committee is supposed to deal with all wild life, I had hoped that the new Chairman would be some one like Dr. Adams or Dr. Shelford, whom I consider to have a broader perspective. Mr. Leopold is already a member of Secretary Wallace's Committee of Three, made up of Messrs. Beck, Darling and Leopold, and reputed to have very broad powers to purchase submarginal lands, retiring them from agriculture and establishing them as sanctuaries primarily for game birds. Thus we now have the sportsman very strongly intrenched in the two committees. I stand for many of the things that the sportsmen are striving for, and to this extent I am one of them. I also believe that the great host of nature lovers, who like to view wild life neither as something to shoot nor to eat, should have much more to say in all of the national plans for conservation. The number of species of wild life to be considered game is but a small percentage of the sum total of our wild life, but today all of the aggressive planning is for this small fraction of the whole.

I have been greatly disappointed in the activities of the Committee on Wild Life and do not agree with the inference you draw when you write, hoping the committee "will continue to function actively in its difficult but important field."

The committee had an organization meeting in 1932 which I was unable to attend because I was in Venezuela. So far so good, but since that time the committee as a whole has done nothing. I would not have known it existed if I had not seen the yearly report sent out from headquarters and noted that the committee was still listed. Some of the members were acting, perhaps, on their own, but there was no concerted activity.

With the change in the National Administration and the formulation of plans for so many undertakings, I consider that the committee had a marvelous opportunity to confer and advise. Nearly every scientific gathering and little conservation committee throughout the land was striving to do something for wild life. The Committee of the National Research Council which should have been preeminent in its field has not held one meeting nor advocated a single conservation measure.

I am writing you thus frankly because I have been rather disappointed with the policy of indifference pursued by this committee. I am on a number of conservation committees and attempt to keep in touch with the various problems which confront our wild life. The sportsmen are aggressive and well-organized and throughout the country are usually much more competent to look out for their interests than are the non-hunting nature lovers. We need a non-partisan committee, set up as the National Research Council Committee was in the beginning, which will take action when need arises. The voice of this committee, expressed only after careful consideration, should be comparable to a supreme court decision. Under any other circumstances I can not see where the National Research Council will aid conservation one iota, other committees already cover the ground adequately, and have been far more active.

Very sincerely yours,

H. E. Anthony.

Dr. Ivey F. Lewis, Chairman,
Division of Biology and Agriculture,
National Research Council,
2101 Constitution Ave.,
Washington, D. C.

June 13, 1934.

Dr. Charles C. Adams
New York State Museum
Albany, New York

Dear Doctor Adams:

Thank you for your letter of June 11. I value your opinion in this matter and I am sorry that I did not consult you earlier. The committee, as you say, has not done very much so far. Most of what has been done, however, is owing to the active interest of Mr. Leopold. I realize that the whole field is as difficult as it is important, and am hopeful that the committee will be more active in the future.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture.

mm

June 19, 1934.

Dr. H. E. Anthony,
American Museum of Natural History,
New York City.

Dear Doctor Anthony:

When Dr. Merriam relinquished the chairmanship of the Committee on Wild Life, I undertook as Chairman of the Division of Biology and Agriculture to canvass the situation and find his successor. Dr. Merriam recommended Mr. Leopold very strongly and on this basis I took the matter up with him. When he consented to serve, I then submitted his name in accordance with custom to the Executive Committee of the Division and obtained their approval. I hope that under Mr. Leopold's chairmanship the committee will continue to function actively in its difficult but important field.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture.

mm

Sent also to the following: Charles C. Adams
E. A. Goldman
Harold C. Bryant
V. E. Shelford

June 13, 1934.

Dr. Frank E. Lutz,
Department of Entomology,
The American Museum of Natural History
77th Street and Central Park West
New York City

Dear Lutz:

I found your letter of June 11th waiting for me when I came in today and am disturbed over the situation about the Wild Life Chairman. I proceeded in the usual way by making inquiries as to available men for the chairmanship. Dr. Merriam, retiring Chairman, felt that Leopold was the best man in sight if he would consent to serve, but he was afraid that his other duties would prevent his acceptance. Mr. Leopold, after considerable hesitation, consented to serve, and I thereupon sent his name to the Executive Committee, which has approved the appointment with one dissenting vote. Dr. Barrows tells me that in such cases someone has to take the lead to prevent the committee from lapsing as an active body and that this is one of the duties of the Chairman of the Division. It troubles me, however, that other members of the committee feel that the procedure should have been different. I hope they will be willing to carry on as well as possible.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture.

mm

C O P Y

June 16, 1934

Dr. Ivey F. Lewis
National Research Council
2101 Constitution Avenue
Washington, D. C.

My dear Dr. Lewis:

I have a letter from C. C. Adams asking that Dr. Leopold be not appointed chairman of the Wild Life Committee. He seems to think that Mr. Anthony is far better for this place.

I must admit that I do not know either of these men, and so have no judgment of my own. In view of the fact that Dr. Adams is a member of this Committee, and in view of the fact that he is in favor of Dr. Anthony, I am wondering if it would not be well to make further investigations before definitely appointing Dr. Leopold, in case the appointment has not already been made.

Very truly yours,

(Signed) FERNANDUS PAYNE
Professor of Zoology

FP:HL

THE UNIVERSITY OF THE STATE OF NEW YORK
THE STATE EDUCATION DEPARTMENT
NEW YORK STATE MUSEUM
ALBANY, N. Y.

CHARLES C. ADAMS
DIRECTOR
ALVIN G. WHITNEY
ASSISTANT DIRECTOR

RUDOLF RUEDEMANN
STATE PALEONTOLOGIST
D. H. NEWLAND
STATE GEOLOGIST
R. D. GLASGOW
STATE ENTOMOLOGIST
H. D. HOUSE
STATE BOTANIST
C. A. HARTNAGEL
ASSISTANT STATE GEOLOGIST
WINIFRED GOLDRING
ASSISTANT STATE PALEONTOLOGIST
K. F. CHAMBERLAIN
ASSISTANT STATE ENTOMOLOGIST
ELSIE G. WHITNEY
ASSISTANT STATE BOTANIST
DAYTON STONER
STATE ZOOLOGIST
W. J. SCHOONMAKER
ASSISTANT STATE ZOOLOGIST
NOAH T. CLARKE
STATE ARCHEOLOGIST

OFFICE OF DIRECTOR

June 11, 1934.

Dr. I. F. Lewis,

Miller Professor of Biology and Agriculture,
University of Virginia,

University, Virginia

Dear Doctor Lewis:-

I have just learned that Mr. Aldo Leopold has been suggested as Chairman of the Wild Life Committee. As research and education are or should be an important aspect of the work of this Committee, and as Leopold is not a trained man in either field, I do not think this a wise selection. Furthermore, there is a political aspect of the problem which cannot be elaborated in a few words, which is also unfavorable to him.

I think the Committee should be enlarged and have more men not hindered by their official connections.

Of course I can only express my opinions; but I think that this Committee has not been able to do much so far, and there is great need of constructive work by such a Committee.

The person on the Committee who is in the best position to keep informed, who is active, and who is capable of handling this chairmanship, is Anthony.

I trust you will pardon my intrusion, but I am eager to see this Committee active at this critical period.

Very sincerely,

Chas. C. Adams.

C O P Y

June 11, 1934

Dr. I. F. Lewis
National Research Council
2101 Constitution Avenue
Washington, D. C.

Dear Lewis:

About the Wild Life Chairman -- I asked Anthony, a member of the committee, and discovered that he knew nothing about Leopold having been selected. He wired Adams and found that Adams was equally in the dark. Just who selected Leopold? Apparently both Anthony and Adams recognize Leopold's many good qualities but neither of them seem to be particularly happy either about the selection of Leopold for this particular position or about the method of his selection. Under the circumstances and until I get further light on the subject I wish to vote "No" on the question of approving the appointment.

Not knowing anything to the contrary about the Mitogenetic budget I am willing to vote "Yes" on it.

Yours sincerely,

(Signed) FRANK E. LUTZ

June 8, 1934

Mr. Aldo Leopold
New Soils Building
University of Wisconsin
Madison, Wisconsin

Dear Mr. Leopold:

I am very much pleased to learn that you can accept the chairmanship of the Committee on Wild Life of the Division of Biology and Agriculture of the National Research Council. Other members of this committee as at present constituted are:

Charles C. Adams, State Museum, Albany, N. Y.
H. E. Anthony, Amer. Mus. of Natural History
Harold C. Bryant, National Park Service, Washington, D. C.
E. A. Goldman, U.S.Department of Agriculture, Washington, D. C.
John C. Merriam, Carnegie Institution of Washington
V. E. Shelford, University of Illinois
Chairman of Division, ex officio

The chairman may suggest changes in the personnel of the committee at any time. Such suggestions should be made to the office of the Division before notifications of appointment are sent out.

Dr. Merrial will, I am sure, be glad to give you any information available as to the working and functions of the committee.

It is a standing rule of the Council that in case committees wish to issue publications arrangements should be made through the Publications Committee of the National Research Council. I will be glad to take care of this for you at any time.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

IFLsB

UNIVERSITY OF WISCONSIN
COLLEGE OF AGRICULTURE
MADISON

DEPARTMENT OF AGRICULTURAL ECONOMICS

New Soils Building
June 5, 1934

Dr. Ivey F. Lewis, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington, D. C.

Dear Dr. Lewis:

In further reference to my letter of May 24.

I am now in a position to accept the chairmanship of the Wild Life Committee. Will you kindly send me a list of the present members with addresses, revised up to date?

Yours sincerely,

Aldo Leopold

ALDO LEOPOLD
In Charge, Game Research

AL-vh

May 10, 1934

Mr. Aldo Leopold
404 University Avenue
Madison, Wisconsin

Dear Mr. Leopold:

Dr. John C. Merriam has been compelled to retire from the Chairmanship of the Committee on Wild Life of the Division of Biology and Agriculture of the National Research Council. He is still actively interested in the purposes of the committee but feels that pressure of other duties renders it undesirable for him to remain as Chairman. I am writing to ask that you take his place as Chairman of the committee for the year beginning July 1. I realize perfectly well that other matters of great importance are claiming your attention. The program of the Committee on Wild Life, however, is such that it will naturally be of interest to you and also furnish support for developments in which you are especially interested. I hope, therefore, that you will consent to serve. This hope is shared by Dr. Merriam, with whom I have consulted about the personnel of the committee and its work.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

IFL:B

CARNEGIE INSTITUTION OF WASHINGTON
WASHINGTON, D.C.

OFFICE OF THE PRESIDENT

May 4, 1934.

Dr. Ivey F. Lewis,
National Research Council,
2101 Constitution Avenue,
Washington, D.C.

My dear Dr. Lewis:

Replying to your letter of May second, may I say that Aldo Leopold would be an ideal chairman for the Committee on Wild Life of the Research Council if he is able to accept the position.

Very sincerely yours,

JCM:SC

May 2, 1934

Dr. John C. Merriam
Carnegie Institution of Washington
16th and P Streets, N.W.
Washington, D. C.

Dear Dr. Merriam:

The Division of Biology and Agriculture accepted with regret your resignation as Chairman of the Committee on Wild Life. It is greatly appreciated by the members of the Division that you could take time from other pressing duties to keep this committee active during the past two years. I hope you can continue to serve as a member.

Dr. Ruthven felt that he was unable to serve as Chairman. It would probably be desirable to pick a Chairman from the present membership and I would like to have your advice as to the availability of Aldo Leopold for the Chairmanship. He has been both interested and active and unless there are some considerations of which I am ignorant I feel that he would make probably as good a Chairman as we could find. I should like to have your judgment on this matter before taking further steps.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

IFL:B

April 16, 1934.

To Members of the Wild Life Committee,
National Research Council.

Although no meetings of the Wild Life Committee have been held in the past year, in various directions the influence of the Committee has been important as affecting trend of the conservation movement and in helping to guide activities touching wild life.

The sub-committee under chairmanship of Dr. Ruthven has made an extremely important study of the problem of education for administrative and constructive work in the field of wild life. This report has been transmitted to the Research Council and a copy will be forwarded to each member.

Late in the past year opportunity was offered for cooperation in study of a major conservation program for wild life. As immediate action was necessary, and as I was on my way west at the time the letter was received, reply to the Secretary of Agriculture on the critical problem presented was prepared with the aid of Professor Aldo Leopold and was forwarded to the Secretary. A copy of this letter is forwarded to you as indication of the opinion expressed by the Chairman of the Committee, it being impossible to secure a meeting of the Committee. I am glad to report that, as result of these discussions, Mr. Leopold was appointed a member of the committee of three to whom the President entrusted one of the major programs of wild life conservation.

The pressure of other duties has made it impossible for me to continue as Chairman of the Committee, and I believe at the moment the conditions are favorable for development of a new program on the basis of the attitude of all conservationists. May I express to the members of the Committee my sincere appreciation of their cooperation in all matters which it has been possible to discuss?

With kindest regards, I am

Very truly yours,

John C. Merriam, Chairman,
Wild Life Committee.

UNIVERSITY OF MICHIGAN
ANN ARBOR
PRESIDENT'S ROOM

April 6, 1934.

Dr. Ivey F. Lewis,
Chairman, Division of Biology and Agriculture,
National Research Council,
2101 Constitution Avenue,
Washington, D. C.

My dear Dr. Lewis:

I have delayed replying to your letter of March 29 because I was very much tempted to accept the chairmanship of the Committee on Wild Life. As I think the matter over, however, I am convinced that you should have some one else for this position. My time is so fully occupied with other matters that I would not be able to give the necessary time to the work of this Committee.

I have long been very much interested in the field and it is a matter of great regret to me that I will not be able to take advantage of this offer.

Yours sincerely,

Alexander G. Ruthven

R

March 29, 1934

Dr. Alexander G. Ruthven, President
University of Michigan
Ann Arbor, Michigan

Dear Dr. Ruthven:

Dr. John C. Merriam, who for two years has been serving as Chairman of the Committee on Wild Life of the Division of Biology and Agriculture of the National Research Council, has felt obliged to resign because of pressure of other matters. The subject of wild life in relation to the various conservation programs is of such importance that we have given special thought to Dr. Merriam's successor. At his suggestion I am writing to invite you to become Chairman of this committee. At the present moment the most important phase of the committee's interests lies along educational lines. However, with the possibility that the Beck Committee may obtain favorable hearing for its report, there is a likelihood that extensive developments in the field of conservation may be imminent. In case of such a development it seems very important that we have an organized group interested in genuine conservation of wild life rather than in the development of Federal lands for recreation and park purposes. The Committee on Wild Life of the Division is the only organization of this sort that represents a wide field, although the American Forestry Association is, of course, important in this respect.

I venture to express the hope that, even in the pressure of other duties, you will consent to serve as Chairman of this committee. This hope is warmly shared by Dr. Merriam.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

CARNEGIE INSTITUTION OF WASHINGTON
WASHINGTON, D.C.

OFFICE OF THE PRESIDENT

March 27, 1934.

Dr. Ivey F. Lewis,
National Research Council,
2101 Constitution Avenue,
Washington, D.C.

My dear Dr. Lewis:

In accordance with my statement at luncheon today may I say that it seems wise for me to ask that you accept my resignation as Chairman of the Committee on Wild Life of the National Research Council. Although I am much interested in the field of this Committee's work, it is not possible for me to give to the Committee such service as seems to me important. As you will remember, I took over the chairmanship because it seemed desirable to have someone who could hold together a committee representing diverse interests with a view to maintaining a satisfactory relation to this subject. Although the Committee has not been active in the sense of meetings, I feel that what has been accomplished has some significance in the light of recent developments in the field of conservation.

I am writing to the members of the Committee, sending certain data relative to later developments of conservation as they have touched the work of the Committee. I am also writing to Dr. Ruthven expressing the hope that he will be able to continue with his relation to the sub-committee.

I appreciate greatly your coming to talk this matter over today. Please be assured that I shall be glad to aid so far as I am able with future activities of the Wild Life Committee.

With kindest personal regards, believe me

Very truly yours,

John Lacey

JCM:SC

CARNEGIE INSTITUTION OF WASHINGTON
WASHINGTON, D.C.

OFFICE OF THE PRESIDENT

February 23, 1934.

Dr. Ivey F. Lewis,
National Research Council,
2101 Constitution Avenue,
Washington, D.C.

My dear Dr. Lewis:

I have your letter of February twentieth regarding report of the Committee on Wild Life to the Division of Biology and Agriculture for the present year. The nature of our report will depend in some measure upon consideration of the problems of conservation which have arisen recently and which were discussed in my report to the Secretary of Agriculture in November 1933. I am hoping to discuss this with you sometime when you are in Washington, and it will be important to do this before I make report. I am hoping that there may be opportunity to see you sometime in the course of the next two weeks.

With all good wishes, I am

Very truly yours,

John C. Merriam

JCM:SC

CARNEGIE INSTITUTION OF WASHINGTON
WASHINGTON, D.C.

OFFICE OF THE PRESIDENT

January 29, 1934.

Dr. Ivey F. Lewis,
University of Virginia,
University, Virginia.

My dear Dr. Lewis:

I have just received your note regarding postponement of your meeting. I expect to be in Washington on the tenth and perhaps we could meet for a few moments in the afternoon following your meeting.

Conservation questions which are involved in the problem of wild life have increased in importance, and I think it desirable that we have at least a few moments conversation on the subject.

With kindest personal regards to you, believe me

Very truly yours,

John C. Merriam

JCM:SC

19 Jan 34

The first program will be on China and will be given on Sunday, January 21, starting at 8:30 P. M. It will be directed by Princess der Ling, first lady-in-waiting to the late Empress Dowager of China. The Princess also will speak on her experiences at the Manchu Court.

Other participants will be Dr. Andrews, who will show motion pictures and lecture on his explorations in China; Lucille Douglass, archeologist, presenting painted slides of Far Eastern gardens, and Chester Su and Miss Han, who will give a program of Chinese music.

The people and life of Mexico will be the subject of the second program by the players, on Sunday night, February 4. Russell Hastings Millward, the explorer, is director of the program. He will also show motion pictures and lecture on the Mexican jungle and its products, present-day life and customs of the Mexican people and native dances and music.

Major James C. Sawders, explorer, will illustrate his lecture on the ancient civilization of the Mayas and Aztecs in Mexico with lantern slides. Motion pictures of Popocatepetl and the Floating and Borda Gardens of Mexico, to be shown by Julia Barrett Rublee, artist, and a series of songs and dances by native Mexicans, directed by Mrs. Mary Richards Bauer, well-known musical director, will be other features of this program.

The Italian program on Sunday night, February 18, will be supervised by Professor G. A. Borgese, Italian author and visiting professor at Smith College. He will speak on Italian literature. Maestro Sturani, of the Metropolitan Opera Company, will be heard in a program of Italian songs, and motion pictures will be presented of the most interesting places in Italy, featuring a travelogue of famous Italian gardens and villas.

Among members of the advisory board are: Dr. Mary T. Woolley, president of Mount Holyoke College; Dr. Wallace W. Atwood, president of Clark University; Dr. Charles B. Davenport, Dr. Ferdinand W. Haasis and Dr. Morris Steggerda, of the Carnegie Institution; Professor Mark A. May, of Yale University; Dr. L. A. Wolfanger, of Columbia University, and Dr. Erwin Raisz, of Harvard University, and Dr. Elmer D. Merrill, director of the New York Botanical Garden.

WILD-LIFE RESTORATION

PRELIMINARY investigations by the President's committee on wild-life restoration appointed by Secretary Wallace on January 2 to outline a course of action to aid in the restoration of game by utilizing for that purpose some of the marginal farm lands to be retired from unprofitable crop production, indicate that the additions to the public domain contemplated may serve important economic as well as game restoration purposes.

Reforestation, flood and erosion control, sustenance farms for the partial support of numbers of older employed residents who would practice game and forest management in the tracts, and use of Federal relief workers to execute projects requiring considerable labor, are contemplated. Sources of income from forest products and recreational privileges, with a view to development of self-supporting perpetual management, are being explored.

Coordination of Federal departmental functions in utilization of the areas to be acquired is envisaged by the committee in development of the lands to the point of greatest public usefulness. Cooperation of the Forest Service, Bureau of Reclamation, Soil Erosion Service, Bureau of Biological Survey and any divisions of the Federal Government identified with natural resources under Federal control is contemplated. Cooperation of the Special Senate Committee on Conservation of Wild-Life Resources and bureaus has already been enlisted.

The committee, composed of Thomas H. Beck, Wilton, Conn., chairman; J. N. Darling, Des Moines, Iowa, and Professor Aldo Leopold, Madison, Wis., has proceeded with early development of the game restoration plan following its first meeting on January 6. It is announced that all the projects to be evolved will probably be confined to pre-determined sections where the land retirement proposal will be effected, and to Federal lands already available.

In a letter, dated January 9, to all state game and conservation officials and interested organizations the committee states:

> The plan contemplates the restoration of migratory waterfowl and upland game. The need for such a program is apparent to every student of wild-life conservation and restoration in the United States, and it is obvious that the work should be confined to acquisition and restoration of suitable nesting areas for natural propagation purposes.
>
> This committee seeks information from all authorized sources, including government departments, state officials and leaders of interested organizations, and aims to coordinate, in one unified program, the best ideas of all interested parties.
>
> While there is a vast amount of information available in government bureaus and departments, we will be glad to receive information and suggestions with regard to suitable natural propagation areas which you may know of and which come under the classification of waste or sub-marginal land.

Stating that organizations should contact their nearest state game commissioner through whom localized projects may be recommended and brought to the committee's attention, the letter concludes:

> If the plan is accepted and approved by the President and the Secretary of Agriculture, it will be financed out of federal funds.

Office Memorandum No. 56 (BARROWS) - January 5, 1934.

Subject: Plan for protection of game birds.

Doctor Merriam telephoned to me a few days ago to say that he understood that action was to be taken shortly by President Roosevelt in line with the recommendations offered by Secretary Wallace for developing a nation wide plan for the protection of game birds. In the issue of the Washington Post for January 5, there is announcement of the appointment by Secretary Wallace, with the approval of the President, of a special committee "to develop and supervise a nation wide plan for promoting and protecting wild life". This committee will consist of Aldo Leopold, University of Wisconsin, Chairman; Thomas H. Beck, Wilton, Connecticut, Editorial Director of Collier's Magazine; J. H. Darling, of Des Moines, Iowa, newspaper cartoonist. The first meeting of this committee will be in Washington on Saturday, January 6.

Funds for activities planned in this connection, involving the reflooding and improving od drained lands formerly used by aquatic birds, are expected to come from the Public Works Administration and to provide employment for from 2,000 to 10,000 men. Later funds are expected to come from a Federal shooting license of $1.00 and a tax of 10 cents a box on ammunition.

Doctor Merriam went on to say that he felt it necessary for him to resign presently as Chairman of the N.R.C. Committee on the Conservation of Wild Life, and that he was inclined to recommend that Doctor Aldo Leopold, who has recently been made Professor of Conservation (?) at the University of Wisconsin, be appointed as chairman of this committee in his place.

Albert L. Barrows
Assistant Secretary

copy to I. Bowman (N.Y.)

CARNEGIE INSTITUTION OF WASHINGTON
WASHINGTON, D. C.

Copy to I. W. Bowman
Harriman

December 11, 1933.

Dr. Ivey F. Lewis,
University of Virginia,
University, Virginia.

My dear Dr. Lewis:

The letter from the Secretary of Agriculture relative to a project for preservation of game which was laid before the Committee on Wild Life of the National Research Council, came at a period when it was extremely difficult for me to study the project, but it was possible to go through the problem and make what seemed to me a satisfactory reply to Secretary Wallace. I was sorry to trouble you by communication at a time when you were ill, but I was extremely desirous of having the matter brought to your attention and also to have your approval of the general project. I had already used every possible means of securing adequate data.

Knowing that you were not in Washington, I forwarded a copy of the letter to Secretary Wallace to Dr. Bowman and also asked Dr. Barrows to bring the letter to your attention. There was forwarded also a confidential copy of the communication from Secretary Wallace. There

COPY

was not time to have these documents manifolded to send to everyone who should have acquaintance with the subject.

I am sending inclosed a copy of a letter received today from President Alexander G. Ruthven regarding my letter to Secretary Wallace concerning the game utilization project. This will give you an important judgment on the matter, as Dr. Ruthven is, I believe, second to no one in the country for his qualifications for understanding all aspects of this project.

As you may remember, I became chairman of the Wild Life Committee at the request of Dr. Curtis, who was much interested in setting up such a group. I questioned the project seriously because of the difficulty of harmonizing views on certain of the matters which it was hoped to discuss. The question came to decision just before Dr. Curtis left the Research Council and, in order to help in defining the plan, with much hesitation I agreed to take the chairmanship of the Committee in order to find the way to set up a group which could be held together until some important project could be developed upon which the whole group could work satisfactorily.

At the first meeting there was extremely interesting discussion in which attention was centered upon matters that were of common interest. At that time the sub-

committee was set up with Dr. Ruthven as chairman and with Mr. Leopold and Mr. Lovejoy as associate members. The project for this sub-committee was one upon which the whole group could agree, and its objective is along the lines presented in my report a few days ago to Secretary Wallace on the game protection project.

Now that a critical project appears, upon the study of which I am sure all of the Committee would agree, and it is important to have as chairman of the Committee someone who is expert in these fields and has also time available for the project, it is my plan to resign from the chairmanship and from the Committee as soon as adjustments can be made for carrying on this work without a harmful break in continuity of study on the objectives. It is not possible for me to do more than give my support to the objectives of the Committee, much as I am interested in the project.

I shall write you in the near future regarding further statement of this situation.

With all good wishes, I am

Very sincerely yours,

JCM:SC

CARNEGIE INSTITUTION OF WASHINGTON
WASHINGTON, D.C.

OFFICE OF THE PRESIDENT

December 7, 1933.

Dr. Isaiah Bowman,
National Research Council,
2101 Constitution Avenue,
Washington, D.C.

My dear Dr. Bowman:

With this letter I am sending a copy of the document which came to me from Secretary Wallace for consideration of the Wild Life Committee. I am sending also a copy of my reply. It was possible to make touch with a majority of members of the Wild Life Committee to obtain their approval of transmitting the letter to Secretary Wallace. There was also opportunity to discuss the matter with others, so that the report to the Secretary was as carefully considered a statement as was possible under the circumstances.

I understand that the President may wish to defer the whole matter. At any rate, we have made certain specific recommendations which are in line with the President's interest, and the foundation is laid for major activities if opportunity comes later.

Very sincerely yours,

JCM:SC

Confidential

CARNEGIE INSTITUTION OF WASHINGTON
WASHINGTON, D. C.

Cop. to F. J. Bowman
Patuxent Research Ref.

November 25, 1933.

Hon. H. A. Wallace,
The Secretary of Agriculture,
Washington, D.C.

My dear Mr. Secretary:

Your letter inclosing a memorandum regarding restoration and increase of game birds reached me as I was leaving for the west, and while on this journey there has been opportunity to discuss the essential points with several leading students of this problem. After considering the matter also with a number of members of the Committee on Wild Life and other officials concerned with the question, I am prepared to make preliminary report on the general features of the proposed program, with understanding that consideration of details should be the subject of a more thorough investigation before final statement is made.

A carefully worked out program looking toward such differentiation in land use as would permit restoration of areas principally used as habitat for game birds would have real value for the country as a whole. Extent to which efforts to restore game lands

COPY

might be profitable depends upon many factors including, 1) those which have to do with segregation of lands for agricultural purposes, 2) the place of game utilization activities in the general scheme of recreation, and 3) the extent to which development of such a plan might have bearing upon problems of erosion control and of flood control. Development of a sound policy would require a general survey of the subject by the best experts available with a view to determining accurately the several values considered. Such a study would have importance in connection with the general program for study of land use, the problem of land planning, and questions concerning recreational planning for the entire country.

While it is clear that an adequate report on the whole subject would require an extended examination not only of various types of problems but of numerous areas scattered over the United States, it is possible to indicate that certain phases of the proposed project could be put into effect in the not distant future on the basis of existing knowledge, and with expectation that money expended would be justified. Three

examples of means which might be used to initiate this general program may be stated as follows:

1. Following the lead of studies such as that represented by the Iowa Conservation Plan recently worked out, it would be possible to initiate work on marsh land restoration projects looking toward protection and development of the migratory bird supply in Iowa. The studies already made in Iowa furnish foundations upon which such a plan could be built with safety.

A large group of men could be given work, and a sum comparable to $1,000,000.00, or perhaps more, would be absorbed in a program of this nature in a state like Iowa, and with expectation that the project would justify itself.

Relation of the Federal Government to such a program would be justified by reason of the fact that the migratory bird, moving from state to state, concerns the nation, and is in fact an object of international interest.

2. Carrying out of any plan for restoration and increase of game birds, to advantage of the country as a whole and the owners of farm lands especially, would require guidance of a considerable group of men with special

training. The technique needed is now possessed by only an extremely small group. It would, however, be possible to take a number of young men with good biological training and give to them, in comparatively brief time, the technical education for game protection and development required to make them effective officers in carrying out a national program.

Educational work directed toward training of men for such a purpose might be taken up in the immediate future, with a view to preparing guides or leaders who would be available at the end of the present winter season. The University of Michigan has personnel and equipment which could readily be organized for such purposes. Aid could be given by other institutions, such as the University of Wisconsin through the exceptional interest and ability of Mr. Aldo Leopold, recently appointed professor of game management.

Development of an educational plan of this nature may be considered a responsibility of the Federal Government if it concerns opportunity to be utilized by all of the states in working on a common problem. Expenditure of funds for such a purpose might begin in the near future if a program of game development is to be entered upon sometime during the coming year.

3. Relation of game restoration and increase to certain problems of land use is illustrated in considering the status of both migratory birds and upland game, such as quail. Differentiation in land use as it concerns cover for quail, grouse, and other similar birds, has direct relation to selection of lands principally valuable for grain and other comparable crops. There is also in many regions direct relation between selection of cover for game and protection of sloping land areas from extreme erosion. In some instances regions most favorable for game cover if put under cultivation for grains or pasture may merely invite destruction.

An examination of this problem of land utilization and erosion from the point of protection of upland game birds would be paralleled by other studies touching flood control as it concerns protection of migratory birds.

Intensive study of a number of specific areas for the purpose of bringing out possible use for game cover might be undertaken in the immediate future. Results of such work would furnish basis for practical development on a large scale over the country if adequate surveys of other lands can become available before opening of the next season.

May I repeat that this report is intended only as suggestion concerning several lines of work which may be followed? At the same time it is desirable to emphasize the importance of studies of this nature. Such work as is suggested would have immediate value in furnishing employment to a considerable group of men at several levels of ability. It would also set up a plan of clear importance for future development of this country.

In accordance with the wishes of the Secretary and the President, it is possible to develop distinctly constructive activities in these directions and in others which may be determined later if the program is approved. If it is desired to put into effect the major program proposed, it is important to bring together a larger group including leaders in these activities in order to determine as definitely as possible all of the directions these activities should take. Such a conference should be followed by an intensive survey of details preparatory to initiating the larger project proposed.

Very sincerely yours,

JCW:SO

Memorandum for the Consideration of President Roosevelt:

Attached hereto is a plan which is:

1- Urgently needed

2- National in scope

3- In accord with the National Industrial Recovery Act

4- Of great public interest

5- In complete accord with the policies of your administration

6- Of great economic importance

7- Ready for immediate action, and which will produce quick results

This plan provides for the restoration and increase of one of our great natural resources - game birds. If adopted at this time it will:

1- Give immediate employment to thousands of men and permanent RURAL employment to from thirty to fifty thousand men

2- Provide a new and profitable source of income for farmers

3- Provide for profitable utilization of from twenty to an eventual fifty million acres of land which may be taken out of crop production

4- Create new business for concerns catering to outdoor recreation

5- Provide healthful recreational facilities for millions of our citizens in an activity which is already participated in by approximately thirteen million people.

MIGRATORY GAME BIRD RESTORATION

The preservation of migratory game birds, which is an obligation of the Federal Government under the Migratory Bird Treaty with Canada,* is of prime and immediate importance because of the deplorable condition of waterfowl at the present time. Unless remedial measures are adopted promptly and prosecuted vigorously and intelligently, this resource, which is of great economic importance, may be completely exterminated.

The measures necessary for the preservation and increase of waterfowl consist of the restoration and management of water and marsh areas which constitute the breeding grounds, resting, feeding and concentration areas of wild fowl.

The work involves:

(a) Water conservation, including the creation of new water areas, restoring drained lands which have proved unfit or unprofitable for agriculture, stabilizing water levels, etc.

(b) Restoration of marsh and aquatic plant life to provide food, cover, and nesting sites for the birds.

(c) Protection of waterfowl from their natural enemies

(d) Other activities, such as fencing and patrolling refuges, disease prevention, etc.

The Government now owns fifty-five National Wild Life Reservations potentially suitable for migratory birds comprising approximately five million acres. Under an act of Congress, it is committed to the acquisition of a substantial additional acreage which is vitally needed for this purpose.

This plan provides for:

1- Development and management of existing Federal reservations

*See "A"

2- Completion of purchases of additional acreage which has already been surveyed and is in process of acquisition

3- Cooperation with states which are working on plans for migratory bird conservation on public lands

The work outlined above would provide immediate employment for from two to ten thousand men depending on the extent to which the proposal is acted upon. Probably 75% of the money made available for this part of the program would be spent for labor.

The important work of migratory game bird restoration appears to be exactly the type of project contemplated in the National Industrial Recovery Act. In Section 202 of that law, Congress directs the preparation of a comprehensive program of public works including the "construction and improvement of publicly-owned instrumentalities and facilities"; the "conservation and development of natural resources," and the furthering of projects heretofore started "to serve the interests of the general public".

UPLAND GAME BIRD RESTORATION

The restoration of upland game birds offers an answer to two questions of great importance: What to do with a substantial part of the acreage taken out of crop production and how to increase farm income quickly and permanently.

Congress has declared that the restoration and propagation of game birds is a duty of the Federal Government.*

The plan proposes that farmers, particularly those who cooperate with the government in reducing acreage devoted to

*See "B"

crop production, be encouraged, aided and educated in the propagation and management of game birds as a new cash crop.

To that end it is necessary to show farmers how to propagate game birds and how to market this crop at a profit.

The plan entails:

1- Supplying specific instructions to farmers on game bird production

2- Demonstrations in modern methods of producing game birds

3- Supplying initial seed stock where necessary

4- Assisting farmers to market game bird crops

One or more species of game birds can be successfully produced on farm land in every State, with only slight modifications of present agricultural practices on most farms. Game birds are an annual cash crop which should yield the farmer at least enough to pay his taxes and in many instances considerably more.

Full development of our game bird resources should give profitable full time rural employment to from thirty to forty thousand men and utilize immediately about fifteen and eventually fifty or more million acres of land.

Put into operation this plan would give immediate employment to approximately two thousand men in private industry (commercial game farming) and would result in, increased employment in concerns manufacturing and selling sporting arms, ammunition and equipment, outdoor clothing, and transportation of all kinds. It would materially increase the consumption of grains used in game bird feed, chiefly wheat and corn.

ADMINISTRATION

This plan is offered literally as a "New Deal" in the restoration of a great natural resource which has been neglected

entirely too long.

Its operation and administration should be aside and apart from any governmental organizations now operating in this field. The plan blazes a new trail - one which leads to a more prosperous rural life, better business and a happier, healthier and better people. Therefore, it should be unhampered by tradition or precedent.

It is proposed that a Federal Administrator be appointed and made responsible for the prompt and efficient execution of this plan. He should have two qualified chief assistants - one to be responsible for the increase of migratory game birds and the other upland game birds.

Much of the machinery necessary for the upland game bird work is already available in the State Directors of the Agricultural Extension Service and the County Agents.

For the execution of projects in the several States it is suggested that a commission be set up on each State to consist of the following members:

1- State Game Commissioner

2- State Director Agricultural Extension Service

3- Head of Grange or Farm Bureau

4- A prominent conservationist to be appointed by the Federal Administrator

5- A business man to be appointed by the Governor

Each State commission would pass upon projects within its jurisdiction and forward approved plans to the Federal Administrator for final acceptance and action.

FINANCING

From the ground covered in this brief survey, this plan

would appear to supplement and closely coordinate with the following government projects:

Public Works Program
Farm Adjustment Program
Citizen's Conservation Corps
Industrial Decentralization Program
Emergency Unemployment Relief Program
Land Utilization Program

To operate this plan in such way as to achieve widespread and permanent results in re-employment, increased farm income and better business, adequate funds are essential.

As before stated, the work involved in this plan is an obligation of the Federal government and in complete accord with the letter and spirit of the National Industrial Recovery Act. It is, therefore, proposed that the sum of eighteen million dollars be set aside to carry on this work. Of this sum twelve million dollars to be devoted to migratory game bird restoration, and six million dollars to upland game bird work.

Funds from the public works appropriation would make it possible to put the proposed plan into operation immediately.

It is believed that a large part of the outlay for this work could be returned to the Federal Treasury through one or more of the following channels - or others of a similar nature:

1- A Federal license of $1.00 for shooting migratory game birds

2- A tax of 10 cents per box on ammunition used for field shooting

3- A plan whereby seventy per cent of any Federal advance for any State project would be finally returned, either through bonds or from increased revenues accruing to the State as a result of Federal aid.

IN CONCLUSION

In presenting the foregoing an effort has been made to sketch briefly the main points of the proposal and its possibilities for immediate and permanent benefits. Complete detailed information on any or all parts of the plan will be furnished on request.

The plan may not be 100% perfect, but its possibilities seem to warrant thorough investigation.

NEW YORK OFFICE
THE ENGINEERING FOUNDATION
29 WEST THIRTY-NINTH STREET

2 Lcom. May 10

CABLE ADDRESS
NARECO
WASHINGTON, D. C.

NATIONAL RESEARCH COUNCIL

Established in 1916 by the National Academy of Sciences
under its Congressional Charter and organized with the cooperation of the
National Scientific and Technical Societies of the United States

2101 CONSTITUTION AVENUE, WASHINGTON, D. C.

April 26, 1932

MEMORANDUM FOR Mr. Brockett

At the meeting of the Executive Board of the National Research Council this morning, a proposal was presented from the Executive Committee of the Division of Biology and Agriculture that the National Research Council request authorization to solicit and accept funds for a study to be undertaken by the Committee on Wild Life of that Division, of the place of wild life among the interests of the people of America, with special reference to the need for fundamental and broad training of men for research and administration in this field, and a survey of available facilities for the study of wild life and of the conservation of wild life. It was

> Moved: That the Executive Board approves the project of the Committee on Wild Life of the Division of Biology and Agriculture to undertake a study of the place of wild life among the interests of the people of America and a survey of available facilities for the study of wild life and of the conservation of wild life, and recommends to the Council of the National Academy of Sciences that the Research Council be authorized to solicit and accept funds to the amount of $5,000 to meet the cost of this study, such funds to be placed in the hands of the Treasurer of the Academy and Research Council and disbursed by him on requisitions and vouchers signed by the Chairman of the Division of Biology and Agriculture and in the office of the Permanent Secretary of the National Research Council, it being understood that no contracts or commitments shall be entered into in connection with this project in excess of funds or responsible pledges in the hands of the Academy and Research Council for this purpose. Adopted

Will you please take an early opportunity to present this recommendation to the Council of the National Academy of Sciences?

Albert L. Barrows
Assistant Secretary

Sent out to members of the Committee on March 17, 1932.

NATIONAL RESEARCH COUNCIL

COMMITTEE ON WILD LIFE

The first meeting of the Committee was held in the Administration Building of the Carnegie Institution of Washington, 16th and P Streets, N.W., Washington, D. C., on February 25, 1932.

Morning Session
February 25.

PRESENT: All members except Dr. H. E. Anthony, who is in South America. Dr. Merriam presided.

DISCUSSION OF FUNCTIONS: Each member presented a brief summary of his suggestions as to important functions of the committee, as follows:

Member	Suggestion
Bryant, H. C.	Research in methods of restoring threatened species.
Adams, C. C.	Orientation and definition of the problem as a basis for policy-building.
Goldman, E. A.	Training men. Advisory service to other research agencies. Presented the following message to the committee:

"I urge that the Committee on Wild Life Studies, National Research Council, consider carefully and fully the institution of a survey of mammal and bird research throughout the United States.

"Naturally the Biological Survey would be involved in such a study and it holds itself in readiness to cooperate fully with the Committee to the extent of its ability. Investigation of the research activities of the Bureau would be welcome and constructive suggestions for realignment of research projects would be very carefully considered."

(signed) PAUL G. REDINGTON
Chief, Biological Survey

Leopold, Aldo	Training men. Developing conservation techniques.

Member	Suggestion
Shelford, V. E.	Encourage continuous observations of the abundance of animals and plants. Research in pure science must accompany training of men.
Merriam, J. C.	Pointed out that the Committee was unanimous on the need for trained men and facts. Appointed Leopold and Shelford as a committee to draft a statement of that need.

Afternoon session

Senator F. C. Walcott, of the Senate Committee on Wild Life, was present by invitation, having presented a sketch of his committee's work during the noon hour.

Messrs. Leopold and Shelford presented the following, which was accepted as a tentative summary of the morning's conclusions:

Wild Life Studies

The conservation of a large amount and variety of wild life is important because of its aesthetic value as a source of outdoor recreation, its scientific value as a manifestation of natural processes, and its economic value.

Past efforts toward wild life conservation have, on the whole, failed to yield results proportionate to the amount of time and effort expended.

This partial failure has many causes, among which two are within the particular field of the National Research Council:

(1) The lack of trained men to lead and develop the work;
(2) The lack of knowledge of conservation methods and of skill in applying them.

This Committee believes its principal function to be the acceleration of training and fact-finding.

It is our belief that local educational institutions can and will train men and find facts if the need and the opportunity be pointed out through surveys of local conditions.

We recommend that such surveys be undertaken by the National Research Council.

The Committee recognizes that wild life must be construed to mean all wild life and not merely game, and, furthermore, that

all wild life is so intimately related (animal to plant, plant to plant, and animal to animal) that a change in the conditions of one species may change a whole series of conditions of others. Thus we cannot say whether the forest is present because of the wild animal life, or whether the wild animal life because of the forest. The preservation and study of nature is of the utmost importance in the progress of the human race toward its understanding and control of nature, necessitated by its utilization and destruction in connection with land utilization.

REPORT ON WILD LIFE SITUATION. Dr. Merriam suggested a definitive statement of the wild life problem and of the need for men and facts, to be prepared by a small sub-committee at the outset of the committee's activities. He compared such a report to the Bailey-Spoehr report on forestry research, and asked if the committee agreed.

It was agreed that the chairman be asked to appoint such a sub-committee, and should seek funds to cover its work.

Objectives: To stimulate research in the ecology of wild life, with a view to:

(a) Developing conservation technique for each species in each region. This work should, in so far as possible, be done by local scientific institutions, with a view to providing a factual basis for the policies of local administrative agencies, and the practices of landowners.

(b) Creating a trained manpower versed in both the ecology of wild life and its application to conservation problems and to actual land-use. Such men are now scarce. Better practice depends on making such men available to local educational institutions, administrative agencies, and land-using industries.

Since the game birds and mammals are the ones now most in need of attention, it is proposed to deal with them first. Other species are to be dealt with in so far as they affect game conservation.

Activities: It is proposed to institute:

1. Wild Life Surveys, to appraise local situations, and to isolate the local problems most in need of research.

2. Conservation Fellowships to enable selected men to work on these problems, to develop techniques for their solution, and to demonstrate the efficacy of such techniques. Such fellowships would at the same time create a trained manpower.

3. Scientific Fellowships or Grants to resolve such questions fundamental to (1) or (2) as may arise from time to time.

The motion was adopted.

Morning session
February 28.

BUDGET. The chairman explained that the proposed subcommittee which is to write a report on the wild life situation is to formulate a budget to cover its activities, which will have to be approved by the Executive Board. After such approval, the subcommittee may solicit funds for its work.

PRIMITIVE AREAS. The chairman described the committee of the National Parks Association which is making a study of the subject. Bryant was asked to keep this committee informed of its activities.

A general discussion of wild life management undertakings in National Parks followed.

Shelford described the proposed program of the Ecological Society on natural areas, including a set of definitions and standards. He was asked to keep this committee informed of its final conclusions.

Bryant was instructed to prepare a resolution expressing the support of this committee for the natural area idea.

GRASSLAND RESEARCH. Shelford described the plans of the Ecological Society for grassland reservations. He was asked to keep this committee informed.

UNFINISHED BUSINESS. Discussion followed of the Kaibab Question

(Adams) Administrative Studies (Adams) Poisoning Policy (Adams) and Exotic Species (Goldman). No action was taken.

The Committee adjourned subject to the call of the chairman.

NEW YORK OFFICE
THE ENGINEERING FOUNDATION
29 WEST THIRTY-NINTH STREET

CABLE ADDRESS
NARECO
WASHINGTON, D. C.

NATIONAL RESEARCH COUNCIL

Established in 1916 by the National Academy of Sciences
under its Congressional Charter and organized with the cooperation of the
National Scientific and Technical Societies of the United States

2101 CONSTITUTION AVENUE, WASHINGTON, D. C.

December 7, 1931

Memorandum to the Executive Board:

The Division of Biology and Agriculture, through its Executive Committee, requests the approval of the following personnel for the Committee on Wild Life:

John C. Merriam, Chairman, Carnegie Institution of Washington, Washington, D. C.
Charles C. Adams, New York State Museum, Albany, N.Y.
H. E. Anthony, American Museum of Natural History
Harold C. Bryant, National Park Service, Washington, D.C.
E. A. Goldman, Bureau of Biological Survey, U.S.D.A.
Aldo Leopold, Madison, Wisconsin
V. E. Shelford, University of Illinois

Duncan S. Johnson

Duncan S. Johnson, Chairman
Division of Biology and Agriculture

March 21, 1931.

Doctor W. C. Curtis
Professor of Zoology
University of Missouri
Columbia, Missouri

My dear Doctor Curtis:

Doctor Merriam has just inquired by telephone whether you were now in the city and, upon finding that you had returned to the University, he wishes me to let you know that he hopes that he may have an opportunity to talk with you again in regard to the organization of the proposed wild life committee of the Division of Biology and Agriculture before the committee is appointed. There are some matters which have recently come to his attention in connection with the work of committees of the Academy and of the Research Council on general conservation policies in which he feels that such a committee as that which you have in mind can be of much assistance, and I think that there have occured to Doctor Merriam some suggestions in regard to possibilities for chairmanship of the new committee (about which you talked with him).

I am telling Doctor Merriam that I feel sure that you will be glad to take an early opportunity during your stay in Washington toward the end of April to go into these matters again with him.

Sincerely yours,

Albert L. Barrows
Assistant Secretary

ALB:mvc

September 24, 1930

Doctor W. C. Curtis
University of Missouri
Columbia
Missouri

My dear Doctor Curtis:

Doctor Kellogg has just had an opportunity on his return to Washington this week to see your note of August 14 and the attached correspondence with Mr. Leopold. He is much interested in the general aspects of this matter and will be glad to talk the matter over with you after you reach Washington.

Doctor Kellogg's idea in making the suggestion to President Campbell last May to which you refer in regard to a consideration of the efficacy of plant quarantine measures was based upon the idea that such an informal conference of representatives of the several groups concerned in the matter need not be arranged under the auspices of the National Research Council and from some points of view had better not be so arranged, but rather that this conference on plant quarantine might perhaps be brought about as a spontaneous meeting of the representatives of the several groups of agencies concerned in this question. Doctor Kellogg's point of view with respect to this former inquiry was guided by his understanding of the purpose of the Council as an agency for the direct encouragement of research rather than as an agency for the rendering of decisions in controversial issues, even though a certain amount of serious investigation were required in order to reach such decisions.

Mr. Leopold, as I think I let you know earlier in the summer, had also suggested directly to Doctor Burgess as Chairman of the Council that the Council take some steps toward the systematic study of problems of conservation. The only agency which the Council had at that time to deal directly with conservation problems was a committee which the Executive Board has maintained for several years upon the conservation of natural resources. The matter was accordingly called to the attention of the Chairman of this committee who is Doctor Merriam, and I find that Doctor Merriam is much interested in the problems presented by the present issue. I feel sure that Doctor Merriam will be glad to talk with you about the matter.

Sincerely yours,

Albert L. Barrows
Assistant Secretary

ALB:nvc

EW YORK OF!
THI INEERING FOU TION
29 V THIRTY-NINTH REET

CABLE ADDRESS
NARECO
WASHINGTON, D. C.

NATIONAL RESEARCH COUNCIL

Established in 1916 by the National Academy of Sciences
under its Congressional Charter and organized with the cooperation of the
National Scientific and Technical Societies of the United States

B & 21ST STREETS, WASHINGTON, D. C.

Sept. 24, 1930

Memorandum for Dr. Kellogg:

Although this note from Doctor Curtis of Aug. 14 has been acknowledged, it may perhaps be well to take the occasion of your seeing it this week to comment upon his suggestion in order that there may be no mis understanding about what you intended to suggest to Dr. Campbell last May with respect to the plant quarantine issue.

ALB.

NEW ? OFFICE
NGINEE FOUNDATION
T THI NINTH STREET

CABLE ADDRESS
NARCO
WASHINGTON, D. C.

NATIONAL RESEARCH COUNCIL

Established in 1916 by the National Academy of Sciences
under its Congressional Charter and organized with the cooperation of the
National Scientific and Technical Societies of the United States

B & 21ST STREETS, WASHINGTON, D. C.

Woods Hole, Massachusetts
August 14, 1930

Dr. Vernon Kellogg
National Research Council
Washington, D. C.

My dear Dr. Kellogg:

The enclosed copy of a letter to Mr. Aldo Leopold dated August 14th is forwarded for your information. It is possible that such a committee might function in the manner suggested in the last paragraph of the memorandum sent you by Dr. Allen under date of May 1, 1930 in connection with your letter of May 5, 1930 to President W. W. Campbell of the University of California.

Sincerely,

W. C. Curtis

W. C. Curtis, Chairman
Division of Biology and Agriculture

WCC:lt
enclosure

'EW Y OFFICE
T GINEEI , FOUNDATION
29 EST THIR -NINTH STREET

CABLE ADDRESS
NARECO
WASHINGTON, D. C

NATIONAL RESEARCH COUNCIL

Established in 1916 by the National Academy of Sciences
under its Congressional Charter and organized with the cooperation of the
National Scientific and Technical Societies of the United States

B & 21ST STREETS, WASHINGTON, D. C.

Woods Hole, Massachusetts
August 14, 1930

Mr. Aldo Leopold
Forest Products Laboratory
Madison, Wisconsin

My dear Mr. Leopold:

The unsigned draft of a letter from yourself and associates regarding a proposed Committee of the Division dealing with Wild Life reached us during the meeting of the Executive Committee, August 11th. This matter had previously been placed upon our Agenda and therefore received such consideration as was possible on this occasion.

No action was taken but I think the attitude of the Executive Committee decidedly favorable toward the creation of such a committee. It was felt, however, that the situation should be very carefully considered by the chairman in correspondence and conference in Washington this fall and at the December meeting of the Executive Committee before submission to the Division at its annual meeting in April, 1931. Further correspondence is invited and I shall hope to see some of you in Washington before December.

Sincerely,

W. C. Curtis, Chairman
Division of Biology and Agriculture

WCC:lt

August 7, 1930

MEMORANDUM FOR RECORD

Committee on Conservation

Doctor Remington Kellogg telephoned this morning to say that he has information that a petition initiated by Mr. Leopold (of the University of Wisconsin) has been forwarded to Doctor Curtis as Chairman of the Division of Biology and Agriculture requesting ostensibly that a committee on wild life conservation be appointed by the National Research Council. This petition has been signed by Doctor E. A. Goldman, A. H. Howell and H. L. Stoddard, all of the Bureau of Biological Survey.

Doctor Kellogg understands also that the petition requests that a meeting of this committee, if appointed, be held at Woods Hole in September and one at Christmas time in connection with the meeting of the American Association for the Advancement of Science.

ARR

August 5, 1930

Doctor W. C. Curtis
Marine Biological Laboratory
Woods Hole
Massachusetts

My dear Doctor Curtis:

While the enclosed correspondence was referred to Doctor John C. Merriam as Chairman of the Council's general Committee on Conservation, I think that you may perhaps be interested in Mr. Leopold's proposal and I am sure that Doctor Merriam will welcome any suggestions which you may wish to offer in this connection.

Sincerely yours,

Albert L. Barrows
Assistant Secretary

ALB:mvc
Enc.

COPY

Berkeley, California
July 28, 1930.

Mr. Aldo Leopold
421 Chemistry Building
University of Wisconsin
Madison, Wisconsin

My dear Mr. Leopold:

I have just received in Berkeley, California, a copy of your letter to me of July seventh, and copies of your correspondence with the National Research Council, all of this material referring to the possibility of creating a central organization to receive and administer funds for the advancement of game conservation and to stimulate and correlate the efforts of many agencies already in that field.

I am much interested in the proposal which you have made and feel that such a project offers large opportunity for progress in the field of conservation. I am to be in the west with a very heavy schedule for the next six or seven weeks, but I shall be glad to think over the matter and write you again regarding any definite suggestions which I may be able to submit. It is probable, however, that there may not be opportunity for me to communicate with you before my return to Washington toward the end of September.

With my good wishes, and with renewed expression of interest in your proposal, I am

Very sincerely yours,

(signed) John C. Merriam

COPY

NEW YORK OFFICE
THE ENGINEERING FOUNDATION
29 WEST THIRTY-NINTH ST

CABLE ADDRESS
NARECO
WASHINGTON, D. C.

NATIONAL RESEARCH COUNCIL

Established in 1916 by the National Academy of Sciences
under its Congressional Charter and organized with the cooperation of the
National Scientific and Technical Societies of the United States

B & 21ST STREETS, WASHINGTON, D. C.

July 3, 1930

Mr. Aldo Leopold
421 Chemistry Building
University of Wisconsin
Madison, Wisconsin

Dear Mr. Leopold:-

Doctor Burgess, the Chairman of the National Research Council, has referred to me your letter of June 30 inquiring in regard to facilities which the National Research Council may have for the study of problems of conservation.

The National Research Council for some years has maintained a Committee on Conservation which has given certain attention to the general principles involved in conservation problems, but as yet this committee has not undertaken the specific consideration of questions involved in game conservation. May I suggest that you communicate with Doctor John C. Merriam, President of the Carnegie Institution of Washington, Washington, D. C., who is chairman of this committee and who, I feel sure, will be glad to advise you.

Very sincerely yours,

Albert L. Barrows
Assistant Secretary

G A M E S U R V E Y

Conducted for the
Sporting Arms and Ammunition Manufacturers' Institute
by Aldo Leopold
421 Chemistry Building
Madison, Wisconsin

June 30, 1930

Dr. George K. Burgess, Chairman
National Research Council
Washington, D. C.

Dear Doctor Burgess:

The game conservation movement is, I think, coming to the realization that a central organization is needed to coordinate the efforts of the many private and official organizations now working in this field, and to administer funds for research and education if they become available.

Experience has shown, however, that such a central organization, if set up by the agencies already at work in this field without outside help, is likely to reflect particular individual or group viewpoints which may not be acceptable to the public at large or to the scientific community.

This leads me to inquire whether the National Research Council is in a position to furnish any kind of service which would help assure a disinterested set-up. I assume of course that the game organizations would pay for such service. I would appreciate it very much if you could give me a brief sketch of what the service is and what other jobs it has undertaken.

You may possibly recall meeting me when I was associate director of the Forest Products Laboratory and we were cooperating with you in connection with the Forest Utilization Conference.

Yours sincerely,

ALDO LEOPOLD
In Charge, Game Survey

COPY

DEPARTMENT OF ANATOMY
JOHNS HOPKINS MEDICAL SCHOOL
BALTIMORE, MARYLAND

June 13, 1930

Mr. Aldo Leopold
Madison
Wisconsin

My dear Mr. Leopold:

As the letter of June 6 was written on your letterhead I am replying to you rather than to Dr. Cole.

I am anxious to do all I can to further the project of having a committee on conservational research of the National Research Council. I fully realize that this could not embark on anything of a conservational nature and its activity might be somewhat circumscribed. Still, considering that one of the gravest dangers that threatens wild life at present is the indiscriminate and hasty way in which wild life matters are handled, including control measures, without preliminary research, such a committee could do a great amount of good through continually stressing the advisability of such research.

The amount of good that such a committee would accomplish would depend entirely upon its personnel. If it includes in its membership individuals who have axes to grind and who are subjected to political or other extraneous pressure its impartial functioning will likely be severely curtailed and its usefulness lessened.

I note that the letter addressed to me was sent also to Herbert L. Stoddard, S. Prentiss Baldwin, and E. A. Goldman. The inference I draw is that these gentlemen will be asked to serve upon the committee. The first two choices are excellent. I would advise strongly against the third. Major Goldman is a fine man and conscientious, but he is so intensely loyal to the Biological Survey that it has been clear for many years that his views are always reflections of Biological Survey policies, and the latter must largely be controlled by political necessities. For a Biological Survey member of the Committee I would regard Preble, McAltee, Palmer or Bailey as much more desirable, especially the first.

Sincerely yours,

A. Brazier Howell

COPY

GAME SURVEY

Conducted for the Sporting Arms and Ammunition Manufacturers' Institute

By Aldo Leopold, 421 Chemistry Building

MADISON, WISCONSIN

June 6, 1930

Messrs. Herbert L. Stoddard
A. Brazier Howell
S. Prentiss Baldwin
E. A. Goldman

Gentlemen:

The purpose of this letter is to ask whether you will join with the undersigned in recommending to the National Research Council that it establish a Committee on Wild Life Research, to function under its existing Division of Biology and Agriculture.

Purpose. The purpose of establishing a committee on wild life research is to make available the advisory guidance of the National Research Council to such agencies as many ask for it. An increasing number of agencies are financing or conducting research projects in this field.

Procedure. It is proposed that a representative of this group appear at the meeting of the Executive Committee at Woods Hole on August 11, and ask it to authorize its chairman, Dr. W. C. Curtis, in consultation with this group, to draw up plans for the appointment and functioning of a committee. It is proposed that this group meet with Dr. Curtis at the Cleveland meeting of the Association for the Advancement of Science next December, and present the plans to the Council as soon thereafter as possible.

For the present, will you let us know whether you are willing to become one of the sponsors for this proposal?

Yours sincerely

(s) Aldo Leopold
In charge, Game Survey

(s) L. J. Cole
Professor of Genetics
University of Wisconsin

May 8, 1935

Doctor A. G. Ruthven, President,
University of Michigan,
Ann Arbor, Michigan

Dear Doctor Ruthven:

The report of the Sub-Committee on the Training of Men for Administrative and Educational Work in Wild Life Problems was duly received and presented to the Division of Biology and Agriculture at its annual meeting. In response to the recommendation made it seemed to us that no committee appointed by the Council would be as competent as the Wild Life Committee already instituted. I judge from your report, however, that this Committee would not care to undertake the canvass and report recommended. I wonder if it would not be possible to get this work done through the Bureau of Biological Survey, of which Mr. J. N. Darling is Chief. The second point in your recommendations could be easily handled if we could get someone to undertake the canvass. This would be, I should think, a rather time-consuming and expensive investigation and there are no funds at the disposal of the Council for this type of work. If you think well of the suggestion, I would be glad to present to Mr. Darling the conclusions reached by your Committee and ask him to undertake the survey and report desired.

We are continuing the Sub-committee so that its services will be available if occasion requires. This action is in line with the recommendation in your paragraph 15.

Sincerely yours,

Ivey F. Lewis, Chairman,
Division of Biology and Agriculture

IFL:p

UNIVERSITY OF MICHIGAN
ANN ARBOR
PRESIDENT'S ROOM

April 12, 1935.

Dr. Ivey F. Lewis,
Chairman, Division of Biology and Agriculture,
National Research Council,
2101 Constitution Avenue,
Washington, D. C.

My dear Dr. Lewis:

I am sending to you the report* which you requested in your letter of February 23. I hope it is not too late.

I must confess that the Committee has not had the benefit of Mr. Leopold's ideas. The report is really the result of the work of McMurry, Lovejoy, and myself. I have asked Mr. Leopold to send me any criticisms or emendations that he may have to offer and these I will send to you a little later as a supplementary report.

Yours sincerely,

Alexander Ruthven

R

ENC

* See Reports (Wild Life)

February 23, 1935

Dr. A. G. Ruthven,
University of Michigan
Ann Arbor, Michigan

My dear Dr. Ruthven:

The 1935 annual meeting of the Division of Biology and Agriculture of the National Research Council is to be held on April 20 and 21 and, at that time, we shall wish to present to the members a review of the work of our committees and projects for the past fiscal year. May we have a report from you on the activities of the Sub-committee on the Training of Men for Administrative and Educational Work in Wild Life Problems of the Committee on Wild Life, together with any recommendations which you may wish to have considered by the Division.

All committees of the National Research Council automatically go out of existence on June 30 of each year and special action is required to continue them. If you wish to have your Committee continued, will you please send in your recommendations to that effect. It is entirely in order to make any changes or additions in the personnel which seem desirable, as committees must be voted anew each year.

The Division office would like to receive reports and recommendations not later than March 15, in order that these may be manifolded and distributed to the members of the Division in advance of the meeting. If you can let us have your report by that date, it will be greatly appreciated.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

cd

COPY FOR DR. LEWIS

THE UNIVERSITY OF THE STATE OF NEW YORK
THE STATE EDUCATION DEPARTMENT

NEW YORK STATE MUSEUM

ALBANY, N. Y.

CHARLES C. ADAMS
DIRECTOR

ALVIN G. WHITNEY
ASSISTANT DIRECTOR

RUDOLF RUEDEMANN
STATE PALEONTOLOGIST
D. H. NEWLAND
STATE GEOLOGIST
R. D. GLASGOW
STATE ENTOMOLOGIST
H. D. HOUSE
STATE BOTANIST
C. A. HARTNAGEL
ASSISTANT STATE GEOLOGIST
WINIFRED GOLDRING
ASSISTANT STATE PALEONTOLOGIST
K. F. CHAMBERLAIN
ASSISTANT STATE ENTOMOLOGIST
ELSIE G. WHITNEY
ASSISTANT STATE BOTANIST
DAYTON STONER
STATE ZOOLOGIST
W. J. SCHOONMAKER
ASSISTANT STATE ZOOLOGIST
NOAH T. CLARKE
STATE ARCHEOLOGIST

OFFICE OF DIRECTOR

December 13, 1934.

Mr. Aldo Leopold, Chairman,

Committee on Wild Life Studies,
New Soils Building,

Madison, Wisconsin

Dear Mr. Leopold:-

I have your letter of December 5, enclosing a copy of the letter to Chairman Lewis. I think my letter to you, of December 10, covers most of your points.

For years the Federal funds for wild life research have been scanty, due to the pressure of special interests. The various Relief Agencies should allocate a part of their money to research by the regular existing Federal agencies, The Mammal Society has tried in vain to have this done with some of the poison control funds.

I think your emphasis is too exclusively economic. What about wild life on all kinds of public lands?

If the National Research Council is to make a special plea for Research Funds, our Committee ought to work out a brief comprehensive and simple program which, if presented in simple language, ought to get a hearing.

Very sincerely,

Chas. C. Adams, Director.

Dr. Leopold

THE UNIVERSITY OF THE STATE OF NEW YORK
THE STATE EDUCATION DEPARTMENT
NEW YORK STATE MUSEUM
ALBANY, N. Y.

CHARLES C. ADAMS
DIRECTOR
ALVIN G. WHITNEY
ASSISTANT DIRECTOR

RUDOLF RUEDEMANN
STATE PALEONTOLOGIST
D. H. NEWLAND
STATE GEOLOGIST
R. D. GLASGOW
STATE ENTOMOLOGIST
H. D. HOUSE
STATE BOTANIST
C. A. HARTNAGEL
ASSISTANT STATE GEOLOGIST
WINIFRED GOLDRING
ASSISTANT STATE PALEONTOLOGIST
K. F. CHAMBERLAIN
ASSISTANT STATE ENTOMOLOGIST
ELSIE G. WHITNEY
ASSISTANT STATE BOTANIST
DAYTON STONER
STATE ZOOLOGIST
W. J. SCHOONMAKER
ASSISTANT STATE ZOOLOGIST
NOAH T. CLARKE
STATE ARCHEOLOGIST

OFFICE OF DIRECTOR

December 10, 1934.

REPORT TO THE COMMITTEE ON WILD LIFE OF NATIONAL RESEARCH COUNCIL

(Division of Biology and Agriculture)

Mr. Aldo Leopold, Chairman,
New Soils Building,
Madison, Wisconsin

Dear Mr. Leopold:-

Your letter of July 7, 1934, came in due time, and I wrote you August 13 that I would write more fully later, in reply to your questions. I have found some of your questions rather difficult to understand, but I have endeavored to answer them as best I could.

I note that your questionnaire is based on the Ruthven-Lovejoy sub-committee report to Dr. Merriam. Before this report was prepared I spoke to Ruthven about it. At that time he said that they would discuss general principles and give the results of what had been accomplished in the State of Michigan. While I did not think that such a report would cover the field adequately, I thought that it would have a real value. The report, however, as presented,

is quite a different thing.

(A) EDUCATION

"Sec. 3 recommends: That the National Research Council recognize a limited number of educational centers in the United States where teaching and research in wild life conservation shall be encouraged."

Question 1: "Does the limitation refer mainly to undergraduate instruction, or does it propose also to limit graduate research to certain recognized institutions?"

Answer: Certainly this Committee is not concerned solely with the advertisement of a few places where "land use" is stressed. As far as this general proposition is concerned, both colleges and graduate work are of much importance, as both are essential phases. I doubt the wisdom of the National Research Council "recognizing" a limited number of centers where wild life teaching and research is done. If this means listing them with approval, then all active centers, where teaching or research or both are done, should be "recognized". There are, of course, wild life problems which are broader than "land use" as commonly understood. Too often this implies only the economic approach, while much wild life work may also be primarily of social value. It is important not to let this wild life problem appear to be solely or even primarily an economic problem. The economic vested interests have not been found to be the best friends of wild life.

Question 2: "Shall the Committee undertake to designate the "limited number of educational centers" at the present time"?

Answer: As indicated above, I think it unwise to attempt to designate educational centers. At present most educational centers do not take their wild life work very seriously. It is largely an incidental interest, even in spite of the fact that some money is spent on such work. Today the interest is mainly individual and not institutional, as shown by the resistance on the part of officials toward properly encouraging such work.

Several institutions already have enough freedom and funds to definitely and seriously encourage wild life work, but they are unwilling to sacrifice other conventional lines of work for the new work, or are too jealous of who is to control such work, to give it adequate freedom. These institutions already have scholarships, fellowships, assistantships, etc., which can be so used, if they so desire. As soon as these facilities are provided they will be "recognized" by capable students, without advertising by our Committee.

> "Sec. 4 recommends: That the schools offering work in ...land utilization will be urged to...create advisory units...to consist of representatives from each of the disciplines involved."

Question 3: "How may the Committee effectively urge such advisory units or institutes? Can existing examples be pointed out? Can useful specifications for their creation be drawn"?

Answer: I take this question to mean how can these centers get advice, and how can the Committee advise the educational centers? I would suggest the following:-

1. Let the educational institutions which desire to emphasize their leadership, provide funds for a conference at their institutions and thus bring together the Committee, Federal, local and State leaders, for a program and discussion of the broad features of the problem, including the local aspects. A few of such conferences would do much to lead to a mutual understanding and would be a real test of the sincerity of the claims of the educational institutions to seek advice.

2. A series of papers might be prepared for publication in various journals, telling what the educational institutions are doing. The public (State and Federal) officials should be requested to state what they felt were the educational needs of men required for their work, and what both groups considered the major practical and research problems in their field. These results would help all of these centers.

3. If the local educational centers need an advisory group, persons from their own faculty should be the nucleus of such an advisory group. They can easily call in any others needed.

> "Sec. 6 recommends: That the schools be asked to cooperate... with government agencies...by providing expert advice and research facilities."

Question 4: "Does the recent expansion in government land utilization activities need specific appraisal to determine whether available school advice and facilities are being used? Is there a converse need for government agencies to conduct and finance research projects through schools, rather than directly?" (This refers to the general principle asserted in the Ruthven report"that instruction

and research are primarily school functions.")

Answer: See the preceding answer.

The present expansion of public land utilization emphasizes the more urgent need of trained men for the social and economic aspects of the wild life problem. It also shows the folly of not encouraging this kind of work years ago, rather than some of the orthodox lines that have not been so useful in the present emergency. The broad problem of the use of forest and sub-marginal land, and its wild life problem caught most of our schools and universities unprepared, without adequately trained men or provisional policies. As a result there has been, of necessity, much harm done by half-baked men in charge of great numbers of relief workers, who have required supervision. Some of this was preventable. Of course, this is water now over the wheel!

There should be cooperation between the educational centers and the State agencies. The Federal agencies should follow the example of the United States Bureau of Fisheries and have closer cooperation with educational centers. This has been to its great advantage. With Federal Biological or Wild Life Stations, comparable to the marine seaside and fresh water fishery laboratories, much greater cooperation could be secured. This aspect needs much emphasis.

Now, as to where research is to be done on these wild life problems, - experience points clearly to two major systems:-

1. The universities and colleges. It is particularly at the State universities, where such exist, that we should expect the

most from cooperation and from research. Any college or university that has a staff capable of conducting research may be able to make a valuable contribution to the scientific aspect of the wild life problem. As previously stated, the State universities and forestry and agricultural colleges in many states are in the best position to work on some of the social and economic aspects of this problem.

2. State and Federal agencies. The adaptability of State and Federal agencies for research will depend upon their fundamental organization,- as to whether these agencies are organized for administration, or for research. Extensive experience and special studies have shown that in general, administrative bureaus are not organized satisfactorily for research, and do not have the atmosphere or facilities for such work. Furthermore, such State bureaus are frequently not under civil service and therefore lack the stable policies that are generally needed to produce a high class of scientific work. As a rule, also such administrative bureaus lack the libraries, collections and other necessary facilities for research.

There are many Interstate and International problems that must depend primarily on Federal research. Their weakness is their dominant political control by certain vested interests.

State scientific research agencies should be able to undertake important research on wild life. They have certain advantages over the colleges and universities because of not having their work interrupted by class-room hours. Their organization varies greatly in the different states. In New York State the State Museum is

the central State scientific research agency.

(B) STATUS OF RESEARCH

Question 5: "Shall a subcommittee be appointed to draft such an inventory of research status? May the Chairman go outside the present Committee if necessary?"

Answer: Everyone acquainted with the status of our knowledge of wild life, knows that there are many problems acutely needing study. I think that the present Committee is fully capable of making a general list of problems. Such lists, it seems to me, have relatively little value, and are seldom used by those who most need them. Such statements, when printed, become buried in the literature, and those that need them the most do not generally know how to find them!

If the Chairman can get additional help from others not on the Committee, I have no objection.

Question 6: "Shall a subcommittee be appointed to appraise the need for such fundamental studies, to designate the fields in which they probably lie, to report what existing studies bear on the problem, and what new ones are needed? May the Chairman go outside the present Committee membership if necessary?"

Answer: I suggest Numbers 5 and 6 be combined.

(C) ECONOMIC VEHICLES

Question 7: "Shall this Committee urge the prosecution of this project? If so, through whom? Is the sponsorship of the Science Advisory Board the most logical one?" (cf. Leopold. Conservation Economics. Jour. For., May, 1934, pp. 537-544).

Answer: In case the present depression does not make a quick recovery, we are likely to have considerable social and economic reorganization. The wild life problem will require a re-orientation in the general system. I do not believe that it is possible or desirable to attempt the wild life problem as an independent unit; it should have its place in the general scheme of social and economic programs.

At present I do not know which agency is likely to be the most constructive. I doubt the value of any relief agency for this purpose.

I doubt if the Science Advisory Board should delegate this to any special group; it should, if delegated, be to a composite group of wide experience and interests, including naturalists, sociologists and economists.

(D) RESEARCH POLICY

Question 8: "Shall the Committee offer its advisory services to the Biological Survey, and ask in what way, if any, it can help?"

Answer: The most important work of the Committee will be to first get its own bearings, and have something to show for its effort. I believe also, that it should work as an independent unit. If so, it may be able to offer help and advice that will do more good than if it is looked upon as an agent for the Biological Survey. It will have its hands full attending to its own business. The results of its study should be made public.

Question 9: "Can the Committee undertake all of the ventures here discussed, or such part as may be endorsed by vote of its members? If not, which ones are the most important?"

Answer: I believe the Committee will have all it can do if it will give attention to 3 items, as follows:

1. Prepare a report on the status of wild life teaching in the colleges and universities, both undergraduate and graduate.

2. A brief summary report on the outstanding needs for wild life research, (funds, fellowships, lands for experiments, etc.) Federal, State and any other outstanding facilities.

3. A careful study by possibly three special committees to secure a re-orientation of the wild life problem from three standpoints -

1. On the basis of the public policies now in operation.
2. On the basis of a return to the old system.
3. On the basis of public ownership of natural resources

(Wild life already starts with this!)

These Committees should include say two members from our own Committee and the remainder, 3 or 5, to be economists and sociologists, who have some knowledge or interest in wild life problems.

So far as known to me we have no students of the wild life problem who have been actively engaged in this sort of broad study, and it is time that this should be started.

Illick has been making a study of marginal land policies that are unusual and he might help.

Finally, I wish to add that in my opinion our Committee might as well be abolished as to attempt to get results without a program and conferences.

There never was a time in our history when there was a greater need for sane public policies, and I know of no other agency which is likely to give this subject attention. The obligation is obvious.

Since this Committee was formed, the duck problem has reached a crisis. What has our Committee done about it? Of course, it might not have been able to do anything, but it might have supported some of the conservation measures. This is just a sample. We are likely to have other, possibly equally important problems, and if we can do nothing let us turn to other agencies.

Of course, a major difficulty is that the members of the Committee already have their hands full, and yet the Committee needs to have on it persons with training and experience of a varied kind and with broad interests, and more than specialists.

I realize that you have a very difficult problem, but we need to know before long whether or not we are on the right track.

I am sorry that I have been delayed so long in sending in these impressions.

Very sincerely,

Chas. C. Adams,

New York State Museum, Albany, N. Y.

MEMBERS OF THE COMMITTEE

1. Aldo Leopold, University of Wisconsin, Madison, Wisconsin, Chairman
2. Charles C. Adams, New York State Museum, Albany, N. Y.
3. H. E. Anthony, American Museum of Natural History, New York City
4. Harold C. Bryant, Park Service, Washington, D. C.
5. E. A. Goldman, Biological Survey, Washington, D. C.
6. John C. Merriam, Carnegie Institution of Washington, Washington, D. C.
7. V. E. Shelford, Vivarium Building, Wright and Healey Streets, Champaign, Illinois

New Soils Building
Madison, Wisconsin
July 7, 1934

Committee on Wild Life Studies,
National Research Council

Gentlemen:

The following undertakings are proposed for your consideration:

(A) Education

The report of Dr. Ruthven's subcommittee was sent you by Dr. Merriam on April 20, 1934. The recommendations are clear and brief, and I think ready for final consideration at the next meeting. Certain sections, however, seem to call for further elaboration.

> Sec. 3 recommends: "That the National Research Council recognize a limited number of educational centers in the United States where teaching and research in wild life conservation shall be encouraged."

These centers shall also be centers for land utilization (Sec. 1).

QUESTION 1: DOES THIS LIMITATION REFER MAINLY TO UNDERGRADUATE INSTRUCTION, OR DOES IT PROPOSE ALSO TO LIMIT GRADUATE RESEARCH TO CERTAIN RECOGNIZED INSTITUTIONS?

Comment: I take it the limitation applies only to specialized undergraduate schools of wild life management. Each state must presumably do at least a certain amount of research to work out its peculiar local problems, and also offer orientation or non-professional courses to students of agriculture, forestry, land economics, etc., so that they will know what wild life management is. Sec. 4 implies such an interpretation.

QUESTION 2: SHALL THE COMMITTEE UNDERTAKE TO DESIGNATE THE "LIMITED NUMBER OF EDUCATIONAL CENTERS" AT THE PRESENT TIME?

Comment: It may be argued that until funds are available to foster the development of centers, the attempt to recognize particular institutions might be an empty gesture. On the other hand, such recognition might be a useful leverage for getting funds. Which is the better argument?

> Sec. 4 recommends: "That the schools offering work in...land utilization be urged to ...create advisory units...to consist of representatives from each of the disciplines involved."

QUESTION 3: HOW MAY THE COMMITTEE EFFECTIVELY URGE SUCH ADVISORY UNITS OR INSTITUTES? CAN EXISTING EXAMPLES BE POINTED OUT? CAN USEFUL SPECIFICATIONS FOR THEIR CREATION BE DRAWN?

Sec. 6 recommends: "That the schools be asked to cooperate... with government agencies...by providing expert advice and research facilities."

QUESTION 4: DOES THE RECENT EXPANSION IN GOVERNMENT LAND UTILIZATION ACTIVITIES NEED SPECIFIC APPRAISAL TO DETERMINE WHETHER AVAILABLE SCHOOL ADVICE AND FACILITIES ARE BEING USED? IS THERE A CONVERSE NEED FOR GOVERNMENT AGENCIES TO CONDUCT AND FINANCE RESEARCH PROJECTS THROUGH SCHOOLS, RATHER THAN DIRECTLY? (This refers to the general principle asserted in the Puthven report "that instruction and research are primarily school function.")

(B) Status of Research

It is my impression that the current development of wild life research is lopsided. Certain species (viz: bobwhite) have been studied sufficiently to enable conservation techniques to be actually applied, while other species (viz: wild turkey, most big game, and all waterfowl) have either not been studied at all, or else the studies are still so far from evaluating mortality factors (or environmental resistance) as to offer scant guidance to administrators.

By appraising the research status of the more important species or groups, the committee might stimulate effort to fill in the present blanks.

QUESTION 5: SHALL A SUBCOMMITTEE BE APPOINTED TO DRAFT SUCH AN INVENTORY OF RESEARCH STATUS? MAY THE CHAIRMAN GO OUTSIDE THE PRESENT COMMITTEE IF NECESSARY?

It is my impression that the current development of applied wild life research (i.e., research seeking directly to create conservation techniques) is facing the danger of entering blind alleys due to the lack of a concurrent development of fundamental studies in wild life physiology. (For example, there are indications that some parasitic infections hark back to mineral or vitamin nutrition.)

QUESTION 6: SHALL A SUBCOMMITTEE BE APPOINTED TO APPRAISE THE NEED FOR SUCH FUNDAMENTAL STUDIES, TO DESIGNATE THE FIELDS IN WHICH THEY PROBABLY LIE, TO REPORT WHAT EXISTING STUDIES BEAR ON THE PROBLEM, AND WHAT NEW ONES ARE NEEDED? MAY THE CHAIRMAN GO OUTSIDE THE PRESENT COMMITTEE MEMBERSHIP IF NECESSARY?

(C) Economic Vehicles

There is, I think, a further danger that after usable techniques are evolved, they will fail of application to land utilization problems, for lack of suitable economic vehicles to encourage their use. All the sciences bearing on land-use have, I think, erred in assuming that the vehicles which economic evolution has accidentally produced, are the only ones which economic (and legal) science can produce, and that the formulation of economic vehicles is not a "scientific" problem. This thought is partially elaborated, in terms of current problems, in the attached reprint (Leopold, Aldo. Conservation Economics. Jour. Forestry, Vol. XXXII, No. 5, May 1934, pp. 537-544).

The Land-Use Committee of the Science Advisory Board has under advisement a proposal that a suitable group of economists and jurists be set up to consider the question of economic vehicles.

QUESTION 7: SHALL THIS COMMITTEE URGE THE PROSECUTION OF THIS PROJECT? IF SO, THROUGH WHOM? IS THE SPONSORSHIP OF THE SCIENCE ADVISORY BOARD THE MOST LOGICAL ONE?

Comment: This problem is common to the whole field of land use, and the urgent need is for vehicles which will promote good land use, as distinguished from some particular component, such as wild life management. Hence it seems obvious that the sponsorship of any specialized committee, such as this one, would be unsuitable. It is conceivable, however, that some local institution, such as a university, might get further with this problem than any national committee. Possibly the Science Advisory Board might ask some university to serve as a "field laboratory" under its guidance.

(D) Research Policy.

It is an outstanding fact that many local research institutions have a strong desire to undertake wild life research. They have the scientific faculty needed for supervising and consultation, and the graduate student personnel needed for projects. They lack, however, the few hundred dollars necessary for field travel or stipends. They also lack the opportunity to consult with "experts" on field techniques.

At the same time we have government bureaus, such as the Biological Survey, composed largely of "experts," anxious to expand research, but lacking research appropriations, whilst "relief" funds of various administrative and engineering categories are being spent in unprecedented profusion.

At the same time we have state conservation departments desirous of scientific guidance from their local universities, but unable to get it because no research is under way, and unable to divert their own funds from the deep, steep grooves leading to the state game farm and the policing personnel.

It is my impression that the National Research Council cannot overlook so obvious an invitation to re-shuffle the cards to produce effective combinations of manpower, ideas, and money. The Biological Survey is now aware of this situation, but might have need of our backing and advice.

QUESTION 8: SHALL THIS COMMITTEE OFFER ITS ADVISORY SERVICES TO THE BIOLOGICAL SURVEY, AND ASK IN WHAT WAY, IF ANY, IT CAN HELP?

- - - - - - -

QUESTION 9: CAN THE COMMITTEE UNDERTAKE ALL OF THE VENTURES HERE DISCUSSED, OR SUCH PART AS MAY BE INDORSED BY VOTE OF ITS MEMBERS? IF NOT, WHICH ONES ARE THE MOST IMPORTANT?

Yours sincerely,

ALDO LEOPOLD
Chairman

[4-16-34]

REPORT OF THE SUB-COMMITTEE ON THE TRAINING OF MEN FOR ADMINISTRATIVE AND EDUCATIONAL WORK IN WILD LIFE PROBLEMS

APR 16 1934

*****

Your committee has given careful consideration to the nature of wild life problems and the educational facilities available for a program of instruction. It begs leave to present the following recommendations:

1. That the preservation and utilization of wild life be considered a part of the major field of land utilization.

2. That the actual administration of wild life affairs be assumed to be definitely a responsibility of the state and federal governments.

3. That the National Research Council recognize a limited number of educational centers in the United States where teaching and research in wild life conservation shall be encouraged.

4. That the schools offering work in the field of land utilization be urged to develop comprehensive programs of instruction and research. To this end it is suggested that the schools be urged to create advisory units to have general oversight of instruction and research in land utilization, each committee or "institute" to consist of representatives from each of the disciplines involved in the general field (such as geology, geography, forestry, zoology, botany, economics, and sociology).

5. That the curricula comprise both long and short sequences of courses designed for the instruction of officials who are administering wild life affairs, students who wish to specialize in the field, and the general public.

6. That the schools be asked to cooperate as fully as possible with governmental agencies dealing with land utilization problems by providing expert advice and research facilities.

These recommendations represent an attempt to orient the subject of wild life conservation and to develop a method of approach to it in the field of education. Your committee believes that this is an important preliminary step to the drafting of concrete programs of instruction and investigation. In the opinion of your committee, sound practice in this field should be based on three fundamental concepts: (a) that wild life problems lie within the large field of land utilization; (b) that instruction and research are primarily school functions while the administration of wild life as a natural resource is a function of government; (c) that, owing to the complexity of the subject, instruction and research in the schools should represent a cooperative effort involving a considerable number of departments as usually organized.

Alexander C. Ruthven

Chairman

Copy for Dr. Ivey F. Lewis

UNIVERSITY OF MICHIGAN

Ann Arbor

President's Room

March 30, 1934.

Dr. John C. Merriam,
Carnegie Institution of Washington,
Washington, D.C.

My dear Dr. Merriam:

I am sorry that you find it necessary to resign as chairman of the Committee on Wild Life of the National Research Council. I can readily understand, however, that your time is very much taken up with other things.

I expect to have a report for the National Research Council by the time of the April meeting. I will find it necessary to put in a different kind of report than I planned at first. Changes are taking place so rapidly that the problem varies almost from day to day. I have been using the University as a sort of laboratory for the work of the Committee and even within our own organization I find changes taking place that I did not anticipate for a number of years.

Yours sincerely,

(signed) ALEXANDER G. RUTHVEN

March 24, 1933

REPORT OF THE COMMITTEE ON WILD LIFE

The Committee has been working during the past year on organization of the sub-committee for training of men for wild life administration, which has been considered one of the most important aspects of the problem. This sub-committee has now been formed and consists of President Alexander G. Ruthven, of the University of Michigan, Mr. Aldo Leopold, and Mr. P. S. Lovejoy, and has been meeting for discussion of the problem. Mr. Merriam has recently conferred with Dr. Ruthven and the members of the sub-committee and has visited Dr. Ruthven and his staff for consideration of the matters under discussion in Michigan.

The problem is being considered on a very broad basis and in the most fundamental way relative to conservation and its ultimate significance. Mr. Merriam believes that the work will be one of the most fundamental studies of this nature ever undertaken. It is hoped that it may soon be possible to formulate definite recommendations as result of these activities.

August 13, 1935

Mr. J. N. Darling, Chief,
U. S. Bureau of Biological Survey
Washington, D. C.

Dear Mr. Darling:

I understand that Mr. Leopold has already sent you a copy of the advisory report from the Committee on Wild Life of the Division of Biology and Agriculture of the National Research Council. We have had a good deal of correspondence with the members of the Committee about the report and find that there is some feeling that the report is misleading; in that it refers to "game" rather than "wild life". The Executive Committee of the Division of Biology and Agriculture has not held a meeting since the matter came up and I, therefore, send the report merely as the expression of opinion of the Committee on Wild Life.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

IFL:B

August 13, 1935

Dr. C. C. Adams
New York State Museum
Albany, New York

Dear Dr. Adams:

I have read with great interest and I hope with some profit your second letter commenting on the activities of the Wild Life Committee of the Division of Biology and Agriculture. I am particularly interested in your suggestion that the committee should include more men who are not in any way hampered by governmental or political restrictions. Dr. Merriam has resigned from the committee and this will give us an opportunity to equalize matters along the lines you suggest. The present membership of the committee includes, besides Leopold, you, Dr. Anthony, and Dr. Shelford to represent the independents and Messrs. Bryant and Goldman to represent the point of view of the Government. I will be glad to have from you the suggestion of someone to replace Dr. Merriam. If an "independent" is selected this will give a majority of 4 to 3 in favor of those without Government affiliations.

The Sub-committee on the Training of Men for Administrative and Educational Work in Wild Life Problems was discontinued on receipt of its final report, so Drs. Ruthven and Lovejoy are no longer members of the committee.

A real difficulty in the way of effective work being done by this committee is the lack of funds to provide for meetings. The only source for such funds lies in the Committee on Grants-in-Aid which will not meet for some months. I will be glad to request from this committee a grant to provide for a full meeting of the Committee on Wild Life when there will be time for fuller discussion and consideration of general problems and programs. The last meeting was hurried because of the desire of Mr. Darling to obtain an immediate judgment. I suppose that such emergency will not arise again.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

IFL:B

THE UNIVERSITY OF THE STATE OF NEW YORK
THE STATE EDUCATION DEPARTMENT
NEW YORK STATE MUSEUM
ALBANY, N. Y.

CHARLES C. ADAMS
DIRECTOR
ALVIN G. WHITNEY
ASSISTANT DIRECTOR

RUDOLF RUEDEMANN
STATE PALEONTOLOGIST
D. H. NEWLAND
STATE GEOLOGIST
R. D. GLASGOW
STATE ENTOMOLOGIST
H. D. HOUSE
STATE BOTANIST
C. A. HARTNAGEL
ASSISTANT STATE GEOLOGIST
WINIFRED GOLDRING
ASSISTANT STATE PALEONTOLOGIST
K. F. CHAMBERLAIN
ASSISTANT STATE ENTOMOLOGIST
ELSIE G. WHITNEY
ASSISTANT STATE BOTANIST
DAYTON STONER
STATE ZOOLOGIST
W. J. SCHOONMAKER
ASSISTANT STATE ZOOLOGIST
NOAH T. CLARKE
STATE ARCHEOLOGIST

May 31, 1935.

OFFICE OF DIRECTOR

STRICTLY CONFIDENTIAL

Dr. Ivey F. Lewis, Chairman

Division of Biology and Agriculture,
National Research Council,
2101 Constitution Avenue,

Washington, D. C.

Dear Doctor Lewis:-

While in Washington last week, attending the meetings of the American Association of Museums, I tried to see you, but learned that you were to be out of the city until early in June. I had received your letter of May 15, 1935, and I wanted to discuss further the work of the Wild Life Committee because I had serious doubts about continuing on the Committee, not only on account of our past experience, but equally because of the composition of the newly proposed one. The proposed new Committee is even more overloaded with government officials, who cannot speak as individuals, so that one Federal official is able to speak for a dozen, as they all seem to have but one opinion, and dare not deviate from this course. I am confident that the National Research Council desires the expression of views from a competent and non-biased committee. This one does not give a trustworthy opinion on such matters. We

were called to Washington to advise the Biological Survey on the expenditure of funds for wild life research from two sources:

1. An appropriation of $42,000.00.

2. A donation of $200,000.00 by the arms and ammunition makers. This fact does not appear in the final report.

From the conduct of our May 10 conference, and from the preliminary draft sent me by Leopold, I was satisfied that the final report would not be satisfactory to Anthony or to me, and possibly also to Shelford. This has since been confirmed by these men. However, it seemed futile to protest, and the final draft which I find on my return to Albany, was but little modified from the preliminary draft made in advance of the meeting, a copy of which I enclose.

The information given us in the call, and that presented by Henderson and Bell at the conference, were quite different. There was no real discussion of the selection of States for cooperation with the Survey. I am puzzled why this was not discussed fully. Haste may account for this.

Personally, I have not been able to overcome my doubts as to the wisdom of the Biological Survey accepting funds from a group - the ammunition interests - who have for years been reputed to have undue influence upon the Federal hunting season's regulations. We have been asked to make a program for the expenditure of a donation from these interests, but we do not know what understanding lies back of this donation. It is common knowledge that a price is

generally demanded in return. Of course, we were not called upon to decide upon this aspect; but can the National Research Council ignore such possibilities? Our Committee Chairman did not elaborate this phase, and he knows their methods of work. The Wild Life Committee report emphasized freedom in the expenditure of the fund, but this does not clear up any possible trading. The Biological Survey may not have made a trade, but we have no assurance that pressure has not been exerted, as it has been in other instances in the past, as in the case of the cattle and sheep men in relation to predatory control.

Last Friday, May 24, I called upon Mr. J. N.Darling, Chief of the Biological Survey, as I felt that the success of the whole research program depended upon the selection of a capable Survey representative who would have charge of it. Our Committee felt that Dr. W. P. Taylor was their most competent man, but it was rumored that Mr. Gabrialson was to have charge. I considered this an error so went to Mr. Darling to emphasize the need of a university-trained man to work with the universities on a research program, as I was satisfied that Taylor was the best man they had. Mr. Darling told me that Mr. I. T. Bode, formerly associated with him in Iowa, was to have charge. At any rate Mr. Bode is not well known to naturalists as a research man. Mr. Bode has been dropped in Iowa with a political overturn, but this does not justify his appointment at Washington, as we are not concerned with political "lame ducks", no matter what their merits are. I am confident that this kind of information would

have a strong influence upon the opinions of our Committee.

A second startling statement from Darling was that the ammunition group had cut their donation from $200,000.00 to $30,000.00! (A report has since reached me that the Remington Arms Company is the sole supporter, as the Winchester group have backed out). At once I suggested to him that he drop the whole proposal with them; but he replied that he needed the money! I doubt that if our Committee had known this that they would have, on the short notice they were given, cared to attend the meeting. Some of us dropped our own urgent work and hastened to Washington for a call on such uncertain foundations!

When I talked with Darling on May 24, he had not yet received the Committee report from Leopold, and was very eager for it; but on my return to Albany Leopold's letter of May 22 states that he sent a copy direct to Darling. This seems to be a strange procedure, as it had not been approved by the Division.

I enclose a copy of my letter to Leopold, of May 18, approving of the report, but none of my suggestions were accepted in the final draft.

As I understand it, the National Research Council is an advisory body, but this proposition as it now stands, is complicated by much uncertain politics, and I now doubt the wisdom of it being oficially sanctioned by the Council's Executive Committee. It seems to me that it should be considered by the full meeting of the Division when such members as Wright, Rohwer and Kellogg are present, and who

are more or less acquainted with the broad aspects of the problem. This, however, would not answer Darling's immediate request. Nevertheless, the Division has some responsibilities, and it may be embarrassed later if it approves a project whose donors are concealed. This clearly shows the risk of excessive haste and the confusion that may arise from such action.

The good feature of the Darling proposal is the $42,000.00 appropriation for wild life research. There can be no question about such critical items as:

1. Selection of a university-trained Ph.D. and research worker to supervise the relation to the universities cooperating.
2. Proper selection of the institutions.

With wise discussions on these points there is not much chance of error.

If your Executive Committee should refer it back to the Chairman for revision and then have a meeting in July, that might be a solution, if the Committee was enlarged to get a broader view.

I regret to bother you with these details, but you may not hear of this viewpoint in any other way.

Very sincerely,

Chas. C. Adams.

Enclosure
Copy of letter to
Leopold

Also copy of
preliminary draft

Mountain Lake, Va.,
August 3, 1935

Mr. Aldo Leopold,
New Soils Building,
University of Wisconsin,
Madison, Wis.

Dear Mr. Leopold:

I am leaving for Washington on Monday and at that time will forward the report of your Committee to Mr. Darling. Although I regret that I was not able, because of Mr. Darling's urgency, to arrange for a more leisurely meeting I nevertheless feel that the committee has been useful in an important way in the development of Mr. Darling's plans. While the report has not officially gone to him I understand that he is familiar with the trend of the discussion.

Sincerely yours,

Chairman, Division of Biology
and Agriculture

UNIVERSITY OF WISCONSIN
COLLEGE OF AGRICULTURE
MADISON, WISCONSIN

DEPARTMENT OF AGRICULTURAL ECONOMICS

New Soils Building
July 25, 1935

Dr. Ivey F. Lewis, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington, D. C.

Dear Dr. Lewis:

In accordance with your suggestion of June 10, I wrote the four members of the Committee on Wild Life Studies who were not present in person at the last meeting, asking whether or no they approved the report as submitted to you. Replies from Dr. Merriam and Dr. Ruthven are attached.

Goldman writes: "I regret that I could not be present at the time of the meeting, but I understand Dr. Bell and Dr. Henderson took part." He does not specifically voice his approval but it is implied throughout his letter so I hardly feel justified in making him write another letter giving his categorical "yes."

Lovejoy writes: "The May 22 report seems to me inadequate in that it does not attempt to deal with the extension phase of wild life research as I judge essential. Darling may have thought to attend to all such by allocating his technician to a land grant college." I take it that Lovejoy has no objection to the report as it stands, but wishes it could have included an extension plan. This was not included, as I hardly thought it the province of the National Research Council, although it was discussed at the meeting.

If this is a sufficient indication of the attitude of the absent members, can you now forward the report to Mr. Darling?

Yours sincerely,

Aldo Leopold

Aldo Leopold
In Charge, Game Research

vh
Encl.

UNIVERSITY OF MICHIGAN
ANN ARBOR
PRESIDENT'S ROOM

Hold

July 2, 1935.

Dr. Aldo Leopold,
New Soils Building,
Madison, Wisconsin.

My dear Dr. Leopold:

I am glad to endorse the report sent to Dr. Lewis under date of May 22, 1935.

The addition which might well be made is a series of recommendations covering the working relationships between the universities, the Biological Survey, and the state conservation departments. This can, I suppose, be made later.

Sincerely yours,

Alexander G. Ruthven

R

Dictated by Dr. Ruthven
Signed in his absence

CARNEGIE INSTITUTION OF WASHINGTON
WASHINGTON, D.C.

OFFICE OF THE PRESIDENT

June 26, 1935.

Professor Aldo Leopold,
New Soils Building,
Madison, Wisconsin.

My dear Professor Leopold:

Dr. Merriam was just closing his office before leaving for the west as your letter of June twenty-fourth was received. Although he regrets it extremely, Dr. Merriam is unable to go back to examine the report with the care necessary if he were to give a categorical approval. He tells me, however, that, because of his confidence in your judgment, in general terms he is in the habit of approving your recommendations.

Very truly yours,

Samuel Calloway

Secretary to Dr. Merriam.

June 10, 1935

Mr. Aldo Leopold
New Soils Building
University of Wisconsin
Madison, Wisconsin

Dear Mr. Leopold:

The report of the Committee on Wild Life Studies came duly to hand and I understand that Mr. Darling has already seen a copy of it. It seems to me that a report of this importance, before being finally approved by the Division of Biology and Agriculture, should be passed on by the entire Committee on Wild Life. I understand that all of the members of the committee have received copies of the report and no doubt will communicate with you about it. I should be glad to hear the judgment of the other members of the committee at your convenience.

I am very sorry to say that there are no funds at present available for committee activities and so am afraid that no active program will be justified in the immediate future. I suggest that the committee be allowed to stand as previously appointed in the hope that funds will become available at some later date.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

IFL:B

June 3, 1935

Dr. H. E. Anthony
American Museum of Natural History
77th Street and Central Park West
New York, N. Y.

Dear Dr. Anthony:

I have read your letter of May 27 with close attention. The hurried character of the last partial conference was due to the desire of Mr. Darling to get very prompt advice on his plan. The undesirability of such quick action is evident. I do not look on this as a meeting of the committee but rather as a conference of a few competent and interested people. Certainly in the case of a formal meeting of the committee plans should be worked out well in advance.

Among the difficulties involved in the work of a committee such as that on Wild Life is the over emphasis on the preservation of game which goes back, I suppose, to a wider public interest in this phase of conservation than in other matters recognized as more important by those competent to judge. The greatest immediate difficulty is the lack of funds which is due to the fact that the Council program has been much cut down because of diminished income. There is no source of funds available except a rather small amount for conferences, and I will be glad to recommend appropriations from this fund on recommendation from the committee.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

IFL:B

IN RE

CABLE ADDRESS "MUSEOLOGY NEW YORK"

THE AMERICAN MUSEUM OF NATURAL HISTORY

77TH STREET AND CENTRAL PARK WEST

NEW YORK, N. Y.

DEPARTMENT OF MAMMALOGY

H. E. ANTHONY, D.Sc., CURATOR
GEORGE G. GOODWIN, ASSISTANT CURATOR
ROBERT T. HATT PH.D., ASSISTANT CURATOR
G. H. H. TATE, M.A., ASSISTANT CURATOR OF SOUTH AMERICAN MAMMALS
T. DONALD CARTER, ASSISTANT CURATOR OF OLD WORLD MAMMALS

RICHARD ARCHBOLD, RESEARCH ASSOCIATE
WILLIAM J. MORDEN, PH.B., FIELD ASSOCIATE
ARTHUR S. VERNAY, FIELD ASSOCIATE

May 27, 1935.

Dear Dr. Lewis:

I received your communication of May 15th notifying me of the continuation of the Committee on Wild Life of the National Research Council, in which I am asked to serve for the next fiscal year.

I am willing to serve on this committee, but wish to take this opportunity to express certain sentiments as to the function of the committee and the policies which I believe are a primary responsibility of the committee.

At the meeting recently held in Washington, we were asked to express an opinion on a plan submitted by the Chief of the Biological Survey. We were called at short notice to convene and discuss this plan. I was personally not conversant with many of the details which were made a necessary topic in this discussion, and I imagine others of the committee were at the same disadvantage. The proposal of Mr. Darling involved contributions from private sources, the allocation of funds and personnel to various State educational institutions, and matters of policy which called for careful enunciation. The chairman of the committee brought to the meeting a long report which was to receive committee endorsement or emendation as a result of the conference. I saw this report for the first time that afternoon, and because of its length and the insistence upon details with which I could not hope to be adequately informed upon such short notice, I expressed to the committee the hope that we were not expected to submit, as a final report, a document of this nature. I contended that a one-day conference without adequate preparation was insufficient background for this type of report. Furthermore, this document endorsed a report submitted by a sub-committee, dated April 12, 1935, which had not been distributed to our committee - at least to me.

After I returned to my office I received from the chairman the final draft of the report in very much the same form as it had been presented to the committee. There were changes to incorporate suggestions made during the conference, but it was still a very long and detailed statement covering many points which I was forced to take on faith because of the press for time. My confidence in the members of the committee who happened to be informed on these points is sufficient for me to endorse the report, but I must confess that I have done so with reluctance, and principally because I saw no opportunity for a constructive revision at this late date. I have since learned on good authority that at least one major premise upon which we conferred is now fallacious because of the withdrawal of funds previously promised. I do not know which universities are to

selected as beneficiaries under the plan, and I can foresee that local politics may play a large part in this allocation. I know that Dr. Leopold is an enthusiastic student and exponent of the policies our committee discussed, and I have great respect for the general soundness of his views. I can only hope that there is nothing in what we have approved that will come back as a boomerang.

However, I believe that our committee has jurisdiction over a field very much greater in scope than anything hitherto discussed in conference, and if the large aims are to be subordinated to the special interests of the sportsmen, important as these may be, I feel that we as a committee are missing the really big issues over which we should preside. It is rather a commentary on our status that the only occasion, since organization, upon which a meeting has been called is tied up with disturbing possibilities as to finances, both source and assignment, and is at the instance of only a part of the nature loving public. Seemingly there is more worry over game species than over wild life as a whole. Please do not construe this as a lack of sympathy with any conservation move by sportsmen. I am with them one hundred per cent on this. Rather I am deploring an indifference to and implied complacence with the status of wild life problems in the United States today.

I would not care to attend another meeting of the committee under circumstances similar to those governing the last meeting, nor would I endorse another report similar to the one which has just been submitted to us. To me, my endorsement appears too much as a rubber stamp, and unless I can be an active member on a committee, I prefer not to serve.

I hope that sufficient funds can be voted the committee to have at least one meeting a year, and the meeting to be called well in advance.

Very sincerely yours,

H. E. Anthony.

Dr. Ivey F. Lewis, Chairman,
Division of Biology and Agriculture,
National Research Council,
Washington, D. C.

Personal

May 18, 1935.

Mr. Aldo Leopold, Chairman,

Committee on Wild Life,
Division of Biology and Agriculture,
National Research Council,

New Soils Building,
University of Wisconsin,

Madison, Wisconsin

Dear Mr. Leopold:-

I received May 17, your letter of May 14, and the proposed report resulting from our Committee meeting in Washington May 10, 1935.

1. On the whole I approve of the report.

2. I think that the word game throughout should be changed to wild life in harmony with the name of our Committee, and to reduce the possible confusion that may exist in the mind of J. N. Darling on this matter. As a research group there should be no doubt that this was our understanding of the term.

Even more - in case Darling should show this report to the ammunition men, this should make clear to them that the funds should go to wild life research, as that was our understanding.

3. Regarding Consulting Facilities. As indicated at the conference, I think great caution is needed in any wild life advisor undertaking to tell the universities how to make over their faculty and courses to suit a limited wild life group. This is likely to be considered presumptuous. Some may resent Federal pressure, others any innovation that is free with advice, and I think this group should go slowly and first establish confidence in their sound judgment before they will get much of a hearing. I think much of the paragraph should be omitted. I would regret to see such a report get in print. We advise others not to rush in, and we should not!

4. General Remarks. Far too much emphasis is placed on game in this section. You failed to enclose a copy of the Ruthven-Lovejoy report of April 12, 1935; and we should not approve of a report that we have not seen.

In conclusion I feel that there is much important work for our Committee to do, and I hope that we will have the opportunity to make it truly constructive.

Very sincerely,

Chas. C. Adams.

P. S. Since this letter was typed the Ruthven report has arrived. This is a very short notice to get word to you by May 20.

I approve the recommendations Nos. 1 and 2, of this report, with the understanding that our own Committee or a sub-committee

execute these recommendations, as I see no advantage in multiplying committees when there seems to be scant funds for one. It is a much better report than the former one.

Very sincerely,

Chas. C. Adams.

UNIVERSITY OF WISCONSIN
COLLEGE OF AGRICULTURE
MADISON, WISCONSIN

DEPARTMENT OF AGRICULTURAL ECONOMICS

New Soils Building
May 14, 1935

Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington, D. C.

Attention Mrs. Barnum

Dear Mrs. Barnum:

In reply to Dr. Lewis's letter of May 7. At the conclusion of our meeting Friday I called at your office and it was agreed that Messrs. Anthony, Adams, and Shelford would submit their expense accounts to you immediately upon their return home. It was understood that if the committee on grants in aid increased our allotment at their Saturday meeting, these expense accounts would be honored in full.

It was also agreed that if no additional funds were allotted, you would divide the $100 now available in the ratio of their respective outlays.

I am sending each of them a copy of this letter.

Thank you very much for your cooperation in arranging our meeting.

A final draft of our report is being sent to the members of the committee today, and after they have gone over it the report will be submitted to Dr. Lewis for transmission to Mr. Darling. I hope to place it in your hands within a week.

Several members of our committee told me that they did not receive the report of Dr. Ruthven's subcommittee dated April 12, 1935. Will you kindly send a copy of this report to such members as you think may not have received it?

Yours sincerely,

Aldo Leopold

Aldo Leopold
Chairman, Committee on
Wild Life Studies

vh

May 7, 1935

Doctor Aldo Leopold,
New Soils Building,
Madison, Wisconsin

Dear Doctor Leopold:

Modifying the terms of my recent letter, I am asking the Committee on Grants-in-Aid for the sum of $200.00 to be added to the $100.00 already at the disposal of your Committee for the purpose of arranging a conference of members of the Committee for consideration of Mr. Darling's request. The Committee on Grants-in-Aid will meet on Saturday, and I can inform you promptly of any action it may take.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and
Agriculture

IFL:p

(Rough Draft to facilitate discussion)

May 10, 1935

Drafted by Leopold before the meeting C.C.

Report of the Committee on Wild Life Studies
National Research Council
On the Proposed Game Research Program of the
U. S. Biological Survey.

We first of all heartily commend the Biological Survey, and the donors of these funds, for making possible an expansion of wild life research at this time. The existing research foundation is entirely insufficient for the great expansion of public conservation activities which has grown out of recent attempts to solve the land problem.

We approve the intention to allocate the new funds to local research institutions in direct contact with landowners. If wisely administered, such work will have a spreading power far greater than if centralized.

We approve the stipulation that the local institution and the state conservation department participate financially.

RESEARCH

Manpower. We take it for granted that graduate students are, in the main, to constitute the bulk of the manpower for game research. Not only are they available for less than half the cost of salaried officers, but they constitute the only vehicle for combining professional training with research in a single system.

Coordination. The system will have to head up in one Biological Survey coordinator. In selecting him it should be remembered that University research runs best under a looser rein than has been customary in bureau research. "Coordination" can be limited to a few functions, such as the exchange of facts, the withdrawal of funds which after a reasonable interval do not produce results, and the servicing

of local workers in such matters as food analyses, banding records, and technical literature.

Institutions embarking de novo in game research will need more and different coordination than those already doing it. They will usually lack field skill, and often there will be large hiatuses in their consultation facilities, as represented by the local faculty. The assignment of an experienced Biological Survey man to the local faculty will be a good way to get such new institutions started.

Institutions already experienced in game research, however, have no need of such an assignment. For the cost of carrying one such man, they could carry two or three graduate students.

All institutions, experienced or inexperienced, and whether or no provided with a resident Biological Survey representative, need the advisory services of the high grade coordinator who, as already suggested, will operate the whole system.

They will also need, from time to time, a general overhauling by some especially selected scientist. This need is developed further in a subsequent caption.

Certain species which move from state to state, or which occur only in widely scattered localities, may well be studied by federal rather than local men, and such men may well be headquartered at some convenient local institution. Such men, however, are research men rather than coordinators, and hence constitute no exception to the principles above outlined.

Research Subject Matter. Game research is now unbalanced. It is short of basic scientific work in such fields as physiology, and population levels. It is also short of practical tests or demonstrations.

The participation of Conservation Departments will presumably tend to emphasize the latter. Some corresponding tendency to emphasize base science will be needed. This can come either out of the foresight of the coordinator, or by the injection of new funds devoted to that purpose alone. It will

have to come, else the system will end in a series of blind alleys.

We see little present danger of duplication of work as between institutions. The best insurance against undue duplication is prompt publication of findings. Some research projects which now bear identical labels are not duplication at all, but simply two phases of one subject.

We call attention to the fact that following game species have never been the subject of any published research having conservation technique as its objectives: Wild Turkey, Cottontail, Sage hen, Blue Grouse, Jacksnipe, Mountain Sheep, Antelope, Javelina, Mountain Goat, Columbian Blacktail Deer, Black Bear, Grizzly Bear. No duck, goose, swan, shorebird, dove or pigeon has yet been adequately studied as a separate species.

Game Management Literature is growing rapdily in volume. It is scattered widely in many biological, conservation, and sporting journals. This scattering we believe is right and proper, in that it tends to make many sciences and professions aware of the subject. Some central servicing is needed, however, to give game students access to it. The Biological Survey might well consider setting up a central servicewhereby students could get reprints or abstracts at some regular subscription cost.

Consulting Facilities. The institutions selected to receive the proposed grants will be selected on the basis of their interest in, rather than their qualifications for, game research. Special measures are therefore called for to build up the requisite variety and balance of the faculty personnel available to game students for consultation. In the long run this counts for more than any other one thing, save only the intellectual quality of the students selected to do the work.

We urgently recommend that at appropriate intervals a suitable sum be set aside and turned over tothe National Research Council, for the purpose of employing, for a period of not less than three months, a scientific advisor for a scientific overhaul or inventory. His job should be to make a round of the institutions doing game research, and advising the

president of each what elements of faculty strength are lacking from his institution, in respect of its consulting facilities for game research students.

Among the items needed in each faculty at this particular stage are:

(1) At least one man with a well balanced view of biometry.

(2) At least one man sympathic to both field and laboratory research technique, and skilled in combining the two toward a single objective.

(3) At least one man who recognizes and values field skill in the diagnosis of ecological problems.

(4) A strong representation of those overlapping fields or science ordinarily called physiology, endocrinology, biochemistry, and nutrition.

Central Service while heartily endorsing the decentralization of game research, it is nevertheless evident to us that certain kinds of scientific work are best kept centralized. Food habits and banding are good examples. Their servicing function in relation to local projects is a going concern, and has operated to the mutual benefit and satisfaction of federal and local agencies.

TEACHING AND EXTENSION

We warn against unduly stimulating the tendency to develop half-trained wild life technicians, to the neglect of real scientific training on the one hand, and vocational training for field officers on the other. This error was made in forestry, and should not be repeated in game.

We warn against encouraging any institution to undertake formal teaching of any kind before it has built up skilled teachers, study areas, local facts, and the cooperation of pre-existing departments.

We especially commend the intention to teach management technique to farmers, but we emphasize the fact that all empirical instruction is inherently confined to local subject matter. The local technique must be created by research and demonstration before it can be taught.

We urge outdoor rather than blackboard pedgogy for all farmer and warden schools.

We urge local rather than national manuals or handbooks for farmers, wardens, boys clubs, etc.

It is not implied that the proposed plan is in error on these points. The descriptions available to us are, however, obscure in respect of these points.

General Remarks

It is our understanding that the present plan applies only to game research. If so, we call attention to the fact, that equally attractive opportunities exist in fur, in predators, in fish, and in many non-game mammals and birds. We hope that similar funds for these fields will soon be forthcoming.

The allocation of funds to particular institutions will involve the question of what ultimate distribution of educational and research functions among institutions should be. We call attention to the report of our sub-committee on this subject, submitted to the Division of Biology under date of April 12, 1935. This report emphasizes the fact that game managment is merely one phase of land utilization, hence that research and teaching can best be developed in those institutions which are becoming centers of land-utilization study.

It is a conspicuous fact that the technology of game production, while lagging far behind the public need for recreation, has nevertheless forged far ahead of actual land-practice. That is to say few landowners as yet apply even the meagre information so far available to them. The same is true, to an equal or greater degree, of forestry, erosion control, range management, and other conservation fields. This presumably indicated some basic defect in the psychology of extension methods, or in the economic premises of land conservation. A thogough analysis of these aspects must sooner or later go hand-in-hand with the elaboration of cropping technique.

- - - - - - - - - - - - - - -

May 2, 1935

Mr. Aldo Leopold
New Soils Building
University of Wisconsin
Madison, Wisconsin

Dear Mr. Leopold:

Mr. Darling has turned over to me for the attention of our Committee on Wild Life a proposal on which he particularly wants your advice and cooperation. Mr. Darling is anxious to have the judgment of the Committee on the points raised as promptly as possible. He asked me whether it might be possible to get advice from the Committee in about ten days. Because of this urgency I am taking the liberty of sending to each member of the Committee the following documents: A mimeographed address by Mr. Darling, the confidential nature of which he wishes me to point out; copy of a letter addressed to President Willard of the University of Illinois; copy of a letter addressed to the Director of Conservation of Illinois; and a copy of Mr. Darling's letter to me, the last paragraph of which indicates some of the points on which he desires advice.

There remains to the credit of the Committee on Wild Life the sum of $100 which was set aside for a meeting of the Committee some time ago. It is still available and while not sufficient for a general meeting may perhaps be of some use in arranging a conference if you think desirable. It would delay things too much to attempt at the present time to supplement this fund. Perhaps even with so small a sum a conference could be arranged at Michigan or some other central point at which some at least of the Committee would be able to be present.

I would appreciate it if, after hearing from your Committee members, you would communicate directly with Mr. Darling and send a copy of your communication to this office.

Sincerely yours,

Ivey F. Lewis, Chairman
Division of Biology and Agriculture

IFL:B

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF BIOLOGICAL SURVEY
WASHINGTON, D. C.

ADDRESS REPLY TO
CHIEF, BUREAU OF BIOLOGICAL SURVEY
AND REFER TO

April 23, 1935.

Dr. Ivey Lewis,
National Research Council,
2101 Constitution Avenue, N. W.,
Washington, D. C.

My dear Dr. Lewis:

I am informed that you have a committee on wildlife studies as a part of your National Research Council service.

It seems quite certain that the Bureau of Biological Survey will have sufficient funds allocated to its use this year to establish at least six research stations in as many land grant colleges in six ecological regions of the United States. Briefly the arrangement is as follows:

The Bureau of Biological Survey will engage a game research technician for each one of the selected educational institutions. His salary is presumed to be approximately $3,000 a year. The rest of the $6,000 allocated to that institution will be for his expenses and cost of operations. In return for this contribution to the land grant college, that institution will give an equivalent of $6,000 in services and equipment and technical aid. A third contribution of $6,000 in cash will be required of the State Fish and Game Commission, and this latter $6,000 will be for extension service in the field.

We have already ~~have~~ eighteen States, out of which six could be easily selected to carry out the projects. The direction and supervision of these six or more research stations is a problem which the Biological Survey must solve.

Would it be possible for your committee on wildlife studies to give this problem, both as to selection of States, the regions to be served, and the problem of operations, their earnest consideration at an early date? I am enclosing copies of letters which have been sent to the State land grant colleges and to the State fish and game commissions, and a copy of the address I made to the interested parties who are to make the financial contribution necessary.

Yours very truly,

J. N. Darling

J. N. Darling
Chief.

Enclosure.

C O P Y

April 4, 1935

Dr. Arthur C. Willard,
President, University of Illinois,
Urbana, Illinois.

Dear Dr. Willard:

The Bureau of Biological Survey may soon have funds made available which will offer an opportunity to sponsor a series of cooperative foundations to establish in a number of regional States more effective research on wildlife problems and the extension of game management programs. To insure the success of the proposed program, it will be necessary for the Biological Survey to have the cooperation of colleges of agriculture or State universities, and State game commissions when such projects are undertaken, and I am writing to ask if your institution would be willing to participate in such a project.

The economic worth of our wildlife has never been considered with the thoroughness which its value warrants. As you know, it has a definite economic, as well as aesthetic and recreational value. This Bureau is primarily interested in gaining by research accurate data on this subjedt and by coordinating the facts and methods developed throughout the various branches of public service engaged in the conservation and restoration of our game and wildlife species make these facts and methods available for general use.

The proposed foundations will seek the following objectives in the effort to accomplish this purpose: (1) research to correlate the production and conservation on local problems of wildlife; (2) demonstrations to show the feasibility of practical game management in obtaining a maximum population of beneficial game species, insectivorous and song birds; (3) to make available to the State game officials, land owners and students the facts and methods found upon investigation to be best suited to local conditions; (4) by means of an exchange of data between the several regional research foundations, coordinated through the U. S. Biological Survey, provide a comprehensive and inclusive compendium of technical information for public, private, and scientific use; and (5) to train men for positions as technical directors in game management and to answer the scientific problems and questions of game management which come before the State game commissions.

A. C. W.

Much duplicate effort and lost motion is apparent under the present system where a number of States are independently conducting research on similar problems, and the Federal agencies making an additional effort in all the fields. Meanwhile many problems which should be studied are left untouched.

By this proposed establishment of regional research foundations it is believed an entire coverage of the biological problems can be promoted.

There never was a greater demand for technical knowledge and proved methods, both on the part of the land owners and the State game commissions, and men with scientific training and field experience are more generally in demand than ever before, with a dearth of such men available. The Bureau of Biological Survey offers what it believes to be a successful method of meeting these demands in the following cooperative arrangement between the U. S. Department of Agriculture, the regional State educational institutions, and the State fish and game commissions, each contributing an equal amount in either services, equipment or money.

A biologist, trained in research and game management, will be furnished to your staff by the Biological Survey at a salary estimated at $2,500 to $3,500 a year. An additional allotment of Government funds to bring the Government's contribution to $6,000 annually is proposed.

The chosen State educational institution will furnish laboratory and equipment and such services from its scientific staff and assistants, research facilities, etc., as may equal the $6,000 annual funds from the U. S. Department of Agriculture.

The State game department or commission of conservation will be required to contribute cash funds, or its equivalent, according to the needs of a similar amount and in return may expect that problems of research and game management which may exist or arise in the State will become the research objectives of the foundation.

Thus the equivalent of $18,000 will be annually available for the game research foundation in each State where established.

A five-year period is suggested as most practical for our present consideration.

A. C. W.

It is contemplated that from the funds in this cooperative foundation, or other sources, experimental game management areas may be rented or purchased or that public lands may be made available for field laboratory work and demonstrations of game replenishment. It is possible that outside additional funds may be found available for the demonstration areas if the research foundation idea proves acceptable.

The general principles of research and the direction of research personnel would, it seems to me, fall naturally to the principal coordinating agency, the Biological Survey of the Department of Agriculture, about as the Agricultural Experiment Stations are now directed. But if there is a better way we would be glad to have your views.

If as expected the money is made available for this purpose we will be able to formally set up our plans within the next two months and should have the program in operation by the opening of the fall school year 1935.

It is therefore urgent that immediate consideration be given this proposal and that we receive an early reply.

Yours very truly,

J. N. Darling,
Chief.

COPY

April 9, 1935

Mr. Charles F. Thompson,
Director of Conservation,
Springfield, Illinois.

Dear Mr. Thompson:

The U. S. Bureau of Biological Survey has in prospect the possibility of setting up Regional Game Research and Game Management Stations to cooperate with State game commissions and through the agency of some of the State educational institutions to furnish scientific data and technical service in the interest of increasing the game, fur, and other valuable forms of wildlife in the States and regions served. It is hoped that in the State of Illinois such an arrangement can be successfully agreed upon and since the money, if made available, will be allocated within a reasonably short time, your early opinion as to the possibilities in your State is earnestly requested.

Many of the State game officials have signified their need for scientific game technicians to help in the solution of their wildlife problems. Some States have already hired such technical assistants but in no case has the full need been supplied.

On the other hand the U. S. Bureau of Biological Survey has accumulated a large amount of scientific data bearing on wildlife problems, game foods and game diseases. The research staff of the Survey has been handicapped by its limited personnel and also by the fact that many of the problems which confront the various sections of the country are distant from Washington.

For want of coordination between States it has frequently occurred that several States, unaware of their neighbors' activities, have been engaged simultaneously on similar research problems while other problems of equal moment were left untouched.

It is entirely practical to increase the game population and to improve the environment conducive to game propagation in most of the States to a much greater carrying capacity than now exists. Methods, including game management, food supplies, cover and predator control, can be devised which will help to bring about greater benefits to both the land owners and sportsmen.

C. F. T.

To accomplish these ends the Department of Agriculture, through the agency of the Biological Survey, suggests the following coopefative agreement provided the money is available. It seems likely that these funds will be forthcoming.

A qualified and trained biologist with capacity both for scientific research and field experience will be provided by the Department of Agriculture through the agency of the Biological Survey and funds in addition to his salary to total $6,000 a year. The game technician may be presumed to require a salary of from $2,400 to $3,200 a year. This biologist will be assigned to one of the State educational institutions to be selected on the basis of its capacity to cooperate.

The Survey's biologist will head the research in this Game Research Foundation in the State college or university. In exchange for this the State educational institution is expected to furnish laboratory equipment and services of assistants, students, etc., to make a contribution equal to that of the Biological Survey, i. e., $6,000 in equipment and service.

The State game commission, which is presumed to profit most by the research and game management promotion in the State will be asked to furnish an additional $6,000 in funds with which to carry on the expense of the field operations and applied game management principles.

The combined contributions of men, services, equipment and money will thus provide a game management mechanism which will be the equivalent of an annual fund of $18,000. It is expected that a five-year agreement will be necessary in order to accomplish the maximum results.

I am writing to you to inquire whether such a cooperative arrangement would be practical and acceptable to your State game authorities.

The fear of "Federal usurpation" and the question of domination and control may arise. Speaking for the Biological Survey, I can give assurance that the proposed foundations have no Federal objective in mind other than to supply a service for which many of the State commissions have expressed a need and desire. The foundation within your State would serve primarily in solving local and regional problems in game and wildlife maintenance.

C. F. T.

Such information as may be acquired in the research of any State must be made available for the use of all other States and to the Biological Survey. The latter proposes to serve as a clearing house and coordinator of the research stations.

As an adjunct to the research station in each State, it is planned to acquire, either by purchase, rental or use of public lands, sufficient areas on which to establish demonstration projects and field laboratories for the application of game management practices.

A further benefit to be anticipated from these foundations will be the opportunities for the training of young men in the science and methods of game management. This latter may in the long run be quite as important as any other result of the project.

The funds which have been sought are not sufficient for a complete coverage of all the States but from the responses to this invitation and others of similar nature to other State game commissions and educational institutions will be selected those States in which will be established the first research stations.

I earnestly request your early consideration and reply.

Yours very truly,

J. N. Darling,
Chief.

2

CONFIDENTIAL
NOT FOR PUBLICATION

I am assuming that none of the assembled group was compelled to come here this evening to be fed and have his thirst quenched, and that other objectives of mutual interest may have been in your minds.

Knowing my own interest in the restoration of game and wildlife environment and having heard repeatedly the threadbare phrase that "something ought to be done about it," you have the right to expect that I may have something more to offer you than friendly hospitality. I have. And what I am going to present to you has been the final concentration after boiling down all the theories, needs and experience in game management that have come under my observation during the years I have been actively interested in game conservation. I hope you will find in my suggestions a basis for mutual effort and that you will be willing to bear with me during my analysis of the circumstances which brought me to the conclusions which I shall present.

The reproduction of game by natural increase in satisfactory numbers has ceased to function owing to the almost complete absorption by advancing civilization of the habitats in which the most of our game species found congenial environment.

It is wasted effort to longer bemoan the fact that civilization has acted unwisely and dwell upon its iniquities. The disappearance of a vast proportion of our game population is an accomplished fact.

Desultory and devious methods and experiments in game restoration have been tried, most of them spasmodic, local in character and unsupported by sufficient public sentiment or financial backing to succeed and blossom into national practices.

Out of these localized experiments, however, have come some valuable data, methods and convictions which are worthy of extension into a broader field.

We have learned that a liberal game crop can be produced along with the ordinary industrial activities of civilization; that a game population is in fact quite compatible with the pursuits of agriculture and man.

We are certain that both the owners of the land and the sportsman who harvest the game crop would welcome the mutual benefits which might accrue to both parties.

We know that there is no national skeleton of an organization which can promote and demonstrate the general practices which have proved effective in game production.

We know that the most serious handicap in promotion of such practices is the lack of trained game technicians. There are only three or four States in the Union where able technicians are applying approved game management principles to their territories and no State in the Union has more than a nucleus of skilled technicians.

We know that political factors are so predominantly in control of State game commissions that changing political complexions are a serious hazard to sustained efforts in game management.

Three needs, therefore, are apparent to which we must first turn our attention:

1. More game.

2. Game technicians.

3. A sustained and continuous game management mechanism which may survive political changes.

The Federal Government has undertaken a program of restoration of the migratory waterfowl species. The exigencies of that branch of our game population naturally eliminate it from large scale production by individual efforts. It requires millions of acres of marshes and water which are not subject to dual use by man except the incidentals of climatic influence and the production of small fur bearers. The interstate and international characteristics of the migratory waterfowl species make of the problem one for Federal control.

Upland birds and big game are and probably always will be the property and responsibility of the individual States in which they exist. The most that the Federal Government can do is to see that such Federal refuges are provided as are necessary for the preservation of threatened species. Such reservoirs are now being studied and recommended to the Federal Government as a national responsibility and program. The game requirements in upland species to satisfy the needs of the sportsmen must under the circumstances be produced through activities within the States.

The upland big game problem then is the step-child, if not orphan, of our family. Fortunately restoration of these upland species is subject to rapid accomplishment under systematic management. Migratory waterfowl restoration is a 25-year haul at least. Upland and big game restoration/can conceivably be accomplished in 10 years and in half that time may show appreciable increases that will be reflected in material benefits to all parties concerned.

Going back then to our three needs (1) more game, (2) game technicians and (3) a persisting mechanism for the application of game management principles.

We have the well established prescriptions for the increase of game populations worked out and demonstrated as to their practicability by Stoddard, Leopold, Errington, Murie and McAtee. A general application of their principles to all the States and the suitable lands within them may be presumed to be the first step.

As I have pointed out, the State game commissions are not by their political limitations sufficiently stable for our purposes of a long-term program except as important collaborators. Another agency is suggested here for your consideration which may act not only as an extension and contact agency but serve the dual purpose of at the same time producing competent game technicians. In every State there is established by Federal grant and sustaining funds a Federal land grant college. These land grant colleges were established primarily as aids to agricultural education and emphasize in their faculty and curriculum the natural sciences and biological attributes of land use.

Built up under the land grant colleges are the extension agencies and directing personnel known as county agents. The latter are the technical advisers to the farmers in their districts.

Here is afforded a channel of approach which reaches clear down to the individual farm owner and land operator with all the necessary personnel and equipment excepting that of technical game knowledge. It seems a ready-made vehicle for our purposes. Wanted only is the essential quality of technical game management principles for dissemination and application.

I propose that this gathering and their associates study the ways to

provide this as yet unavailable commodity. It cannot be furnished by pamphlets, or publicity. It must be a personnel, equipped and devoted to the objective.

Let us take a single State as an example but which may be duplicated in 48 or any portion of that number which may be determined upon.

With a foundation sum of $6,000 for any one State, it would be possible to engage a game and research technician (salary $2600 to $3800) whose qualifications would be such as to head a game management research and demonstration course in the land grant college. The surplus after salary requirements to be available toward cost of field operations and applied demonstrations.

This game technician and excess funds would be donated by the foundation to the State land grant college and become a member of its regular faculty staff.

In return for this donated service to the college, that institution would be required to guarantee an equivalent of $6000 in services, class room and research facilities, scientific assistants and use of land or cash. The college would add to its student curriculum a regularly accredited course in biological research and scientific game management.

The State game commission or such management of game agency as might be existing in the State could be required, in exchange for the benefits and services rendered to the sportsmen and game interests, to contribute from their State funds $6000 in cash or its equivalent in useful paraphernalia.

There would then be a total sum of $18,000 a year available in that State in cash, personnel and contributory services, for the promotion of game research and game management applied to the specific problems and species as might predominate in that climatic, geographic and ecological region. An undetermined accretion in student services rendered during their period of work in the field laboratory is thrown in for extra measure.

Short course instruction periods for county agents, conducted by the technical staff, would be an easy adjunct to the regular annual practice of land grant college activities already existing. Experience has shown that this approach to the farm population is the most direct and productive of any methods yet devised.

If there is inclination to doubt that land grant colleges and game commissions would cooperate to the extent above suggested I can say with confidence that contacts already made with both agencies indicate a general eagerness to join in such an undertaking and that they would like to start at once.

(I would like to add that if this group finds practical virtue in this proposal for game, that a similar fish management program to which the fishing tackle industry and water recreation interests might subscribe is equally practicable and by similar methods might double the popular interest in the foundation and together with the game extension work combine to make the most formidable conservation activities in the world.)

The above suggested program is elastic and may be applied to any

number of colleges between 10 and 48 with the annual budget ranging from approximately $90,000 for the 10 States to $325,000 for 48. It may if desired by reduced to one State for demonstration of its feasibility with amplification of personnel and a more elaborate curriculum probable.

The whole program may be administered through the Government agency of the Biological Survey or it may be set up outside of any Government agency with directory personnel under the control of the supporting industries.

It may be that some of you may represent industries which would prefer to adopt a portion of the program and get the advertising credit by having your firm name attached to the project, such as the DuPont Game Management Foundation, the Remington, Winchester, Savage, Peters, Western Cartridge, or Browning Foundation. Personally I would not recommend the subdivision under independent management or the segregation into groups of varying theories and practices. The cost would be considerably increased and efficiency in the field of game management open to the possibility of serious loss and constant policy warfare.

Since we set out with the one objective of more game population it is hoped that the method which will produce the most results in a game supply for all will be chosen over any alternative administration which might add minor and temporary prestige to any one industrial firm.

Second Alternative Plan

What you can do with $200,000

Budget

18 States at $6,000		$108,000.00
Overhead administration by Biological Survey (Slightly more if done independently)		
One Chief Director.	$ 6,500.	
Three Assistant Directors	14,400.	
Travel expenses	12,000.	
Clerk hire	10,500.	
Publication and communication . . .	12,600.	
	$56,000	56,000.00
Annual purse for National Congress and Consolidated Sportsmen's Union		20,000.00
Educational campaign and text books		16,000.00
Total annual cost		$200,000.00

It may well be questioned whether in each State of the 48 a research and game management foundation in a land grant college will produce equally beneficial results. I am satisfied in my own mind that there is no State which would not show sufficient results as a result of the three way cooperative agreement to justify the investment of $6,000.

I realize, however, that there may be those who are less sanguine about the efficacy of this proposal and that they will counsel, if accepting my recommendations at all, a selective experiment covering a given number of States chosen for their most promising environment.

There are also other projects which deserve consideration if we are planning for a general remedying of present ills. Among the greatest needs in other fields are, first, a unifying of the organized conservation forces now marching under separate flags and often in opposite directions.

I have, therefore, approached the problem from another angle, setting up a stipulated sum and budgeted it to cover several items that may add to the general progress of game restoration. Tentatively, I have figured on a budget of $200,000.

I have selected eighteen States which offer the richest possibilities for a greatly increased population, to which the before mentioned three-way cooperative extension program may be carried out as outlined in my first recommendation. The eighteen States could be set up including overhead supervision for $164,000.

As a second item under the $200,000 budget, I am recommending a National Congress of Conservation Forces to be held once a year and to which all organizations of sportsmen, research technicians, leagues, associations and clubs may be invited, not only to participate but to hold their annual conventions at the same time.

The number of uncoordinated organizations whose aims are either exactly alike or similar is impressive. Each one now holds its national convention separately. To mention a few, there is the International Association of Fish and Game Commissioners, the Izaak Walton League, the American Game Association, the National Association of Audubon Societies, the American Ornithologists' Union, the Northwest Game Protective Association, etc., etc., ad infinitum. I have at various times attended all of them, and they might well each have profited by intimate contact with the others. No one man, no matter how great his enthusiasm, can afford either the time or the money to attend all.

It seems to me entirely possible and sane to set up a mechanism which would entice all the various organizations to order their annual gatherings at one selected center where they may not only preserve their individual identities if desired, but participate in a union of conservation interests which would be of inestimable profit. To mention only one of the minor gains, such a gathering would make an impressive picture in the minds of the public and those legislative bodies which are inclined to ignore conservation as a sentimental fad unworthy of serious consideration.

A National Congress of Conservation is eminently desirable; a unification of some of the national sportsmen's organizations under one head is an objective of equal importance.

To accomplish this end I have set up an annual purse of $20,000. It shall only be made available when the two major sportsmen's organizations, the American Game Association and the Izaak Walton League, and any other organizations which may choose to come in, have united into one organization. A corollary of this item shall be that no funds from the sporting arms and munitions manufacturers shall be forthcoming to sustain either organization or any uncoordinated group separately. The $20,000 shall be administered by the combined organizations and shall cover: First, the expense necessary to establish and conduct a National Conservation Congress; second, extension work in field management for game production to the exclusion of overhead in maintaining membership or central office management. The third item of approximately $16,000 shall be exclusively used to set up a series of courses in popular instruction, including illustrated lectures and moving pictures, and to produce a series of three conservation text books, one for junior grades, one for intermediate, and one for senior grades. There are none, and in spite of the fact that educators have asked for them for ten years none have been produced. (These latter projects are subject to further analysis if desired.)

One further word of explanation on my part to make my own position clear. Since I became an official of the United States Government and

entrusted with the responsibility of looking after the interests of the migratory waterfowl, the research in upland game and to some extent the interests of the sportsmen, I have not once been approached by any representative of the Sporting Arms and Ammunition Manufacturers or asked directly or indirectly to alter regulations, or in any way conduct my own affairs or the workings of the Bureau to promote their interests. I have called upon them for cooperation in the three-shell limit for repeating and automatic shotguns, and received a courteous and generous response. In the controversial question over the proposed closed season for migratory waterfowl, a question which I presume would mean a great economic loss to the shell and gun makers, there has not been one word coming out of them. Sportsmen's clubs which have much less to lose have been less silent on the subject. However, it lies largely within my Bureau to see that game is not overshot and to make the hunting regulation in one great branch of the sportsmen's field, I cannot in any way participate in a project which might be construed as an exchange of favors with the ammunition and gun makers. I have put these suggestions for a constructive program up to you, believing that by such a plan the common benefits of an increased game supply would result, and a permanent method of maintenance would be established. You may take it or leave it. You may set up your organization independently of the Government service, or you may legally entrust your funds for the project to the Biological Survey for administration.

I do not pretend to give advice in the business affairs of you

gentlemen who cater to the needs of the hunters, but I do know that men will not buy guns and shells unless there is something to shoot at. The natural propagation of game which once furnished us an almost unlimited supply, has ceased to function through the encroachments of industrial civilization. I know of no greater immediate need both for gun and shell makers and the sportsmen who maintain the industry than more game. I have given you a recipe. What will you do with it?

UNIVERSITY OF WISCONSIN
COLLEGE OF AGRICULTURE
MADISON

DEPARTMENT OF AGRICULTURAL ECONOMICS

New Soils Building
April 18, 1935

Dr. Ivey F. Lewis, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington, D. C.

Dear Doctor Lewis:

I have deferred reply to your letter of March 11 because of certain additional matters which were in the air and which bear on the work of the Committee on Wild Life Studies.

I think it probable that the Council will be asked by Mr. Darling of the Biological Survey to formulate certain advice about a new set-up in wild life research. I have assumed that this might be referred to our committee and that this business might be combined with the general analysis of the present field of game research which we have been corresponding about. One aspect of this same field is also the subject of Dr. Ruthven's supplementary report on training for game managers, dated apparently April 12, 1935.

In view of the Ruthven report, the general need of an analysis of the research situation and the probable request from Mr. Darling, I definitely recommend that $300 be set up for the purpose of travel expense for holding a meeting of our committee. If this can be done, I would like to call a meeting sometime during May.

You could then judge the advisability of our continuance on the basis of the showing made.

Yours sincerely,

Aldo Leopold

Aldo Leopold
In Charge, Game Research

vh

Airplane

MEMORANDUM

San Francisco
March 22, 1946

Messrs. J. O. Murie
Shirley W. Allen
Aldo Leopold
Kenneth A; Reid
John H. Baker

sa fellow members of the Committee on Aircraft Use in Wilderness Areas

I have just received my copy of Mr. John H. Baker's memorandum of March 12, 1946, referring to "the tentative report to the National Research Council entitled 'Air Travel vs. Wilderness - A Delemma in Conservation'."

I have not yet received a copy of that report (or draft of proposed report?), and assume my copy must have gone astray in the mails. I shall be much interested to receive one and to submit any comments that occur to me. In fact I have received no communication about the work of the Committee later than a copy of the letter of Oct. 30, 1945, from Dr. Griggs to Dr. Leopold.

As at present informed I am inclined to concur in the five numbered statements of belief with which Mr. Baker's memorandum closes. You may remember that I have previously called attention to the value of aircraft for use in policing and protecting Wilderness Areas.

nI think, however, that the last clause of Mr. Baker's No. 2 statement needs clarification; and I might or might not agree to it depending on how it is clarified. Certainly I do not think that the human values legitimately derivable from Wilderness Areas can all be obtained from aircraft, or that it would be desirable in the case of most Wilderness Areas to reduce the ratio of the number of observers on the ground to the number of observers from aircraft indefinitely toward zero (though that might be desirable in the case of some Wilderness Areas - as for example, certain arid WildernessesI know, which are extraordinarily susceptible to scarring by ground-travel of any kind, and in which the scars are very permanent.).

Also I think Mr. Baker's statement on "Navigable Water Control" greatly over-simplifies the problem. The "U.S. Engineers" have by no means a free hand to close navigable waters to any type of boat thy may choose to specify.

Frederick Law Olmsted

Frederick Law Olmsted

Dear Dr Leopold: I do not find the addresses of Messrs Murie and Allen among my papers and can therefore send my their copies of this memo to you for forwarding —
FLO.

Have forwarded
U.K.

Airplane

TELEPHONE, EXECUTIVE 8100

CABLE ADDRESS
NARECO, Washington, D. C.

NATIONAL RESEARCH COUNCIL

2101 CONSTITUTION AVENUE, WASHINGTON 25, D. C.

Established in 1916 by the National Academy of Sciences under its Congressional Charter and organized with the cooperation of the National Scientific and Technical Societies of the United States

Marey 22, 1946

Committee on Aircraft vs. Wilderness:
Olaus J. Murie,
Shirley W. Allen,
John H. Baker,
Aldo Leopold,
Frederick Law Olmstead,
Kenneth A. Reid.

Gentlemen:

Having thought some and talked to some concerning the problems of the airplane in relation to the wilderness, I am moved to set down my ideas for the rest of you to shoot at. I think I know you well enough to know that you will shoot as seems good to you. If perchance you should approve of the general approach, you will wish to add much detail.

The advent of an air age which seems just around the corner will pose quite new and entirely unforeseeable problems to the administration of our National Forests and National Parks. In any time when new and unpredictable contingencies are imminent, it is desirable to re-examine fundamental principles. I believe we should do that now and consider primarily national needs as applied to wilderness areas as a whole rather than attempting merely to block out rules for the use of the airplane in and around public reservations.

1. We Are Trustees for Future Generations.

We of this generation are the custodians and the trustees of our national heritage for the generations yet unborn. Looking back at the development of this country from the time our forefathers landed here, we blame them for not having conserved for us many of the natural resources of this country that we would wish were still intact for our use and enjoyment. It is our trust to see to it that our children's children shall not blame us for the failure to preserve for them those things in the resources that are left which they would wish to have.

I am thinking, for instance, of the records in the literature of white pines in New England with trunks seven feet in diameter. So far as I know, no white pines of any such dimensions

exist today. The great pineries of Michigan were so dispoiled that the people left on those lands were left with no means of subsistence and constitute a public problem. Formerly, the oyster fisheries of Chesepeake Bay were the richest in the world; now they are of minor consequence. Formerly, the abundance of shad running up the rivers of our Atlantic Coast and of salmon in Pacific Rivers was a matter of wonderment besides being a great economic resource. There are vast areas of this country now reduced to barren bush-land which could readily harbor wild-life of all sorts, including abundant big-game animals. We have a right to condemn our fathers for permitting such spoiliation of our heritage. Our primary duty is to see to it that our descendents cannot indict us for similar shortsighted negligence of their interest.

The first maxim in dealing with wilderness areas, then, must be that none of the irreplaceable features of the wilderness shall be impaired in any way that would lead posterity to blame this generation for the loss.

2. The Airplane as Compared with Other Means of Transportation.

It seems to me that the Committee should not be concerned primarily with aircraft as such, but rather with our trusteeship for the values of nature. If regulations should be adopted which discriminate against airplanes because they are airplanes or merely because they are new and have yet no vested rights, I believe that air-minded lobbies would, in the end, overthrow our work. We should consider aircraft along with other means of transportation - railroads, automobiles, motorboats, horses, and hiking, - and I would frame the regulation of aircraft in wilderness areas to conform with the regulations of other mechanized means of locomotion.

3. What is the Real Menace to the Wilderness?

If I analyze sentiment correctly, the fear with which most administrators of forests and parks view the prospective invasion of the wilderness by aircraft rises not so much from fear of the aircraft in themselves as from fear that air travel will greatly increase the number of visitors to wilderness areas and so, automatically, increase the menace to the wilderness. Is it not true that the amount of travel into the wilderness more than the character of locomotion involved constitutes the primary menace? If a hundred hikers a day should walk within a few yards of a grizzly-bear den, the bears would be driven out even though those hikers comported themselves with perfect decorum. If a packtrain of 20 horses traveled the same path, the effect on the bears would probably be worse.

Up to date there has been a general feeling that hikers and packtrains were not a menace to the wilderness. I submit that this is a false security, based only on the fact that until the present time the number of hikers and packtrains has not been large enough to constitute menace. When and if hikers and packtrains become very abundant, the wilderness will be gone. One of the chief sources of menace from airplanes, if not the chief one, is the conduct of air travelers after they leave their plane and go into the wilderness afoot or on horseback. If this is correct, the basic thing which should be done to protect the wilderness is to restrict the number of people who are permitted entry into it. The first thing I would recommend, therefore, would be:

Recommendation 1. All admittance to wilderness areas should be limited and controlled by permit. The number of foot travelers or of horseback riders or of canoe parties that may use a given wilderness control per day or per week without damaging it should be determined in advance. Further permits for entry should be denied after the quota thus established has been filled. I am thinking, for instance, of Ken Reid's observation that the northern lakes in the relatively barren Quetico Superior do not produce sufficient fish food to permit rapid restoration of a depleted fish population. Clearly the number of fishing permits and the catch allowed should be so regulated as to maintain the maximum fish population that this area will support.

Recommendation 2. Airplanes should be treated the same as other power-driven means of transportation. This would give rise to a series of rules somewhat like the following:

1. Commercial air travel to and from wilderness areas should be limited, as is railroad travel, to airports at the edges of parks or wilderness areas.

2. No wilderness area should be cleared for the construction of new airfields.

3. Aircraft of the helicopter type, which do not require large fields for landing, should be permitted to use public parking areas as, for instance, the zone around Old Faithful, in Yellowstone, very much the same as automobiles now are. With the increase in traffic, undoubtedly great pressure will rise to increase the area of such parking places. Increases should, however, be made very conservatively and as public need clearly dictates.

4. Hydroplanes should be subject to the same regulation as motorboats. They should be permitted on waters on which motorboats are permitted and excluded from waters on which motorboats are forbidden.

5. Hunting or shooting of any description from aircraft should be forbidden.

6. Game wardens, rangers, and other officers with police powers should be amply provided with aircraft sufficient to enforce any regulations laid down.

Very truly yours,

Robert F. Griggs, Chairman,
Division of Biology and Agriculture

RFG:jwh

NATIONAL PARKS ASSOCIATION
1214 SIXTEENTH STREET N. W.
WASHINGTON, D. C.

March 28, 1946

Dr. Robert F. Griggs, Chairman

Division of Biology and Agriculture
National Research Council
2101 Constitution Ave.
Washington 25, D. C.

Dear Dr. Griggs:

The copy of your letter on aircraft vs. wilderness has come, and I have read it with interest. You have made some good statements therein. As you request, I offer my thoughts for whatever they may be worth.

First, very briefly, the matter of admitting a quota of visitors to areas: If a quota system could be worked out, it should solve many difficulties. Perhaps it could be worked out more readily in national forest wilderness areas than in national parks. Particularly in the latter, the question arises as to how the public would react. Certainly such areas as Yosemite Valley and Yellowstone would be more bearable in summer to those who really enjoy the parks for what they are if a quota system could be achieved and tolerated by the general mass of the public.

I might tell you that the opinion was expressed to me the other day in a conversation with our new Secretary of the Interior, that the parks should be made accessible to more people, especially to those of smaller means, by more adequate accommodations. This view, coming at this time, may not pose too serious a danger for the future, however.

Numbers 3 and 4 under Recommendation 2 in your letter, seem to me to be too lenient. The question is whether planes of any kind should be permitted to fly over wilderness country. I think your suggestion to give consideration to all forms of mechanized transportation is advisable; but I cannot see helicopter landing fields at Old Faithful or hydroplanes on wilderness lakes, simply because cars and motorboats are allowed. Am I right in assuming the existance of the following three considerations? 1. Airplanes disturb wildlife. 2. Airplanes deprive visitors of full enjoyment of wild environment when circling overhead. 3. Airplanes present a fire hazard when flying over forested country.

A fine statement on the need for keeping planes away from national parks was written in a letter by Director Drury to the Sierra Club in 1944. This letter was published in part on page 25 of the January-March 1945 issue of National Parks Magazine. Mr. Drury wrote:

"...The proposal for an aerial educational program in the parks...presupposes a development in the public use of National Park Service areas which involves a change in basic policy that we are not prepared to make.

"It is not our intention to build airfields in the national parks; however, we desire to assist in finding suitable airfields as close to our areas as possible and so make the parks and monuments accessible to the flying public...Unless carefully regulated and restricted, the use of air space over national park areas will mean: 1. Introducing a disturbing element that will prevent full appreciation by the public of superlative natural wonders...2. Dispelling the sense of remoteness from the mechanized world that is inherent in the wilderness and essential to full enjoyment of the wilderness. 3. Disturbing numerous species of wildlife...

"Providing facilities within the national park areas for accommodation of aircraft will mean: 1. Clearing large areas of natural growth and grading the earth's surface, since few of the parks contain sufficient area that is adapted for use as landing fields without this modification. 2. Constructing large and conspicuous buildings for storage, servicing and repair of aircraft. Most, if not all, of these new structures would be placed in hitherto undeveloped areas."

Airplanes are an exceedingly disturbing influence when injected into the wild or wilderness scene. As lately as last Saturday I again experienced the truth of this. It was while in one of those parts of little Rock Creek Park where, with some imagination, it is possible to imagine yourself a hundred miles from the nearest habitation. Basking in the sun that filtered through big oaks and beeches, I was enjoying the silence that was broken only by the calls of titmice and nuthatches. Then came the planes. Three or four of them roared over at short intervals, and one, like a persistent fly, kept hovering. But you can't swat a plane. You just curse and take it! I have experienced this same thing in Glacier National Primeval Park. Of course, it is the great parks, the large monuments and the wilderness areas of the national forests with which we are concerned.

In National Primeval Park Standards, a copy of which is enclosed, you will find under IV. Administration, number 8, on page 7, the following: That public airplane landing fields, as well as railroad stations, be located outside park boundaries. Flying across national primeval parks, if permitted at all, should be closely regulated.

To sum up, it seems to me that the use of planes of all kinds over the great parks, monuments and wilderness areas should be outlawed. Since I would include the hydroplane, then why not the motorboat, especially the infernal, ear-splitting outboard.

Sincerely yours,

Devereux Butcher
Executive Secretary.

cc Olaus J. Murie
Shirley W. Allen
John H. Baker
Aldo Leopold
Frederick Law Olmstead
Kenneth A. Reid
William P. Wharton

Aldo Leopold

COPY

file
to dtt
N.R.C. committee

IZAAK WALTON LEAGUE OF AMERICA
La Salle Hotel
CHICAGO 2, ILLINOIS

April 8,1946
(Dict. 4-5-46)

Dr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue,
Washington 25, D. C.

Dear Dr. Griggs:

This is my first opportunity to comment on your letter to members of the Committee on Aircraft vs. Wilderness, dated March 22nd, due to our National Convention tying me up for more than a week. For the purpose of comparisons, my comments will be numbered according to the numbering of your letter.

1. I concur.

2. I concur with one slight reservation, which will be covered under 3.

3. Here my comment would be "yes" and "no". Perhaps, basically it is not the airplane but the hordes of people that the airplane would bring, who would not otherwise go into a wilderness area by accepted primative modes of travel, that constitutes the menace. However, to explain my point of view, I would say that even if we could theoretically hold the status quo as to the number of people using a wilderness area and let that present number make its own choice as to whether it used the airplane, the packhorse, the canoe or the napsack, in traveling a wilderness area, I would still be against the airplane for such purpose. The airplane as a means of travel in wilderness areas seems to be entirely foreign to the whole wilderness idea. Its use in wilderness areas would surmount the obstacles of travel which constitute both a major protection and a major appeal of wilderness areas. Canoe travel in the wilderness lake country, packhorse travel in the mountains would have about as much appeal as horseback riding down a paved motor highway if airplanes were a permissible form of transportation into and through wilderness areas -- and that would hold even if in some manner the number of people going into the wilderness areas could be held to its present number, namely those who have used them without aid of airplanes.

No one would think of going horseback riding for pleasure on a motor highway; yet, it is a valued recreation on bridle paths where automobiles are not permitted It all seems to me to boil down to a matter of intelligent zoning, and the reasons for barring the airplane from wilderness seem to me to be just as valid as those for barring the automobile from certain roads and bridle paths in city parks used by equestrians.

Recommendation 1. I seriously question both the propriety and the necessity for your recommendation that all admittance to wilderness areas be controlled by permits. I think the necessary limitations can be achieved by barring so-called improvements, such as broad well cleared trails, shelters, docks, et cetera, to say nothing of roads and landing fields. In other words, I feel that if we are able to keep wilderness areas as true wilderness areas so that there will be no facilities for any mode of travel except by packhorse, canoe or on foot, that these natural obstacles to easy, quick and comfortable travel will prove to be sufficient curbs to prevent any serious over-use. In this connection, it has been my observation that the American public has become so mechanized that while fishing and hunting areas adjacent to highways are fished to death, some others located only a few miles back from the road seem to have less fishing and hunting pressure than before the advent of improved roads (I've often intended to write an article, the title of which might be"The Lost Art of Walking").

I am not concerned about the drain on fish and game in true wilderness areas where mechanized transportation is barred. Fortunately, the great majority of those whose greed would seriously deplete the game and fish supply are in too much of a hurry or too lazy to do much fishing or hunting in a wilderness area.

The greatest factor in the depletion of fishing around some isolated resorts -- those of invaded wilderness areas or around the fringe of it -- is the icehouse and the shipping facilities, which encourages their guests to kill and ship home a lot of fish that might otherwise be put back into the water. In the wilderness area in which mechanized transportation is barred, both of those facilities are absent.

Under your Recommendation 2, I would make the following comments:

(1) O.K.

(2) O.K.

(3) Here I would have to disagree on the helicopter. It is true that national parks are a bit different from wilderness areas in that roads and automobiles are permitted in certain places, and from one viewpoint it might seem discrimination to outlaw the helicopter. However, it seems to me that there would be even a finer line of distinction to be drawn between the helicopter and any other airplane, and if you permitted the helicopter, those who wanted to use other types of planes would have much ground for crying out against discrimination. Furthermore, I think the helicopter would just raise hob with the wildlife of national parks -- and if they were permitted regular landing spots, it would be a deuce of a job to keep them from dropping down in any little meadow that happened to appeal to them. So, I'd have to say "no" to the helicopter.

(4) I admit your argument is logical here, and I might be inclined to agree if you define motorboat as a non-portable boat with the motor built into the boat, as distinguished from a rowboat or a canoe with outboard motor attached. The former could be operated only on lakes where there were resorts or where there was direct water connection from a resort lake; the latter has been used at some pretty remote lakes by carrying canoes and light outboards over the portages. I would personally like to see the outboard barred from canoe wilderness areas. Taking the Quetico-Superior as an example, it should certainly be barred from the interior lakes, even though it might be difficult to eliminate it from the boundary waters.

(5) I concur, but would like to add "Also chasing game for fun or for photographs, and that the shooting ban would cover so-called predators - like the coyote."

(6) O.K.

Pardon the long letter, but it's a big subject and I hope these observations may be of some value.

Sincerely,

Kenneth A. Reid
Executive Director
Izaak Walton League of America

kar/rca

cc: Olaus J. Murie
Shirley W. Allen
John R.Baker
Aldo Leopold
Frederick Law Olmstead

COPY

FROM THE OFFICE OF OLMSTED BROTHERS
Brookline, Mass.

file NRC Committee

April 18, 1946

Dr. Robert F. Griggs, Chairman,
Division of Biology and Agriculture,
National Research Council,
2101 Constitution Avenue,
Washington 25, D.C.

AND

Committee on Aircraft vs. Wilderness:
(Olaus J. Murie
Shirley W. Allen
John H. Baker
Aldo Leopold
Kenneth A. Reid
Frederick Law Olmsted)

Gentlemen:

I regret my delay in responding to Dr. Griggs' stimulating letter of March 22nd.

The point of view of the letter and most of its contents seem to me absolutely sound, and I hope the Committee's report will take on the scope indicated.

Accepting the "general approach", and thinking of some of the "detail" to be added, as mentioned in the first paragraph of Dr. Griggs' letter, these points pop into my head:-

1. Replying to the question in paragraph "3", page 2, I doubt whether it is quite true to say that what constitutes the primary menace is more the amount of travel into the wilderness than the character of the locomotion involved. The menace lies, I think, in an amount of travel by any given means of locomotion in excess of the optimum for that particular kind of locomotion in a given area.

What constitutes such excess in any given case will depend largely, but not wholly, upon the physical effects on the wilderness resulting from a given kind and amount of travel and from the actions of the travellers and from the creation and maintenance of things and conditions incidental to such travel. In those respects transportation by aircraft over a wilderness area — assuming landing and take-off places and their accompaniments to be external to that area — probably involves in general less direct physical effect on the wilderness than any other means of locomotion permitting observation of the area, with the possible exception of some kinds of water-transportation in certain special cases (e.g., boat transportation on the waterways of the Mangrove Forest north of Cape Sable, Florida, where the conditions make it generally impossible for people to go ashore from their boats, and where thousands of people could circulate by boat without producing any change whatever in the natural conditions of the forest through which they travel and without producing any permanent change in the waterways other than the invisible deposit on their bottoms, under the black waters, of things cast overboard, plus some nasty floating waste papers, etc., which could be cleaned up after them). On the other hand, automobile transportation, both in rough terrain where road-grading scars are severe, and also in gentle terrain where cars can be driven off roads at random and and make their own scars indiscriminately widespread, is probably the worst in its inevitable direct effects on wilderness conditions; with railroads a close second. It would not be difficult to cite cases where the mere construction of a motor road through a rugged mountainous wilderness, with side-hill cuts and fills, would greatly and permanently impair its wilderness values even if no more than one automobile a year were to travel the road. The quantity of travel is here clearly less important than the qualitative effect of the means of travel; although indefinite increase in quantity of automobile travel would add cumulatively to the initial damage through actions of the travellers, and at some stage the increase in quantity of travel would make itself the major destructive influence.

But there are also to be considered, in addition to direct physical effects of a given kind of travel on wilderness conditions, what may be called effects on wilderness values due to reactions of the nervous systems of human and other animals to various means of locomotion and their accessories. Passing up the interesting and difficult questions about the nervous and other reactions of grizzly bears, antelopes, birds and other wild animals to given numbers of hikers or pack-trains, automobiles, motor cycles or busses, canoes or motor boats (with and without mufflers), and various types of aircraft, etc., etc.; it is hardly to be denied that there are marked differences in the psychological effect upon human visitors to wildernesses who are appreciative of wilderness values between relatively "primitive" types of transportation (such as hiking, canoeing, and the use of riding and pack animals in small groups long associated in people's minds with wilderness and quasi-wilderness conditions) and mechanized means of transportation strongly associated with non-wilderness conditions, especially those means of travel producing loud noises and foul smells disturbing to wilderness conditions.

I do not mean to say that there is any kind of transportation, in any kind of wilderness, which can be indefinitely increased in amount without reaching a condition of diminishing returns in wilderness values. But I do believe that in any given case the kinds of transportation used are, in principle, no less important in determining results than the amounts of each.

2. In considering plans for kinds and amounts of transportation conservatively permissible in any given wilderness, a point of considerable importance and interest in relation to some kinds of mechanized transportation is that passengers therein are practically prevented from coming into personal physical contact with the constituents of the wilderness, with injurious results to the latter by breakage, wear and tear, etc., unless and until they leave those means of transportation in the wilderness and go about on their own legs or by other means of transportation than that which brought them in. This is manifestly true of

aircraft, including those of helicopter type. It would be true of a cableway, or a railway, or a monorail type of conveyance (at the price of more or less conspicuous artificial structures introduced into the wilderness). It would be true of gyroscopically stabilized two-wheeled vehicles running on narrow trails, if practicable. And if the places where people were permitted to leave such "non-contact" means of transportation within a wilderness were carefully selected, and if the numbers so leaving them were suitably limited (and advised and "policed"), there is little doubt but that a great many more people could more or less satisfactorily observe and enjoy the essential qualities of some wildernesses by such means, without at the same time progressively and cumulatively impairing them physically, than could do so by the more "primitive" means, such as hiking and riding, with or without pack animals, which invite to rambling anywhere and everywhere and to spreading wear and tear throughout the area instead of confining it to limited places that can stand it with a minimum of progressive "de-naturing". Yet most of these "non-contact" mechanized means of transportation are apt to be psychologically injurious to wilderness values.

3. Dr. Griggs is certainly right in indicating that, whatever means of transportation may be appropriately permitted in any given case, limitation of the amount of use to a maximum that is found by cautious experiment to be not progressively destructive of the values at stake is the final answer.

But the problems of rationing such permits will be extraordinarily difficult and troublesome. And one of the advantages of requiring travel within wilderness areas to be only by certain "primitive" means of transportation (such as hiking and backpacking, or riding on animals with or without pack animals in limited numbers) is that the considerable physical exertion required, and the necessity of foregoing many comforts and conveniences characteristic of modern civilization, automatically limit travel in such areas to those who enjoy the wilderness enough to pay that price. It unfortunately

excludes some who are physically unable to pay that price, but it is less inequitable than sale of the privilege to the highest cash bidders and certainly less so than arbitrary selection of permittees by officials subject to political pressure; and it has been fairly effective thus far in keeping the numbers of wilderness travellers within tolerable limits, as Dr. Griggs admits.

If and when travel within a wilderness by such "primitive" means (as distinguished from "non-contact" means of mechanized travel) becomes dangerously large, might it not be kept within reasonable bounds by limiting it to even more primitively arduous conditions of wilderness travel? For example: a closer limit on the number of pack-animals and hired "wranglers" and other hired help a given number of visitors were allowed to take into a wilderness would exclude a good many whose interest in wilderness conditions is not great enough to induce them to dispense with unessential comforts that are purchasable in a wilderness only at the price of paying more cash and also subjecting the wilderness to more wear and tear per visitor-day.

4. Finally, more educational effort applied to prospective wilderness travellers, and more careful and intelligent "policing" of wilderness areas by rangers equipped with the right kind of transportation (by air and/or otherwise) for each kind of wilderness is basic. Each kind of wilderness presents its own special problems, and the Committee could do a very useful job by discussing actual or hypothetical sample cases in some detail.

Sincerely,

(Signed) Frederick Law Olmsted

Copied from Mr. Olmsted's
manuscript (written in California)
and typed in his absence.

NRC Comm
file ~~USOC~~

UNIVERSITY OF MICHIGAN
ANN ARBOR
SCHOOL OF FORESTRY AND CONSERVATION

April 26, 1946

To Dr. Robert F. Griggs and
fellow members of the Committee
on Aircraft vs. Wild erness
Olaus J. Murie
John H. Baker
Aldo Leopold
Frederick Law Olmstead
Kenneth A. Reid

Gentlemen:

My long silence since receiving Dr. Griggs' thoughtful letter of March 22 is not entirely due to a crowded schedule, although it would help if a few more conscious hours were available in the day. Rather, the le tter and replies from other members of the committee have done so much to my thinking that I have only now come to a place where I could put my ideas on paper. I am sorry to be the last to reply.

1. I agree with the "first maxim": That impairment of irreplaceable features of wilderness must not be permitted so as to bring blame from our children on us for our "management." I use the la tter term advisedly for management in a sense is exactly what is indicated. Moreover, beside being an advocate of wilderness areas as such, I am (I hope) a conservationist, a maintainer, a user, and an extender of use. I should like not to reduce the number of wilderness visitors but to share the thrill of wilderness use up to the point where such use can be tolerated with safety to the irreplaceable features. (A nice point to be determined.)

A wilderness is possessed of great reproductive vigor, and I am wondering if we must not be sufficiently realistic to settle always for slightly less than perfect wilderness and even to prize recaptured areas such as the roadless portion of the Superior National Forest, the Maroon Bells wilderness on the Holy Cross National Forest, and some of the once-logged areas within Yosemite National Park. Certainly we call these wildernesses, and we guard jealously their values, whatever they may be.

2. I do have the feeling that aircraft present a problem which is not presented by other allowed "mechanized" methods of access and travel, save in the instance of the motor boat. Somehow I can't put walking men, saddle horses, pack trains, and canoes into the same class as motorized travel devices. It is conceivable that too many of any of these at one time

could permanently destroy certain wilderness values. On the other hand, they are the accessories of visiting and using wildernesses at present. The only really mechanized device allowed is the motorboat and "kicker" which it seems to me should be forbidden. I have little faith that (a) noise, (b) elaborate service facilities and (c) almost insurmountable difficulties of control (low-flying for example) will cease to be distinctive problems in permitting airplanes to land and take off from wilderness areas.

3. I have discussed this somewhat under 1. Regulation of numbers of people and seasons of visits seems appropriate if wildernesses are to be used but not used up. On the other hand I wonder if severe bag or creel limits; well-designed but inoffensive trails; resting of over-used meadows, and possibly periodic clean-up of favorite camping spots might not increase the capacity of wildernesses for human use without exposing irreplaceable features to destruction. Unless more than superficial use of wildernesses can be made by those well enough disciplined to be worthy of such visits, the wildernesses become the gold in Fort Knox, so to speak, and not living values or contributors to our culture. One cannot savor a wilderness by flying over it, be he pilot or mere passenger. (Probably administrators do fear increasing numbers of people which the airplane might bring into wildernesses. I think they should fear the attitude of those particular people toward wilderness values. I cannot help feeling that these flying visitors would take such values more lightly than visitors who prized the attractions and the experiences enough to "earn" the visit by unmotorized travel. And please don't anyone say that such travel is analogous to entering an art gallery on hands and knees.)

Recommendation 1. I agree.

Recommendation 2. I agree to certain of the rules but not the principle as stated, because size, noise, and service facilities on the least scale, in themselves, destroy one of the distinctive wilderness values to too great an extent, namely, solitude. I agree to rules 1, 2, 5, and 6. Rules 3 and 4 may have merit as realistic approaches to defense against inevitable pressure from air-minded groups, but I am reminded of "the camel's nose." The similarities between motorboats and hydroplanes on the one hand and helicopters and automobiles on the other are more than I can understand. Also, a National Park and a wilderness are not the same and I should fear that a helicopter pilot would have a hard time seeing why, if he could use parking area at Old Faithful, he could not use any mountain meadow in the park.

Sincerely yours,

S. W. Allen

TELEPHONE, EXECUTIVE 8100

CABLE ADDRESS
NARECO, Washington, D. C.

Aircraft

file

NATIONAL RESEARCH COUNCIL

2101 CONSTITUTION AVENUE, WASHINGTON 25, D. C.

Established in 1916 by the National Academy of Sciences under its Congressional Charter and organized with the cooperation of the National Scientific and Technical Societies of the United States

April 30, 1946

Committee on Aircraft vs. Wilderness:
Olaus J. Murie
Shirley W. Allen
John H. Baker
Aldo Leopold ✓
Frederick Law Olmstead
Kenneth A. Reid

Gentlemen:

I have the enclosed letter from Hillory A. Tolson, Acting Director of the National Park Service, relating to our problem.

Though the wording of the regulation is not very clear to me, I understand that this means that the Civil Aeronautics Authority rules that all agencies having jurisdiction over federally owned lands can regulate flying over and landing on such lands. I think it would be well to look up the regulation a little further and make sure that this is what it really means. The language quoted does not quite carry that connotation to me.

If, however, this is correct there remains the problem of wilderness areas under State control such, for example, as the Quetico-Superior area. Perhaps the Committee could do something in the way of recommending that such authority be extended to the State governments as well as to Federal agencies.

Very truly yours,

Robert F. Griggs

Robert F. Griggs, Chairman
Division of Biology and Agriculture

RFG:ho

C
O
P
Y

UNITED STATES
DEPARTMENT OF THE INTERIOR
National Park Service
Chicago 54, Illinois

April 22, 1946

Dr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington 25, D. C.

Dear Dr. Griggs:

Mr. Drury has requested me to bring to your attention section 60.102 of the latest Air Traffic Rules published by the Civil Aeronautics Board, which provides as follows:

> "Aircraft shall not be operated within restricted air-space areas contrary to the restrictions prescribed by the agency having jurisdiction over such areas."

It is considered possible that if regulations are issued by the Secretary to limit flight of aircraft to a minimum altitude of 2,000 feet over national parks and national monuments, such regulations will be recognized by the Civil Aeronautics Board as establishinb restricted airspaces over those areas. We are taking steps to bring to the attention of the Secretary and the Civil Aeronautics Board the proposal to adopt such regulations.

Sincerely yours,

/s/ Hillory A. Tolson
Acting Director

Aircraft

September 17, 1946

Mr. Olaus Murie
Moose, Wyoming

Dear Olaus:

I have read the report carefully and am ready to stand behind it in toto. Answering your questions:

1. Yes
2. Yes
3. No
4. No
5. I think it should be a continuing committee if that is consistent with NRC policy. I think the question has only started, and a standing committee could gather in the data as they become available.

I especially sense trouble in these wilderness area hunts made by plane because there are no roads, to reduce range eaten out by big game because there are no predators. That is dangerous, and the situation is a potential threat to many areas. Having made the initial error of eliminating predators, we must now take planes or roads, and like it.

I suggest that the report be "translated" into a brief popular form. The Society will need a short version for educational purposes.

With personal regards, yours ever,

Aldo Leopold

cc Zahniser
Dr. Griggs

Moose, Wyoming
September 7,1946

Wm. J. P. Aberg
Shirley W. Allen
John H. Baker
Aldo Leopold
Frederick Law Olmstead
Kenneth A. Reid

Gentlemen:

In the recent attempt to bring about a meeting of our committee at some central point your responses to the questions circulated were prompt and specific. Unfortunately, I found it difficult to establish a satisfactory date, what with my own commitments added to those of several members, and it seemed advisable to make a fresh start.

But in the meantime, rather than let our business drift completely, I undertook to assemble our material in a tentative report. I enclose a copy for your study. In compiling this I was conscious of the helpful and stimulating outline of suggestions circulated among us by Dr. Griggs. Your individual responses to these gave me, more than anything else, the viewpoints of the committee members on the question before us and led me to venture to write as I have on behalf of the committee. I believe each of you will find yourself quoted here and there verbatim, and I included much of the outline given us by Dr. Griggs, modified here and there by the obvious majority opinion of the committee.

Please study this report critically. I would be interested in the following:

1. Do you agree with the contents of the report?
2. Has it been properly presented?
3. Is it too long, considering need for effectively presenting our findings?
4. Do you feel that we should still have a full meeting of the Committee--or may this report, with your additions, deletions or other suggestions, properly represent what we are able as a committee to present to the Research Council at this time?
5. Probably we have not the last word on the legal questions bearing on Wilderness. Would you consider it wise to suggest that we may possibly obtain further data by continuing the committee, or should we present a final report, leaving for the federal agency the task of working out further legal refinements?

Very truly yours,

O. J. Murie

O. J. Murie,
Chairman

REPORT OF THE COMMITTEE
on AIRCRAFT USE IN WILDERNESS AREAS

INTRODUCTION

Aviation is now recognized as one of the most potent developments of recent times, affecting world politics, economics, and the social structure. The airplane has made war so destructive that civilization itself is jeopardized. So important is the advent of the airplane that governments are greatly concerned over its effect on world trade and economy, and its regulation is the subject of international conferences. "Air Affairs", an international journal, has recently been launched, the first number having been published in September 1946. To quote: "It is the purpose of Air Affairs to stimulate, encourage, create academic discussions and research programs, investigating the impact of aviation upon our social institutions ....to the end that planners on all levels throughout the world may more efficiently enlarge our understanding of the relationship between technological invention and social change, between aviation and civilization."

In the first issue of Air Affairs appears an article by Harold C. Urey, "Atomic Energy, Aviation and Society." The reader is here again reminded that inventions which have great potentialities for usefulness may also require control and regulation to avoid harmful results. It seems significant that Mr. Urey links atomic energy, aviation, and society in his discussion. One paragraph reads:

"These two inventions [airplane and atomic energy] for which analogies can be secured only by going to prehistoric times, will profoundly change all of human society on the face of the globe. It is to be expected that they will change our governmental structure, our modes of living in everyday life. They will change them either for better or worse. It is not possible for us to expect to prevent such developments. The most we can hope for is that we can guide them into useful rather than destructive channels. These inventions pose for modern men the greatest problem of this century, and also the greatest opportunity of our times."

At the present time nations generally are concerned with the broader aspects of aviation--such urgent matters as the airplane in war and international traffic. But concurrently we are faced with domestic problems, the more intimate aspects of the airplane in our daily lives. Under the title, "The Coming Massacre in the Skies" H. A. Shanklin, in the December 1945 issue of Coronet Magazine, pictures his fears for mass flying. He says: "I think the time for frank talk about civilian flying is right now, today. Frank talk and prompt action may prevent some terrific headaches later on."

"Mass flying can be a tremendous Boon for America and for the aviation industry. Or it can be a headache. It all depends on how we handle it."

The author is a veteran pilot of the transport lines and has had varied experiences with private planes of all kinds since World War I.

Game Commissions throughout the country are concerned over what is happening to field sports and the game supply by the growing use of airplanes. First steps for control are appearing in the Game codes. In Wyoming it is unlawful to hunt from a plane.

Individuals from all parts of the continent are worried about the possible effect of unregulated use of airplanes in recreation. Government agencies are studying the problem. It was logical then, and in keeping with the trend of thought on this question that the United States Forest Service should request the National Research Council to appoint a committee to undertake a study of aircraft use in wilderness areas, and to submit recommendations.

The first question arising among the members of the committee was "What should be the scope of its inquiry?" Should the study be directed only toward the administration of the specified wilderness areas of the national forests, or should it include national parks and other public lands of recreational significance? It soon became apparent that in order to evaluate the impact of aircraft on wilderness recreation it was necessary to view the problem in its broader implication, for recreation today transcends the boundaries of any one type of land classification and "wilderness" is a term that may apply in varying degree to recreation and land units outside of the official "wilderness" areas. Accordingly, arriving at the conclusions presented herewith, the committee has investigated situations as they appeared on national forests, national wildlife refuges, national parks, and in varying degree on hunting ranges generally.

In the conduct of our work we have had the benefit of valuable advice and suggestions from Dr. Robert F. Griggs, Chairman of the Division of Biology and Agriculture of the National Research Council.

1. We Are Trustees For Future Generations.

We of this generation are the custodians and the trustees of our national heritage for the generations yet unborn. Looking back at the development of this country from the time our forefathers landed here, we blame them for not having conserved for us many of the natural resources of this country that we would wish were still intact for our use and enjoyment. It is our trust to see to it that our children's children shall not blame us for the failure to preserve for them those things in the resources that are left which they would wish to have.

Formerly, the oyster fisheries of Chesapeake Bay were the richest in the world; now they are of minor consequence. Formerly, the abundance of shad running up the rivers of our Atlantic Coast and of salmon in Pacific rivers was a matter of wonderment besides being a great economic resource. Formerly, too, we had vast areas of rich topsoil which, through malpractice and indifference, we have allowed to wash out through our great river systems into the sea. We have a right to condemn our fathers for permitting such spoliation of our heritage. Our primary duty is to see to it that our descendants cannot indict us for similar shortsighted negligence.

The first maxim in dealing with wilderness areas, then, must be that none of the irreplaceable features of wilderness shall be impaired in any way that would lead posterity to blame this generation for the loss.

Wilderness as a quality inherent in the American terrain has become recognized as a natural resource susceptible of impairment or destruction, as in the case of our vanishing salmon or topsoil. Indeed, there is a world-wide awakening to the value of the wilderness concept as a desirable social element. Note the rising voices in Britain urging the protection of what remains of natural, or near-natural, conditions. For example, A. G. Tansley, in "Our Heritage of Wild Nature" speaks with authority, being a qualified ecologist, in his discussion of the problem of preserving wild nature in England--including animal and plant life and the native landscape. He discusses the efforts of such organizations as the Council for the Preservation of Rural England, and other groups. Even during the war, in 1941, on the invitation of the Society for the Promotion of Nature Reserves, delegates from societies and other bodies interested in natural history, convened as The Conference on Nature Preservation in Post-War Reconstruction. Then in 1942 Sir William Jowitt, then chairman of the Ministerial Committee concerned with reconstruction problems, invited the Conference to create a committee to advise the government on matters relating to Nature Reserves. The result was the Nature Reserves Investigation Committee.

Colonel Stevenson-Hamilton, in "Our South African National Parks," describes some of the efforts to preserve Nature on that continent--efforts which were exerted just in time, apparently, to save from destruction some remnants of that wilderness so rich in wildlife.

Throughout the natural history literature of Germany, Denmark, and other European countries is evident a rising force for the preservation of primitive Nature, even though in a more modest way in those long occupied and man-handled lands.

This universal yearning for natural conditions has had a strong growth in America. Yellowstone National Park was established as long ago as 1872--to preserve the so-called "wonders" of that region. Natural phenomena were so striking there that they easily inspired an urge for their preservation. Since then we have experienced a refinement in our appreciation of the unspoiled landscape. Many other national parks have been established, based, not necessarily on outstanding, strange physical phenomena such as geysers and thermal springs, but on unmarred and inspiring scenery, and the opportunity for a certain degree of contact with the "primitive." Then, finally, came the establishment of primitive and wilderness areas by the Forest Service, which in a narrower sense was the ultimate in recognition of Wilderness value. For in such areas the essence of wilderness was clearly defined and regulations were formulated for their retention in the terrain.

We may wonder why America is already awakening to the need for the Wilderness environment while we still have some true wilderness remaining--while, by contrast, Europe let practically all of it disappear. May this not be because only at this stage in world civilization has mankind reached the point where it easily has the wilderness at its mercy, and is groping toward that efficiency in evaluating its environment by which it can appreciates the wholesome influence of wilderness? It is recognized that the opportunity to travel in the wilderness

develops self reliance and a series of skills in Woodsmanship which have social values as antidotes for mechanization.

Certain species of wilderness wildlife, not compatible with civilization (the wolf and mountain lion, the fisher and marten, and certain birds) will disappear unless provided with wild habitat.

Research in wild animal and plant communities furnishes a necessary yardstick for measuring normalcy in managed (Agricultural) communities. Since such research has barely started, the extinction of wilderness would, in the long run, deprive agriculture of a necessary base-datum. This consideration is ecological and economic, and fully susceptible of proof to those who are aware of recent trends in ecological science. The scientific value of natural areas is also given attention in the post-war planning in England, referred to above.

In addition to these formally dedicated and catalogued areas, wilderness in lesser degrees of size or purity has entered into the land-use plan of many state forests, state parks, and private recreational holdings. A few universities have begun to acquire small tracts for ecological research and teaching, on which forest, prairie, bog or other plant communities either persist or are being rebuilt.

The fact remains that regard for Wilderness, whether it is found in its pure form on national forests, in the wilder parts of national parks, or even in a more or less mutilated form elsewhere, is growing in America, and appears to be accelerated in recent years. The Committee is keenly aware of this trend and feels that whether or not we succeed in keeping wilderness in America depends on whether conservation leadership, in or out of our Government, is able to hold this natural resource until a more general appreciation of its value becomes established.

The Committee felt it desirable to review here this conservation trend. It believes, accordingly, that the need for wilderness protection is imperative and exists as a fundamental premise on which to base any studies of the effect of aircraft.

2. The Effect of Aircraft on Wilderness

To the wilderness enthusiast aircraft is obviously a destructive factor in such primitive terrain, which hardly requires proof. And it must be admitted that certain intangibles are present which are not readily demonstrated except to those who have experienced them. Possibly we may say that the effect of aircraft is two-fold: 1. It is an intrusion to the wilderness traveler seeking the solitude and inspiration which is the essence of wilderness. 2. It will create such heavy use of wilderness that its values will be destroyed.

1. Aircraft as an Intrusion.

There are to be considered, in addition to direct physical effects of a given kind of travel on wilderness conditions, what may be called effects on wilderness values due to reactions of the nervous systems of human and other animals to various means of locomotion and their accessories. It is hardly to be denied that there are marked differences in the psychological effect upon human visitors to wildernesses who are appreciative of wilderness values between relatively primitive types of transportation (such as hiking, canoeing, and the use of riding and pack animals long associated in people's minds with wilderness

and quasi-wilderness conditions) and mechanized means of transportation strongly associated with non-wilderness conditions, especially those means of travel producing loud noises and foul smells disturbing to wilderness conditions. A member of the committee has made the comment: "You can't have everything in the same place. Mechanized transportation and wilderness are arch enemies. All the charm in wilderness and all the charm in primitive modes of travel, such as knapsack, pack-horse and canoe, fade into oblivion when others can cover the same route by automobile, airplane or motorboat."

As one consultant put it: "It goes without saying that we should guard the flora and fauna and other tangibles of the wilderness. But I think it is equally incumbent upon us that we preserve an intangible, namely, the incomparable sense of remoteness which comes to those who, upon entering the wilderness, place themselves beyond the "sights and sounds" of civilization. This is not a part of the physical wilderness, but it is, nevertheless, an attribute of wilderness which is exceedingly precious and which the airplane has the capacity to destroy, even though it does not land a single passenger in a wilderness area, and even though not one square foot of water or land is disturbed by its flight."

A member of the committee says: Traveling by pack or canoe involves wilderness skills, whereas travel by motorboat or plane does not. The conservation of wilderness skills is to my mind part of our objective."

Another member says: "The airplane as a means of travel in wilderness areas seems to be entirely foreign to the whole wilderness idea. Its use in wilderness areas would surmount the obstacles of travel which constitute both a major protection and a major appeal of wilderness areas."

It is the experience of the committee that people generally, who are interested in wilderness, believe that the use of aircraft destroys the wilderness as such and they strongly resent its presence in such places. In June and July of this year the chairman has an opportunity to travel by canoe in the roadless area of Superior National Forest and the adjacent Quetico Park in Canada. Airplanes were already beginning to land on the lakes of this region and the fears of those quoted above as to the distuptive effect of airplanes were fully realized. At the conclusion of the wilderness trip there was an opportunity to visit two lakes in the area by plane, on a routine administrative flight by Forest Service personnel. It was noted that distances were dwarfed, and there was no opportunity to ~~ga~~ experience the special appeal of a land type, or the intimate acquaintance that grows on one by normal wilderness travel. The lakes visited were reduced to commonplace by too close association with the town from which we had taken off but a few moments previously. A vast stretch of country became easily viewed in a single glance, oversimplifying a terrain that should hold for one the opportunity for gradual emergence of new discoveries and personal events. Assuredly anyone seeking wilderness experience would not normally use a plane. A pilot friend who had flown much "over the hump" into China during the war explained that after the initial novelty of flying had worn off, he lost interest. Country looked too much like a map to him, and he missed the normal landscape features. Incidentally, he is a photographer, sensitive to beauties of the land.

Another member of the committee expressed it as follows: "One cannot sever a wilderness by flying over it, be he pilot or mere passenger. I cannot help feeling that these flying visitors would take such values more lightly than

visitors who prized the attractions and the experiences enough to 'earn' their visit by unmotorized travel."

On this visit to northern Minnesota it was noted that among those concerned with recreation there was widespread concern over the incipient intrusion of the airplane into the wilderness. This same concern was expressed by the few Canadians that were met north of the border.

There appears to be no question about the disturbing effect of aircraft in wilderness among conservationists concerned with wilderness and among those who seek it for that kind of recreation.

2. Aircraft would Crowd the Wilderness and Thus Destroy It.

One of the problems that will face the Wilderness administrator will be crowding. This has already become acute in many national parks. Yellowstone Park is often so crowded that many who specially seek the primitive and restful qualities in our landscapes, refuse to go there. It is true that others who are more inclined to be gregarious enjoy themselves in spite of the crowds. In Teton National Park we have witnessed the evolution of its use from very simple beginnings, when people could camp on the very shores of the lakes without harm to the environment, to the present time when huge crowds have made it necessary to protect the shores and the limited areas suitable for camping are practically overflowing, the crowded condition threatening the charm of the lakes in their mountain setting.

On Teton National Forest, adjacent to the above mentioned park, so many commercial hunting camps for the accommodation of elk hunters are established in the autumn that it has been found necessary in some areas to require the outfitter to haul in hay for his horses, in order to protect the range. Indeed, even in years past, it has been a common experience to arrive at strategic camping places on Teton Wilderness Area, and find the meadows so closely grazed by horses of campers that it was difficult to find a suitable spot in which to picket a horse.

One consultant cites a similar condition in the Great Smokies: "The Chimney Tops, which are a fine and spectacular example of a heath bald, are being seriously damaged through overuse by hikers. Vegetation is being trampled and erosion is setting up in the peaty soil."

It is true that some of the congestion cited occurs in areas accessible by automobile. But some was in what may be classed as wilderness. It was noted, also, that in the roadless area of Superior National Forest of Minnesota there were a surprising number of canoe parties--so many, in fact, that at times this "wilderness" was made to appear rather tame. There are, of course, other areas that have not yet been used extensively.

Two things are suggested by the overuse trend just cited. One is the logical conclusion that the use of the airplane would only aggravate the situation by adding to the wilderness travelers a horde of people who would visit the areas for a brief week-end of fishing or hunting, people who are not necessarily interested in wilderness as such, but who would exploit the fishing or hunting possibilities in desirable locations which had hitherto been kept desirable by being wilderness. It is easy to visualize the coming helicopter, parking in

impressive numbers on high mountain meadows, and aircraft of all descriptions filling the wilderness with crowds and equipment.

The other thing suggested is that we undoubtedly have not planned on a big enough scale for recreation. There is a like parallel in our wildlife situation. We recognize wildlife as one of our prime resources , yet not until recently have we awakened to the need for supplying it with enough suitable habitat. Similarly, we recognize generally the imprtance of recreation, both as a huge industry and one of the foremost social needs. Yet we do not seem to have provided for it adequately. We may soon realize that the special areas we have allotted to recreation are far too small, having been conceived in a period when recreation was in its infancy and when land had not yet been so extensively squeezed into a straight jacket of economic and private use, forcing people more generally into the formally designated recreation areas. Wildernesses, especially, require space for effectiveness. Rather than aggravate the problem of congestion by introducing the aircraft as a recreation instrument, it would be logical for us to take the growing demand for wilderness seriously, attempt to anticipate the need by enlarging wilderness as well as other, recreation areas, and postpone any measures for curtailing unmechanized travel until we have made certain that we can not expand the wilderness program further. While the curtailment of normal wilderness travel looms as a potentiality, corrective measures can be taken to postpone such measures, such as giving certain overused meadows a rest, strict bag and creel limits, clean up of camp sites, and similar efforts.

An effect of crowding by the use of aircraft would certainly be the depletion of the fish supply. This would apply particularly to the roadless area of Superior National Forest in northern Minnesota. These lakes afford reasonably good fishing such as permanent resorts or regular trips in by airplane would present, because the productive capacity of their waters is very much lower than lakes lying in better soil farther south. Therefore, if the airplane were allowed to go unchecked it would be only a very few years before the fishing incentive would no longer exist. Aside from damage to the wilderness, the airplane would destroy its own usefulness as a means of reaching the former wilderness fishing.

State wildlife administrators in the west have expressed their concern over the possibility of planes dropping in on remote mountain lakes for fishing. It would be difficult to maintain any creel check and the fish supply would very soon be exhausted.

3. Aircraft in National Parks

National Parks are penetrated by roads and contain developments for the accommodation of large numbers of visitors. However, in most cases there are large areas of back country that constitute wilderness. There is developing a thought that careful zoning should apply in national parks--restricting confining roads and developments to certain sections in such a way that maximum areas of wilderness may be left unmarred by such intrudions.

A difficulty exists here in the matter of aircraft control. It may be argued that where automobiles are permitted, airplanes should be permitted also. This appears theoretically sound. Yet there are practical difficulties. Automobiles may be controlled and are confined necessarily to designated roads. If one visualizes an equal number of airplanes in the park, landing, taking off,

filling the air, it is easy to imagine the administrative difficulties. The aircraft, particularly helicopters, could hardly be confined to designated areas, especially if one keeps in mind the thousands that could come into the area. They would undoubtedly drop in on remote meadows for fishing or camping and the wilderness would be invaded as on any national forest. Certainly the peace and tranquillity of a national park would be broken by the coming and going of aircraft.

The action already taken by the National Park Service is undoubtedly wise. National Park personnel is overwhelmingly in favor of excluding aircraft from within the actual boundaries. There are landing facilities in several park areas, established before the question became acute or the boundaries were set. There is one on Jackson Hole National Monument, relatively near the southern boundary; one in Mt. Mc Kinley National Park, a simple landing strip, near the railroad and the edge of the Park. There are some provisions for landing facilities in contracts with concessioners in Grand Canyon, Yosemite, National Parks and Boulder Dam National Recreation Area.

Scene and solitude are resources high in the list of values which the National Park Service is charged to conserve. Any mechanized equipment introduces noise, odors, and use of landing or parking space, all of which tend to destroy the wild and solitary nature of any area and to disturb the traveller who seeks solitude, quiet and an unmarred natural scene. It is true that automobiles are already present in designated areas. But in order to prevent further chaos and further damage to areas set aside specifically to preserve natural conditions it seems wisest to handle aircraft the same as railroads and transcontinental buses; confine landing fields to locations at the boundaries, along with railway stations and bus terminals.

The following extract from the annual report of the Director of the National Park Service for the fiscal year ending June 30,1944 (p. 219), appears to be a very reasonable attitude on the part of the National Park Service:

"Airplanes. Recognizing the tremendous impetus given to air travel by war-caused developments in aviation, the Service is looking ahead to its possible effect upon the national parks and has discussed the problem with representatives of the Civil Aeronautics Authority. Commercial and private aircraft will increasingly become a popular mode of transportation to the national parks, and will have to be reckoned with. It is felt, however, as in the case of rail and bus terminals, that airplane landing fields should be located outside park boundaries."

"There will be a period of experimentation in this new and highly important field of air travel, and this phase of trial and error should not be allowed to impair the national parks. Experiments with air-transport, helicopter, or private plane should be carried on in other areas. When aircraft construction and use are stabilized, or when conditions change materially, this policy will be reviewed. Meanwhile, it is obvious that the construction of landing fields and auxiliary buildings would intrude upon park scenery; and that the noise and confusion of airplanes would disturb the native wildlife and would tend to destroy the character of these great areas as nature sanctuaries, especially affecting their atmosphere of serenity and peace, wherein lies their value for inspiration, recreation, and relaxation."

4. Wildlife Refuges

Wildlife Refuges are often not extensive--and are not necessarily designed for recreation. Probably there will be little demand for airplane travel in many of them. In some refuges there are opportunities for maintaining a portion at least as original natural habitat in more or less inviolate condition. It may become advisable in some, or perhaps all instances, to exclude aircraft because of possible disturbances to nesting birds or the danger of otherwise harming the wildlife. Wildlife Refuges are extremely diverse in character, varying in size from a relatively small body of water or a few acres, to areas containing many thousands of acres. Some of them share wildlife production with livestock use and fishing, occasionally some hunting. This is a matter for further study, and the Committee is not in a position to offer blanket recommendations applying to refuges as a whole. There is, of course, a need for patrolling, and undoubtedly aircraft should be used for that purpose where it can be used to greatest advantage.

5. Aircraft and Wildlife.

It is a little early to fully evaluate the effect of aircraft on wildlife, though certain indications may be significant. Animal species react differently to the presence of flying planes, and of course much depends on the altitude of the machine. Apparently ducks arenot easily disturbed, but geese are readily flushed. Big game animals such as antelope and elk may be disturbed by low flying. However, it seems likely that the more important and fundamental biological effects from the use of aircraft in wilderness or other wildlife ranges will be indirect and secondary, occasioned by changes in the habitat resulting from crowding, the need for accommodations, attendant on mass flying in certain areas, and resultant human activity. Ecological developments are hard to foresee and remain at present as intangibles not well understood.

One result of the use of aircraft, however, is already becoming apparent. This affects sportsmanship in hunting and fishing. Wyoming has already found it necessary to specifically bar shooting game from an airplane. Possibly other states have the same regulation. And the following is quoted from the Minutes of the January 1946 meeting of the Wyoming Game and Fish Commission, illustrating its attitude toward aircraft in field sports:

"A letter was read from Mr. R. L. Miller, Forest Supervisor, Shoshone National Forest, Cody, in which he stated that the people of the Sunlight Basin requested that an emergency landing field be built in Sunlight Basin to accommodate them during the winter season when they were isolated as a result of snow. The Wyoming Game and Fish Commission is willing to approve the construction of this emergency field to accommodate the citizens of Sunlight Basin, but objects to its being used for the transporting of hunting and fishing parties into the hunting and fishing area. Moved by Commissioner Spratt, seconded by Commissioner Jorgensen. Motion carried."

This action by the Wyoming Game and Fish Commission typifies a widespread fear of the degradation of field sports by the use of aircraft in the actual getting of the game.

An ad in an outdoor magazine guarantees a polar bear for $1500, flying from

Kotzebue, Alaska, and states: "Transportation to bear by airplane."

Reports are current that hunters are using aircraft in British Columbia and Yukon Territory for big game. In one case hunters were taken out from a central camp to various game ranges; one to mountain sheep range, another to a location for caribou, thus reducing walking to a minimum.

A "Millionaires Resort" is reported to be planned on Kotzebue Sound, Alaska, including a 44-room lodge with all the comforts and conveniences that "millionaires demand, and pay for", and featuring the hunting of polar bears, whale, hair seal, walrus, "oogruk, the as yet unclassified mountain sheep which abound in the region; migratory waterfowl, ptarmigan, and grouse." The resort will be serviced by a DC-3.

A small airplane cruising about Jackson Hole, Wyoming one autumn was used to raise geese from inaccessible places and to drift them to hunters located elsewhere. A local warden was attempting to handle the situation, but apparently no arrests or legal proofs were obtained.

One pilot in Wyoming is reported to have flushed a flock of geese by flying low, shot one, landed nearby, and while hunting for the fallen bird was approached by a warden. The pilot claimed he had shot a coyote and was hunting for it. Flushing geese by plane has been observed several times.

There are a number of known instances in which pilots have driven antelope to hunters. One flyer is reported to have "got away with" 25 antelope in one locality, taking them out by plane, but could not be apprehended. In another instance, a large number of antelope were found dead below a cliff (variously reported 50 to 100). Evidence indicated this was the work of an airplane.

A fews item from Fairbanks, Alaska, under date of February 5,1946 tells of "eight cow moose shot from plane."

An Army flier related to the committee chairman, with a reminiscent smile, how he had machine gunned a herd of seals.

Similar reports have come from the field, pointing clearly to new problems in law enforcement; a new danger to wildlife species, especially such as walrus and polar bear than can obviously not survive this new refinement in hunting; and a new factor in the character of our field sports, tending to further reduce the element of woodsmanship and sportsmanship, already otherwise deteriorated. That a considerable number of people are worried by this trend is shown by personal contacts of the committee members. That this is a real issue is proven by the arguments pro and con to be found in the current outdoor magazines.

In view of the trend outlined above, therefore, we believe a recent practice initiated by the Forest Service requires further study. It is understood that in order to reduce the herd of deer in the Wilderness area of the Salmon River country in Idaho, hunters were flown into the area by the Forest Service. Possibly such steps will be taken on other wilderness areas where game populations have been induced to reach a high peak.

This is a matter frought with dangerous possibilities, though the committee

appreciates the problem posed for the Forest Service in such cases and the need for herd reduction to preserve the range.

Generally speaking, game administrators look upon roadless areas as desirable for the highest type of big game hunting, where camping and unmechanized forms of travel enhance the experience and on the whole afford the more traditional kind of sport. Such areas are valued accordingly. Hence the flying in of hunters solely to forcibly reduce the game population militates against the retention of the highest hunting standards. It also sets a precedent hard to overcome by both the Forest Service and State Game Commissions in any efforts they may make to discourage hunting with aircraft.

It is far better to give full weight to the underlying causes of overpopulation of game in Wilderness areas and to shape future policy to their correction. We cannot hope to effectively keep down game populations in wilderness areas by mass hunting without injuring the wilderness. On the other hand the wilderness is the ideal place in which to preserve the ecologic picture in which big game is centered. It is well known that predatory animal control has been drastic in the Salmon River country and neighboring districts. A different policy, permitting the presence of effective predators would undoubtedly be more helpful, and at the same time would retain an essential attribute of wilderness--contributing both to its fuller enjoyment and its more complete scientific value.

6. Legal Authority for Aircraft Regulation

There is available Opinion No. 3382 of Solicitor Mastin G. White, in a memorandum addressed to Acting Chief Earle H. Clapp, dated June 11,1941. This concerns regulation of the use of motorboats and aircraft in Superior National Forest, including their use on private property.

A few excerpts:

"Incidentally, it is our opinion that the authority of the Secretary of Agriculture to regulate the occupancy and use of the forests, pursuant to the Act of June 4, 1897 (Title 16, U.S. C. S. 551; 30 Stat. 35), is broad enough to justify a regulation prohibiting persons who are traveling in the forest by motorboat or airplane from using forest land except in emergencies. Motorized transportation in a roadless area which has been designated as such primarily to preserve a primitive atmosphere is obviously out of harmony with objective sought to be accomplished by the Forest Service. Use of forest land by motorboat and airplane travellers in the roadless area is a phase of the matter which is distinctly within the power of the Secretary to regulate."

"The law applicable to non-navigable waters and the lands beneath such waters differs materially from that applicable to navigable waters in that non-navigable, and the lands covered by such waters, are the property of the riparian owners. In the case of a non-navigable lake within the Superior National Forest where the shore line is owned in part by the United States and in part by the State or private owners, each of the owners of the shoreline has legal title to a proportionate part of the water of the lakes and the lands beneath the water. The Forest Service in such a case could not legally prohibit the use of motorboats or the landing of airplanes because it does not have exclusive control of the water in the lake or the land beneath the water. However,

the desired objective might be attained by means of a cooperative agreement with the other owners. In the case of a non-navigable lake where the shoreline is all in the ownership of the United States, it is our opinion that the Forest Service has the right to prohibit the use of such water by motorboats and airplanes.

It is suggested by the Solicitor that under a state zoning law, the State of Minnesota could accomplish some of the ends sought under that legislation, by regulating air travel on private property in wilderness areas.

I

In a letter to Dr. Robert F. Griggs from F. M. Goodwin, Attorney-at-Law, the situation is reviewed without offering any clear-cut solution so far as private holdings are concerned, beyond the thought that cooperative action by the State and Federal Governments is the only effective way to proceed.

Wm. J. P. Aberg of this committee reports: "I have made a cursory check on this matter and discussed it with some well informed aeronautic authorities in this state [Wisconsin] .

"There is no question in my mind but what reasonable regulations can be made and enforced by the authorities having jurisdiction over the areas involved. Such regulations would, of course, have to involve a reasonable exercise of police power and would include limitations as to landing, and minimum altitude requirements. Effective regulation on these two subjects would, of course, answer the question. The extent or intensity of regulation would have to vary with the area involved."

Attention is also directed to section 60.102 of the latest Air Traffic Rules published by the Civil Aeronautics Board, which provides as follows:

"Aircraft shall not be operated within restricted air-space areas contrary to the restrictions prescribed by the agency having jurisdiction over such areas."

It is believed possible that if aircraft is excluded from landing in wilderness, with a ceiling of 2,000 feet for passing over it, such regulations will be recognized by the Civil Aeronautics Board as establishing restricted airspace over those areas.

Under date of Jan. 15,1944 Chief Counsel C. A. Moskey, U. S. Department of the Interior, National Park Service, stated the following:

"The authority for the regulation of air ttansportation is dependent upon whether such transportation is interstate or intrastate. If interstate, it is subject to the provisions of the Civil Aeronautics Act. (52 Stat. 977; 49 U.S.C. sec. 401, et seq.) This Act defines interstate air transportation as the carriage by aircraft of persons or property as a common carrier for compensation or hire between a place in any State, or the District of Columbia, and a place in any other state, or the District of Columbia; or between places in the same State through the air space over any place outside thereof; or between places in the same Territory or possession (except the Philippine Islands) of the United States: and a place in any other Territory or possession of the United States; and a place in the United States and any place outside thereof, whether such commerce moves wholly by aircraft or partly by aircraft and partly by other forms of transportation. No air carrier may engage in any such air transportation unless there is in force a certificate of public convenience and necessity issued by the Civil Aeronautics Board authorizing such air carrier to engage in such transportation.

The Act provides in detail the method of application for a certificate, notice thereof to the public, the filing of protest or memorandum of opposition to or in support of the issuance of a certificate, and for hearings. The Act is supplemented by regulations issued by the Board. We recently were advised by the Board that two applications are now on file for certificates affecting the National Park System, and that the Service will be afforded opportunity to be heard in connection therewith before issuing certificates."

" If the air transportation is intrastate, it is subject to the provisions of the statutes of the affected State. I believe that all of the States have now enacted laws regulating air transportation within their borders, and at least one-half of them have adopted the Uniform Aeronautics Act approved by the National Conference of Commissioners on Uniform State Laws in 1922. Several legislatures have made minor alterations in the uniform text. The actual text enacted in each State must therefore be consulted in order to know exactly what the statute of each State is. A Uniform Air Licensing Act, approved by the National Conference of Commissioners on Uniform State Laws in 1930, also has been adopted by a number of the States. Other uniform acts adopted by the Commissioners are the Uniform Aeronautical Regulatory Act of 1935, and the Uniform Airports Act of 1935."

In the Civil Aeronautics Act of 1938, under Section 601, are several Airspace Restrictions, involving Caution Areas (60.3480) and Danger Areas (60.3481). Such restrictions may apply in certain instances. For instance, on Superior National Forest reefs and rocks are being plotted on various lakes, to determine the hazards for landing of aircraft. It may prove wise to prohibit landing on some of these by uninitiated pilots, to avoid accident. Some lakes, also, present steep slopes or cliffs at entrance points that are disturbing for descending aircraft. these are considerations that may have administrative significance.

CONCLUSIONS AND RECOMMENDATIONS

1. The Committee on Aircraft Use in Wilderness Areas fully appreciates the great good to civilization inherent in the air age that is just now coming into being. One of the members is a veteran pilot since the first World War and all the members gladly take advantage of air transportation. The following suggestions on air travel restrictions are thought suitable to protect certain public values, just as we find it necessary to regulate motor travel in certain situations, or to zone certain types of buildings. As a matter of fact, general air traffic rules have already been made, and their necessity is accepted.

So far as wilderness areas and national parks are concerned the committee recognizes the desirability of locating landing fields and similar facilities at the borders of such areas, as a great aid and time saver for those who wish to enter for recreation.

2. The concept of wilderness areas rests on the general understanding that they shall be free from roads and mechanized forms of transportation. This has been accepted as the principal means of protecting wilderness values. In conformity with this accepted thought it is recommended that landing of aircraft be prohibited in wilderness or primitive or wild areas, or in National Parks or any areas otherwise designated which have as an important objective the preservation of wilderness atmosphere, except in emergency or for purely administrative purposes. Furthermore, a ceiling of 2,000 feet is recommended for aircraft passing over such areas.

3. In lake country, typified by the Roadless Areas of Superior National Forest of Minnesota, it is equally important to exclude the motor boat, which the committee feels is as incompatible with wilderness preservation as the airplane.

4. It is recognized that the presence of privately owned land in wilderness areas poses a difficult problem in enforcement of beneficial regulations and can easily nullify efforts to preserve wilderness. It is urged that cooperation of the states be sought in an effort to supplement federal regulations with rules of any available State zoning laws. It is further recommended that the ultimate solution lies in the purchase of private lands in such areas at equitable price, so that uniform regulations may be effective.

5. It is recognized that the use of aircraft for administrative purposes, such as fire control, patrol, and similar work, is necessary and that in many instances it will do away with the building of some roads, not only in parks and wilderness areas, but also in certain other portions of national forests not so designated.

It is believed, however, that such administrative use of aircraft may be so planned, with experience, that trips may be relatively infrequent, depending on local circumstances, and that relatively minor disturbance to those who are traveling in the wilderness may ensue.

6. Hunting or shooting of any description from aircraft should be forbidden. This may be applicable to certain kinds of fishing in coastal areas, though the committee has not had an opportunity to study that phase of it. Such regulation is chiefly the function of State game commissions, though federal agencies could adopt cooperative measures and in general find opportunity to discourage the use of aircraft in actual hunting or fishing. In this category would fall the expedient of flying in hunters to reduce surplus game populations in wilderness areas.

7. Finally, it is believed by the committee that there are forest lands that are not formally designated as wilderness areas, and that therefore have some moderate economic uses but still retain considerable recreational and wilderness values. An example is part of Teton National Forest in Jackson Hole lying outside the Primitive Area. It is partly penetrated by roads, but the public looks upon it as containing recreation possibility of a high order, objects to further road building or the threatened oil prospecting, and would like to see it as "unspoiled" as it can reasonably be kept. In such areas aircraft would be an intrusion, just as in designated wilderness.

Possibly much can be done by the Forest Service in restricting mechanized travel, including aircraft, to a minimum in such locations.

The committee believes that the problem discussed here can best be met boldly, with a realistic view to the future, by trying to prepare early to cope with air traffic contingencies in the initial stages of their development. If and when private flying becomes more prevalent, even more drastic regulation than now exists will be inevitable, just as in the case of heavy automobile traffic.

The Committee on Aircraft Use
in Wilderness Areas:

Wm. J. P. Aberg

Shirley W. Allen

John H. Baker

Aldo Leopold

Frederick Law Olmstead

Kenneth A. Reid

O. J. Murie,
Chairman

UNIVERSITY OF MICHIGAN

SENT FOR INFORMATION OF

File Wild. Src. Committee

Aldo Leopold

October 1, 1946

Mr. O. J. Murie, Chairman
Committee on Aircraft vs. Wilderness
Moose, Wyoming

Dear Mr. Murie:

COPY

I have held your letter of September 7 with your excellent draft of the report on air craft use in wilderness areas with the hope that I could talk more fully with some of the research men and be in a position to suggest that we welcome a definite research project, looking into the effect of the use of air craft in wilderness areas.

I talked to E. L. Demmon a few days ago when he was down from the Lake States Forest Experiment Station at St. Paul of which he is the director. He believes with me that much could be determined by orgainizing a regular research project to sift opinion and conjecture out of the facts which it may be possible to determine. He indicated, with the habit of all research administrators, that it would take money and a sympathetic understanding by the bureaus under which the research work was done.

I mention this without any definite recommendation because it is the only thing that I have to suggest as a change in your draft of the report.

I do have the feeling that, if the further work on this subject is left to the administrative agencies, it may amount almost to an abandonment of the study.

Answering your questions one by one, I should say:

1. I agree with the contents of the report except for neglect of the above.

2. I think it is well presented.

3. It is the right length.

4. I think there is some advance covering for your meeting of the committee if the committee is continued but would not urge it if it means the holding up of the report.

Form 6130 4-43

5. I am in favor of continuing the committee if for no other reason than to ride herd on research of whatever intensity and by whom so ever it may be done.

Sincerely,

P.S. I am sending enough copies of this reply for the committee if you wish to use them and if I am not too late with them.

Aircraft

file Wilderness
Com

October 19, 1946

Mr. Olaus J. Murie, Chairman
Committee on Aircraft Use in Wilderness Areas
Moose, Wyoming

Dear Olaus:

I have carefully read the draft of the Committee's report enclosed with your letter of September 7th, and I gladly authorize appending my name to the report in that form, if that is the form agreeable to the majority of the Committee. I am inclined to feel that it is more important to submit the report without further delay than to wait longer in the hope of further perfection in content.

I do not say what follows in the sense of a minority report at all, but for the confidential ear of the fellow members of the Committee.

I cannot help wondering if there may not be in our report, as now constituted, some grounds for suspicion that the underlying point of view is one of a group of oldsters, who, as is consistent with human nature and history, have not quite contrived to adapt their thinking to the impact of invention. Don't you suppose that it might fairly be argued that we attribute relatively less possibility of disturbance to wilderness areas to the methods of conveyance to which we have become sentimentally attached in our boyhood?

When I stop to try and put myself in the place of the wildlife and flora of a wilderness area, I find it difficult to evade the conclusion that I would be far less disturbed by airplanes, motor boats, automobiles, etc., than I would be by hunting, fishing, trapping and burning.

If, under our democratic form of government, we are going to be more or less forced to admit increased volume of public use of wilderness areas, it is my guess that hunting, trapping and fishing will have to be banned.

I also continue to feel that it is relatively too easy to put the blame of disturbance of wilderness areas on the method of public conveyance into it, rather than on what the public does after it arrives at destination in any such conveyance.

I have just one more word to say, and that is that I think that Newton Drury's quoted statement at the foot of Page 8 of our report not only demonstrates administrative wisdom, but puts practical policy in a nutshell; at least insofar as national parks are concerned.

Ever sincerely,

John H. Baker
President

JHB/ms
Copies to: Wm. J. P. Aberg
Shirley W. Allen
Kenneth A. Reid
Aldo Leopold
Frederick Law Olmsted

COPY

FROM THE OFFICE OF OLMSTED BROTHERS

file Committee on aircraft

November 6, 1946

Mr. O. J. Murie, Chairman
Committee on Aircraft Use in Wilderness Areas,
Moose, Wyoming.

Dear Mr. Murie:

On arriving here November 2nd I found your letter of September 7th to the Committee on Aircraft Use in Wilderness Areas and the accompanying draft report. I hope this long delay does not make my response too late.

My answers to your five questions are:

1. Yes.

2. Yes.

3. No.

4. I doubt whether a full meeting of the Committee would result in sufficient improvement of this draft report (with minor revisions based on correspondence) to justify the delay and effort involved in such a meeting.

5. My chief criticism of the draft is that it is much too vague about certain practical legal questions. I think that the report should include a clearer formulation of these questions and should at least propose a procedure for obtaining answers to them.

Those questions I think are of two sorts.

A. In respect to control of aircraft passing over wilderness areas: (1) What special regulations

desirable from the point of view of this Committee are within the present legal powers of existing Federal and State administrative agencies for air traffic control to establish and enforce if they can be persuaded that such regulations are desirable as a matter of general public policy? (2) What are the chances that they can be so persuaded, and by what means? (3) If they lack the legal powers or the disposition to establish and enforce reasonable regulations effective for the purposes in view, can the situation be improved by legislation; and if so what legislation?

B. In respect to regulations of motor boats and flying boats on certain kinds of "navigable" waters within certain kinds of wilderness areas (E.G. in the Quetico-Superior Region): (1) What special regulations desirable from the point of view of the Committee are within the present legal powers of the War Department (as the agency of the Federal Government responsible for control of navigation on navigable waters) to establish and enforce, if the proper officers of the War Department can be persuaded that such regulations are desirable as a matter of general public policy? (2) and (3), same questions as under A.

I think the only way to get at helpful answers to these questions is for some one who has a good understanding of the point of view of the Committee and a reasonably good familiarity with administrative law and procedures, and who is tactful and persistent, to interview, patiently and laboriously, the proper officials of the agencies in question and discuss his findings with the Committee. This will be a time-consuming job involving considerable travelling and travelling expense, and the man to do it ought to be paid.

Should we not recommend such procedure and the continuation of the Committee to supervise and caollaborate in this procedure?

Mr. Murie - 3

I enclose a few suggestions as to utterly minor matters of phraseology, punctuation, etc., in the draft report.

Very truly yours,

(Signed) Frederick Law Olmsted

Carbon copies to
members of
Committee

Aircraft
Pole Committee
(Proj + Comm

xXXXXXXXXXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXX

Moose, Wyoming
Janumry 28,1947

Dr. Robert F. Griggs, Chairman
Division of Biology and Agriculture,
National Research Council,
2101 Constitution Avenue,
Washington 25, D. C.

Dear Dr. Griggs:

The enclosed report on the problem of aircraft use in Wilderness Areas is not considered the last word on the subject.

Members of the committee, replying to my questionnaire, are in agreement in submitting the report in its present form provided it is understood that the work on this difficult problem is not finished. It is their concensus that our suggestions on the vital legal aspect of aircraft regulation are of a general nature and are not adequate. They would be glad to have this committee continued, for further, more intensive, work on this important subject.

With this explanatory comment we would be glad to have you transmit this report on behalf of the National Research Council to Chief Forester Lyle F. Watts.

Very truly yours,

Olaus J. Murie,
Chairman

AIRCRAFT USE IN WILDERNESS AREAS

REPORT

To Chief Forester Lyle F. Watts
United States Forest Service

From the
Committee Appointed by the

NATIONAL RESEARCH COUNCIL
Division of Biology and Agriculture

INTRODUCTION

State Game Commissions are concerned over what is happening to field sports and the game supply by the growing use of airplanes, and first steps for control are appearing in the game codes. Individuals in all parts of the country are worried about the effect of unregulated use of airplanes in recreation; and various organizations are studying the problem.

The first question arising among the members of this committee was "What should be the scope of its inquiry?" Should the study be directed only toward the administration of the specified wilderness areas of the national forests, or should it include national parks and other public lands of recreational significance? It soon be came apparent that in order to evaluate the impact of aircraft on wilderness recreation it was necessary to view the problem in its broader implication, for recreation today transcends the boundaries of any one type of land ~~xxiffix~~ classification and "wilderness" is a term that may apply in varying degree to recreation and land units outside of the official "wilderness" areas. Accordingly, in arriving at the conclusions presented herewith, the committee has investigated situations as they appeared on national forests, national wildlife refuges, national parks, and in varying degree on hunting ranges generally.

1. We are Trustees For Future Generations.

We of this generation are the custodians and the trustees of our national heritage for the generations yet unborn. Looking back at the development of this country from the time our forefathers landed here, we blame them for not having conserved for us many of the natural resources of this country that we would wish were still intact for our use and enjoyment. It is our trust to see to it that our children's children shall not blame us for the failure to preserve for them those things in the resources that are left which they would wish to have and which it is still possible to preserve for them.

Formerly, the oyster fisheries of Chesapeake Bay were the richest in the world; now they are of minor consequence. Formerly, the abundance of shad running up the rivers of our Atlantic Coast and of salmon in Pacific rivers was a matter of wonderment besides being a great economic resource. Formerly, too, we had vast areas of rich topsoil which, through malpractice and indifference, we have allowed to wash out through our great river systems into the sea. We have a right to condemn our fathers for permitting such spoliation of our heritage. Our primary duty is to see to it that our descendants cannot indict us for similar shortsighted negligence.

The first maxim in dealing with wilderness areas, then, must be that none of the irreplaceable features of wilderness shall be impaired in any way that would lead posterity to blame this generation for the loss.

Wilderness as a quality inherent in the American terrain has become recognized as a natural resource susceptible of impairment or destruction, as in the case of our vanishing salmon or topsoil. Indeed, there is a world-wide awakening to the value of the wilderness as a desirable social element. Note the rising voices in Britain urging the protection of what remains of natural, or near-natural, conditions. For example, A. G. Tansley, in "Our Heritage of Wild Nature" speaks with authority, being a qualified ecologist, in his discussion of the problem of preserving wild nature in England--including animal and plant life and the native landscape. He discusses the efforts of such organizations as the Council for the Preservation of Rural England, and other groups. Even during the war, in 1941, on the invitation of the Society for the Promotion of Nature Reserves, delegates from societies and other bodies interested in natural history, convened as The Conference on Nature Preservation in Post-War Reconstruction. Then in 1942 Sir William Jowitt, then chairman of the Ministerial Committee concerned with reconstruction problems, invited the Conference to create a committee to advise the government on matters relating to Nature Reserves. The result was the Nature Reserves Investigation Committee.

Colonel Stevenson-Hamilton, in "Our South African National Parks", describes some of the efforts to preserve Nature on that continent--efforts which were exerted just in time, apparently, to save from destruction some remnants of that wilderness so rich in wildlife.

Throughout the natural history literature of Germany, Denmark, and other European countries is evident a rising force for the preservation of primitive Nature, even though in a more modest way in those long occupied and man-handled lands.

This universal yearning for natural conditions has had a strong growth in America. Yellowstone National Park was established as long ago as 1872--to preserve the so-called "wonders" of that region. Natural phenomena were so striking there that they easily inspired an urge for their preservation. Since then we have experienced a refinement in our appreciation of the unspoiled landscape. Many other national parks have been established, based, not necessarily on outstanding, strange physical phenomena such as geysers and thermal springs, but on unmarred and inspiring scenery, and the opportunity for a certain degree of contact with the "primitive." Then, finally, came the establishment of primitive and wilderness areas by the Forest Service, which in a sense was the ultimate in recognition of Wilderness value. For in such areas the essence of wilderness was clearly defined and regulations were formulated for their retention in the terrain.

We may wonder why America is already awakening to the need for the wilderness environment while we still have some true wilderness remaining--while, by contrast, Europe let practically all of it disappear. May this not be because only at this stage in world civilization has mankind reached the point where it easily has the wilderness at its mercy, and is groping toward that efficiency in evaluating its environment by which it appreciates the wholesome influence of wilderness? It is recognized that the opportunity to travel in the wilderness develops self reliance and a series of skills in woodsmanship which have social values as antidotes for mechanization.

Certain wilderness species, not compatible with civilization (the wolf and mountain lion, the fisher and marten, and certain birds) will disappear unless provided with wild habitat.

Research in wild animal and plant communities furnishes a necessary yardstick for measuring normalcy in managed (Agricultural) communities. Since such research has barely started, the extinction of wilderness would, in the long run, deprive agriculture of a necessary base-datum. This consideration is ecological, and economic, and fully susceptible of proof to those who are aware of recent trends in ecological science. The scientific value of natural areas is also given attention in the post-war planning in England, referred to above.

In addition to these formally dedicated and catalogued areas, wilderness in lesser degrees of size or purity has entered into the land-use plan of many state forests, state parks, and private recreational holdings. A few universities have begun to acquire small tracts for ecological research and teaching, on which forest, prairie, bog or other plant communities either persist or are being rebuilt.

The fact remains that regard for Wilderness, whether it is found in its pure form on national forests, in the wilder parts of national parks, or even in a more or less mutilated form elsewhere, is growing in America, and appears to be accelerated in recent years. The Committee is keenly aware of this trend and feels that whether or not we succeed in keeping wilderness in America depends on whether conservation leadership, in and out of our Government, is able to hold this natural resource until a more general appreciation of its value becomes established.

The Committee felt it desirable to review here this conservation trend. It believes, accordingly, that the need for wilderness protection is imperative and exists as a fundamental premise on which to base any studies of the effect of aircraft.

2. The Effect of Aircraft on Wilderness

1. Aircraft as an Intrusion.

As one consultant put it: "It goes without saying that we should guard the flora and fauna and other tangibles of the wilderness. It is equally incumbent upon us to preserve an intangible, namely, the incomparable sense of remoteness which comes to those who, upon entering the wilderness, place themselves beyond the "sights and sounds" of civilization. This is not a part of the physical wilderness, but it is, nevertheless, an attribute of wilderness which is exceedingly precious and which the airplane has the capacity to destroy, even though it does not land a single passenger in a wilderness area, and even though not one square foot of water or land is disturbed by its flight."

Traveling by pack or canoe involves wilderness skills, whereas travel by motorboat or plane does not. The conservation of wilderness skills is part of our objective.

The airplane as a means of travel in wilderness areas seems to be entirely foreign to the whole wilderness idea. Its use in wilderness areas would surmount

the obstacles of travel which constitute both a major protection and a major appeal of wilderness areas.

In June and July of 1946 the chairman of this committee had an opportunity to travel by canoe in the roadless area of Superior National Forest and the adjacent Quetico Park in Canada. Airplanes were already beginning to land on the lakes in this region and our fears as to the disruptive effect of airplanes were fully realized. At the conclusion of the wilderness trip there was an opportunity to visit two lakes in the area by plane, on a routine administrative flight by Forest Service personnel. It was noted that distances were dwarfed, and there was no opportunity to experience the special appeal of a land type, or the intimate acquaintance that grows on one by normal wilderness travel. The lakes visited were made to seem too commonplace by too close association with the town from which we had taken off but a few moments previously. A vast stretch of country became easily viewed in a single glance, oversimplifying a terrain that should hold for one the chance for gradual emergence of new discoveries and personal events. Assuredly anyone seeking wilderness experience would not normally use a plane. A pilot friend who had flown much "over the hump" into China during the war explained that after the initial novelty of flying had worn off, he lost interest. Country looked too much like a map to him, and hemissed the normal landscape features. Incidentally, he is a photographer, sensitive to the beauties of the land.

One cannot savor a wilderness by flying over it, be he pilot or mere passenger. Probably these flying visitors would take such values more lightly than visitors who prized the attractions and the experiences enough to "earn" the visit by unmotorized travel.

On this visit to northern Minnesota it was noted that among those concerned with recreation there was widespread concern over the incipient intrusion of the airplane into the wilderness. This same concern was expressed by the few Canadians who were met north of the border.

There appears to be no question about the disturbing effect of aircraft in wilderness.

2. Danger to the Wilderness Through Overcrowding.

One of the problems that faces the wilderness administrator is crowding. This has already become acute in many national parks. Yellowstone Park is often so crowded that many who specially seek the primitive and restful qualities in our landscapes, refuse to go there. It is true that others who are more inclined to be gregarious enjoy themselves in spite of the crowds. In Teton National Park we have witnessed the evolution of its use from very simple beginnings, when people could camp on the very shores of the lakes without harm to the environment, to the present time when huge crowds have made it necessary to protect the shores, and the limited areas suitable for camping are practically overflowing, the crowded condition threatening the charm of the lakes in their mountain setting.

On Teton National Forest, adjacent to the above mentioned park, so many commercial hunting camps for the accommodations of elk hunters are established in the autumn that it has been found necessary in some areas to require the outfitter to haul in hay for his horses, in order to protect the range. Indeed, even in years past, it has been a common experience to arrive at ~~xxxxxx~~ strategic camping

places on Teton Wilderness Area, and find the meadows so closely grazed by horses of campers that it was difficult to find a suitable spot in which to picket a horse.

In the Great Smokies, The Chimney Tops, which are a fine and spectacular example of a heath bald, are being seriously damaged through overuse by hikers. Vegetation is being trampled and erosion is setting up in the peaty soil.

In the roadless area of Superior National Forest of Minnesota there were a surprising number of canoe parties--so many, in fact, that at times this "wilderness" was made to appear rather tame. There are, of course, other areas which have not yet been used extensively.

Two things are suggested by the overuse trend just cited. One is the logical conclusion that the use of the airplane would only aggravate the situation by adding to the wilderness travelers ahorde of people who would visit the areas for a brief week-end of fishing or hunting, people who are not necessarily interested in wilderness as such, but who would exploit the fishing or hunting possibilities in desirable locations which had hitherto been kept desirable by being wilderness. It is easy to visualize the coming helicopter, parking in impressive numbers in high mountain meadows, and aircraft of all descriptions filling the wilderness with crowds and equipment.

The other thought suggested is that undoubtedly we have not planned for recreation on a large enough scale. There is a like parallel in our wildlife situation. We recognize wildlife as one of our prime resources, yet not until recently have we awakened to the need for supplying it with enough suitable habitat. Similarly, we recognize generally the importance of outdoor recreation, both as a huge industry and as one of the foremost of social needs. Yet we have not provided for it adequately. We may soon realize that the special areas we have allotted to such recreation are far too small, having been conceived in a period when such recreation was in its infancy and when land had not yet been so extensively squeezed into a straig jacket of economic and private use, forcing people more generally into the formally designated recreation areas. Wildernesses especially require space for effectiveness. Rather than aggravate the problem of congestion by introducing aircraft as a recreation instrument, it would be logical for us to take the growing demand for wilderness seriously, to attempt to anticipate the need by enlarging wilderness, as well as other, recreation areas, and to postpone any measure for curtailing unmechanized travel until we have made certain that we need not expand the wilderness program further. While the curtailment of normal wilderness travel looms as a potentiality, corrective measures can be taken to postpose such measures, such as giving certain overused meadows a rest, strict bag and creel limits, clean up of camp sites, and similar efforts.

An effect of crowding by the use of aircraft would certainly be the depletion of the fish supply. This would apply particularly to the roadless area of Superior National Forest in northern Minnesota. These lakes afford reasonably good fishing, which permanent resorts or regular trips in by airplane would destroy, because the productive capacity of their waters is very much lower than lakes lying in better soil farther south. Therefore, if the airplane were allowed to go unchecked it would be only a few years before the fishing incentive would no longer exist. Aside from damage to the wilderness, the airplane would destroy its own usefulness as a means of reaching the former wilderness fishing.

State wildlife administrators in the west have expressed their concern over the possibility of planes dropping in on remote mountain lakes for fishing. It would be difficult to maintain any creel check and the fish supply would very soon be exhausted.

3. Aircraft in National Parks

National Parks are penetrated by roads and contain developments for the accommodation of large numbers of visitors. However, in most cases there are large areas of back country that constitute wilderness. There is developing a thought that careful zoning should apply in national parks--confining roads and developments to certain sections in such a way that maximum areas of wilderness may be left unmarred by such intrusions.

A difficulty exists here in the matter of aircraft control. It may be argued that where automobiles are permitted, airplanes should be permitted also. This appears theoretically sound. Yet there are practical difficulties. Automobiles may be controlled and are necessarily confined to designated roads. If one visualizes an equal number of airplanes in the park, landing, taking off, filling the air, it is easy to imagine the administrative difficulties. There are landing facilities in several park areas, established before the question became acute or the boundaries were set. There is one on Jackson Hole National Monument, relatively near the southern boundary; one in Mt. McKinley National Park, a simple landing strip, near the railroad and the edge of the Park. There are some provisions for landing facilities in contracts with concessioners in Grand Canyon and Yosemite National Parks and Boulder Dam National Recreation Area.

Scene and solitude are resources high in the list of values which the National Park Service is charged to conserve. Any mechanized equipment introduces noise, odors, and use of landing or parking space, all of which tend to destroy the wild and solitary nature of any area and to disturb the traveller who seeks solitude, quiet, and an unmarred natural scene. It is true that automobiles are already present in designated areas. But in order to prevent further chaos and further damage to areas set aside specifically to preserve natural conditions, it seems wisest to handle aircraft the same as railroads and trans-continental buses; confine landing fields to locations at the boundaries, along with railway stations and bus terminals.

The following extract from the annual report of the Director of the National Park Service for the fiscal year ending June 30,1944 (p. 219), appears to be a very reasonable attitude:

"Airplanes. Recognizing the tremendous impetus given to air travel by war-caused developments in aviation, the Service is looking ahead to its possible effect upon the national parks and has discussed the problem with representatives of the Civil Aeronautics Authority. Commercial and private aircraft will increasingly become a popular mode of transportation to the national parks, and will have to be reckoned with. It is felt, however, as in the case of rail and bus terminals, that airplane landings fields should be located outside park boundaries."

"There will be a period of experimentation in this new and highly important field of air travel, and this phase of trial and error should not be allowed to impair the national parks. Experiments with air-transport, helicopter, or private

plane should be carried on in other areas. When aircraft construction and use are stabilized, or when conditions change materially, this policy will be reviewed. Meanwhile, it is obvious that the construction of landing fields and ax auxiliary buildings would intrude upon park scenery; and that the noise and confusion of airplanes would disturb the wildlife and would tend to destroy the character of these great areas as nature sanctuaries, especially affecting their atmosphere of serenity and peace, wherein lies their value for inspiration, recreation, and relaxation."

5. Aircraft and Wildlife.

It is a little early to evaluate fully the effect of aircraft on wildlife, though certain indications may be significant. Animal species react differently to the presence of flying planes, and of course much depends on the altitude of the machine. Apparently ducks are not easily disturbed, but geese are readily flushed. Big game animals such as antelope and elk may be disturbed by low flying. However, it seems likely that the more important and fundamental biological effects from the use of aircraft in wilderness or other wildlife ranges will be indirect and secondary, occasioned by changes in the habitat resulting from over-crowding and the need for accommodations attendant on mass flying in certain areas, and resultant human activity. Ecological developments are hard to foresee and remain at present as intangibles not well understood.

One result of the use of aircraft, however, is already becoming apparent. This affects sportsmanship in hunting and fishing. Wyoming has already found it necessary to specifically bar shooting game from an airplane. Possibly other states have the same regulations. And the following is quoted from the Minutes of the January 1946 meeting of the Wyoming Game and Fish Commission, illustrating its attitude toward aircraft in field sports:

"A letter was read from Mr. E. L. Miller, Forest Supervisor, Shoshone National Forest, Cody, in which he stated that the people of the Sunlight Basin requested that an emergency landing field be built in Sunlight Basin to accommodate them during the winter season when they were isolated as a result of snow. The Wyoming Game and Fish Commission is willing to approve the construction of this emergency field to accommodate the citizens of Sunlight Basin, but objects to its being used for the transportation of hunting and fishing parties into the hunting and fishing area."

This action by the Wyoming Game and Fish Commission typifies a widespread fear of the degradation of field sports by the use of aircraft in the actual getting of game.

An add in an outdoor magazine guarantees a polar bear for $1500, flying from Kotzebue, Alaska, and states: "Transportation to bear by airplane."

Reports are current that hunters are using aircraft in British Columbia and Yukon Territory for big game. In one case hunters were taken out from a central camp to various game ranges; one to mountain sheep range, another to a location for caribou, thus reducing the walking to a minimum.

A "Millionaire Resort" is reported to be planned on Kotzebue Sound, Alaska, including a 44-room lodge with all the comforts and conveniences that "millionaires demand, and pay for", and featuring the hunting of polar bears, whale, hair seal, walrus, "oogruk", the as yet unclassified mountain sheep which abound

in the region; migratory waterfowl, ptarmigan, and grouse." The resort will be serviced by a DC-3.

A small airplane cruising about Jackson Hole, Wyoming one autumn was used to raise geese from inaccessible places and to drift them to hunters located elsewhere. A local warden was attempting to handle the situation, but apparently no arrests or legal proofs were obtained.

One pilot in Wyoming is reported to have flushed a flock of geese by flying low, shot, one, landed nearby, and while hunting for the fallen bird was approached by a warden. The pilot claimed he had shot a coyote and was hunting for it. Flushing geese by plane has been observed several times.

There are a number of known instances in which pilots have driven antelope to hunters. One flyer is reported to have "got away with" 25 antelope in one locality, taking them out by plane, but could not be apprehended. In another instance, a large number of antelope were found dead below a cliff (variously reported as 50 to 100). Evidence indicated this was the work of an airplane.

A news item from Fairbanks, Alaska, under date of February 5, 1946 tells of "eight cow moose shot from plane."

An Army flier related to the committee chairman, with a reminiscent smile, how he had machine gunned a herd of seals.

Similar reports have come from the field, pointing clearly to new problems in law enforcement; a new danger to wildlife species, especially such as walrus and polar bear that obviously can not survive this new refinement in hunting; and a new factor in the character of our field sports, tending to further reduce the element of woodsmanship and sportsmanship, already otherwise deteriorated. That a considerable number of people are worried by this trend is shown by personal contacts of the committee members. That this is a real issue is proven by arguments pro and con to be found in the current outdoor magazines.

In view of the trend outlined above, ~~wm~~ therefore, we believe a recent practice ininited by the Forest Service requires further study. It is understood that in order to reduce the herd of deer in the Wilderness Area of the Salmon River country in Idaho, hunters were flown into the area by the Forest Service. Possibly such steps will be taken on other wilderness areas where game populations have been induced to reach a high peak.

This is a matter frought with dangerous possibilities, though the committee appreciates the problem posed for the Forest Service in such cases and the need for herd reduction to preserve the range.

Generally speaking, game administrators look upon roadless areas as desirable for the highest type of big game hunting, where camping and unmechanized forms of travel enhance the experience and on the whole afford the more traditional kind of sport. Such areas are valued accordingly. Hence the flying in of hunters solely to forcibly reduce the game population militates against the retention of the highest hunting standards. It also sets a precedent hard to overcome by both the Forest Service and State Game Commissions in any efforts they may make to discourage hunting with aircraft.

It is far better to give full weight to the underlying causes of over-population of game in wilderness areas and to shape future policy to their correction. We cannot hope to effectively keep down game populations in wilderness areas by mass hunting without injuring the wilderness. On the other hand the wilderness is the ideal place in which to preserve the ecologic picture in which big game is centered. It is well known that predatory animal control has been drastic in the Salmon River country and neighboring districts. A different policy, permitting the presence of effective predators would undoubtedly be more helpful, and at the same time would retain an essential attribute of wilderness--contributing both to its fuller enjoyment and its more complete scientific value.

6. Legal Authority for Aircraft Regulation

There is available Opinion No. 3382 of Solicitor Mastin G. White, in a memorandum addressed to Acting Chief Earle H. Clapp, dated June 11, 1941. This concerns regulation of the use of motorboats and aircraft in Superior National Forest, including their use on private property.

A few excerpts:

"Incidentally, it is our opinion that the authority of the Secretary of Agriculture to regulate the occupancy and use of the forests, pursuant to the Act of June 4, 1897 (Title 16, U.S.C.S. 551: 30 Stat. 35), is broad enough to justify a regulation prohibiting persons who are traveling in the forest by motorboat or airplane from using forest land ~~except~~ except in emergencies. Motorized transportation in a roadless area which has been designated as such primarily to preserve a primitive atmosphere is obviously out of harmony with the objective sought to be accomplished by the Forest Service. Use of forest land by motorboat and airplane travellers in the roadless area is a phase of the matter which is distinctly within the power of the Secretary to regulate."

"The law applicable to non-navigable waters and the lands beneath such waters differs materially from that applicable to navigable waters in that non-navigable, and the lands covered by such waters, are the property of the riparian owners. In the case of a non-navigable lake within the Superior National Forest where the shore line is owned in part by the United States and in part by the State or private owners, each of the owners of the shoreline has legal title to a proportionate part of the water of the lakes and the lands beneath the water. The Forest Service in such a case could not legally prohibit the use of motor-boats or the landing of airplanes because it does not have exclusive control of the water in the lake or the land beneath the water. However, the desired objective might be attained by means of a cooperative agreement with the other owners. In the case of a non-navigable lake where the shoreline is all in the ownership of the United States, it is our opinion that the Forest Service has the right to prohibit the use of such water by motorboats and airplanes."

Wm. J. P. Aberg, of this committee, furnishes the following ~~in~~ legal opinion: "I have made a cursory check on this matter and discussed it with some well informed aeronautic authorities in this state [Wisconsin].

"There is no question in my mind but what reasonable regulations can be made and enforced by the authorities having jurisdiction over the areas involved. Such regulations would, of course, have to involve a reasonable exercise of police power and would include limitations ~~as~~ as to landing, and minimum altitude

requirements. Effective regulation on these two subjects would, of course, answer the question. The extent or intensity of regulations would have to vary with the area involved."

Attention is also directed to section 60.102 of the latest Air Traffic Rules published by the Civil Aeronautics Board, which provides as follows:

"Aircraft shall not be operated within restricted air-space areas contrary to the restrictions prescribed by the agency having jurisdiction over such areas."

It is believed possible that if aircraft is excluded from landing in wilderness, with a ceiling of 2000 feet for passing over it, such regulations will be recognized by the Civil Aeronautics Board as establishing restricted air-space over those areas.

Under date of Jan. 15, 1944 Chief Counsel G. A. Moskey, U. S. Department of the Interior, National Park Service, stated the following:

"The authority for the regulation of air transportstion is dependent upon whether such transportation is interstate or intrastate. If interstate, it is subject to the provisions of the Civil Aeronautics Act. (52 Stat. 977; 49 U.S.C. sec. 401, et seq.) This Act defines interstate air transportation as the carriage by aircraft of persons or property as a common carrier for compensation or hire between a place in any State, or the District of Columbia, and a place in any other State, or the District of Columbia; or between places in the same State through the air space over any place outside thereof; or between places in the same territory or possession (except the Philippine Islands) of the United States; and a place in any other Territory of possession of the United States; and a place in the United States and any place outside thereof, whether such commerce moves wholly by aircraft or partly by aircraft and partly by other forms of transportation. No air carrier may engage in any such air transportation unless there is in force a certificate of public convenience and necessity issued by the Civil Aeronautics Board authorizing such air carrier to engage in such transportation. The Act provides in detail the method of application for a certificate, notice thereof to the public, the filing of protest or memorandum of opposition to or in support of the issuance of a certificate, and for hearings. The Act is supplemented by regulations issued by the Board. We recently were advised by the Board that two applications are now on file for certificates affecting the National Park System, and that the Service will be afforded opportunity to be heard in connection therewith before issuing certificates."

"If the air transportation is intrastate, it is subject to the provisions of the statutes ~~of~~ of the affected State. I believe that all of the States have now enacted laws regulating air transportation within their borders, and at least one-half of them have adopted the Uniform Aeronautics Act approved by the National Conference of Commissioners on Uniform State Laws in 1922. Several legislatures have made minor alterations in the uniform text. The actual text enacted in each State must therefore be consulted in order to know exactly what the statute of each State is. A Uniform Air Licensing Act, approved by the National Conference of Commissioners on Uniform State Laws in 1930, also has been adopted by a number of the States. Other uniform acts adopted by the Commissioners are the Uniform Aeronautical Regulatory Act of 1935, and the Uniform Airports Act of 1935."

In the Civil Aeronautics Act of 1938, under Section 601, are several Airspace Restrictions, involving Caution Areas (60.3480) and Danger Areas (60.3481). Such restrictions may apply in certain instances. For instance, on Superior National Forest reefs and rocks are being plotted on various lakes, to determine the hazards for landing of aircraft. It may prove wise to prohibit landing on some of these by uninitiated pilots, to avoid accident. Some lakes, also, present steep slopes or cliffs at entrance points that are disturbing for descending aircraft. These are considerations that may have administrative significance.

CONCLUSIONS AND RECOMMENDATIONS

1. The Committee on Aircraft Use in Wilderness Areas fully appreciates the great good to civilization inherent in the air age that is just now coming into being. One of the members is a veteran pilot since the first World War and all the members gladly take advantage of air transportation. The following suggestions on air travel restrictions are thought to be suitable to protect certain public values, just as we find it necessary to regulate motor travel in certain situations, or to zone certain types of buildings. General air traffic rules have already been made, and their necessity is accepted.

So far as wilderness areas and national parks are concerned the committee recognizes the desirability of locating landing fields and similar facilities at the borders of such areas, as a great aid and time saver for those who wish to enter for recreation.

2. The concept of wilderness areas rests on the general understanding that they shall be free from roads and mechanized forms of transportation. This has been accepted as the principal means of protecting wilderness. In conformity with this accepted thought it is recommended that landing of aircraft be prohibited in wilderness or primitive or wild areas, or in National Parks or any areas otherwise designated which have as an important objective the preservation of wilderness atmosphere, except in emergency or for purely administrative purposes. Furthermore, a ceiling of 2,000 feet is recommended for aircraft passing over such areas.

3. In lake country, typified by the Roadless Area of Superior National Forest of Minnesota, it is equally important to exclude the motor boat, which the committee feels is as incompatible with the wilderness preservation as the airplane.

4. It is recognized that the presence of privately owned land in wilderness areas poses a difficult problem in enforcement of beneficial regulations and can easily nullify efforts to preserve wilderness. It is urged that cooperation of the states be sought in an effort to supplement federal regulations with rules of any available State zoning laws. It is further recommended that the ultimate solution lies in the purchase of private lands in such areas at equitable price, so that uniform regulations may be effective.

5. It is recognized that the use of aircraft for administrative purposes, such as fire control, patrol, and similar work, is necessary and that in many

instances it will do away with the building of some roads, not only in parks and wilderness areas, but also in certain other portions of national forests not so designated.

It is believed, however, that with experience, such administrative use of aircraft may be so planned that trips may be relatively infrequent, depending on local circumstances, and relatively minor disturbance to those who are traveling in the wilderness may ensue.

6. Hunting or shooting of any description from aircraft should be forbidden. This may be applicable to certain kinds of fishing in coastal areas, though the committee had not had an opportunity to study that phase of it. Such regulation is chiefly the function of State game commissions, though federal agencies could adopt cooperative measures and in general find opportunity to discourage the use of aircraft in actual hunting or fishing. In this category would fall the expedient of flying in hunters to reduce surplus game populations in wilderness areas.

7. Finally, it is believed by the committee that there are forest lands that are not formally designated as wilderness areas, and that therefore have some moderate economic uses but still retain considerable recreational and wilderness values. An example is part of Teton National Forest in Jackson Hole Wyoming, lying outside the Primitive Area. It is partly penetrated by roads, but the public looks upon it as containing recreation possibility of a high order, objects to further road building or the threatened oil prospecting, and would like to see it as "unspoiled" as it can reasonably be kept. In such areas aircraft would be an intrusion, just as in designated wilderness. Possibly much can be done by the Forest Service in restricting to a minimum mechanized travel, including aircraft, in such locations.

The committee believes that the problem discussed here can best be met boldly, with a realistic view to the future, by trying to prepare early to cope with air traffic contingencies in the initial stages of their development. If and when private flying becomes more prevalent, even more drastic regulation than now seems advisable will be inevitable, just as in the case of heavy automobile traffic.

The Committee on Aircraft Use
in Wilderness Areas:

Wm. J. P. Aberg

Shirley W. Allen

John H. Baker

Robert P. Griggs

Aldo Leopold

Frederick Law Olmstead

Kenneth A. Reid

O. J. Murie,
Chairman

Aircraft Comm

March 3, 1947

Dr. Robert F. Griggs
2101 Constitution Avenue
Washington 25, D.C.

Dear Dr. Griggs:

I am glad to know that the Forest Service thinks well of the committee report.

There is a bare possibility that the Journal of Land and Public Utility Economics might be interested. The editor is Miss Mary E. Amend, Sterling Hall, Madison.

I am assuming that an abridged version will appear in the Living Wilderness.

With personal regards,

Yours as ever,

AL:PM

ALDO LEOPOLD

TELEPHONE, EXECUTIVE 8100

CABLE ADDRESS
NARECO, Washington, D. C.

NATIONAL RESEARCH COUNCIL

2101 CONSTITUTION AVENUE, WASHINGTON 25, D. C.

Established in 1916 by the National Academy of Sciences under its Congressional Charter and organized with the cooperation of the National Scientific and Technical Societies of the United States

February 19, 1947.

To the Members of the
Committee on Aircraft vs. Wilderness

Gentlemen:

I have today received the following letter from the Chief of the Forest Service, thanking you for your report and recommending that it be published.

"Chief, Forest Service February 12, 1947.

Dr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
Washington 25, D. C.

Dear Dr. Griggs:

Reference is made to your letter of February 4 enclosing a copy of the report of your Committee on Aircraft Use in Wilderness Areas.

We are glad to receive this fine analysis of a perplexing land use problem and recognize that the committee has made a substantial contribution.

We would like to see the report published so that it may stimulate further thought on the subject.

Please pass on to Mr. Murie and his committee our appreciation of their work.

Very sincerely yours,

LYLE F. WATTS, Chief
By E. W. Loveridge."

As a matter of routine, I would expect to publish the report in the Bi-Monthly Report of this Division, but I think it should have wider circulation than that. Perhaps some of the conservation magazines would be glad to print it. May I ask you for suggestions in this matter.

Very truly yours,

Original Signed by
ROBERT F. GRIGGS

Robert F. Griggs, Chairman
Division of Biology and Agriculture.

RFG:AB

TELEPHONE, EXECUTIVE 8100

CABLE ADDRESS
NARECO, Washington, D. C.

Aircraft
file Cornelia

NATIONAL RESEARCH COUNCIL

2101 CONSTITUTION AVENUE, WASHINGTON 25, D. C.

Established in 1916 by the National Academy of Sciences under its Congressional Charter and organized with the cooperation of the National Scientific and Technical Societies of the United States

April 23, 1947

To the Members of the Committee
on Aircraft vs. Wilderness

Gentlemen:

The members of the Division of Biology and Agriculture, assembled in their Annual Meeting, took note of the exceptionally important report which you have made and, in disbanding your Committee, asked me to extend to you their appreciation.

It is recognized that more needs to be done in the field in which you have made so valuable a pioneer effort and that the problems yet unsolved are largely in the line of the laws relating to the use of aircraft in the wilderness. It was felt that it might be desirable to set up a new committee to consider the problems in this field. This would be especially true if it should happen that some official of the Government, such as the Chief of the Forestry Service or the Chief of the National Park Service, should request the Council to undertake work in this field. You will remember that the present Committee was constituted at the request of the Chief of the Forestry Service.

The Council would therefore welcome suggestions from you as to the best way to proceed with the problem of aircraft use in the wilderness, and likewise we should be glad if you would suggest patriotic people who might be especially competent in this matter.

Very truly yours,

Robert F. Griggs

Robert F. Griggs, Chairman
Division of Biology and Agriculture

RFG:mat

cc: Dr. Detlev W. Bronk

July 3, 1947.

Mr. Lyle F. Watts,
Chief, Forest Service
United States Department of Agriculture
Washington 25, D. C.

Dear Mr. Watts:

Re: U Studies Airplane Landing Fields

Your letter of May 8 to Dr. Griggs has been referred to me for reply as Dr. Griggs has resigned as Chairman of the Division of Biology and Agriculture.

Dr. Griggs, I understand, has already informed you informally that he had some doubts as to whether a committee of the National Research Council could appropriately undertake a study of the legal problems and legislative needs on the subject of the use of airplanes in the Superior Roadless Area of Northern Minnesota.

The question was also submitted to Dr. Bronk, Chairman of the National Research Council, and he has agreed with Dr. Griggs' opinion that the Council could effectively and properly do no more than consider and present the scientific facts on which legal opinions would have to rest.

We regret that setting up a combined legal and scientific committee would not be possible in this instance.

Very truly yours,

Raymund L. Zwemer
Executive Secretary

RLZ:ab

PRESIDENT
BENTON MacKAYE

VICE PRESIDENT
ALDO LEOPOLD

TREASURER
ERNEST S. GRIFFITH

DIRECTOR
OLAUS J. MURIE

EXECUTIVE SECRETARY
HOWARD ZAHNISER

THE WILDERNESS SOCIETY

1840 MINTWOOD PLACE, N. W.

WASHINGTON 9, D. C.

Moose, Wyoming
June 6, 1947

COUNCIL
HAROLD C. ANDERSON
HARVEY BROOME
IRVING M. CLARK
BERNARD FRANK
ERNEST S. GRIFFITH
ROBERT FISKE GRIGGS
DOROTHY SACHS JACKSON
ALDO LEOPOLD
BENTON MacKAYE
GEORGE MARSHALL
JAMES MARSHALL
OLAUS J. MURIE
ERNEST C. OBERHOLTZER
JOHN N. SPENCER
CHARLES G. WOODBURY

Dr. Robert F. Griggs, Chairman,
Division of Biology and Agriculture,
National Research Council,
2101 Constitution Avenue,
Washington 25, D. C.

Dear Robert:

I have seen copy of Mr. Watts' request for further work on aircraft use in wilderness. At first I regretted that it was not given nationwide application. However, on further thought I believe it is well to concentrate on Minnesota to begin with, that being the crucial spot today.

You will recall that John N. Spencer, Regional Forester at Denver, was suggested as one member. He is a splendid fellow, alive to the problem of the wilderness. But would there be objection to having a federal official on the committee?

Sincerely,

Olaus

O. J. Murie,
Director

RECEIVED
JUN 11 1947
DIVISION OF BIOLOGY & AGRICULTURE

NATIONAL RESEARCH COUNCIL

INTER-OFFICE MEMORANDUM

TO: Detlev W. Bronk May 28, 1947

FROM: Robert F. Griggs

SUBJECT: Committee on Aircraft vs. Wilderness

Attached is a copy of a letter from Lyle F. Watts, Chief Forester of the United States, thanking us for the report on the use of aircraft in wilderness areas and requesting that we appoint a new committee to consider the problems - particularly the legal problems - associated with the use of airplanes in the Quetico-Superior area of Northern Minnesota. I have some doubt as to whether the National Research Council could well go into a legal matter such as this and have so informed the Forest Service orally. However, they have stated informally that they would much prefer to have it handled by a National Research Council committee than by a group from any other organization. It is important to them that they have an impartial report by outsiders.

I therefore refer the matter to you to decide whether or not the Council should accede to the request.

R. F. G.

Att.

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

ADDRESS REPLY TO
CHIEF, FOREST SERVICE
AND REFER TO

U
STUDIES
Airplane Landing Fields

WASHINGTON

Run 4 Stop 209

May 26, 1947

Dr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington 25, D. C.

Dear Doctor Griggs:

The report on the use of aircraft in Wilderness areas which you sent to me with your letter of February 4, 1947, has been studied by us, particularly in regard to the Superior Roadless Area in Minnesota. Members of the Quetico-Superior Committee have also shown much interest in this report.

The report outlines splendidly the present situation and the potential dangers, but does not go into the perplexing problem of remedies.

I should like to suggest that the National Research Council appoint a new committee to study the special legal problems and legislative needs pertaining to aircraft control on all wilderness areas. I further suggest that this committee be instructed to attack this general problem by concentrating first on the Superior Roadless Area. There are two reasons for this latter suggestion. First, the Superior Roadless Area is in greatest jeopardy because practically all portions of it have lakes suitable for the landing of hydroplanes, while in our other Wilderness areas landing fields are rare. Secondly, since the legal problems are complicated and State laws are varied, a general over-all study would be very tedious and of long duration.

We believe that the National Research Council is the best qualified agency to undertake this study. If you agree, may we suggest that you consider including on this Committee lawyers who are familiar with Minnesota law and Civil Aeronautics Administration laws and regulations.

Very sincerely yours,

LYLE F. WATTS, Chief

RECEIVED
MAY 27 1947
DIVISION OF BIOLOGY & AGRICULTURE

Com. on aircraft in Wilderness

May 12, 1947

Dr. Hardy L. Shirley
New York State College of Forestry
Syracuse 10, New York

Dear Shirley:

Thank you very much indeed for releasing your letter to President Allen for propaganda use in connection with the Institute. I think it very helpful, especially since it comes from a society whose interests are somewhat near the periphery of the general group. I have a strong letter from Wallace Fenn which has been sent to all the members of the Physiological Society, which I enclose for your information.

I should be glad to have the Journal of Forestry publish the report on Aircraft Use in Wilderness Areas. I must tell you, however, that the Wilderness Society has asked to do the same thing. I am not informed as to whether it will use the report entire or abridged considerably, nor do I know the date that their report will be issued. Possibly your clientele, which is very much larger than theirs, is also so different that repetition would not worry you, but I think you should know the facts.

Very truly yours,

RFG:mat
Enc.

Robert F. Griggs, Chairman
Division of Biology and Agriculture

SOCIETY OF AMERICAN FORESTERS 1900

JOURNAL OF FORESTRY

PUBLISHED BY THE SOCIETY OF AMERICAN FORESTERS

825 Mills Building
17th Street and Pennsylvania Avenue, N. W.
Washington 6, D. C.

Editor-in-Chief
HARDY L. SHIRLEY
New York State College of Forestry
Syracuse 10, N. Y.

Managing Editor
HENRY CLEPPER

Business Manager
MISS L. AUDREY WARREN

May 2, 1947

Dr. Robert F. Griggs
National Research Council
2101 Constitution Avenue
Washington 25, D. C.

Dear Dr. Griggs:

Since returning from the meeting in Washington I have had an opportunity to read the report, "Aircraft Use in Wilderness Areas." I believe this report should be published in the JOURNAL OF FORESTRY.

Would the Division of Biology and Agriculture have any objections to our doing so?

Sincerely yours,

Hardy L. Shirley

Hardy L. Shirley, Editor

HLS-glr

CC to O. J. Murie
Lyle Watts
Shirley Allen
C. F. Brockman

UNIVERSITY OF MICHIGAN
ANN ARBOR
SCHOOL OF FORESTRY AND CONSERVATION

con'n Aircraft vs Wilderness

April 26, 1947

Dr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington 25, D. C.

RECEIVED APR 27 1947 DIVISION OF BIOLOGY AND AGRICULTURE

Dear Dr. Griggs:

I have your letter to the members of the Committee on Aircraft vs. Wilderness of April 23, and am glad to make one suggestion for the continuation of the study which we undertook.

It seems to me that a question of this sort would yield to regular land use research procedure, and I have talked to some extent with Mr. E. L. Demmon, Director of the Lake States Forest Experiment Station, University Farm, St. Paul, about setting up a project for studying certain phases of the effect of airplane travel and landing on wilderness areas.

This idea may sound a bit fantastic, but our study otherwise is largely one of observation and judgment, and we are a little short on actual facts.

Also there is one man who is keenly interested in this question that I think might be an excellent one to have on the new committee, and that is Regional Forester John Spencer, Post Office Building, Denver, Colorado. He has done some of the clearest thinking on this question that I have come across, and it is an important question in his territory.

I hope that these suggestions will be helpful, and it was a great pleasure to have some little part in the preliminary study.

Sincerely yours,

Shirley W. Allen

Shirley W. Allen
Professor of Forestry

com. on aircraft vs. Wilderness

April 24, 1947

Kenneth A. Reid
Izaak Walton League of America
31 N. State Street
Chicago, Illinois

Dear Reid:

There goes out today a letter disbanding the Committee on Aircraft vs. Wilderness. We think, in view of the excellent report submitted, that the committee has done a fine job. However, the report, as submitted, will not accomplish much I fear. The problem, I believe, lies in the realm of the law rather than in science. Olaus Murie has suggested forming a new committee including legal members. This may be the way to proceed, but I am painfully aware of the long lapse of time which was required to prepare the report, and time in this matter is of great importance. I am wondering, therefore, if a committee of the National Research Council is the best way to proceed with this problem. I believe there are one or two able and devoted lawyers who might be induced to take up the problem, as they would a case in which they were retained. I am thinking particularly of Kelly and Hubachek. Do you agree that they would be the right people? I think, likewise, we could enlist the services of Houston Thompson, who fought through the New River case, but Thompson is getting rather old and he does have a good many commitments, so I am not sure we could command enough of his time and strength to work up an effective case.

In view of all the Izaak Walton League is doing in the Quetico Superior Area, you have, in a sense, a bigger stake in the problem than anyone else. Do you suppose that you could induce Kelly and Hubachek, if they are the right people, to undertake the job? Would it be best handled that way or would it help them if they had some kind of an appointment from the National Research Council, or some other form of public backing? Could they be retained by the President's Quetico Superior Committee? One difficulty with proceeding to secure legal talent on a National Research Council committee is the same that prevented the present committee from backing the legal aspects of the problem - namely, that the National Research Council is composed of people who are experts in science. We are not experts in the law and we hesitate to spread out into

fields beyond our competence, just as did the committee of which you were a member. In fact, I am not sure that the word of the National Research Council on legal problems would be heeded any more than that of John Doe, because it is out of our field. I should greatly value your counsel in this matter.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and Agriculture

RFG:aa

April 23, 1947

Dr. Ernest C. Oberholtzer
Ranier
Minnesota

Dear Ober:

I am ashamed that I did not remember to send you directly a report of the Committee on Aircraft vs. Wilderness without your having to jack me up. One is now on the way.

I have always been disturbed by the apparent failure of that Committee to recognize the value of time, which to me seemed to be extremely important in this particular case, but repeated efforts on my part did not shake them loose.

The Division, at its Annual Meeting just past, voted to dissolve this Committee, but it is our very definite feeling that another group needs to be constituted to report on the legal aspects of the problem as you suggest. In talking over the problem with Olas, I took the position that we would be very much stronger if such a committee were asked for by the Director of the National Park Service or by the Chief Forester. Like you, however, I have some doubts as to the advisability of a committee attack on this problem. One good lawyer going straight at it hard could probably accomplish quickly more than any committee, for we must recognize that under the best of conditions, committees are rather cumbersome, slow-moving bodies. If that is correct, the question would be the best way to secure such legal assistance. At the moment I should be inclined to consult with Ken Reid. He might perhaps get someone to do the whole thing out of hand. What do you think?

My understanding is that the meeting at your place is scheduled for the 20th of June. Whenever it is, I shall certainly try to be there.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and Agriculture

RFG:mat

EXECUTIVE COMMITTEE

FREDERICK S. WINSTON, *Chairman*
W. L. BRISLEY
J. G. BYAM
W. C. COFFEY
F. PEAVEY HEFFELFINGER
TOTTEN P. HEFFELFINGER
FRANK H. HIGGINS
GEORGE M. LAING
F. H. STINCHFIELD
ROBERT C. WINTON

DR. WILLIAM R. BAGLEY
ROBERT H. HOOD
DULUTH
MICHAEL B. HURLEY
PINE CITY
SIGURD F. OLSON
ELY

Quetico-Superior Council

ASSOCIATED WITH IZAAK WALTON LEAGUE OF AMERICA

1218 FLOUR EXCHANGE

MINNEAPOLIS

ERNEST C. OBERHOLTZER
President

J. G. BYAM, *Treasurer*

Ranier, Minnesota
April 14, 1947

Dr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
Washington, D. C.

Dear Dr. Griggs:

You asked me to remind you to send me a copy of the report of the committee on regulation of air travel over wilderness areas. The present letter is for that purpose. I would be very glad to see what was recommended.

We had some discussion of the subject at a recent meeting of the President's Quetico-Superior Committee in Chicago, when Olaus Murie was present. There was complete agreement that no single development would contribute so much to check the dangerous speculative land situation in the roadless areas of Superior National Forest as effective regulation of air travel.

The understanding, however, is that the preliminary report does not deal at all with the practical side of regulation and presents no real solution. Yet that is what is needed immediately. Perhaps it will require a special committee of lawyers, but surely some way can be found to work out a concrete plan --one that can be applied quickly before the damage gets completely out of hand. I had hoped that that could be done this summer at latest. It would mean a great saving to the government in land acquisition to say the least. It makes me wonder if there is not some way to get at this legal angle without further elaborate and prolonged studies. One good lawyer negotiating with the Civil Aeronautics Division might be able to find a solution very quickly.

RECEIVED
APR 22
DIVISION OF BIOLOGY & AGRICULTURE

I am just back at my home this last week after an absence most of the winter. There is much to be done before the ice goes out and much more afterwards to prepare for summer. The ice is still 36 inches thick and, except in the narrows, just as firm as ever.

(other side)

I am looking forward eagerly to seeing all you Wilderness councillors here at the island some time this summer, whenever it meets your own convenience. I wrote Zahnie some time ago that, if it turns out that the first week in June is not the best time, that will be just as well for me, since I may then possibly attend my 40th anniversary at Harvard. But there is no certainty that I would attend in any case, and I would not want the meeting to hinge in any way on that contingency.

I remember that you had some fears of mosquitoes early in June. Others may possibly prefer a warmer time later in the summer. The latter part of August or early September is usually excellent both for weather and freedom from mosquitoes but personally I find early June generally as delightful as any time. If you ran into a few bad days, I would surely want you to stay till the weather cleared and see the country at its best.

Thank you again for your note of last summer about extension of the President's Committee and for the pleasure of our recent brief visit in Washington!

Sincerely yours

Ernest C Oberholtzer

Ernest C. Oberholtzer

Comm on Aircraft via A Williams

PRESIDENT
BENTON MacKAYE

VICE PRESIDENT
ALDO LEOPOLD

TREASURER
ERNEST S. GRIFFITH

DIRECTOR
OLAUS J. MURIE

EXECUTIVE SECRETARY
HOWARD ZAHNISER

THE WILDERNESS SOCIETY

1840 MINTWOOD PLACE, N. W.

WASHINGTON 9, D. C.

COUNCIL
HAROLD C. ANDERSON
HARVEY BROOME
IRVING M. CLARK
BERNARD FRANK
ERNEST S. GRIFFITH
ROBERT FISKE GRIGGS
DOROTHY SACHS JACKSON
ALDO LEOPOLD
BENTON MacKAYE
GEORGE MARSHALL
JAMES MARSHALL
OLAUS J. MURIE
ERNEST C. OBERHOLTZER
JOHN N. SPENCER
CHARLES G. WOODBURY

Miss Anne Addison, Secretary
Division of Biology and Agriculture
National Research Council
Washington, 25, D. C.

Noted
A. A.

21 April 1947

Dear Miss Addison:

Thank you very much for your April 14 letter with copies of the aircraft committee's report and information regarding the committee's appointment.

We are planning to run this as the lead article in the June issue of THE LIVING WILDERNESS, with only a small amount of shortening and adaptation, all of which has been done with the cooperation and careful review of Dr. Murie.

I regret that there seems to be no appropriate illustrations.

The article will occupy about 6 pages and will be available in reprint form if in demand.

Again with thanks for your cooperation,

Sincerely yours,

Howard Zahniser

Howard Zahniser
HZ/se

PRESIDENT
BENTON MacKAYE

VICE PRESIDENT
ALDO LEOPOLD

TREASURER
ERNEST S. GRIFFITH

DIRECTOR
OLAUS J. MURIE

EXECUTIVE SECRETARY
HOWARD ZAHNISER

THE WILDERNESS SOCIETY

~~1840 MINTWOOD PLACE, N. W.~~

~~WASHINGTON 9, D. C.~~

Moose, Wyoming
March 4, 1947

COUNCIL
HAROLD C. ANDERSON
HARVEY BROOME
IRVING M. CLARK
BERNARD FRANK
ERNEST S. GRIFFITH
ROBERT FISKE GRIGGS
DOROTHY SACHS JACKSON
ALDO LEOPOLD
BENTON MacKAYE
GEORGE MARSHALL
JAMES MARSHALL
OLAUS J. MURIE
ERNEST C. OBERHOLTZER
JOHN N. SPENCER
CHARLES G. WOODBURY

RECEIVED
MAR 10 1947
DIVISION OF BIOLOGY

Dr. Robert F. Griggs,
National Research Council,
2101 Constitution Avenue,
Washington, D. C.

Dear Robert:

I am happy to have your communication of February 19 with the reaction of Lyle Watts to the Aircraft Committee Report. I would suggest that after publishing in your Division Report it would be given publication in the Living Wildernesa and Outdoor America of the Izaak Walton League.

You might be interested in a comment from Kathrym S. Freyling of the Roamers Hiking Club in California. Speaking of the reprint on "Shall we Cherish San Gorgonio" containing a quotation from your remarks, she speaks of the Wilderness Society "This Society fits into my chief interest, which is children. I was much impressed by what Mr. Robert Griggs wrote about preserving the natural heritage for future generations. In fact, that is just the way I feel and I even mentioned this in my letter to Mr. Thompson and Mr. Peterson, quoting Mr. Griggs, when I wrote them about the boundary modification of San Gorgonio."

You may have seen Zahnie by this time. There is much that we can tell the Council after such a trip. Whatever the fate of San Gorgonio we are greatly encouraged, by what we learned. I do not believe that the wilderness conservationists would have made such a showing ten years ago.

I am told that I am to be on the program of the Izaak Walton League at the annual convention in late March in Chicago, though I have not yet been formally notified.

With all good wishes,

Sincerely,

Olaus

Com. on. Aircraft vs Wilderness

UNIVERSITY OF MICHIGAN
ANN ARBOR
SCHOOL OF FORESTRY AND CONSERVATION

February 26, 1947

Dr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington 25, D. C.

Dear Dr. Griggs:

I have your letter of February 19 addressed to the members of the Committee on Aircraft vs. Wilderness, and as a possibility of obtaining wider circulation of the report, it occurs to me that the Wilderness Society, 1840 Mintwood Place, N.W., Washington 9, D. C. might be interested. They could, for example, publish and circularize the report as a reprint if they cared to publish it entirely, or brief it in the Living Wilderness. Whether or not they carried it in this publication, the great interest of this group in defending the wilderness from mechanized travel might cause them to publish it upon request and circulate it for a small charge.

Another possibility is to have the report published in American Forests, the magazine of the American Forestry Association, 919 - 17th Street, N.W., Washington, D. C., and thus have reprints available. Of course Mr. Reed of the Committee might also want to use it in Outdoor America and thereby have reprints.

The very best way to handle it seems to me might be to have the National Research Council put it out as a separate publication because I am afraid it might lose its identity handled through the popular magazines.

A final suggestion might be to have some sympathetic congressman or senator to introduce it into the Congressional Record, but this, I imagine, would be an improbable method unless special legislation to which it referred were being considered.

I hope these suggestions will be of some value.

Very sincerely yours,

Shirley W. Allen

Shirley W. Allen

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

V-8-4

ADDRESS REPLY TO
CHIEF, FOREST SERVICE
AND REFER TO

WASHINGTON 25

U
USES
General
(Airplane Landing Fields)

February 12, 1947

RECEIVED
FEB 13 '47
DIVISION OF BIOLOGY & AGRICULTURE

Dr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington 25, D. C.

Dear Doctor Griggs:

Reference is made to your letter of February 4 enclosing a copy of the report of your Committee on Aircraft Use in Wilderness Areas.

We are glad to receive this fine analysis of a perplexing land use problem and recognize that the committee has made a substantial contribution.

We would like to see the report published so that it may stimulate further thought on the subject.

Please pass on to Mr. Murie and his committee our appreciation of their work.

Very sincerely yours,

LYLE F. WATTS, Chief

By

E W LOVERIDGE

Com. on Use of Aircraft in Wilderness

February 4, 1947

Lyle F. Watts, Chief
Forest Service
U. S. Department of Agriculture
Washington, D. C.

My dear Mr. Watts:

Pursuant to your request of January 9, 1945 that the National Research Council investigate and report on the use of aircraft in wilderness areas, I take pleasure in transmitting herewith a report of our committee, appointed to consider this important question.

It is the understanding of the National Research Council that when a report is prepared for a government agency, it becomes the property of that agency. In writing this, I am prompted to inquire whether it is your desire that the report be held for your use alone, or whether it be published.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and Agriculture

RFG:aa
Encl.

Com. on Use of aircraft in wilderness

February 4, 1947.

Dr. Olaus J. Murie
Moose, Wyoming.

Dear Dr. Murie:

Thank you very much for your report on the use of aircraft in wilderness area. I am transmitting it to the United States Forest Service and feel confident it will be found useful.

I agree with your statement that the problem of the relation of aircraft to the preservation of the wilderness is by no means solved and further work will be necessary if the situation developes.

I think, however, the wisest course would be to disband the committee now that the specific work for which it was appointed has been accomplished. The personnel will then be free to, or not to, reassemble if further questions arise in the relation of aircraft to the preservation of the wilderness.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and Agriculture.

RFG:AB

May 20, 1946

Mr. William J. P. Aberg
900 Gay Building
Madison, Wisconsin

Dear Mr. Aberg:

Thank you very much indeed for your letter of the 15th accepting membership on our Committee for working out recommendations as to the use of aircraft in wilderness areas, also for copy of your letter of the same date to Olaus Murie.

I am delighted to hear a responsible lawyer say that he has no doubt that reasonable recommendations concerning aircraft can be made and enforced. Too many of the people interested in the wilderness belong in the horse and buggy age and are by no means airminded so that it has been difficult to find a committee fully appreciative of wilderness who are at the same time competent to advise concerning the use of aircraft.

I think I did not send you copy of a letter which I sent out to the Committee suggesting a line of approach to the solution. It is clear from comments that have come in that a good deal more specification is needed than was in my first letter, which indeed was merely something to shoot at. I should be glad to have you take a shot along with others who have done so.

Very truly yours,

Robert F. Grigg, Chairman
Division of Biology and Agriculture

RFG:ho

WM. J. P. ABERG, CHAIRMAN
900 GAY BUILDING
MADISON 3

V. L. DICKINSEN, AUGUSTA

ALDO LEOPOLD
424 UNIVERSITY FARM PLACE
MADISON 5

STATE OF WISCONSIN
CONSERVATION COMMISSION

GUIDO R. RAHR, SECRETARY
MANITOWOC

JOHN O. MORELAND, HAYWARD

CHARLES F. SMITH
MARATHON FINANCE BUILDING
WAUSAU

RECEIVED
MAY 20 1946
DIVISION OF ENTOMOLOGY & ECONOMIC ZOOLOGY

900 Gay Building
Madison, Wisconsin
May 15, 1946

Mr. Robert F. Griggs
National Research Council
2101 Constitution Avenue
Washington 25, D.C.

Dear Mr. Griggs:

In response to your recent letter, I shall be glad to serve with Dr. Olaus Murie in seeking to work out some solution on the use of aircraft in and around wilderness areas. I have just written Dr. Murie today, a copy of my letter being enclosed.

Very truly yours,

Wm. J. P. Aberg

31

WM. J. P. ABERG, CHAIRMAN
900 GAY BUILDING
MADISON 3

V. L. DICKINSEN, AUGUSTA

ALDO LEOPOLD
424 UNIVERSITY FARM PLACE
MADISON 5

STATE OF WISCONSIN
CONSERVATION COMMISSION

GUIDO R. RAHR, SECRETARY
MANITOWOC

JOHN O. MORELAND, HAYWARD

CHARLES F. SMITH
MARATHON FINANCE BUILDING
WAUSAU

900 Gay Building
Madison, Wisconsin
May 15, 1946

Dr. O. J. Murie
The Wilderness Society
Jackson, Wyoming

Dear Dr. Murie:

I am in receipt of your letters regarding our conference in Chicago on ways and means of regulating aircraft traffic in and over wilderness areas. I have made a cursory check on this matter and discussed it with some well informed aeronautic authorities in this state.

There is no question in my mind but what reasonable regulations can be made and enforced by the authorities having jurisdiction over the areas involved. Such regulations would, of course, have to involve a reasonable exercise of police power and would include limitations as to landing, andminimum altitude requirements. Effective regulation on these two subjects would, of course, answer the question. The extent or intensity of regulation would have to vary with the area involved.

I am personally acquainted with the present Secretary of the Interior, Mr. Julius Krug, who expects to be in Madison sometime this month. I shall try at that time to arrange for an opportunity to discuss this subject with him in an effort to lay the groundwork for some study by his department of effective future controls.

Very truly yours,

Wm. J. P. Aberg

31

May 3, 1946

Dr. Benton McKaye
Shirley Center
Massachusetts

My dear McKaye:

Thank you for your letter concerning the airplane and the wilderness.

There has been considerable shooting at my recommendations which clearly demonstrates that they need much more specification than I gave.

It is just the end of a crowded week and I have not time to digest these letters for you as I would wish. I am, instead, sending you a copy of my reply to Wharton's letter.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and Agriculture

RFG:ho

Signed in Dr. Griggs' absence

PRESIDENT
BENTON MacKAYE

VICE PRESIDENT
ALDO LEOPOLD

TREASURER
ERNEST S. GRIFFITH

DIRECTOR
OLAUS J. MURIE

EXECUTIVE SECRETARY
HOWARD ZAHNISER

THE WILDERNESS SOCIETY

~~1840 MINTWOOD PLACE, N. W.~~

~~WASHINGTON 9, D. C.~~

SHIRLEY CENTER,
MASSACHUSETTS

COUNCIL
HAROLD C. ANDERSON
HARVEY BROOME
IRVING M. CLARK
BERNARD FRANK
ERNEST S. GRIFFITH
ROBERT FISKE GRIGGS
DOROTHY SACHS JACKSON
ALDO LEOPOLD
BENTON MacKAYE
GEORGE MARSHALL
JAMES MARSHALL
OLAUS J. MURIE
ERNEST C. OBERHOLTZER
JOHN N. SPENCER
CHARLES G. WOODBURY

April 30, 1946

RECEIVED
MAY 3-1946
DIVISION OF BIOLOGY & AGRICULTURE

Dr. Robert F. Griggs, Chairman,
Division of Biology and Agriculture,
National Research Council,
2101 Constitution Avenue, N.W.,
Washington 25, D. C.

Dear Griggs:

At last I am able to take up your letter of March 22 to the Committee on Aircraft vs. Wilderness, carbon of which you kindly sent me. I briefly acknowleged its arrival at the time. Since then my W.S. efforts have had to compete with a local campaign on a global scale, namely to get State pressure via Congress on the UN for some basic war prevention. I agree with your sentiments on the wrath of "generations yet unborn" provided they don't stay unborn. So my time has been divided between efforts to preserve the kind of wilderness we want and to prevent the kind we don't want.

I appreciate very much your thought in sending me your letter and including me among those who "shoot as seems good". Please believe that I am so shooting when I say that I am keenly impressed with your comprehensive presentation of the subject. It stirs in my mind certain matters whose basic solutions have too long waited.

When new contingencies arise we should, you say, "re-examine fundamental principles". Amen! That is just what we did not do (or not sufficiently) when the automobile contingency arose. (Personally I made some belated attempts therein). We should not be caught napping--again. And we should as you indicate consider overall needs (from the airplane's view) rather than merely block out rules (from the mole's view).

Your approach to the problem at hand stimulates me to analogy. After World War I. people everywhere were somewhat joggled, and some were even led to gasp that we should take in hand this thing of war. One remedy or another was meekly and apologetically suggested. But after War II. (and Hiroshima) a greater number has arisen and with lesser apologetics. For the A-bomb calls all bluffs. We must banish it or bust. If we don't succeed, no matter. But if we can defeat the bomb we should as well dispel the minor means of warfare.

Well, the automobile came as a sort of "War No. I", and the modern airplane comes as "No. II". So far as wilderness is concerned (as space and breath of the primeval) its survival depends on setting certain curbs to this arch-invader. If we can curb the impact of the plane we should as well control the minor forms of metropolitan cacophony.

For such control there seems to be one special key. Though adumbrated of old it appears now as a new weapon. You have put your finger on it: "The basic thing which should be done to protect the wilderness is to restrict the number of people who are permitted entry into it". The italics are mine and not yours: numbers (density of population per period, objects seeking the same space at the same time)--such I see as the gist of the problem of wilderness management.

How to compass it?

You suggest a program (Recommendations 1 and 2, the latter of six parts). You have given us something tangible "to shoot at". At present I am out of cartridges. I may find some later. Offhand I believe you have corralled most of the questions and named well the answers. I detect one possible omission--some control of air lanes to effect minimum disturbance of major wilderness areas. (See PS)

All this is bedrock stuff for the agenda of our coming Annual Meeting. Meanwhile my humble congratulations go to you for your keen job of ice breaking.

Yours sincerely,

Benton MacKaye

Benton MacKaye

P. S. I had this letter written last week but have delayed sending it till I had a chance (today) to talk it over with William Wharton. He tells me that he has written you in answer to the same letter you sent me. We discussed two special points:

1. Control of helicopters. Wharton says that these cannot be classed with automobiles or even with motor boats or any surface-moving (two dimensional) vehicle; control of the third dimensional helicopter demands its own technique. I agree.

2. Restricting the number of people entering a wilderness area. Wharton doubts the practicability hereof. I can see his point and realize the solution may require a long and tedious process, but I still think the principle you state goes to the "gist" above mentioned.

B.MK.

Carbon copy to Mr. Wm. P. Wharton

May 2, 1946

Dr. Hillory A. Tolson
Acting Director
U. S. Dept. of the Interior
National Park Service
Chicago 54, Illinois

Dear Dr. Tolson:

Thank you very much indeed for your letter of April 22nd with the information that the Civil Aeronautics Authority has ruled that federal agencies can control the use of aircraft over federal reservations.

It has always seemed to me that the proper approach to the control of aircraft lay through the C.A.A. and as I read the law there is abundant power to control such matters, at least if the President can be induced to proclaim air reservations, so that the problem is largely that of educating the authorities to realize the importance and interest of making the appropriate rulings. One thing which is apparently left out, however, that may be of great importance in some areas such as the Quetico-Superior region is the question of jurisdiction of State governments over land in their control. Possibly that is a matter which will need further action.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and Agriculture

RFG:ho

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CHICAGO, ILLINOIS
54

ADDRESS ONLY
THE DIRECTOR, NATIONAL PARK SERVICE

RECEIVED
MAY 2 - 1946
BUREAU OF BIOLOGY & AGRICULTURE

April 29, 1946.

Ey 2052

Dr. Robert F. Griggs, Chairman,
Division of Biology and Agriculture,
2101 Constitution Avenue,
Washington 25, D. C.

My dear Dr. Griggs:

I tried to reach you, without success, while in Washington last week. Mrs. Benson, my secretary, was to call you and give you a message from me. I'll hope to see you while there next week.

I am glad that the plan for a central conservation clearing house is going so well. As you know, I feel that some such organization is much needed, and from what I hear is being planned along effective lines.

2 The enclosed release on airplanes may already have reached you. We have been led to believe that recent regulations of the C.A.A. will make effective control possible, so far as the national parks are concerned.

With best regards,

Sincerely yours,

Newton B. Drury,
Director.

FOR VICTORY
BUY
UNITED STATES
WAR
BONDS
AND
STAMPS

Charles G. Woodbury

Washington, D. C.

1801 Hoban Road, N. W.

RECEIVED
APR 29 1946
DIVISION OF BIOLOGY & AGRICULTURE

April 29, 1946

Dr. Robert Griggs
National Research Council
2101 Constitution Avenue
Washington, 25, D.C.

Dear Robert:

I wrote you very briefly on April 12 about your letter of March 26 to the committee on Aircraft vs. Wilderness and promised to elaborate my comments later.

Here is the elaboration.

On a separate sheet I am enclosing a redraft of your letter down to paragraph numbered 2 on page 2. A comparison with your draft will show some changes in the sense, some additions, and some deletions.

In addition to this redraft, the following comments occur to me.

A. Last few lines of page 1 of your letter of March 26, and first two lines of page 2: When Michigan white pine was lumbered there were no people on those lands, so that in fact no one was left without means of subsistence. It was in the generation after the pine lands of Michigan and Wisconsin were lumbered that a racket developed in attracting settlers to these cut-over lands and all sorts of promises were made as to the fertility and general desirableness for home steading. People were attracted to these lands, many of which were of poor soil and of limited agricultural value. It was when these deceived and deluded settlers awoke to the fact that they had been exploited that the people on these lands began to constitute a serious problem.

B. I have deleted your reference to oyster fisheries, shad, et cetera as being irrelevant to discussion of Aircraft vs. Wilderness.

C. In the second paragraph under your number 3 on page 2, you say that one of the chief sources of menace from airplanes, if not the chief one, is the conduct of air travelers, et cetera. I think this gets the cart before the horse. It seems to me that the chief menace will almost certainly arise from the demand of plane users, either private operators or operators of commercial passenger planes, for landing fields, supply services, et cetera.

D. On page 3 of your letter, recommendation 1: I think the recommendation about limitation of travel and control of same by permit requires that precedent to such a recommendation there must be formulated a definition of wilderness areas to which the recommendation may apply. For example, if any national park is a wilderness the recommendation is no good. You can't limit the number of people visiting a national park by motor by any quota system. There might be set aside certain sanctuary areas in national parks and in national forests for quota visitors but there must be a careful definition and delimitation of such areas before a quota recommendation would stand a chance.

E. In your recommendation 2 I would add in the second line of paragraph 1 a few words to make it read as follows: "To airports outside of but adjacent to parks or wilderness areas". This is unnecessary, perhaps, if your recommendation no. 1 sticks.

F. In paragraph 5 under your recommendation 2, how about prohibition of fishing from aircraft as well as hunting or shooting. A little Piper cub on pontoons isn't a bad place to fish from instead of from a boat.

Sincerely yours,

C.G.Woodbury

Redraft of first part of Griggs letter of March 26, Aircraft vs. Wilderness Committee

Gentlemen:

Having thought some and talked to some concerning the problems of the airplane in relation to the wilderness, I am moved to set down my ideas for the rest ofyou to shoot at. I think I know you well enough to know that you will shoot as seems good to you. If, perchance, you should approve of the general approach, you will wish to add much detail.

The advent of an air age which seems just around the corner will pose quite new problems to the administration of our national forests and national parks. Some of these are difficult or perhaps impossible to see clearly in advance. I believe we should consider such problems as we can foresee in the light of a reexamination of some of the basic principles of conservation. In doing so we should think primarily of national needs in relation to wilderness areas as a whole rather than attempting merely to block out rules for the use of the airplane in and around public reservations.

1. We are Trustees for Future Generations

We of this generation are the custodians and trustees of our national heritage for the generations yet unborn. Looking back at the development of this country from the time our forefathers landed here, we blame them for not having conserved for us many of the natural resources of this country that we wish now were still available for our use and enjoyment. As trustees for the future it is our responsibility to see to it that our children's children shall not blame us for the failure to preserve for them those wilderness values that still remain which they would wish to have for their enjoyment and inspiration.

I am thinking, for instance, of the records in the literature of white pines in New England with trunks 7 feet in diameter. So far as I know, no white pines of any such dimensions exist today. There are vast areas in this country now reduced to barren bush land which could readily harbor while life of all sorts, including big game animals.

AMERICAN NATURE ASSOCIATION
PUBLISHERS OF
NATURE MAGAZINE
1214 SIXTEENTH STREET, N.W.
WASHINGTON, D.C. - 6

April 25th, 1946

RECEIVED
APR 26 1946
DIVISION OF BIOLOGY & AGRICULTURE

Dr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue,
Washington 25, D. C.

Dear Dr. Griggs:

Perhaps the discussion of the various recommendations proposed in your letter must be predicated in large part by what we regard as the potentialities for harm that the airplane presents, for I have little else to offer. I fully realize this when I try to answer your letter.

I suppose that you wish to have these notes for the meeting of May 9. This will preclude any possibility of learning by correspondence any definite data on the actual effect of certain practices that are now in effect as regards hunting, trapping and fishing in Canada. The problems there are similar to those you mention in Paragraph 1, and certainly are already beyond the theoretical stage. But the harmful results are not chronicled by the actors. However, I know of no instances where the airplane has benefited the wilderness.

FISHES Commercial fishing was fast depleting Lake Winnipeg forty-six years ago when I first went there. The airplane, of course, was not then involved, but has since come into that field in other places. Thus, at least twenty-five years back, certain lakes in the Athabaska country were levied on for whitefish for Edmonton. These are taken at the freeze up and have always been a staple food for the natives and traders, and missionaries also, all over the North. When I Wintered at Fort Simpson on the Mackenzie in 1903-04, our mid-day meal, each day, from October to April, was these whitefish. During the first years of the commercial fishing on the Athabaska Lakes, the catch was hauled by dog-sled to Edmonton, but later the airplane was used. What the effect on the little communities that depended on the myriad lakes that are scattered over that country is, of course, unknown to us, but it must be serious. Lac La Biche on the railroad to old Fort McMurray (now Waterways) helped support quite a village. When I was last North in 1934 Athabaska Lake was yielding its fisheries to the cities of the Edmonton area, and perhaps further. I think I could get some data on this from Fort Chipewayon. All this used to be wilderness, of course, and was largely self-supporting as to food.

WATERFOWL Years ago I remember discussing with Hoyes Lloyd, then in charge of Parks and Migratory Bird Protection in Canada, whether or not waterfowl gunners ought to be allow to fly to James Bay where some kind of a shooting ground reservation was being opened. My advice was No, for a trip by airplane to that distant point would be taken only by those who wished to meet the young unsophisticated broods from the Arctic, where the rare Indian or Eskimo would be no more feared by the birds than would a caribou. But I soon learned that the exclusion of planes had been impossible. Mr. Lloyd is now out of the service and I think he might tell me something of the effect of airplanes on waterfowl.

TRAPPING OF FUR ANIMALS During the many years that the Hudson's Bay Company enjoyed virtual control over most of the Canadian wilderness, this vast area constituted the Fur Country. Then each native family, by mutual arrangement of the trading posts and the sub-tribes that they served, held an area where its trapping was carried on from season to season. As the unwritten titles to these particular areas were hereditary, it was to the interest of the heads of each family to see that the fur animal population was not over-exploited, and care was taken that mammals were trapped only during the season when the skins were prime, and that the necessary seed stock was maintained. This custom tended toward relatively stable production from year to year. But, with the entry of rival traders, and the consequent decline in the monopoly enjoyed by the Company, and Treaties with the various tribes whereby they relinquished whatever rights they had held, in return for a fixed sum of money paid yearly to each family, even these shadowy titles vanished, and their trapping grounds might and soon be invaded by white-trappers from anywhere.

The advent of the airplane was the last straw. Since that day an individual trapper from outside may land with his winter supplies at any point in the wilderness, (except in certain areas), set up his winter camp, and trap undisturbed through the season. When the season is over the airplane can pick him up and return him and his gains to his home "outside". This method, of course, works to the disadvantage of the natives and tends to reduce the potential natural stock.

The occasional big-game hunter takes advantage of the airplane in a similar way.

The Hudson's Bay Company, and I believe other fur-trading companies, have lately established outposts along the Arctic coast, within the primitive breeding range of the Arctic fox, and it is probably only a question of a few years when this animal will become scarce. For more than two hundred years after this animal received the attention of the fur-trade, its skins in Canada were traded only at the few posts that were established near the northern limits of the forest, and the individual animals that each winter migrated south from the Arctic tundra were an object of trade. Now, largely because of the airplane, they are pursued on the last frontier. This area, of course, was the scene in the past of the whaling vessels, that, up to a few years ago, sought these animals.

PURSUIT OF PREDATORY BIRDS AND MAMMALS

Eagles have been pursued and shot from airplanes in California by ambitious aviators, who supposed they were aiding in conservation,

but this has not brought any satisfactory results. They have also been used in various Western States to kill coyotes and other mammals for bounty. This method, however, has been outlawed in Indiana in the case of foxes, which is a good sign.

You may gather that I would not wish for airplanes to be used on any property in which I am interested.

Sincerely yours,

Edward A. Preble

Edward A. Preble,
~~Editor~~

eap;md

P.S. If you wish it, I might be able to obtain from residents in the north some data on the results of some of these activities

E.A.P.

April 19, 1946

Dr. Kenneth A. Reid
Izaak Walton League of America, Inc.
31 No. State Street
Chicago 2, Illinois

Dear Dr. Reid:

I thank you particularly for bringing Olaus Murie in contact with William J. P. Aberg and following his recommendation and yours, I have asked him to join our Committee to which I presume he will be a great addition.

You and I are not very far apart as to our ideas on airplane and the wilderness. Probably I am wrong about the helicopter. There is no doubt that at best there would have to be rigid air lanes to which they would have to be confined and that might make so much general disturbance that they would be a nuisance at a place like Old Faithful. I do think, however, that we will have to come to some sort of restriction in travel to the wilderness beyond that provided merely by permitting transportation only by primitive means.

There has been enormous growth of enthusiasm for the out-of-doors during the last twenty years and the movement has only begun. There are a hundred times as many people carrying pack and interested in getting into the wilderness as there were in my youth. As an illustration of what mere numbers can do, I am informed that the chimneys in Smoky Mountain National Park, which I covered with an unusual heath ball, have been seriously injured by hikers. They are entirely inaccessible to any other means of transportation.

Evidently my statement is not clear enough in another place for I never thought of tolerating the airplanes in the wilderness areas and supposed that the memorandum I laid down would stop it. More specification is obviously called for at a number of points.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and Agriculture

RFG:ho

April 18, 1946

Mr. William J. P. Aberg
Gay Building
Madison, Wisconsin

Dear Mr. Aberg:

Dr. Olaus Murie, Chairman of our Committee on the use of aircraft in and around wilderness areas, which was appointed at the request of the Chief of the Forest Service, has written me of his pleasant contact with you at the recent meetings in Chicago, and expressed his high regard both for your devotion to wilderness ideals and your practical judgment as to regulations for dealing with wilderness.

He has requested that you be appointed a member of his Committee and this request has been confirmed by Dr. Ross G. Harrison, Chairman of the National Research Council. I hope very much that you may be able to serve.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and Agriculture

RFG:ho
cc. Dr. Olaus Murie
Dr. Kenneth Reid

TELEPHONE, EXECUTIVE 8100

CABLE ADDRESS
NARECO, Washington, D. C.

NATIONAL RESEARCH COUNCIL

2101 CONSTITUTION AVENUE, WASHINGTON 25, D. C.

Established in 1916 by the National Academy of Sciences under its Congressional Charter and organized with the cooperation of the National Scientific and Technical Societies of the United States

10 April 1946

Dr. Robert F. Griggs
Division of Biology and Agriculture

Dear Dr. Griggs:

Dr. Harrison has approved the appointment of Mr. William J. P. Aberg as a member of the Committee on Aircraft vs. Wilderness.

Sincerely yours,

Nyla Welpley

Nyla Welpley

April 4, 1946

Dr. Ross G. Harrison
National Research Council
Washington, D. C.

Dear Dr. Harrison:

Dr. Olaus Murie, Chairman of the Committee on Aircraft vs. Wilderness requests the appointment of Mr. William J. P. Aberg, Gay Building, Madison, Wisconsin, to his Committee. Mr. Aberg is a lover of the wilderness and a very able lawyer who will be of great assistance to this Committee. He is connected with the Wisconsin Conservation Department.

Your confirmation is sought.

Very truly yours,

Robert F. Griggs, Chairman
Chairman, Di

Evanston, Illinois
April 1, 1946

Dr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington 25, D. C.

Dear Robert:

At a luncheon of the national directors and other officers of the Izaak Walton League on the lasr day of the convention Ken Reid asked Mr. Aberg and me to sit together so we could talk over the wilderness problem of the Superior country.

I found Mr. Aberg to be a sincere lover of the wilderness and it was a privilege to meet him. Not only that, but Ken Reid tells me that he is a very able lawyer. We both believe that he can be a big help to us on the Committee on the aircraft. He will be willing tom help us in that task.

I would like to ask you if you can have Mr Aberg appointed as a member of this committee. I have felt the need of help on the legal aspect of our report. I would go ahead and prepare the other aspects of the report and have Mr. Aberg add the legal discussion. We should get at this right away and I am beginning the new, stream-lined report.

This proposed new member would be addressed as Mr. Wm. J. P. Aberg, Gay Building, Madison, Wisconsin. Incidentally he is a good friend of Aldo Leopold, and connected with the Wisconsin Conservation Department.

I was elected as a national director of the Izaak Walton League, in connection with which you may recall our recent conversation.

We leave here day after tomorrow and my next address will be Jackson, Wyo.

Sincerely
O. J. Murie, Chairma
Committee on Aircraft
vs Wilderness

UNIVERSITY OF MINNESOTA
COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS
MINNEAPOLIS 14

DEPARTMENT OF BOTANY

April 12, 1946

Dr. Robert F. Griggs
National Research Council
2101 Constitution Ave.
Washington 25, D. C.

RECEIVED
APR 15 1946
DIVISION OF BIOLOGY & AGRICULTURE

Dear Griggs:

Your letter regarding the influence of the airplane on wilderness areas is well timed. Your premises are certainly sound. As to your recommendations, I agree with number two completely. Recommendation number one seems to offer difficulties. If I arrived at the border of a wilderness area under the regulation you suggest only to find that the person before me was the last who could be admitted that day or that week I would feel very much upset and I think justifiably. Making reservations in advance would seem to be the only way out and that would involve very complicated procedures. I realize the necessity of the protection you are seeking but this particular method does not seem to me to be workable.

Sincerely yours,

WS Cooper

William S. Cooper
Professor of Botany

WSC/jm

CIRCUIT JUDGES:
XEN HICKS
KNOXVILLE 12, TENN.
CHARLES C. SIMONS
DETROIT 31, MICHIGAN
FLORENCE E. ALLEN
CLEVELAND 14, OHIO
JOHN D. MARTIN
MEMPHIS 3, TENN.
THOMAS F. McALLISTER
GRAND RAPIDS 1, MICHIGAN
SHACKELFORD MILLER, JR.
LOUISVILLE 2, KY.

UNITED STATES CIRCUIT COURT OF APPEALS
FOR THE SIXTH CIRCUIT
MICHIGAN-OHIO-KENTUCKY-TENNESSEE

CHAMBERS OF THE COURT
CINCINNATI 2, OHIO

As from, 3730 N. Broadway,
Knoxville 18, Tenn.,
April 11, 1946.

RECEIVED
APR 15 1946
WILDLIFE DIVISION OF FOREST & GAME

Dr. Robert F. Griggs,
National Research Council,
2101 Constitution Avenue,
Washington 25, D. C.

My dear Dr. Griggs:

I am grateful for the opportunity you have given me to comment upon your recent letter to the Committee on Aircraft vs. Wilderness. I shall try to be brief.

I agree in the main with your principles (1) and(3), namely: that we of this generation are trustees for generations yet unborn of our national heritage of wilderness; and that the chief menace to the wilderness is an excessive number of visitors, however innocuous their individual capacity to do harm. There is an example of this in the Smokies. The Chimney Tops, which are a fine and spectacular example of a heath bald, are being seriously damaged through overuse by hikers. Vegetation is being trampled and erosion is setting up in the peaty soil. This damage can only be arrested by drastically limiting the number of visitors; perhaps by permit, as you have suggested.

However, I canot agree fully with your principle (2). It goes without saying, that we should guard the flora and fauna and other tangibles of the wilderness. But I think it is equally incumbent upon us, that we preserve an intangible, namely, the incomparable sense of remoteness which comes to those who, upon entering the wilderness, place themselves beyond the "sights and sounds" of civilization. This is not a part of the physical wilderness, but it is, nevertheless, an attribute of wilderness which is exceedingly precious and which the airplane has the capacity to destroy, even though it does not land a single passenger in a wilderness area, and even though not one square foot of water or land is disturbed by its flight.

Automobiles, motorboats and horses have their limitations; airplanes likewise, but of a different nature, A helicopter, hovering near a peak in the Smokies, or a few feet above a lake in the Okefinokee or a meadow in the Kings Canyon country, would do damage to precious intangibles, even though it did not, could not, land. Even the

drone of a high flying airliner over a secluded valley is an intrusion upon the quiet and enjoyment which would have been experienced by a visitor of a generation ago. I think it is not enough to say that the chief source of menace from an airplane is the conduct of the air travellers after they leave the plane. An automobile must stay upon its road; but an airplane is a potential nomad, with a unique capacity for doing harm to the in personam enjoyment of wilderness, an enjoyment which is recognized in the third objective of the Wilderness Society, and the protection of which is not, I believe, fully achieved in your Recommendation (2).

As a lawyer, I know that the airplane has played havoc with the old legal principle that a landowner owns to the heavens. But I am deeply of the conviction that administrators over large wilderness areas, like the Yellowstone, the Bob Marshall Wilderness and the Okefinokee, would do an incalculable service to future generations by educating the commercial airlines and private flyers to the desirability of observing that principle over certain areas.

I am not now prepared to make the concession, incorporated in the first sentence of your Recommendation (2), even though I might go along with your proposed sub-headings thereunder. I would be inclined to re-word that first sentence somewhat as follows: "Indiscriminate use of airplanes over wilderness areas should be avoided." And I would probably insert a new sub-heading immediately thereafter: "Flights across wilderness areas must follow rigidly routes to be established by joint action of the administrator in charge and the Civil Aeronautics Authority."

With kindest personal regards, I am

Very sincerely yours,

Harvey Broome

Harvey Broome.

Copy to:
Olaus Murie.

April 9, 1946

Mr. F. S. Lodge
Technical Assistant
The National Fertilizer Association
616 Investment Building
Washington 5, D. C.

My dear Lodge:

Thank you very much for your letter of April 8. I quite agree with you as to all of the items you have raised concerning control of airplanes. I had, in fact, thought that such matters would be provided for by my memorandum. Evidently more specification of detail is called for and I will certainly see to it that there can be no misunderstanding concerning matters which you have set down.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and Agriculture

RFG:ho

THE NATIONAL FERTILIZER ASSOCIATION
INCORPORATED

616 INVESTMENT BUILDING

WASHINGTON 5, D.C.

April 8, 1946

Dr. Robert F. Griggs
Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington 25, D. C.

Dear Dr. Griggs:

I have read with great interest, copy of your letter of March 22 to the Commitee on Aircraft vs Wilderness, and believe that I can subscribe fully to all of the points raised in your letter with the possible exception of your Recommendation 2. to the effect that " airplanes should be treated the same as other power-driven means of transportation." I believe the prohibitions and restrictions should go beyond those that are placed on other types of vehicles, because of the easy facility with which airplanes can invade wilderness areas, and because of the noise and disturbance that such invasion makes, and which undoubtedly greatly disturbs wild life.

Judging from the stories that appear in some of our outdoor magazines, as well as in the press, and in fact, from some personal observation, it appears to have become common practice for airplane pilots to "buzz" almost any form of wild life that they happen to notice on the ground. We see pictures of them skimming over herds of frightened antelopes, of their pacing flocks of wild ducks and geese, and similar incidents. The next step would be for pilots to fly tourists into the mountains to see flocks of mountain sheep and wild goats. It is easy to imagine how such flights will affect the peace and tranquility of these animals. Again, planes flying low over the red rocks in Yellowstone or alighting on the waters, would play havoc with the few swans still there.

I readily admit that any prohibition or regulations of such practices would be very hard to police, but at the same time,

I believe their enactment or presence among our laws would be a deterrant to any great amount of offense. Such patroling as may be necessary by plane, can be conducted at a sufficnently high altitude to avoid such disturbances. It is the intentional attempt to get close enough to " make 'em run." that is disastrous. I am glad to see that the whole problem is being given proper attention.

With kindest personal regards, I am,

Very truly yours,

F. S. Lodge

F. S. Lodge,
Technical Assistant

HWD

April 5, 1946

Dr. Bernard Frank
Forest Service
U.S.D.A.
South Building
Washington, D. C.

Dear Dr. Frank:

Thank you very much for your comments on my scheme for saving the wilderness.

I think your ideas are first class so far as they go, but the pressure on wilderness will increase so that something else will have to be done, hence my suggestion of quota. I am not wedded, however, to that idea and would welcome any other which really would do the job.

My feeling is that your suggestions, while perfectly satisfactory for the moment, would not solve the problem for long.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and Agriculture

RFG:ho

PRESIDENT
BENTON MacKAYE

VICE PRESIDENT
ALDO LEOPOLD

TREASURER
ERNEST S. GRIFFITH

DIRECTOR
OLAUS J. MURIE

EXECUTIVE SECRETARY
HOWARD ZAHNISER

THE WILDERNESS SOCIETY
1840 MINTWOOD PLACE, N. W.
WASHINGTON 9, D. C.

Forest Service
April 3 1946
DA Sa Bldg.

COUNCIL
HAROLD C. ANDERSON
HARVEY BROOME
IRVING M. CLARK
BERNARD FRANK
ERNEST S. GRIFFITH
ROBERT FISKE GRIGGS
DOROTHY SACHS JACKSON
ALDO LEOPOLD
BENTON MacKAYE
GEORGE MARSHALL
JAMES MARSHALL
OLAUS J. MURIE
ERNEST C. OBERHOLTZER
JOHN N. SPENCER
CHARLES G. WOODBURY

Dear Dr. Griggs:

I welcomed the opportunity to review your suggestions on wilderness area control, for attention of the Committee on Aircraft vs. Wilderness.

Your proposal concerning air travel restrictions seems eminently sound from every standpoint. It should be heartily endorsed & supported without qualifications.

I find myself unable to support the proposal that wilderness use be regulated by some quota arrangements & enforcement. Frankly I do not believe it would work; it might actually bring about an unfavorable attitude towards the retention of such areas altogether; in any event the type of people who use wilderness areas would go in anyway, ignoring the "checking-in" stations (I sure would because I'd strongly resent being told where I could & could not go on publicly owned lands, except where temporary closures were made because of extreme fire risk).

(2)

As you recognize, wilderness use does of course imply limited numbers of people at any one time. It seems to me that we can best assure this ~~by~~ in several ways:

By keeping graded trail and shelter developments to the very minimum. Graded trails attract types of people who would not readily use the more primitive trails. Shelters too close together (less than say 15-16 miles) would constitute a similar attraction; so might ~~cause~~ short + graded portages.

By establishing more "buffer" areas of smaller size for use by the less venturesome, less well equipped recreationists. Some of these might be close to the larger wilderness areas; others at some distance. They would also serve for short trips by any people, even wilderness enthusiasts, who lacked the time to get into the back country.

One more point, not directly relevant, but nevertheless important, I think. Should we not explore every possibility of closing the wilderness areas to mineral development? Could we somehow get the available facts concerning what mineral values actually are present, to offset claims of interested parties?

Thanks again for the chance to see the statement.

Sincerely,

Bernard Frank

March 29, 1946

Olaus J. Murie
1840 Mintwood Place
Washington, D. C.

Dear Olaus:

I think Dr. Griggs has given us something to think about. I am trying to express my own reaction very briefly.

The proposed regulation of numbers allowed to visit wilderness areas is, of course, a legal departure from past thinking. If the attorney who straightened us out on legal regulation of air travel can give us an opinion on regulation of numbers, it might get us started on the right foot.

Dr. Griggs is, of course, right in saying that you can spoil an area by too many pack trains quite as well as you can spoil it with airplanes. I have no doubt that limitation of numbers will ultimately be necessary even for pack trains and canoe travel. I think, though, that he omits one important distinction: traveling by pack or canoe involves wilderness skills, whereas travel by motor-boat or plane does not. The conservation of wilderness skills is to my mind part of our objective.

I am sending a copy of this to Dr. Griggs.

With best personal regards,

Yours as ever,

Aldo Leopold

AL:MW

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CHICAGO, ILLINOIS

ADDRESS ONLY
THE DIRECTOR, NATIONAL PARK SERVICE

54

March 13, 1946.

Dr. Robert F. Griggs,
Chairman, Division of Biology and Agriculture,
National Research Council,
2101 Constitution Avenue,
Washington 25, D. C.

Dear Dr. Griggs:

To insure that the National Park Service is kept informed as to airplane flying regulations as they might affect the areas of the National Park System, I have designated Mr. Jackson E. Price, Chief Counsel of the Service, to follow this matter up with the Civil Aeronautics Authority and other appropriate authorities.

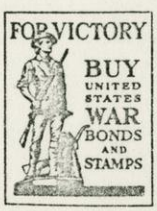
Olaus Murie called at this Office Monday, and I gave him my ideas as to the importance of the committee assignment on study of air travel and its effect on wilderness.

I appreciate your sending the copies of your recent interchange of correspondence with Ken Reid regarding a consolidation of conservation activities. I am shortly writing you about this.

With best regards,

Sincerely yours,

Newton B. Drury,
Director.



MEMORANDUM

March 12, 1946

Mr. O. J. Murie, Chairman
Messrs. Shirley W. Allen
Aldo Leopold
Frederick Law Olmstead
Kenneth A. Reid

as fellow members of the Committee on Aircraft Use in Wilderness Areas.

I have had the privilege of reading the tentative report to the National Research Council entitled "Air Travel vs. Wilderness - A Dilemma in Conservation". I apologize for not earlier submitting my views as a member of the Committee. I offer the following brief statement of opinion in the belief that there is a fundamental fault in the tentative report in that it gives me the impression that it was composed by people who do not fly much.

BACKGROUND

I believe that Dr. Griggs suggested my appointment as a member of the Committee, not so much because of my connection with the National Audubon Society as because he was aware of the fact that I had done, and still do a good deal of flying. I was an Army pilot in World War I and have been flying pretty steadily for 29 years. I suppose I fly 35,000 to 40,000 miles on the domestic commercial airlines a year, and a good many additional miles in small planes, especially on aerial surveys of wildlife conditions in the Gulf states. I have just completed a three-day aerial survey of the south 150 or so miles of Florida in a Cub with pontoons.

THE AIRPLANE

This machine is at a relatively early stage of its development such that some of the principal objections to its use may quite soon fail to have any sound basis. I am thinking particularly of noise and consequent disturbance of human beings, let alone wildlife, on the ground. We may have to contend with the problem of airplane noise a little while, but not, I think, long, as propellers, which make most of the noise, and the currently used kinds of engines are quite definitely on the way out, and other relatively noiseless forms of propulsion will undoubtedly be soon adopted.

THE TREND OF THE TIMES

Airplanes, in my opinion, are going to be widely used in all kinds of areas by all kinds of people. I feel that attempting to ban their use in substantial areas would constitute such bucking of the tide as to be futile. Airplane use does not, in my opinion, hold anything like the damaging potentialities from wildlife conservation standpoint as do roads and railroads. It is not what people do in planes in flight that is going to be so bothersome from a wildlife or wilderness standpoint. It is going to be what they do on the ground after they have flown to destinations. The need of controls, in my opinion, is therefore on the ground primarily.

AIR PATROL

It will be absolutely essential, in my opinion, that wildlife wardens and other enforcement officers of governmental and private agencies be equipped with planes and act as air cops just like state policemen on our highways; this to enforce air traffic rules and any bans there may be on landing in selected areas. Air cops can never, however, fully replace ground enforcement personnel, whether on land or water, and there will always have to be coordination just as in the Army, Navy and Air Forces in war. But just as it has become impossible to wage either aggressive or defensive war without a strong air force, so, in my opinion, it is fast becoming impossible to protect wilderness and wildlife habitats from undesired types of public encroachment without flying wardens or other flying enforcement personnel.

DISTURBANCE OF WILDLIFE

In my personal experience, birds other than geese, and mammals, in so far as I have been able to see, are not disturbed by the noise or shadow or other aspects of airplanes flying over them, provided said planes are flying at an altitude of 1000 feet or more. In the vast majority of cases this is so at 500 feet altitude. Most kinds of birds that are temporarily disturbed evidently soon become used to planes and pay practically no further attention to them. I do not know at what altitude minimum a plane must be to eliminate disturbance to geese, which may constitute a special problem.

AIRPLANE PRACTICES THAT SHOULD BE BANNED ANYWHERE

1. Flying under 500 feet other than in landing and taking off, and then only for a distance of say 200 yards from take-off point; this distance may be reduced to practically zero relatively soon.

2. "Buzzing" bird or other wildlife concentrations. Penalty for this should be very severe, as "buzzing" is deliberate.

3. Shooting from planes at wildlife of any kind at any time and place ("control" measures included).

GROUND PRACTICES ALLIED WITH AIRPLANE USE

I do feel that at least until types of planes relatively noiseless and with steep take-off capacity have replaced present common types, it would be well to ban creation of any artificial landing and take-off areas within wilderness tracts, national parks, federal refuges, etc. and that the airports to serve the public entering such areas should be outside the boundaries thereof. When newer types of planes are in use, I don't think the point of take-off and landing will make any essential difference. It seems to me that by such methods as purchase of privately owned lands within the boundaries, by zoning regulations, etc. there must be ways to control what people do on the ground after they have landed from a plane. I suspect that it is going to be necessary to ban hunting, fishing and trapping in many areas, let alone motor boating, honky-tonks and other relatively undesirable types of public recreational facilities. A motor

boat is infinitely worse than an airplane from the standpoint of wildlife disturbances. A canoe is worse, if it has a man in it! Photographers are worse!

NAVIGABLE WATER CONTROL

I feel it is essential that there be complete agreement between the U. S. Engineers and the administrators of federal parks, refuges and wilderness areas such that landing by plane or travel by boat of certain types, on navigable waters within specified wilderness tracts, be entirely prohibited. Conflict of rules in this regard would, of course, be disastrous.

TO SUM UP

1. I believe that flat opposition to use of airplanes will be not only unnecessary, but futile.

2. I believe the airplane, rightly used, can be an effective agent in the better protection of wildlife in wilderness areas, and that the more people go into the air and off the ground, the better.

3. I believe no time should be lost in advocating Congressional action appropriating substantial funds for the purchase of private holdings within national parks, federal refuges and wilderness tracts within other federally owned areas.

4. I believe no time should be lost in influencing federal and state departments concerned to institute airplane patrol in enforcement activities.

5. I believe no time should be lost in bringing pressure on the Appropriate state agencies to put into effect such zoning regulations as to minimize, if not eliminate, undesirable types of public use on privately owned property within the boundaries of national parks, federal refuges or wilderness tracts on other types of federal lands; also within the boundaries of state parks and refuges.

John H. Baker

March 8, 1946

Mr. Newton B. Drury, Director
National Park Service
U. S. Department of the Interior
Chicago 54, Illinois

Dear Mr. Drury:

I think you will be interested in a copy of the enclosed letter from Ken Reid. Probably the information in it has reached you from other sources.

I do hope tha with this correspondence in mind you will be able to write me a letter which I can use at the meeting in St. Louis which hopes to establish a Conservation Council. That movement is certainly on a very shaky foundation at present and needs all the help it can have.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and Agriculture

RFG:ho
Enclosure

C O P Y

IZAAK WALTON LEAGUE OF AMERICA, INC.

31 North State Street
Chicago 2, Illinois

Dr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington, D. C.

Dear Dr. Griggs:

That was a lot of good sound advice you gave Dr. Adams in yours of February 27th. In this connection, we are now automatically sending copies of various important communications, such as the attached statement in regard to HE 4503, with the National Organization cooperation stamped thereon.

From your letter, I gather the meeting in St. Louis has not been set forward, but comes at the same time as our National Convention here, March 28, 29, and 30. Things are bunching up on me anyway, so I will go one day early to the North American Wildlife Conference in New York in order to attend the special meeting on the Moose River Dams in the Adirondaks, and I will leave from there for Toronto for a conference with the Minister of Lands and Forests, on the 14th, on the Quetico-Superior.

Things have been humping on that land acquisition matter. The two sore thumbs on Crooked Lake --Zupancich and Perko - think they have gold on their small properties. At any rate, the former asked $65,000 and the latter $50,000, and they have circulated stories around that territory that the League had offered them those amounts. That, of course, is absolutely false and we have turned it down flat in order to burst the land speculation bubble that such rumors started. Meantime, the Forest Service is picking up some other areas that are undeveloped, at reasonable prices,and at one resort location that was just started.

The airplane problem has some peculiar angles. One fellow who had a strategic and secluded location on Kekekabic Lake became very much alarmed when 27 planes landed there one Saturday this winter, on skis, to fish through the ice. They are flying up from Duluth in the morning and back in the evening at $15.00 per head round trip, four in a plane. The net result of this unrestricted competition is that the prospective resort owner is about to sell out to us and not build a resort. So, while control of the airplane is the key to the whole problem, it might be undesirable for the present, at least, to put any curb on private or chartered day trips unless, at the same

time, the shuttle plane transportation to and from the chiseling resorts inside the Roadless Area was stopped.

Sincerely

/s/ Kenneth A. Reid
Executive Director

kar/rca

March 8, 1946

Mr. Kenneth Reid
Izaak Walton League of American, Inc.
31 North State Street
Chicago, Illinois

Dear Mr. Reid:

Thanks very much for your letter of March 5. The kind of thing you have run into on Crooked Lake is exactly what one always encounters when he tries to buy land. We really need the right of eminent domain there, but every friend of Conservation is overjoyed to know that the Izaak Walton League has funds to go ahead and pick up such properties without question.

I shall pass on your information about the airplane to Olaus when he is here next week. However, you will probably see him before I do at the Wildlife Conference in New York.

Yes, the conference in St. Louis is definitely set for Saturday, March 30, and there was no way I could move it. I hope it will accomplish something, but I am not over-sanguine about it.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and Agriculture

RFG:ho

NATIONAL OFFICERS

PAUL CLEMENT
MINNEAPOLIS, MINNESOTA
PRESIDENT

DR. FERD BROWN
SIOUX FALLS, SOUTH DAKOTA
VICE-PRESIDENT

C. M. BRYANT
ST. JOHN, NORTH DAKOTA
VICE-PRESIDENT

WILLIAM L. FINLEY
PORTLAND, OREGON
VICE-PRESIDENT

C. R. HALLOWELL
DUBUQUE, IOWA
VICE-PRESIDENT

DR. LEWIS RADCLIFFE
WASHINGTON, D. C.
VICE-PRESIDENT

HARRY D. JEWELL
GRAND RAPIDS, MICH.
TREASURER

EARL H. GROMER
ELGIN, ILLINOIS
SECRETARY

ALDO LEOPOLD
MADISON, WISCONSIN
CONSERVATION CONSULTANT

PRESIDENTS EMERITI

DR. HENRY BALDWIN WARD
URBANA, ILLINOIS

DR. PRESTON BRADLEY
CHICAGO, ILLINOIS

OTTO C. DOERING
CHICAGO, ILLINOIS

TAPPAN GREGORY
CHICAGO, ILLINOIS

IVAR HENNINGS
SOUTH BEND, INDIANA

EXECUTIVE BOARD

WALTER FRYE
WOOSTER, OHIO
CHAIRMAN

PAUL CHANDLER
DES MOINES, IOWA

L. H. DUNTEN
FORT WAYNE, INDIANA

DR. GEORGE B. EUSTERMAN
ROCHESTER, MINNESOTA

DR. W. B. HOLTON
CHEVY CHASE, MARYLAND

DR. JOHN W. SCOTT
LARAMIE, WYOMING

ARTHUR SENIOR
HOMEWOOD, ILLINOIS

TOM WALLACE
LOUISVILLE, KENTUCKY

CARL A. WEYGANDT
MUNROE FALLS, OHIO

KENNETH A. REID
CHICAGO, ILLINOIS
EXECUTIVE DIRECTOR

Izaak Walton League of America, Inc.

DEFENDER OF WOODS, WATERS AND WILDLIFE

NATIONAL HEADQUARTERS
31 NO. STATE STREET
CHICAGO 2, ILLINOIS
TELEPHONE ANDOVER 3522

NATIONAL DIRECTORS

W. J. P. ABERG, MADISON, WIS.
EDWARD M. APPLE, DETROIT, MICH.
J. F. AVERY, BISHOP, CALIF.
DR. W. R. BAGLEY, DULUTH, MINN.
FRANK BARNES, LOS ANGELES, CALIF.
FRED BIERMANN, DECORAH, IOWA
RUSSELL BINNING, TERRE HAUTE, IND.
E. HAROLD BLACKBURN, EVERETT, PA.
FRANK BRADY, ATKINSON, NEBR.
BURT BRICKNER, TIFFIN, OHIO
MAJOR OSCAR BURKARD, ROME, NEW YORK
MORRIS W. BURKE, KEUKA PARK, NEW YORK
G. E. CONDO, HAMILTON, OHIO
CAPT. C. F. CULLER, MINNEAPOLIS, MINN.
J. N. DARLING, DES MOINES, IOWA
ALBERT M. DAY, CHICAGO, ILL.
JOHN P. DECK, WYOMISSING, PA.
TALBOTT DENMEAD, CHICAGO, ILL.
MURL DEUSING, MILWAUKEE, WIS.
GARDNER, DIBBLE, MADISON, S. D.
DR. GEO. B. EUSTERMAN, ROCHESTER, MINN
WALTER FENTRESS, NORFOLK, VA.
JOHN H. FRENCHICK, SIOUX CITY, IOWA
JOHN C. GREGORY, FULLERTON, CALIF.
EARL GROMER, ELGIN, ILL.
OTTO GROSSMAN, ARGOS, IND.
DANIEL GULBAN, HOBART, IND.
A. O. HARRISON, BARTLESVILLE, OKLA.
DR. A. W. HENN, PITTSBURGH, PA.
RALPH HODGDON, JOPLIN, MO.
DR. W. B. HOLTON, CHEVY CHASE, MD.
L. H. HUDNALL, LAS ANIMAS, COLO.
BUD JACKSON, TULSA, OKLA.
H. D. JEWELL, GRAND RAPIDS, MICH.
CARL JOLLY, OWATONNA, MINN.
HENRY KEITZEL, BUFFALO, NEW YORK
GROVER C. LADNER, PHILADELPHIA, PA.
RIAL LAKE, GUNNISON, COLO.
DR. THOMAS H. LANGLOIS, PUT-IN-BAY, OHIO
RALPH LINGWALL, FLANDREAU, S. D.
R. E. LLEWELLYN, TERRE HAUTE, ND.
S. B. LOCKE, BOSTON, MASS.
K. A. McCASKILL, DENVER, COLO.
O. E. McCLURE, ATHENS, OHIO
M. S. McMURTREY, LINCOLN, NEB.
C. A. MacDONALD, SOUTH BEND, IND.
DR. C. F. MILLESON, PORTLAND, ORE.
HON. KARL E. MUNDT, WASHINGTON, D. C.
CARL NORGREN, DENVER, COLO.
J. C. OCHSNER, FORT MADISON, IOWA
ROBERT O'HAIR, GLEN ELLYN, ILL.
HENRY A. PIERCE, KALAMAZOO, MICH.
CHARLES E. PIERSALL, CASPER, WYO.
J. R. POLAND, JR., MARTINSBURG, VA.
W. H. PRINGLE, PIERRE, S. D.
LOUIS RADKE, HORICON, WIS.
EDWIN P. RINEHART, COLUMBUS, OHIO
W. E. SANDERSON, NEW YORK CITY
DR. JOHN W. SCOTT, LARAMIE, WYO.
DR. GEO. T. STARNES, UNIVERSITY, VA.
VAL. STAUDER, ST. PAUL, MINN.
CHARLES F. STEWART, KOKOMO, IND.
TRYGVE STORM, FORT WAYNE, IND.
A. W. STORMS, MANITOWOC, WIS.
JACK STOWELL, WASHINGTON, D. C.
G. K. SUTHERLAND, HOMINY, OKLA.
RIES TUTTLE, DES MOINES, IOWA
TOM WALLACE, LOUISVILLE, KY.
DOC WEATHERS, TACOMA, WASH.
JUDSON L. WICKS, MINNEAPOLIS, MINN.
HARRY WILLIAMS, DANVILLE, ILL.
H. T. WILLIS, CHAMPAIGN, ILL.
DR. H. A. WILSON, SOUTH BEND, IND
B. V. WRIGHT, LOGAN, OHIO
DANA WRIGHT, ST. JOHN, N. D.

March 5,1946
(3/1/46)

Dr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue,
Washington, D. C.

Dear Dr.Griggs:

That was a lot of good sound advice you gave Dr. Adams in yours of February 27th. In this connection, we are now automatically sending copies of various important communications, such as the attached statement in regard to HR 4503, with the National Organization cooperation stamped thereon.

From your letter, I gather the meeting in St. Louis has not been set forward but comes at the same time as our National Convention here, March 28, 29 and 30. Things are bunching up on me anyway, so I will go one day early to the North American Wildlife Conference in New York in order to attend the special meeting on the Moose River Dams in the Adirondaks, and I will leave from there for Toronto for a conference with the Minister of Lands and Forests, on the 14th, on the Quetico-Superior.

Things have been humping on that land acquisition matter. The two sore thumbs on Crooked Lake--Zupancich and Perko - think they have gold on their small properties. At any rate, the former asked $65,000 and the latter $50,000, and have circulated stories around that territory that the League had offered them those amounts. That, of course, is absolutely false and we have turned it down flat in order to burst the land speculation bubble that such rumors started. Meantime, the Forest Service is picking up some other areas that are undeveloped, at reasonable prices, and at one resort location that was just started.

The airplane problem has some peculiar angles. One fellow who had a strategic and secluded location on Kekekabic Lake became very much alarmed when 27 planes landed there one Saturday this winter, on skis, to fish through the ice. They are flying up from Duluth in the morning and back in the evening at $15.00 per head round trip, four in a plane. The net result of this unrestricted competion is that the prospective resort owner is about to sell out to us and not build a resort. So, while control of the airplane is the key to the whole problem, it might be undesirable for the present, at least, to put any curb on private or chartered day trips unless, at the same time, the shuttle plane transportation to and from the chiseling resorts inside the Roadless Area was stopped.

Sincerely,

Kenneth A. Reid
Executive Director

kar/rca

Izaak Walton League of America.
DEFENDER OF WOODS, WATERS AND WILD LIFE
NATIONAL HEADQUARTERS
TELEPHONE ANDOVER 3522
LASALLE HOTEL
31 NORTH STATE STREET
TELEPHONE CENTRAL 5855
CHICAGO 2, ILL.

Feb.11,1946
2/46/345

STATEMENT OF THE IZAAK WALTON LEAGUE ON HR 4503

The Izaak Walton League of America has long advocated the vital need for coordinating legislation which would require such agencies as the Army Engineer Corps and the Bureau of Reclamation and any Valley Authority agencies that might be set up to give full consideration to broad public aquatic values as an integral part of their proposals, their engineering and their construction plans. To this end, we have advocated that comprehensive biological surveys on a par with and, at the same time as the engineering surveys, be made an integral part of the report to Congress so that Congress may have before it a full and complete balance sheet of all values existing and potential as a basis for intelligent decisions as to the desirability or undesirability of the different projects.

We have consistently demonstrated our willingness to support any legislation designed to achieve this important end. Accordingly, we supported the earlier Cordon and Gerlach bills. When we did so we realized they were not perfect but, even more, we realized the vital necessity of having some legislation to curb the rough shod tactics of the Army Engineer Corps and the Bureau of Reclamation in ignoring public aquatic values while going blindly ahead with their engineering proposals on the narrow and selfish viewpoint of financial benefit to a few special interests.

Since the original Cordon and Gerlach bills, there have been several rewrites of this basic idea by Congressman Robertson, the latest embodied in the current HR 4503. We have supported them all, and we support HR 4503, for we feel that the basic idea embodied in all of them for protecting public aquatic values against blind engineering projects by the Army Engineer Corps and Bureau of Reclamation and any other dam building agencies is the all-important matter, while the minor details over jurisdiction of wildlife injected as objections by some of the state wildlife agencies are designed to cover imaginary rather than real dangers. The important thing is to get some bill embodying this basic principle passed before we have further needless destruction of America's aquatic resources because of complete lack of vitally needed curbs on dam building programs that ignore public aquatic values.

We are familiar with the latest minor amendments to HR 4503 agreed upon by a group of western state fish and game commissioners and the Fish and Wildlife Service. These amendments are all right with us but they are unimportant compared to the necessity for getting the basic theme of the bill enacted into law, which we consider the most vitally important conservation measure now before Congress. Our viewpoint is further amplified in the attached telegram and editorial.

Kenneth A. Reid

kar/rca
Enc.

Kenneth A. Reid
Executive Director
Izaak Walton League of America, Inc.

2/46/345

(COPY)

WESTERN UNION - NIGHT LETTER

TO: MR. ALBERT M. DAY
℅ R. S. ZIMMERMAN
457 FEDERAL BLDG.,
SALT LAKE CITY, UTAH.

CHICAGO, ILL. JAN.29,1946

THE REAL ISSUE AND THE MOST VITAL ONE BEFORE CONGRESS IS TO CURB THE BLIND ENGINEERING PROJECTS OF THE KNOWN ENEMIES OF SOUND CONSERVATION, NAMELY THE ENGINEER CORPS AND RECLAMATION. SQUABBLES OVER MINOR DIFFERENCES IN WILDLIFE JURISDICTION HAVE ALREADY WASTED MONTHS OF VALUABLE TIME WHILE THE TWO ENEMIES CONTINUE UNCHECKED. THE NEED FOR CURBING THE FEDERAL DAM BUILDERS IS REAL; THAT FOR CURBING FEDERAL WILDLIFE JURISDICTION POTENTIAL AND LARGELY IMAGINARY. LET'S CONCENTRATE THE ATTACK ON THE REAL ENEMY AND GET THE JOB DONE.

KENNETH A. REID, EXEC. DIR.
IZAAK WALTON LEAGUE OF AMERICA

kar/rca

Let's Pull Together

AN EDITORIAL

WATER is the abused and neglected orphan of the whole natural-resource family. We have reasonably good land management in the public interest; great strides have been made in game and fish management—but the one conspicuous missing link in our growing conservation program is the utter lack of any rational coordinated program for protection, or even consideration, of broad public values inherent in natural waters.

The Congressional hopper is overflowing with bills to authorize great dams and diversions from one end of the country to the other. There has been keen competition between the Army Engineers and the Bureau of Reclamation to build the most and biggest dams, and now there is a third competitor—the valley authority plan.

But the pattern of all the bills, whatever the administrative agency, is the same. On the false premise that a river as God made it is of no value and its water going to waste unless "improved" by the engineers, the bills call for the *maximum possible* development of hydro power, irrigation, navigation and flood control. A few make gestures to fishing and aquatic resources, but always with the qualification, "provided these uses do not interfere with the primary purposes of the development." Unfortunately, protection or development of public aquatic values *is never one of the primary purposes.* Fishing is welcome to whatever may be left after the special-interest demands of power, irrigation and navigation have been served—and after *maximum* development of these, there is little left.

To meet this need Senator Guy Cordon, as announced in June FIELD & STREAM, has introduced S-924. The companion House bill is H.R. 3315 by Gerlach. [Editor's note: see page 34 of this issue.] Its major provision requires comprehensive biological surveys by the Fish and Wildlife Service on a par with and at the same time as the engineering surveys, with appropriations for such surveys included in the cost of the project, and reports of such surveys an integral part of the report to Congress as the basis for approval or rejection of the project. Such consideration of all values in the survey and planning stages has long been advocated by the Izaak Walton League and other conservation organizations.

The bill is not perfect; none of them is. While we heartily approve of biological surveys by the Fish and Wildlife Service, we believe the base should be broadened to include at least the Soil Conservation Service and the Forest Service. Objection has also been raised by state fish and game departments to the exclusive jurisdiction conferred upon the Fish and Wildlife Service, contending that state agencies should be included. We agree; and if space permitted, could add one or two other constructive suggestions.

But while advocating additions, deletions or changes in details, *we must not permit these considerations to blind us to the vital importance of the central, basic theme*—recognition of and consideration for the biology of water. That is vital to you as a fisherman at this time when the rivers of America are imminently threatened with conversion into a series of fluctuating slackwater pools by impoundage, or dry beds by diversion. It would indeed be tragic if squabbles over details or mechanics of operation should divide and alienate support for the governmental recognition of public aquatic values so long overdue.

History will be written in the fate of S-924 and H.R.3315. Enactment will protect thousands of miles of fine fishing rivers from needless destruction without preventing any valid or needed developments. Their fate is in your hands, but you must make your wishes known to your Senators and Congressmen. And while you are about it, tell them you also want the Mundt-Myers clean streams bill enacted—H.R. 519 and S-535. The Mundt-Myers bills to save America's waters from the polluters, and the Cordon-Gerlach bills to save them from unnecessary destruction by the dam builders, *constitute the most important basic conservation legislation ever presented to Congress.*

Gurth D. Reid

EXECUTIVE DIRECTOR
IZAAK WALTON LEAGUE OF AMERICA

Reprinted from the August, 1945, issue of Field & Stream

VICE PRESIDENT
BENTON MacKAYE

PRESIDENT AND PERMANENT SECRETARY
ROBERT STERLING YARD

TREASURER
ERNEST STACEY GRIFFITH

COUNCIL
HAROLD C. ANDERSON
MASSACHUSETTS
L. A. BARRETT
CALIFORNIA
HARVEY BROOME
TENNESSEE
IRVING M. CLARK
WASHINGTON
BERNARD FRANK
DISTRICT OF COLUMBIA
ERNEST STACEY GRIFFITH
DISTRICT OF COLUMBIA
ROBERT FISKE GRIGGS
MARYLAND
DOROTHY SACHS JACKSON
MARYLAND

THE WILDERNESS SOCIETY

1840 MINTWOOD PLACE
WASHINGTON 9, D. C.

COUNCIL
ALDO LEOPOLD
WISCONSIN
BENTON MacKAYE
MASSACHUSETTS
GEORGE MARSHALL
NEW YORK
JAMES MARSHALL
NEW YORK
OLAUS MURIE
WYOMING
ERNEST C. OBERHOLTZER
MINNESOTA
ROBERT STERLING YARD
DISTRICT OF COLUMBIA

Jackson, Wyoming
Feb. 3, 1946

Dr. Robert F. Griggs
National Research Council
2101 Constitution Avenue
Washington 25, D. C.

Dear Robert:

This is just to let you know that I have not entirely forgotten about the Aircraft Committee. The files were sent to the Washington adress by Leopold, and forwarded back here. I have been studying the contents and as soon as I receive some information from Aldo, I believe I ought to prepare a report to the National Research Council, with copy to all committee members, setting forth what has been done so far and with some suggestions for further procedure. I will work on this as expeditiously as I can, for I realize the urgency of the matter.

I believe I ought to go to New York in the middle of March to attend the Wildlife Conference there. I have been invited to head up the discussion of wildlife at the annual meeting of the Izaak Walton League at Chicago on March 29, and I ought to see several people on wilderness as well as aircraft matters, all of which could be done on that trip. I believe Zahnie could profitably attend the New York meetings too, to get acquainted and help things along.

All goes well here. Martin is out of the Army and we have had some fine skiing. Our best to you all.

Sincerely

Olaus

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

ADDRESS REPLY TO
CHIEF, FOREST SERVICE
AND REFER TO
U
STUDIES
Airplane Landing Fields

WASHINGTON

January 16, 1946

Mr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington 25, D. C.

Dear Mr. Griggs:

Reference is made to your letter of January 9.

I am very glad to know of your appointment of Olaus Murie as Chairman of your Committee on the Use of Airplanes in Wilderness Areas. I know Mr. Murie well, and feel that as a well known naturalist and wilderness man and Director of the Wilderness Society he is fully qualified to handle this chairmanship with distinction.

Very sincerely yours,

LYLE F. WATTS, Chief

By:

UNIVERSITY OF WISCONSIN
COLLEGE OF AGRICULTURE

DEPARTMENT OF WILDLIFE MANAGEMENT

424 UNIVERSITY FARM PLACE
MADISON 5, WISCONSIN

January 16, 1946

Dr. Robert Griggs
National Research Council
2101 Constitution Avenue
Washington 25, D. C.

Dear Dr. Griggs:

You are very generous in allowing me to drop the Airplane Committee assignment. I dislike very much to load Olaus with a half-finished undertaking, but I am sending him the entire correspondence including the reports from the other members of the committee; also the rough manuscript copy that I had started for a committee report.

Now that your decision is made, I am sending you a mimeograph showing you what the graduate student load is in my outfit.

I accepted the job on the trustees because there were no immediate time obligations and because it seemed too important to turn down. Of course I realize that this airplane situation is likewise too important.

I assume in the absence of anything to the contrary in your letter that Olaus is at the Washington office; hence I am mailing this there rather than Jackson Hole.

Sincerely,

Aldo Leopold

Aldo Leopold

NEWS LETTER FOR PROSPECTIVE GRADUATE STUDENTS
Department of Wildlife Management, University of Wisconsin
December 20, 1945

You are one of many students who have inquired about graduate work here. This news letter is aimed to keep you appraised of the situation.

Inventory	Candidate for: M.S.	Ph.D.	Undecided	Total
On hand Sept. 1945	1	1	0	2
Enrolled 1st semester	3	2	2	7
Here, ready to enroll	3	2	0	5
Former students, will return	2	3	0	5
Total	9	8	2	19
Applied to enroll, 2nd sem.	5	1	0	6
Applied to enroll, Sept. '46	0	1	0	1
Grads inquiring indefinite	15	3	0	18
Total prospective grads	20	5	0	25

In addition, the following undergraduates have applied: 4 for second semester, 3 for September 1946, 24 for an unspecified date, 31 total.

Capacity: New Faculty. The normal capacity of the Department, as announced annually in its prospectus, is five graduates at one time. In order to accomodate the temporary post-war demand in so far as possible, two changes are being made.

(1) We are negotiating for two additional instructors.
(2) Arrangements have been made with the State Conservation Department to carry some students as research assistants. These men will alternate between field work and campus, thus taking their campus work in relays.

It is estimated that these changes will double my capacity, but it will still be impossible for me to carry through to a degree all who have applied.

Qualifications for Wildlife Work

Since part of the present applicants will have to be dropped some time, and since there is no way to judge qualifications for wildlife work in advance (except the scholastic standard already imposed by the Graduate School), I am suggesting the following criteria which may help you judge for yourself how badly you want to come here, as against other schools, some of which are less crowded and perhaps less exacting.

(a) Research Ability. This is by far the most important. Some men with high grades do not have it. Some can execute research, but cannot plan it. If you lack a clear mental picture of what this Department means by a "publishable thesis", (i.e. the kind of research requisite for a degree), I suggest that you look up the

following samples in your library:

(1) Hamerstrom, F. N. JR. 1939. A study of Wisconsin prairie chicken and sharptailed grouse. Wilson Bulletin 51:2:105-120. Also same author 1941: Experimental study of browse as a winter diet for prairie chicken, Wilson Bulletin 53:3:185-195. These two papers were parts of a thesis.

(2) Buss, Irven O. and Arthur Hawkins, 1939. The upland plover at Faville Grove. Wilson Bulletin 51:4:202-220. This paper was presented as a thesis by the senior author.

(3) Hawkins, Arthur S. A wildlife history of Faville Grove, Wisconsin. 1940. Trans. Wis. Acad. Sciences Arts and Letters, 32:29-65.

Another thesis, considerably elaborated later, and now in book form, may be more available to you:

(4) Hochbaum, H. A. 1944. The canvasback on a prairie marsh. Amer. Wildlife Institute, Washington. 201 pp. $3.00.

(b) Natural History. This means familiarity with common birds, mammals, and plants, and if possible also fishes, reptiles, amphibians and insects. As between two students otherwise alike, I will keep the one who comes the better equipped in this respect.

(c) Field Skills. Since many of the students will alternate between campus and field work in the Conservation Department, there will be a preference for students who have the personality, physique, field skills, and "woods experience" which enables them to fit in easily with a field organization.

(d) Writing Ability. Inability to express ideas clearly and simply is the most frequent defect in wildlife students. With such a large enrollment, I will be unable to furnish much editorial coaching. This difficulty will ordinarily not arise until the later part of the graduate period. If you doubt your ability to write or to learn how to write, I advise attending some school where a thesis need not be publishable.

(e) Languages. As between two Ph. D. candidates otherwise alike, I will keep the one whose foreign language requirement is the most nearly met.

Specialities in Other Departments

While this department is evidently to be crowded for three or four years to come, a similar condition does not exist in some closely related departments which have only recently organized facilities for cooperating in wildlife work. Thus a student interested in specialized training in ornithology and mammalogy can soon get it in the Zoology Department, where a new faculty member is being employed. Specialized training in wildlife pathology is now available in Veterinary Science. Arrangements are in prospect for special training in food habits research.

Some of the prospective students might be interested in one of these specialities.

University Restrictions on New Students

Because of the housing shortage, the University is considering possible restrictions on enrollment. Their exact nature is not yet determined, but it is unlikely that they will apply to Wisconsin residents, or to war veterans. It is probable, however, that the Graduate School will require a grade-point average of 1.75 for new non-resident non-veteran students.

General

Please let it be clear that this Department feels a deep responsibility, especially toward those prospective students whose training has been deferred by military service. We want to do everything possible to help you, whether or not you end up here. However, we must maintain the quality of the training, else it is not worth your while to come. This letter aims to help you size up your own qualifications.

Aldo Leopold
Professor of Wildlife Management

January 11, 1946

Mr. Olaus Murie
Jackson, Wyoming

Dear Olaus:

I think I have written you from time to time concerning George Hart's reactions to the problem of wildlife versus stock.

I should like you to study the enclosed and comment on it. Your experience uddoubtedly will give the right reaction.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and
Agriculture

RFG:mkm
Enclosure

January 9, 1946

Dr. Ross G. Harrison, Chairman
National Research Council
Washington, D.C.

Dear Doctor Harrison:

Aldo Leopold, Chairman of the Committee on Aircraft vs. Wilderness Areas has asked that we accept his resignation from the assignment, due to an overburden of work.

I have written to Olaus Murie asking him to take over the Chairmanship of the Committee.

Do you approve this appointment?

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and Agriculture

RFG:mkm

January 9, 1946

Dr. Aldo Leopold
Professor of Wildlife Management
University of Wisconsin
Madison, Wisconsin

Dear Aldo:

I regret greatly that you have been so overloaded that you could not carry on the Committee on the Use of Airplanes.

I have taken your suggestion and have asked the acceptance of Olaus Murie for the job. Would you be so good as to send him the material which you have on the subject?

I greatly regret that you are unable to continue. I think you would do it better than anyone else if you had the time.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and
Agriculture

RFG:mkm

January 9, 1946

Mr. Olaus J. Murie

Jackson, Wyoming

Dear Olaus:

I am delighted that you will accept the Chairmanship of the Aircraft Committee. It is not a pleasant job but an important one.

I notice that the aircraft companies are already advertising the possibility of using airplanes in hunting expeditions.

I am asking Aldo to send you all of the material that he has.

Do we see you in March again at the time of the Wildlife conference?

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and
Agriculture

RFG:mkn

P.S. Rosamond and Russ' furniture left yesterday and they are leaving tomorrow. We shall miss them.

R. F. G.

VICE PRESIDENT
BENTON MacKAYE

PRESIDENT AND PERMANENT SECRETARY
ROBERT STERLING YARD

TREASURER
ERNEST STACEY GRIFFITH

COUNCIL
HAROLD C. ANDERSON
MASSACHUSETTS
L. A. BARRETT
CALIFORNIA
HARVEY BROOME
TENNESSEE
IRVING M. CLARK
WASHINGTON
BERNARD FRANK
DISTRICT OF COLUMBIA
ERNEST STACEY GRIFFITH
DISTRICT OF COLUMBIA
ROBERT FISKE GRIGGS
MARYLAND
DOROTHY SACHS JACKSON
MARYLAND

THE WILDERNESS SOCIETY

1840 MINTWOOD PLACE
WASHINGTON 9, D. C.

COUNCIL
ALDO LEOPOLD
WISCONSIN
BENTON MacKAYE
MASSACHUSETTS
GEORGE MARSHALL
NEW YORK
JAMES MARSHALL
NEW YORK
OLAUS MURIE
WYOMING
ERNEST C. OBERHOLTZER
MINNESOTA
ROBERT STERLING YARD
DISTRICT OF COLUMBIA

Jackson, Wyoming
January 3, 1946

RECEIVED
JAN 7 1946
DIVISION OF BIOLOGY & AGRICULTURE

Dr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington 25, D. C.

Dear Robert:

I hesitate to accept the chairmanship of the Aircraft Committee, not for any special unwillingness, but because I fear I may not be familiar enough with some of the aspects of the problem. But since Aldo is obviously snowed under I shall not refuse. It is, of course, in line with Wilderness Society work. I shall do my best.

If and when the appointment is made I would be glad to have copies of some of the more vital correspondence, anything that might be really helpful. I recall receiving from you some of the early correspondence and you mention in your letter something from Lyle Watts, which was not enclosed. This is, of course, a serious problem, and should not be approached in a defeatist manner.

We have had Martin and Joanne at home for Christmas, so you, with your own experience in such things, can appreciate what a Christmas it was.

We all send very best wishes for 1946 to all the Griggs Clan, and may we see each other sometimes.

Sincerely
Olaus
Olaus J. Murie
Director

UNIVERSITY OF WISCONSIN
COLLEGE OF AGRICULTURE

DEPARTMENT OF WILDLIFE MANAGEMENT

424 UNIVERSITY FARM PLACE
MADISON 5, WISCONSIN

December 14, 1945

Dr. Robert F. Griggs
National Research Council
2101 Constitution Ave.
Washington 25, D. C.

Dear Dr. Griggs:

It is obvious by now that I have fallen down on you badly in the matter of the Aircraft Committee.

I got a little work done on it during the summer, but in September there descended on me, without warning, the largest and best batch of graduate students I have ever seen. More are coming. I have tried hard to find a week end when I could prepare at least some kind of a report, but the time to do this is not yet in sight. If you think any other member of the committee could handle the situation, I would welcome the chance to relinquish the chairmanship and I deeply regret personally falling down on you in this important assignment.

Yours sincerely,

Aldo Leopold

Aldo Leopold

Would Olaus be willing to take this over as Chairman? He would be ideal but probably has too much to do.

October 30, 1945

Dr. Aldo Leopold
Professor of Wildlife Management
University of Wisconsin
Madison, Wisconsin

Dear Leopold:

Enclosed is a copy of a letter from F. M. Goodwin dealing with the legal technicalities involved in controlling aircraft over wilderness areas. Although the Committee has specifically eliminated legal considerations from its preliminary investigation, I am sure that you will be interested in Mr. Goodwin's analysis.

I presume that most of you know Goodwin. He has, for a long time, been a Trustee of the National Parks Association and a member of its Executive Committee. He is a tried and true friend of the wilderness.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and Agriculture

RFG/a
1 Encl.

CC: Drs. Kenneth A. Reid
Shirley W. Allen
Frederick Law Olmsted
John H. Baker

October 29, 1945

Mr. F. M. Goodwin
Attorney and Counsellor at Law
744 Jackson Place
Washington 6, D. C.

Dear Mr. Goodwin:

I thank you greatly for your careful and lucid exposition of the complexities of the regulation of aircraft in wilderness areas, and particularly, for your clear indication of the avenues which need further exploration in reaching a decision.

I am passing on your letter to the members of our Committee of which Dr. Aldo Leopold is Chairman.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and Agriculture

RFG/a

4 copies

F. M. GOODWIN
ATTORNEY AND COUNSELLOR AT LAW
744 Jackson Place,
WASHINGTON, D. C.
TELEPHONE, DISTRICT 8897

RECEIVED
OCT 29 1945
DIVISION OF BIOLOGY & AGRICULTURE

October 26, 1945.

Dr. Robert F. Griggs,
National Research Council,
2101 Constitution Avenue,
Washington 25, D. C.

Dear Dr. Griggs:

Several months ago I received your letter of inquiry as to the use of air craft in and around wilderness areas, together with certain enclosures. Your letter and documents present some interesting questions, some brand new to me, and if time permitted I would enjoy making a study of them. However, a change of office and associates and the pressure of litigation in which I am interested, restricts me to rather an inadequate response and, it may be, into making some statements which further consideration might change or modify.

From your letter and enclosures together, your problem relates to both air craft and motor boats. The problem is also complicated by national, state and private land ownership or control and by national and state authority over air and waters. I take it, however, that you are not seeking an opinion as to what the courts might hold but any suggestions as to a practical way to protect the areas in question.

It strikes me that the immediate objective would be to induce national and state authorities, if they have not already done so, to promulgate effective rules and regulations as to the use of air craft, motor boats and lands within wilderness or other reserved areas and to cooperate in the enforcement thereof. Unless such rules and regulations are unreasonable there should be no real or valid objections to such a program. The only question is -- Do the constituted authorities have power to act in the premises?

A few items may first be eliminated. 1. Air craft, if operated at the proper elevation, can hardly be denied the privilege of flying over any wilderness area or, I take it, any national park area, unless the President, as a war time or natical safety measure, should so order. 2. Emergency landings of air craft on land or water, within a wilderness or other reserved area, cannot be denied. 3. The reasonable and proper use of navigable waters for commerce or to permit acess to privately owned property within a wilderness area, can hardly be denied. There is little reason to expect navigable waters within a wilderness area will be used for commerce. 4. The International Boundary Commission is not apparently involved, as its jurisdiction does not extend to air craft or motor boats or the use of wilderness areas in the U. S.

Within the field thus restricted, where must we go to

seek relief?

IN THE AIR

The Civil Aeronautics Authority has jurisdictional over air commerce similar to that of the Interstate Commerce Commission over other forms of transportation. It regulates air traffic between the States and with foreign lands. It might issue regulations as to emergency landings on navigable waters or on lands within any wilderness area but it is not likely to play any real part in your problem.

State authorities, presumably, may control air craft operating exclusively within state limits and having no connection with any interstate operation, altho such traffic might interfere with established national traffic lines and so be objectionable. I have not studied the question of state jurisdiction in this respect, and would simply suggest that the proper state authority, if jurisdiction is asserted, might well promulgate a regulation denying such local air craft the right to land, except in an emergency, in any wilderness or restricted area without a special license to do so.

USE OF WATERS

While under recent rulings of the US. Supreme Court almost any stream might possibly be classed as navigable or as affecting navigation, that issue may largely be avoided under proper regulations. If, however, it should arise, the determination of the governmental agency involved should control until and in the absence of a court ruling thereon.

State laws as to hunting and fishing apply to all waters. If the State laws protect wilderness areas such as you have in mind, well and good; if not, no doubt they are sufficiently broad to permit the State game commission to issue a regulation forbidding hunting and fishing within the limits thereof, with qualifications if deemed proper.

State regulations might provide for federal employees, if any, stationed within any such wilderness area, to act as state agents or game wardens to help enforce the state laws. A similar regulation by the national organization would permit the federal employee to so act.

The use of motor boats on the water of any such wilderness area should be denied except under special permits, unless within some established route for commerce or travel. Such a regulation would probably issue out of the Bureau of Inspection and Navigation, Department of Commerce. In the event any operation of the War Department is affected in any waters involved, a regulation from that source might also be necessary.

USE OF LAND

Except as to hunting and fishing, and the enforcement of health laws, it will probable be undesirable, if not impossible, to restrict or limit the use of lands by a private owner within any such wilderness area. He may also, of course, be restricted as to the creation of fire hazards.

As to state lands within any such areas, the state laws and regulations must prevail. The cooperation of state and federal agencies is the only solution here.

As to federal owned or controlled lands, the regulations of the National Forest Service and the National Park Service should should be as effective as conditions will permit and it strikes me that all questions of doubt should be resolved in favor of restrictions which would fully protect the areas in question. Such regulations should also, it seems to me, where any State lands or State law are involved, also authorize the federal employees to cooperate with State authorities or act for the State if necessaryto enforce the State game and fish laws.

CONCLUSION

No comprehensive national or state law alone will accomplish what you have in mind. The conflicting or concurrent jurisdiction of state and national laws, due to the complications first above stated, make it necessary to have cooperation if possible -- and this may be the most difficult part of the suggested program. I take it, however, that present laws, state and national, are sufficient if real cooperation can be obtained.

Sorry that I cannot be more helpful.

Sincerely yours,

F. M. Goodwin

F. M. Goodwin

COPY

FROM THE OFFICE OF OLMSTED BROTHERS

Written at San Francisco, Calif.
October 3, 1945
Typed at Brookline, Mass.
October 5, 1945

Dr. Aldo Leopold, Chairman,
Committee on Airplane Use in Relation to Wilderness Areas,
National Research Council,
College of Agriculture,
University of Wisconsin,
Madison 6, Wisconsin.

Dear Dr. Leopold:

I have received a copy of your letter of September 18th to Mr. Baker, and I interpret this as a reminder that if I am to contribute anything that would help in framing the first draft of the Committee's report, it is time to do so.

I have been rather disappointed not to receive copies of more or less voluminous correspondence to and from other members of the Committee indicating their ideas, on the basis of which I might offer comments and suggestions. And it happens that this reminder comes when I am very busy; but I will try to offer what I can, in a hurry, off my own bat.

I assume that the report will include a condensed statement of the purposes and functions broadly characteristic of "Wilderness Areas" as the Committee understands the term), some or all of which purposes, in various specialized combinations, should control the management of any such area. I cannot take the time now to draft specific suggestions for such a statement, but I shall appreciate an opportunity to comment on any such draft that you may send me.

In relation to the controlling purposes of any such area, a fairly close parallel (with obvious differentiations in detail) can, and, I think, should, be drawn between (a) the predictable effects, mostly incompatible with the controlling purposes of any "Wilderness Area", of permitting automobile roads and

automobiles in such an area, and (b) the predictable effects of permitting facilities for the landing and take-off of aircraft in such an area and the use of aircraft on or near the surface of such an area.

In both cases those effects are of two kinds: (1) the more or less direct physical effects of the mere construction and maintenance of (a) automobile roads (with or without other incidental physical facilities for the use, storage, servicing, etc., of automobiles) and (b) aircraft landing and take-off places (with or without other facilities for the use, storage, servicing, etc., of aircraft); and (2) the effects of what is likely to be done by (a) automobiles and their users and (b) aircraft and their users (distinguishing in each case between users who are official administrative agents and users who are members of the general public.

I think a much better case can be made out for the occasional use of aircraft over, and even on, wilderness areas by specially authorized administrative agents (as, for example, in reconnaissance or in landing fire-fighters and equipment by parachute or by other kinds of landings on naturally suitable places, (such as bodies of water or natural meadows) than for permitting the landing of aircraft within or the use of aircraft (certainly at any but very high elevations) over such areas by the general public, or than for the use of automobiles within such areas either by administrative agents or by the general public.

I think that a strong case can and should be made out against the construction and maintenance within such areas of any artificial facilities for the landing and take-off (and a fortiori for the storage, servicing, etc.) of aircraft so far as it can be made legally and administratively possible to prevent such construction; and an almost equally strong case against facilitating or permitting the landing and take-off of aircraft by the general public within such areas, even on places naturally practicable for that purpose (except in cases of extreme emergency) so far as it can be made legally and administratively possible to prevent it.

Subject to advice and opinions from competent authorities on matters of legal and administrative technique, it seems to me that normally the administrative agency in charge of a "wilderness area" is in about the same position in respect to preventing the construction and maintenance of artificial facilities for the landing, take-off, etc., of aircraft therein, and in respect to prohibiting or regulating the landing and take-off of aircraft therein by the general public as it is in respect to preventing or controlling the construction of automobile roads and the use of automobiles therein, except in so far as the area includes "navigable waters" over which other agencies have an over-riding jurisdiction. That exception is of great importance in special cases, as, for example, the Quetico-Superior region; and in regard to such cases we need advice as to (1) the practicability, under existing law, of arranging by negotiation with the authority having jurisdiction over "navigation" on such waters for special regional regulations which will reasonably protect the purposes of the wilderness area in question, and (2) if the authority having jurisdiction over "navigation" on such waters has not the legal power, under existing law, to make and enforce such regulations, as to what changes in law, if any, can probably be made to give that power.

In regard to regulation of air navigation over particular "wilderness areas" at various elevations and under various conditions in such a manner as reasonably to protect the public purposes of the area, a condition similar to that arising in connection with "navigable waters" arises, because of the general jurisdiction over control of air navigation over all kinds of properties, public and private, which is vested in a special agency of the Federal Government; and legal advice is needed in this connection as to the same two points mentioned in the preceding paragraph. As I understand it, that agency is authorized to, and does, prohibit flying at less than specified altitudes above some kinds of areas. How far is it now authorized to go, within its own discretion, in establishing, after consultation with agencies in charge of "wilderness areas", special regulations as to flying over those areas that would reasonably safeguard the special purposes of those areas?

And if it is legally unable or unwilling to establish and enforce such special local regulations applying to wilderness areas, what changes, if any, in the basic laws governing air navigation are practicable to facilitate the reasonable protection of wilderness areas from flying practices seriously injurious to the purposes of those areas?

Apart from the exceptions in regard to "navigable waters" and "air-navigation" in general, it should be noted that the legal and administrative ability of the agency in charge of any "wilderness area" to prevent or control the construction of automobile roads and/or use of automobiles therein and its similar ability to prevent or control the construction of aircraft landing places and/or use of aircraft on the area, are always potentially subject to being over-ridden by some other public agency if and when that agency is authorized by a competent legislative body to use portions of the area for public purposes other than those proper to a "wilderness area", as by condemning a right-of-way for a highway, or a power-line, in or through the area: and the chief safeguard against such over-riding legislative action must be an alert public appreciation of the value of the purposes for which the "wilderness area" was established.

With apologies for the hastiness and "scrappiness" of the foregoing jottings, I am

Sincerely yours,

(signed) Frederick Law Olmsted

Copied from Mr. Olmsted's manuscript and signed in his absence.

Air. vs. Wilderness

c
o
p
y

October 3, 1945

Mr. Newton B. Drury,
Director, National Park Service
Merchandise Mart
Chicago, 54, Illinois

Dear Mr. Drury:

I have your letter of October 1, in which you tell me you are considering sending to the Secretary for approval a proposed regulation which would prohibit the landing of aircraft, other than forced landings, within the national parks and monuments, except at areas designated by the National Park Service.

I note also the possibility that such a regulation might be made applicable to the private lands located within areas of the national park system in states where exclusive jurisdiction has been ceded to the United States.

I hope very much that you will recommend the promulgation of this regulation. It seems to me the least that should be done to protect the particular values for which areas in the national park system are established, and such action would be timely because of the mounting pressure for the widespread establishment of airplane landing fields.

Certainly such a regulation will not be a hardship on commercial airlines, because landings close to the boundaries of the Parks may well be made both for freight and passenger transportation.

Sincerely yours,

Shirley W. Allen
Professor of Forestry

mgh

July 23rd, 1945

Mr. Edward Schneberger
Conservation Department
830 State Office Bldg.
Madison, Wisconsin

Dear Ed- (through Vanderwall)

I am on a committee of the National Research Council to recommend any necessary regulation of air travel in wilderness areas, forests, and parks.

In the attached letter Kenneth Reid raises the biological question: Can the sterile lakes of the Laurentian Shield (such as those in the Quetico-Superior Wilderness Area) stand up under the additional fishing pressure which free use of hydroplanes is already creating? How do such lakes compare with fertile lakes in pounds per acre of game fish productivity? Are there any data on what are the safe limits of fishing pressure in the two classes of lakes?

I would appreciate any evidence you can cite for me. On the chance that you might have to consult others, I am enclosing an extra copy of this letter.

Yours sincerely,

Aldo Leopold

cc Kenneth Reid
Dr. Griggs

July 6, 1945

Dr. Kenneth A. Reid
Izaak Walton League of America
La Salle Hotel
Chicago 2, Illinois

Dear Dr. Reid:

I read with great interest copy of your letter of July 2nd to Aldo Leopold. You add considerable to the situation which I had not comprehended, especially in pointing out that the fish producing capacity in lakes in the Canadian shield is too low to permit extensive fishing.

Your letter reminds me of the old, old story of the native and the repeating rifle with which, when it was provided him, he shot up and destroyed his only source of livelihood.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and
Agriculture

RFG:bc
cc: Committee

COPY

IZAAK WALTON LEAGUE OF AMERICA
La Salle Hotel
CHICAGO 2, ILLINOIS

RECEIVED
JUL 5 1945
DIVISION OF BIOLOGY & AGRICULTURE

July 2nd, 1945

Dr. Aldo Leopold
424 University Farm Place
Madison 5, Wisconsin

Dear Aldo:

Copy of letter of June 11th, from Mr. Griggs to you regarding the airplane problem before our committee prompts me to make a few observations on some questions in a footnote to me in a multiple copy of a letter of yours on the same subject even though I do not have that latter communication before me.

My thoughts on the important duties of this committee are that it should try to work out a solution for control of airplanes in all wilderness areas of the National Forest, National Parks and National Monuments, and that the proving ground for establishing this general policy would be the Roadless Area of the Superior National Forest because there is where the imminent danger lies. The same problem, however, to a greater or lesser degree, will doubtless obtain in most of the wilderness areas in most of the National Parks.

We all recognize the airplane as a legitimate means of transportation to these areas. The problem is to regulate it so that the means will not destroy the end. I think we should recognize that landing facilities conveniently adjacent to wilderness areas and National Parks are a proper part of the coming fast air transportation system, but that the use of the airplane should stop at the boundaries of these areas. In other words, we would approve of the airplane as a means of transportation to these areas but not into or through them.

While biological considerations of the areas are, of course, important in this matter, in my opinion, they are by no means the whole consideration. Certain aesthetic values that may or may not be directly connected with biological considerations will be importantly affected by the airplane. The airplane is almost as incompatable with wilderness as the automobile, all forms of mechanized transportation are incompatable with wilderness.

COPY

IZAAK WALTON LEAGUE OF AMERICA
La Salle Hotel
CHICAGO 2, ILLINOIS

Returning to biological considerations in the Roadless Area of the Superior National Forest wide use of the airplane would have far reaching detrimental effects. These rock ribbed glaciated lakes furnish reasonably good fishing to the occasional wilderness canoe party but they will not stand intensive fishing such as permanent resorts or regular trips in by airplane would present because the productive capacity of their waters is very much lower than lakes lying in better soil farther south. Therefore, if the airplane were allowed to go unchecked it would be only a very few years before the fishing incentive would no longer exist. The airplane would destroy its own usefullness as a means of reaching the former wilderness fishing.

There is no question in my mind but that in the broad picture, everyone will lose--even including the airplane business--unless they are barred from this territory.

Sincerely,

Kenneth A. Reid
Executive Director

KAR:mc

cc: Olmstead
Baker
Allen
Griggs

June 28, 1945

Dr. Aldo Leopold
424 University Farm Place
Madison 5, Wisconsin

Dear Leopold:

I very much like your letter of June 21st to the members of the committee on Aircraft vs. Wilderness.

I have only one suggestion which I fear is too late, namely, that I would have been glad to see things started before September.

As to Alaska, I think by all means that Alaska should be considered. I believe that a thoroughly comprehensive report ought to be developed.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and
Agriculture

RFG:bc

Copy for Dr Griggs

June 21, 1945

Committee on Aircraft vs Wilderness

Shirley W. Allen
John H. Baker
Frederick Law Olmsted
Kenneth A. Reid

Gentlemen:

Dr. Griggs has sent you his letter of June 11, indicating that it is up to us to delineate the exact boundaries of our field of inquiry.

I suggest that our first move be to assemble factual experience with aircraft as a disturbing factor in the various kinds of areas which may need restriction, and the degree of restriction which they seem to need. These degrees, as you will recall, are legally defined in Mr. Woodruffe's letter of February 24 which Dr. Griggs has already sent you.

In order to divide the work of the Committee, I am suggesting the following assignments:

*1. ~~[illegible]~~ In National Forests ~~and Parks~~ Kenneth Reid
*2. National Parks: Shirley Allen
3. Refuges: John Baker
4. Later Assembly: Leopold

I am making no assignment to Mr. Olmsted because he is in the field, but I have asked him to give critical scrutiny later to whatever report we assemble. Naturally an earlier expression from him, however brief, would be welcome.

It is suggested that reports from assignees be sent to me and to other members by September 1; earlier if available.

Naturally you will select your own sources of factual information and opinion. I suggest that it would be well for each report to cite who was consulted.

The listing of three kinds of areas does not necessarily assume that they all need restriction. Your report may conceivably be negative.

It is suggested that for each kind of area you consider the need of restriction from the angle of:

a. Disturbance to wildlife (or other natural features)
b. Deterioration of "atmosphere" (esthetics)
c. Economic complications (such as the boom in isolated resort lands in the Superior)

* Including especially wilderness areas therein.

Under Item (a) I suggest separate treatment by species, since they obviously do not respond the same to aircraft, nor are all vulnerable to aircraft disturbance.

Be sure and consider hydroplanes as well as airplanes, and probable future machinations such as helicopters.

If anyone foresees additional categories of land in need of consideration, please advise me.

First of all, is this scheme of assignments acceptable? Would you prefer some other mode of attack? Please be free to correspond with me.

Yours sincerely,

Aldo Leopold

Aldo Leopold, Chairman

It is assumed that in any regulatory scheme, suitable exemptions and exceptions will be made for emergency (such as fire) and military air traffic.

c Dr. Griggs ✓

This is just an attempt to get started. I have made some specific suggestions to each assignment.

Will this problem exist in Alaska (hydroplanes on lakes?) Your personal advice on this would be valuable. No doubt Babcock has some notions on Alaska which I can get later.

Aldo Leopold

June 11, 1945

Dr. Aldo Leopold
424 University Farm Place
Madison 5, Wisconsin

My dear Leopold:

I am very glad indeed that you are willing to accept the chairmanship of the committee on the use of airplanes over wilderness areas.

As to your reservations concerning the "assignment" of the committee, I should like to say that it is always the duty and privilege of National Research Council committees to define their own functions within the general field indicated. When we feel the necessity of choosing a committee to provide the answer to a question like that submitted to us by the Chief of the Forest Service, it is a confession on our part that we are not able to supply the answer out of our own knowledge and experience. And when we choose the men whom we believe the ablest in the nation to cope with the question involved it goes without saying that they may well need to redefine the question and put it into answerable form before undertaking to report. Certainly then your field of inquiry is not limited to areas technically described as wilderness areas but will include all public lands on which the committee itself believes there is a problem to be dealt with.

It is clear enough that the chief function of the committee appointed, considering its personnel, would be to lay down the biological problems involved in the use of airplanes over wildlife reservations of all sorts. Also it should be clear, I believe, that if we defined the biological problems involved and stopped short, then we would not render much public service. I believe it should be the function of the committee later to take measures in some way to see that its recommendations are put into effect, or at least to suggest means by which they may be put into effect.

As I apprehend the situation, therefore, the problem will resolve itself into two stages: first, the biological; and second, a more or less legal stage of effectuating the biological recommendations. For this work the committee will undoubtedly, as suggested by John Baker in his letter of the 7th, wish to associate with itself a public spirited legal counsel.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and Agriculture

RFG:bc
Members of Committee

OLMSTED BROTHERS
LANDSCAPE ARCHITECTS
BROOKLINE, MASSACHUSETTS

FREDERICK LAW OLMSTED
EDWARD CLARK WHITING
HENRY VINCENT HUBBARD
WILLIAM BELL MARQUIS

RECEIVED
JUN 13 1945
DIVISION OF BIOLOGY & AGRICULTURE

Stanford University, Calif.
June 10, 1945.

Mr. Robert F. Griggs, Chairman,
Dividion of Biology and Agriculture,
National Research Council,
2101 Constitution Avenue,
Washington, D. C.

Dear Sir:

Your letter of May 23 to the members of the Committee on Airplane Use in Relation to Wilderness Areas, forwarded by air mail to San Francisco from my office in Massachusetts, overtook me at a lumber camp in the Stanislaus National Forest just as I was about to come out of the woods to spend this week-end here.

I regret the consequent lapse of 18 days between the date of your letter and this reply to it. But also this lapse serves to indicate why I hesitate to accept the honor of appointment on the Committee, despite my great interest in its purposes.

For some months to come I expect to be out on field expeditions most of the time, mainly in California, with poor mail connections, no clerical help, and under some strain to keep up with my present obligations. And, while mail and telegrams sent to me at Room 618, 114 Sansome Street, San Francisco 4, (office of the Save-the-Redwoods League), will normally reach me with less delay than if sent to my office in the East, conditions will be decidedly adverse to my serving with reasonable promptness and effectiveness on a committee which must apparently rely very largely upon the mails for exchange of information and ideas concerning a very complicated subject.

I am entirely willing to give such help as I reasonably can under the circumstances. I should be greatly interested to read whatever is sent to and exchanged among members of the Committee whenever it gets to me, and to respond with comments and suggestions from time to time as conditions permit. But that is more the function of a special correspondent or consultant, kept informed of the progress of the Committee's work and making occasional contributions, than that of a committeeman sharing responsibility for the work of the Committee as a whole.

With this explanation I leave it to you and the Chairman of the Committee to decide my status, if any, in relation to the Committee's work, and offer my best wishes for its fruitfulness.

Very truly yours,

Frederick Law Olmsted

Frederick Law Olmsted

P. S. I hope I am right in assuming that the word "Airplane" in the title of the Committee is to be interpreted broadly as meaning "Aircraft"; for it seems to me probable that blimps and in the post-war period helicopters, even though far less numerous than planes, will present some important special problems in relation to wilderness areas.

c. c. to Mr. Aldo Leopold, Chairman of Committee,
2222 Van Hise Avenue, Madison, Wisconsin.

RECEIVED
JUN 8 1945
DIVISION OF AGRICULTURE

June 7, 1945.

Dr. Aldo Leopold
College of Agriculture
University of Wisconsin
424 University Farm Place,
Madison 5, Wisconsin.

Dear Aldo:

I have before me copy of your letter of May 31st to Dr. Griggs.

I readily support your request that the committee's field of effort not cover legal methodology for accomplishing desired regulations, that is, unless some qualified lawyer be added to the committee.

I am inclined to feel that the field to be considered by the committee should cover much more than "wilderness areas." You asked in your letter whether it should not cover "other public reservations, such as waterfowl refuges." I would think it might well be understood to include national parks, national monuments, national forests and possibly other types of public lands such as the Indian reservations, the grazing districts and the public domain.

Not that I fancy at all the idea of enlarging upon the work of the committee, but it seems to me that in order to arrive at desirable conclusions it would be wise for us to take these other types of lands into consideration, even if we do not attempt to arrive at conclusions applicable to all of them.

Do you agree with this reasoning?

Ever sincerely,

John H. Baker
President

JHB.w
Cc: Messrs. Griggs
Allen
Olmstead
Reid

Dr. Griggs:

Would appreciate it if you would let me have correct addresses for Frederick Law Olmstead and Prof. Allen, also the latter's title, if any.

J. H. B.

NATIONAL OFFICERS

PAUL CLEMENT
MINNEAPOLIS, MINNESOTA
PRESIDENT

DR. FERD BROWN
RAPID CITY, SOUTH DAKOTA
VICE-PRESIDENT

C. M. BRYANT
ST. JOHN, NORTH DAKOTA
VICE-PRESIDENT

WILLIAM L. FINLEY
PORTLAND, OREGON
VICE PRESIDENT

C. R. HALLOWELL
DUBUQUE, IOWA
VICE-PRESIDENT

DR. LEWIS RADCLIFFE
WASHINGTON, D. C.
VICE-PRESIDENT

HARRY F. HARPER
LANSING, MICHIGAN
TREASURER

EARL H. GROMER
ELGIN, ILLINOIS
SECRETARY

ALDO LEOPOLD
MADISON, WISCONSIN
CONSERVATION CONSULTANT

PRESIDENTS EMERITI

DR. HENRY BALDWIN WARD
URBANA, ILLINOIS

DR. PRESTON BRADLEY
CHICAGO, ILLINOIS

OTTO C. DOERING
CHICAGO, ILLINOIS

TAPPAN GREGORY
CHICAGO, ILLINOIS

IVAR HENNINGS
SOUTH BEND, INDIANA

EXECUTIVE BOARD

WALTER FRYE
WOOSTER, OHIO
CHAIRMAN

L. H. DUNTEN
FORT WAYNE, INDIANA

DR. GEORGE B. EUSTERMAN
ROCHESTER, MINNESOTA

ARTHUR J. HODGSON
MAQUOKETA, IOWA

DR. W. B. HOLTON
CHEVY CHASE, MARYLAND

DR. JOHN W. SCOTT
LARAMIE, WYOMING

ARTHUR SENIOR
HOMEWOOD, ILLINOIS

TOM WALLACE
LOUISVILLE, KENTUCKY

CARL A. WEYGANDT
MUNROE FALLS, OHIO

KENNETH A. REID
CHICAGO, ILLINOIS
EXECUTIVE DIRECTOR

Izaak Walton League of America, Inc.

DEFENDER OF WOODS, WATERS AND WILDLIFE

NATIONAL HEADQUARTERS
18TH FLOOR LA SALLE HOTEL
CHICAGO 2, ILLINOIS
TELEPHONE CENTRAL 5855

RECEIVED
JUN 8 1945
DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.

June 6th, 1945

NATIONAL DIRECTORS

W. J. F. ABERG, MADISON, WIS.
EDWARD M. APPLE, DETROIT, MICH.
A. F. AVERY, MEAD, CALIF.
DR. W. B. BAGLEY, DULUTH, MINN.
FRANK BARNES, LOS ANGELES, CALIF.
FRED BIERMANN, DECORAH, IOWA
RUSSELL BINNING, TERRE HAUTE, IND.
E. HAROLD BLACKBURN, EVERETT, PA.
FRANK BRADY, ATKINSON, NEBR.
GURT BRICKNER, TIFFIN, OHIO
MAJOR OSCAR BURKARD, ROME, NEW YORK
G. E. CONDO, HAMILTON, OHIO
CAPT. C. F. CULLER, MINNEAPOLIS, MINN.
A. B. CARLING, DES MOINES, IOWA
ALBERT M. DAY, CHICAGO, ILL.
JOHN F. DECK, WYOMISSING, PA.
TALBOTT DENMEAD, CHICAGO, ILL.
MIKEL DEUSING, MILWAUKEE, WIS.
GARDNER DIBBLE, MADISON, S. D.
DR. GEO. B. EUSTERMAN, ROCHESTER, MINN
WALTER FENTRESS, NORFOLK, VA.
JOHN W. FRENCHICK, SIOUX CITY, IOWA
EARL GROMER, ELGIN, ILL.
OTTO GROSSMAN, ARGOS, IND.
DANIEL GULBAN, HOBART, IND.
R. O. HARRISON, BARTLESVILLE, OKLA.
DR. A. W. HENN, PITTSBURGH, PA.
B. J. HILL, AKRON, OHIO
RALPH HODGDON, JOPLIN, MO.
DR. W. B. HOLTON, CHEVY CHASE, MD.
L. H. HUCKWALL, LAS ANIMAS, COLO.
BOB JACKSON, TULSA, OKLA.
H. D. JEWELL, GRAND RAPIDS, MICH.
EARL JOLLY, OMAHA, NEBR.
HENRY KEITZEL, BUFFALO, NEW YORK
LADYER C. LAGNER, PHILADELPHIA, PA.
BILL LAKE, GUNNISON, COLO.
RALPH LINGWALL, FLANDREAU, S. D.
R. E. LLEWELLYN, TERRE HAUTE, IND.
D. B. LOCKE, BOSTON, MASS.
O. K. MACASKILL, DENVER, COLO.
C. E. MACLURE, ATHENS, OHIO
W. L. MCMURTREY, LINCOLN, NEB.
C. A. MCDONALD, SOUTH BEND, IND.
DR. C. F. MILLERSON, PORTLAND, ORE.
MRS. KARL E. MUNDT, WASHINGTON, D. C.
EARL NORGREN, DENVER, COLO.
C. F. OHLWEILER, FORT MADISON, IOWA
ROBERT O'HAIR, GLEN ELLYN, ILL.
HARRY A. PIERCE, KALAMAZOO, MICH.
CHARLES E. PIERSALL, CASPER, WYO.
W. H. PINGREE, PIERRE, S. D.
SIGURD RADIL, MORRISON, WIS.
EDWIN F. RINEHART, COLUMBUS, OHIO
M. E. SANDERSON, NEW YORK CITY
DR. JOHN W. SCOTT, LARAMIE, WYO.
SHERMAN M. SLOOP, ANAHEIM, CALIF.
JESSE W. SNYDER, UTICA, N. Y.
DR. ALEX F. STARNES, UNIVERSITY, VA.
PAUL STRUEVER, ST. PAUL, MINN.
CHARLES E. STEWART, KOKOMO, IND.
JOSEPHINE STRUBE, FORT WAYNE, IND.
H. W. STRUNK, MANITOWOC, WIS.
JOHN C. SUTHERLAND, NEWKIRK, OKLA.
MRS. C. SWISHER, DES MOINES, IOWA
TOM WALLACE, LOUISVILLE, KY.
DR. W. B. WALLACE, MARTINSBURG, W. VA.
JOHN WESTBERG, YAKIMA, WASH.
CHRISTOPHER L. WEYL, MINNEAPOLIS, MINN.
HARRY WILLIAMS, DANVILLE, ILL.
C. C. WILSON, FARMINGTON, ILL.
DR. R. W. WILSON, SOUTH BEND, IND
A. A. WRIGHT, LIMA, OHIO
CHAS. WRIGHT, ST. JOHN, N. D.

Mr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
Washington, D.C.

Dear Mr. Griggs:

I am very happy indeed to serve on the committee to deal with proper control of the use of airplanes over the wilderness areas along the lines as outlined in your letter of May 23rd, and enclosures.

The Izaak Walton League of America is vitally interested in finding a solution for this matter that will protect Wilderness Areas and National Parks in general from this danger, and we are especially interested in its application to the Roadless Area of the Superior National Forest because it is imminently threatened with destruction as a wilderness canoe country unless airplane use in that area can be stopped. As evidence of our vital interest in the matter, we are enclosing copy of a recent bulletin sent to all or our officers soliciting funds for the Revolving Land Purchase Fund for immediate application to this problem in the Superior. The same appeal, re-written appropriatly will appear in the next issue of OUTDOOR AMERICA which will go to every one of our members.

However, we believe control of the airplane is the key to the whole problem. If it can be barred from the Roadless Area, land acquisition will be simple and the price will be cheap. Existing resort properties which have attempted to capitalize on the large Federal holdings, flying their guests in by plane, would be very glad to sell out. On the other hand, without control of the airplaine it would be very difficult to purchase strategically located areas and practically impossible to buy out existing resorts except at exhorbitant prices. We are more than anxious to do everything we can toward accomplishment of this worthy objective.

Sincerely,

Kenneth A. Reid

Kenneth A. Reid
Executive Director

KAR:mc
cc: Leopold, Wirth, Kneipp

5-45-298

IZAAK WALTON LEAGUE OF AMERICA
Hotel LaSalle
Chicago 2, Illinois

AN URGENT APPEAL FOR WILDERNESS!

As a Waltonian you are doubtless familiar with the longtime objective of the League in the Quetico-Superior, which includes protection and administration of the heart of the forest along the Border Lakes, known as the Roadless Area, as a wilderness canoe country without roads, cottages, resorts or other works of man. So we will not review that, but get right down to the meat of the present emergency.

Within the Roadless Area there remains approximately 15%, or about 135,000 acres, still in private ownership. The war stopped federal acquisition of forest land, as well as negotiations for a treaty with Canada to accord the Shipstead-Nolan area on this side, and a larger area on the Ontario side, the permanent protection of treaty administration. The war also brought about a tremendous development of the airplane. These factors add up to a crisis for the wilderness canoe country as soon as the war is over -- or even this summer -- and they will spell disaster through establishment of airplane resorts in the Roadless Area unless we, who appreciate the great value of this last remaining wilderness canoe country, take prompt and vigorous action.

We are making this appeal nationally throughout the League because this unique area is of national importance and it needs the help of all. If you live on the West Coast or the East Coast, the whole thing may seem at first to be very remote and unimportant to you, but it is only by the support and cooperation of all Waltonians, wherever they may live, that such important things can be accomplished. Next time our nationwide appeal may be for something in your back yard!

Legislation is being drafted for purchase of these specific lands to protect the wilderness values, and to permit condemnation of interior properties that attempt to capitalize on the large federal holdings surrounding them. When this bill is introduced we will appeal for all-out support from all conservationists all over the country. But in the meantime emergency action is urgently needed. Speculators are even now scouting about for strategic resort locations in the heart of these large federal holdings, and a matter of weeks may mean the difference between success and failure.

In the Endowment and Special Fund folder sent you early this year, the establishment of the Revolving Land Purchase Fund was outlined on the back page. To date approximately $2000 has been contributed to that fund, and we have the pledge of another $5000 from one interested individual. But a total of $70,000 to $80,000 is needed to buy the most vulnerable private property along lake shores until the slow wheels of Government acquisition get moving

again to complete the job. We have asked the Forest Service to start purchases immediately up to the meager limit of our presently available funds and to take options on the balance of the lands needed pending receipt of additional contributions and passage of the federal legislation.

No more worthy contribution could be made for completion of one of the longtime major objectives of the League, and no appeal for action is more urgent. So, if you believe that protection in their natural state of the comparatively few sizable wilderness -- and the only real primitive canoe country -- areas remaining is an essential part of the America that the boys on the far away war fronts are fighting for; and if you would like to preserve a little of primitive America for yourself and your boy, please bestir yourself to do something about this now!

Some chapters are long on funds and short on local conservation activities. Here is a golden opportunity to put such funds to work. Most, if not all, chapters have some members who are looking for worthy causes for contributions deductible from their income tax. Ask them; ask others! We need contributions, large and small, to the Revolving Land Purchase Fund -- and we need them now if the wilderness canoe country of the Border Lakes is to be saved.

And don't forget that while the capital of your contribution will be spent, it comes back in the fund when the Government repurchases this land from us, so it can be used over and over again for protection of wilderness in other locations in future years. A few thousand dollars now will do the work of many thousands later, and in this particular emergency it is probably "now or never," for resort properties once established and developed are very difficult and expensive to buy out. The old adage: "an ounce of prevention is worth a pound of cure," applies perfectly here.

Please make out the checks to: I.W.L.A., Special Fund #4 -- and please send in as much as you can, as fast as you can!

KENNETH A. REID
EXECUTIVE DIRECTOR

5/18/45:vlc

IZAAK WALTON LEAGUE OF AMERICA

ENC: Endowment Folder;
Special Fund Blank Check;
Return Envelope.

MAILING LIST: NATIONAL OFFICERS
CHICAGO CHAPTER MEMBERS
SPECIAL MEMBERS: Life, Special and MAL
ALL CHAPTER OFFICERS
ALL STATE DIVISION OFFICERS

UNIVERSITY OF MICHIGAN
ANN ARBOR
SCHOOL OF FORESTRY AND CONSERVATION

May 31, 1945

Dr. Robert F.Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington, D. C.

Dear Dr. Griggs:

I have your letter of May 23 and apologize for not answering more promptly. I wanted to be sure, however, that I could give some effective time to the committee investigating and advising concerning proper control of the use of airplanes over wilderness areas.

I should be very glad to serve on the committee and have read the material which accompanied your letter with great interest.

Very sincerely yours,

Shirley W. Allen

Shirley W. Allen
Professor of Forestry

UNIVERSITY OF WISCONSIN
COLLEGE OF AGRICULTURE

DEPARTMENT OF WILDLIFE MANAGEMENT

424 UNIVERSITY FARM PLACE
MADISON 5, WISCONSIN

May 31, 1945

Dr. Robert F. Griggs
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington 25, D.C.

Dear Dr. Griggs:

As I understand your letter of May 23, the committee is asked to report on what regulation of airplanes is needed over wilderness areas, and not on the legal methodology for accomplishing such regulations. If this is correct, then I am glad to accept appointment. Otherwise it would seem an unsuitable assignment because of my geographical isolation.

Is our field of inquiry limited to wilderness areas, or are other public reservations, such as waterfowl refuges, included in our field of study? Your letter indicates wilderness only, but I just want to be sure. Planes are proving to be very bad for goose refuges. Ducks, on the other hand, soon get used to them.

I am sending copies to the committee.

With personal regards,

Aldo Leopold

Aldo Leopold

cc Allen
Baker
Olmstead
Reid

OLMSTED BROTHERS
BROOKLINE, MASSACHUSETTS
LAND PLANNING · LANDSCAPE ARCHITECTURE

FREDERICK LAW OLMSTED
EDWARD CLARK WHITING
HENRY VINCENT HUBBARD
WILLIAM BELL MARQUIS

May 29, 1945

Mr. Robert F. Griggs, Chairman,
Division of Biology and Agriculture,
National Research Council,
2101 Constitution Avenue,
Washington, D. C.

Dear Sir:

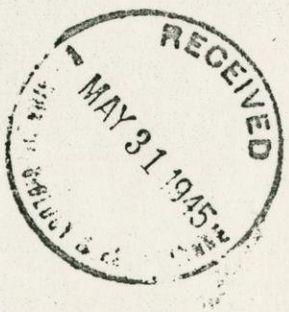
This is to acknowledge the receipt of your letter addressed to the Members of the Committee on Airplane Use in Relation to Wilderness Areas. Mr. Olmsted is at present in California, in the Redwoods district, and I have forwarded your letter to him. However, as he is sometimes out of touch with mail for several days at a time, your letter may be delayed in reaching him.

I am sending a copy of this acknowledgment to Mr. Aldo Leopold, to Madison, Wisconsin.

Very truly yours,

Stella D. Obst

Secretary to Mr. Olmsted.



May 23, 1945

To the Members of the
Committee on Airplane Use in
Relation to Wilderness Areas

Gentlemen:

The Chief of the Forest Service asked the National Research Council to investigate and advise concerning the proper control of the use of airplanes over wilderness areas. Copy of his letter is attached for your information.

We have asked the advice of many people concerning the best men for a committee to deal with this problem, and as a result the following have been appointed by Chairman Harrison of the National Research Council:

Aldo Leopold, Chairman
Shirley W. Allen
John H. Baker
Frederick Law Olmstead
Kenneth A. Reid

We very much hope that you can serve.

I would suggest that the chairman of the committee take up the problem with the other members and formulate a plan so far as can be done by correspondence (and we would appreciate copies of all correspondence for our information in this office) and, when the committee has gone as far as it can by correspondence, we will arrange a meeting at some time and place mutually convenient for you.

This request stems from the problems in the Quetico Superior area but it is obviously a matter of general concern and effects the Parks Service as well as the Forest Service. I have, therefore, taken occasion to bring the National Parks Service into the picture, and Director Drury has appointed Mr. Conrad Wirth to represent him in dealing with this matter, while at the same time Mr. Watts has appointed Mr. Kneipp to handle the Forest Service end of the problem.

The most obvious laws under which procedures could be taken would seem to be, first, that of the Supreme Court ruling concerning navigable waters. Second, the laws under which the Civil Aeronautics Authority regulates airplane travel. Copies of documents pertinent to these matters are enclosed for your information.

It occurs to me that after the committee has reached a consensus concerning the amount of regulation which is desirable from a conservation point of view, it may be advisable to associate with us some public spirited lawyer who would help us.

The case before the Supreme Court was prosecuted for the government by Huston Thompson. I have talked with him about it, and I am very sure that insofar as that case has a bearing he would be glad to help us.

I have also asked Goodwin for an opinion. Both of these gentlemen are members of the Executive Committee of the National Parks Association and are completely devoted to conservation.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and Agriculture

RFG:bc
Enc.

TELEPHONE, EXECUTIVE 8100

CABLE ADDRESS
NARECO, Washington, D. C.

NATIONAL RESEARCH COUNCIL

2101 CONSTITUTION AVENUE, WASHINGTON 25, D. C.

Established in 1916 by the National Academy of Sciences under its Congressional Charter and organized with the cooperation of the National Scientific and Technical Societies of the United States

22 May 1945

Dr. Robert F. Griggs
Division of Biology and Agriculture

Dear Dr. Griggs:

Dr. Harrison has approved the appointment of the following to a committee to advise the Forest Service concerning the effect of airplane use in relation to wilderness areas:

Aldo Leopold
Kenneth A. Reid
Shirley W. Allen
Frederick Law Olmstead
John H. Baker

Sincerely yours,

Nyla Welpley

Nyla Welpley

May 22, 1945

Dr. Ross G. Harrison, Chairman
National Research Council

Dear Doctor Harrison:

Pursuant to the request of Lyle Watts, Chief of the Forest Service, I have spent considerable time in seeking advice as to a suitable committee to advise the Forest Service concerning the effect of airplane use in relation to wilderness areas.

In this investigation the National Parks Association has likewise been consulted, and preliminary meetings of representatives of both services have been held in my office.

As a result, I nominate the following persons to serve on the committee to deal with the questions raised by the Chief of the Forest Service:

Aldo Leopold, Professor of Wildlife Management, University of Wisconsin, Madison, Wisconsin;
Kenneth A. Reid, Executive Secretary, Izaak Walton League of America, La Salle Hotel, Chicago, Illinois;
Shirley W. Allen, Professor of Forestry, University of Michigan, Ann Arbor, Michigan;
Frederick Law Olmstead, Landscape Architect, Elkton, Maryland;
John H. Baker, President, National Audubon Society, New York City.

May I have your confirmation?

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and Agriculture

RFG:mkm

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

ADDRESS REPLY TO
CHIEF, FOREST SERVICE
AND REFER TO

WASHINGTON 25

U
USES
Airplane Landing Fields

May 14, 1945

RECEIVED
MAY 16 1945

Dr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington 25, D. C.

Dear Dr. Griggs:

Many thanks for your letter of May 4 apprising us of the most recent developments with respect to the organization of the committee on the relation of airplanes to roadless and wilderness areas.

The list of nominees which accompanied your letter has been referred to the several other Assistant Chiefs of the Forest Service and there has been a rather surprising unanimity of opinion as to the 5 men among the 13 listed who would make the best committee for the conduct of the study. These 5 men are the following:

Aldo Leopold
Shirley W. Allen
Olaus J. Murie
Frederick Law Olmstead
Ovid Butler

One of the other Assistant Chiefs also designated Wm. S. Cooper as a man eminently qualified for membership on the committee, while another was inclined to place Paul B. Sears on a parity with Ovid M. Butler.

The naming of the five persons listed above is in no sense a reflection on the other eight on your list but may be attributed primarily to the fact that as to the majority of those eight our knowledge of them is less detailed than the five indicated.

In this connection, our Regional Forester at Milwaukee, Jay Price, has sent us a copy of the letter addressed to you under date of April 28 by Mr. Charles S. Kelly, which in part touches on the possibility of obtaining Canadian cooperation if the proposed study is broadened as he suggested to you. Mr. Kelly and Mr. Price discussed the proposal at some length, the conclusion reached by Mr. Price being that it is well worth considering.

Anent Mr. Kelly's idea that the committee might assume broader responsibility than merely the study of the air travel problem, Mr. Price remarked that such a committee might function very effectively in dissolving some of the jurisdictional disputes that have plagued the program on this side of the border and in stimulating greater interest and understanding of the program among the Canadians. I assume that the program to which Price refers is the Quetico-Superior program. There is no disposition to tax your cooperative spirit but if any body, such as the proposed committee, could contribute to that proposal a maximum of light and a minimum of heat, the end result might be definitely to the good.

Very sincerely yours,

L. F. KNEIPP
Assistant Chief, Forest Service

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CHICAGO, ILLINOIS
54

ADDRESS ONLY
THE DIRECTOR, NATIONAL PARK SERVICE

RECEIVED
MAY 14 1945
DIVISION OF BIOLOGY & AGRICULTURE

May 10, 1945.

Dr. Robert F. Griggs, Chairman,
Division of Biology and Agriculture,
National Research Council,
2101 Constitution Avenue,
Washington 25, D. C.

Dear Dr. Griggs:

I have received your letter of May 4 addressed to Mr. Lee Kneipp and myself, with reference to the naming of a committee to study the relationship of airplanes to roadless and wilderness areas.

I have not only studied your list of nominees for this committee but I have asked others in the Office to consider it also. In following your general lead, we voted on the desirability of the various ones. Attached is a list indicating the results of the votes in this Office. I will admit however, in this connection, that some of the individuals on the list are not very well known to us. As a result of this voting, my suggestions are: Aldo Leopold, Kenneth A. Reid, Shirley W. Allen, Frederick Law Olmsted, and Wm. S. Cooper. These five people would give us a pretty good spread in the professional fields of wildlife, forestry, ecology, landscape architecture, and in general conservation principles.

The members of the National Park Service whom I consulted think very highly of Olaus J. Murie, and the only reason he is not among the five names suggested is that we felt perhaps it would be better if the committee were made up of individuals not employed by the Government.

Victor E. Shelford and Paul B. Sears also rate very high in our estimation. We realize that Mr. Shelford has worked long and hard and enthusiastically in the interest of many of the things we stand for. The reason that he perhaps received two votes and Mr. Sears none is due to the fact that, while they represent the same profession, and are excellent men, Mr. Shelford has been known to us for a long time through his works.

Of course we know Ovid M. Butler, but many of us felt that Shirley W. Allen would be a better representative in the forestry field.

We are not very well acquainted with the other men on the list, with the exception of Ernest C. Oberholtzer who, of course, is very well known for his fine work in connection with the Quetico-Superior wilderness area.

I realize that the question of appointing the committee is your responsibility, and these suggestions are made at your request. We

shall be pleased to help in any way possible the members of any committee you set up.

Mr. Drury is on the West Coast, and will not return until May 19, so I have not had the benefit of his views in this matter. However, I feel quite certain that he concurs in the thoughts I have expressed here.

Yours very truly,

Conrad L. Wirth

Conrad L. Wirth,
Chief of Lands.

Enclosure 1213077.

P.S. I am furnishing Mr. Kneipp with a copy of this letter.

C.L.W.

Nominations for committee on the relation of airplanes to roadless and wilderness areas

Aldo Leopold	5
Shirley W. Allen	4
Olaus J. Murie	2
Kenneth A. Reid	5
Ernest C. Oberholtzer	0
Frederick Law Olmsted	4
Richard Pough	0
Wm. J. P. Aberg	0
Charles S. Kelly	0
Victor E. Shelford	2
Wm. S. Cooper	3
Ovid M. Butler	0
Paul B. Sears	0

NOMINATIONS FOR NATIONAL COMMITTEE TO RECOMMEND SOLUTIONS FOR AIRPLANE PROBLEMS

Aldo Leopold - 8

Shirley W. Allen - 6

Olaus J. Murie - 5

Kenneth Reid - 3

Ernest C. Oberholtzer - 2

Frederick Law Olmstead - 2

Richard Pough - 2

Wm. J. P. Aberg - 2

Charles S. Kelly - 2

Victor E. Shelford - 2

Wm. S. Cooper - 2

Ovid M. Butler - 2

Karl T. Compton

Gilbert Dalldorf

S. T. Tung

F. B. Hubachek

Charles C. Adams

Benton Mackaye

Stuart Chase

Viljalmur Stefansson

A. K. Lobeck

John H. Baker

Walter P. Taylor

Harold E. Anthony

Newton B. Drury

Jay Price

Gustav Swanson

William Vogt

George Marshall

Paul B. Sears

Ira N. Gabrielson

Raphael Zon

Joseph S. Dixon

Ira L. Wiggins

Henry Schmitz

Chester S. Wilson

L. L. Schroeder

Myron H. Avery

Natt Dodge

Phillip H. Ellwood

Laurie D. Cox

Irving Clark

Duncan McDuffie

Emanuel Fritz

William P. Wharton

Tom Gill

Henry Clepper

Paul B. Sears

S. C. Kendeigh

Pete Hoffmaster

Alexander Wetmore

Seth Gordon

Wm. Van Dersal

Homer L. Shantz

Stanley Cain

Dwight Jeffers

Robert S. Yard

Robert R. Hill

W. J. Breckenridge

Urban C. Nelson

Thomas R. Evans

April 30, 1945

Mr. Charles S. Kelly
Hubachek & Kelly
919 North Michigan Avenue
Chicago 11, Illinois

Dear Mr. Kelly:

Thank you very much for your suggestion that our committee might well have Canadian representatives.

I do think that our committee should be broader and should consider broader questions than merely those relating to Quetico-Superior, and certainly the Canadians have some interest in the same problems of airplanes in relation to the wilderness that we have.

Their reaction, however, is apt to be different because the airplane has permitted them to open up vast areas of wilderness hitherto inaccessible, and for the present they are inclined to see only the good in airplane travel.

Very truly yours,

Robert F. Griggs, Chairman
Division of Biology and
Agriculture

RFG:bc

HUBACHEK & KELLY
ATTORNEYS AND COUNSELORS

F. B. HUBACHEK — CHARLES SCOTT KELLY
FLOYD E. BRITTON — HOLLAND C. PILE — ROGER S. BARRETT
PAUL F. BOYER — ROBERT A. CRANE — CHARLES C. ULRICH
JOHN D. HASTINGS

919 NORTH MICHIGAN AVENUE
CHICAGO
ZONE 11

RECEIVED
APR 30 1945
DIVISION OF BIOLOGY & AGRICULTURE

April 28, 1945

Dr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington 25, D. C.

Dear Dr. Griggs:

I will spend three days of next week in Canada in connection with some professional matters. While there I plan to discuss the possibility of obtaining Canadian co-operation if the study which you are making for the Forest Service is broadened as I suggested to you. I hope to be able to report to you the results of these discussions by the end of next week.

Following my conference with you I talked with Mr. Watts by phone. Because of ill health it has been impossible for me to meet with him personally and in the phone conversation he indicated a willingness to have the study broadened and said he would write a letter to you to that effect. On Thursday of this week I had further discussion with J. Price, regional forester, who is a member of our Quetico-Superior committee. At that time I outlined to him the respects in which it seemed to me the scope of your study should be enlarged and the benefits which should come from it. He seemed in favor of the suggestion and said he would write Mr. Watts to that effect. I am sending him a copy of this letter.

I would like to add Mr. William Aberg, attorney, of Madison, Wisconsin as a possible member of the study committee you have under consideration. He has long been active in the Isaak Walton League and conservation circles and should have an intimate knowledge of the region. He is a competent attorney.

Sincerely yours,

Charles S. Kelly

cc J. Price

KM

STANFORD UNIVERSITY

NATURAL HISTORY MUSEUM

STANFORD UNIVERSITY, CALIFORNIA

March 22, 1945.

Rich
Board

Dr. Robert F. Griggs, Chairman,
Division of Biology and Agriculture,
National Research Council,
Washington, D. C.

Dear Dr. Griggs:

This reply to your inquiry of February 28 has been delayed by my absence. I have been on leave from the University now for nearly two years trying to help the Fish and Wildlife Service with some of their problems in salmon maintenance.

For your committee on the problems of airplanes in wilderness areas I suggest:

1.- V. E. Shelford for his interest in the similar problem of maintaining natural areas of prairie as well as his outstanding knowledge of ecology in general.

2.- Paul B. Sears, a good ecologist with a botanical slant and ability to express ideas forcefully.

3.- Ira N. Gabrielson - for obvious reasons.

4.- Raphael Zon, whom I do not know but whose brief article on Natural Vegetation as a Key to Conservation Practices in Conservation of Natural Resources, Univ. of Pennsylvania Press, 1941, has made an impression on me.

5.- Joseph S. Dixon who has had a long experience in wilderness areas in the west.

6.- Ira L. Wiggins. I hesitate to recommend a close colleague but I know of no one who would have sounder judgement in the matter in point or whose knowledge of forest ecology in the west is greater. You may know him. If you do not, I'm sure you would find him an exceptional man on this committee.

Sincerely,

Willis H. Rich

Willis H. Rich
Professor of Biology

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
NORTH CENTRAL REGION

ADDRESS REPLY TO
REGIONAL FORESTER
AND REFER TO

623 NORTH SECOND STREET
MILWAUKEE 3, WISCONSIN

D
COOPERATION, R-9
Minnesota

March 20, 1945

Mr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington (25), D. C.

Dear Mr. Griggs:

In my letter of March 9 I omitted the name of one man that I meant to include. That is, Wm.J.P. Aberg, of Madison, Wisconsin. Mr. Aberg is a lawyer by profession, and is chairman of the Wisconsin State Conservation Commission and a director of the Izaak Walton League of America. He has been prominent in conservation work for the past twenty years.

Very truly yours,

JAY H. PRICE,
Regional Forester

RECEIVED
MAR 23 1945

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
NORTH CENTRAL REGION

ADDRESS REPLY TO
REGIONAL FORESTER
AND REFER TO

623 NORTH SECOND STREET
MILWAUKEE 3, WISCONSIN

RECEIVED
MAR 12 1945

D
COOPERATION
Minnesota

March 9, 1945

Mr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington 25, D. C.

Dear Mr. Griggs:

In reply to your letter of March 5 I am listing the following people as possibilities for service on the committee which you have in mind. You will note that my suggestions are limited to men living within the north central part of the country and, therefore, is not as complete a list as could be obtained from our Washington office or through a canvass of all National Forest regions.

Aldo F. Leopold - Well known as a biologist and forester. At present with the University of Wisconsin at Madison.

Shirley W. Allen - Professor of Forestry at the University of Michigan, author of various books and articles on forestry. Active in the protection of wilderness values and Vice President of the Society of American Foresters.

Henry Schmitz - President of the Society of American Foresters, head of the Forest School and active in the administration of the Agriculture Department at the University of Minnesota, and participant in the development of post war plans by the Association of Land Grant Colleges.

Kenneth A. Reid - Executive Secretary of the Izaak Walton League of America, La Salle Hotel, Chicago, Illinois.

Charles S. Kelly - Member of the legal firm of Hubachek and Kelly, 919 North Michigan Avenue, Chicago, Illinois, and member of the Quetico-Superior Committee.

Chester S. Wilson - Formerly Assistant Attorney General of the State of Minnesota and now Commissioner of Conservation, St. Paul, Minnesota.

L. L. Schroeder - State Commissioner of Aeronautics, St. Paul, Minnesota.

Perhaps you will feel that the nomination of Messrs. Wilson and Schroeder is out of order since they are employees of the State of Minnesota. My suggestion of Mr. Wilson arises from the fact that he is reputed to be a competent lawyer and is fairly familiar with the various phases of the problems in the northern part of that State. I do not know Mr. Schroeder and my inclusion of his name is solely on account of his official position as Commissioner of Aeronautics.

It has occurred to me that it might be desirable to bring in the Canadians, either officially or otherwise. If so, I am sure that our Washington Office can suggest some names.

Very truly yours,

JAY H. PRICE
Regional Forester

UNITED STATES
DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

4650 North Port Washington Road
Milwaukee 12, Wisconsin
March 19, 1945

Dr. Robert F. Griggs
Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington 25, D. C.

Dear Dr. Griggs:

I was very much interested in your letter of February 28 addressed to members of the Joint Committee on Wildlife. The problem of wilderness areas in northern Minnesota and Ontario have been of great interest to me for many years, as I have an intimate acquaintanceship with that country and have kept up with the problem of the Quetico-Superior since 1929.

I have only five names to submit to you for your proposed committee to work on the problem of airplanes in roadless and wilderness areas. I have chosen these men because of their interest in such subjects and their personal competence and willingness to serve as committee members. I have not discussed this present proposal with any of them.

Prof. Aldo Leopold of the University of Wisconsin, Madison, Wis.
Mr. Robert R. Hill, U. S. Forest Service, Milwaukee, Wis.
Dr. W. J. Breckenridge, Museum of Natural History, University of Minnesota, Minneapolis, Minn.
Mr. Urban C. Nelson, U. S. Soil Conservation Service, Stillwater, Minn.
Mr. Thomas R. Evans, Department of Conservation, St. Paul, Minn.

I hope the men on this list who may be chosen for committee work will be able to make a definite contribution. If I can be of any further assistance, I shall be glad to help in any way possible.

Sincerely yours,

Warren W. Chase
Chief
Regional Biology Division

Please tabulate all nominations + return both

GENERAL ECOLOGY
HUMAN ECOLOGY
CONSERVATION
LAND USE

CHARLES C. ADAMS
149 MANNING BOULEVARD
ALBANY 3, NEW YORK

RECEIVED
MAR 19 1945
DEPT. OF BIOLOGY & AGRICULTURE

MAR 16 1945

Dr. Robert F. Griggs, Chairman,
Div. Biol. and Agriculture,
Nat. Research Council,
Washington, D.C.

Dear Dr. Griggs — In your letter Feb. 28, 1945, you asked me, as Temp. Chairman of the Conservation Council, to nominate a half dozen names for the proposed Committee to study the relation of airplanes to roadless and wilderness areas of the U.S. Forest Service. This study is to be made by the National Research Council.

I have carefully considered possible candidates and will suggest the following:-

1. Dr. A. K. Lobeck, Columbia Univ. N.Y.C. Dr. Lobeck is a geographer who has had an extensive flying experience in Amer. and Europe, is greatly interested in wild natural areas, is a Trustee of the Nat. Parks Assoc., is a man of varied accomplishments and sound judgement, and the author of "Airways of America." Guidebook No. 1. The United Airlines. Geographic Press. New York. 1933.

2. Dr. W.S. Cooper, Univ. of Minnesota. Plant ecologist who has made extensive use of aerial vegetational maps, and is greatly interested in wild lands.

3. John H. Baker, President, National Audubon Soc., N.Y.C. He had flying experience in World War I, and has flown extensively, and is deeply interested in conservation of wild lands.

4. Mr. Ernest C. Oberholser, Duluth-Superior Council. Minneapolis, Minn. He has been a champion of wilderness areas and has had much experience.

5. Mr. O. J. Murie. Fish & Wildlife Service, Jackson Hole, Wyo. A very capable field naturalist, familiar with wilderness conditions in Western U. S. & Alaska.; a man of sound judgement.

6. Mr. Kenneth A. Reid, Executive director. Izaak Walton League of Amer. La Salle Hotel, Chicago, Ill. An efficient champion of wild life, has sound judgement, & is devoted to public interest.

7. Prof. Shirley W. Allen. School of Forestry & Conservation, Univ. of Mich., Ann Arbor, Mich. An able professional forester, with extensive Western experience, outstanding for his fair minded attitude on public questions.

I am listing 7 names as Murie may not be eligible because he is a Federal official. I feel confident that all of these are fully equal to the responsibility.

If I can be of further assistance please inform me.

Very sincerely

Chas. P. Adams.

Temporary Chairman, Conservation Council.

THE WILDLIFE SOCIETY

Jackson, Wyoming
March 16, 1945

Dr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
Washington 25, D. C.

Dear Robert:

I must apologize for my long delay. I have been in the throes of doing the annual business of the Wildlife Society by mail, since we had no annual meeting.

It is hard, surprisingly enough, to find many biologists with the social or ecological understanding of the Wilderness question. So many are specialized in some limited field, and oblivious to the rest of the world- fine people, too, for that matter, and many of them good friends of mine.

It is, as you say, a legal question and biological, with decided emphasis on ecology. I might suggest the folhowing names for the committee to study the problem of the airplane in wilderness areas:

Aldo Leopold - seems to me to fill the bill in all respects.

Dr. Walter P. Taylor is a good ecologist, conscious of social needs, and a conservationist.

Dr. H. E. Anthony, Biologist, conservationist, well versed in general affairs. Do not know much about his experience about wilderness preservation, but is firendly toward such efforts.

Kenneth Reid, of the Izaak Walton League represents a group that ranks first, in my opinion, in motives and objectives, of all the sportsmen groups. He should have much experience with public affairs and should understand public needs in the wilderness question, game, etc.

Newton B. Drury would know the Park Service problems and is very sensible, and of course Victor Cahalane is close to the Wildlife problems in the parks.

In the Forest Service Mr. Price seems to be taking interest in wilderness and is close to the problem in Minnesota. I don't know anyone else in the Forest Service that is much interested, There must be some.

Fish and Wildlife is not at all interested in Wilderness officially but Dr. Gustav Swanson, recently appointed, in the Chicago office of F. & W. Service, was much interested in preserving a primitive tract in Minnesota, and has recently risen into some prominence in the wildlife field.

In the Audubon group, Richard Pough is the only one I know who would do. He may be able to contribute.

How about William Vogt, if he is available?

And I should mention Oberholtzer, whom I have not met, but who has been close to the problem, though I suspect he is considered uncompromising.

On the legal end I have no suggestion, unless it be George Marshall. Wish I knew about more people.

Sincerely

Olaus

O. J. Murie

EXECUTIVE COMMITTEE
CHARLES K. VELIE, CHAIRMAN
J. G. BYAM
F. PEAVEY HEFFELFINGER
TOTTON P. HEFFELFINGER
MEL. R. NYMAN
H. C. PIPER
A. R. THOMPSON
FREDERICK H. STINCHFIELD
F. S. WINSTON
ROBERT C. WINTON
ROBERT WOODWORTH
In Memoriam
RALPH BRUCE

Quetico-Superior Council
ASSOCIATED WITH IZAAK WALTON LEAGUE OF AMERICA
1218 FLOUR EXCHANGE
MINNEAPOLIS

ERNEST C. OBERHOLTZER, *President*
J. G. BYAM, *Treasurer*

RECEIVED MAR 19 1945

Ranier, Minnesota
March 15, 1945

Dr. Robert P. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
Washington 25, D. C.

Dear Dr. Griggs:

Owing to frequent changes of address in the past ten days it has not been possible to reply sooner to your letter o f March 5 about a national committee to deal with the problem of air travel in wilderness and roadless areas. A study of this question under the auspices of the NATIONAL RESEARCH COUNCIL and particularly under your personal guidance is great good fortune for the country.

I am in full accord with your constructive suggestion for a carefully selected national committee to recommend solutions for the airplane problem. Your consideration in permitting me as a member of the President's Quetico-Superior Committee to suggest half a dozen names for such a Committee is warmly appreciated. Judging by my own experience, may I name Dr. Karl T. Compton, Frederick Law Olmsted, Dr. William S. Cooper, Dr. Gilbert Dalldorf(Grasslands Hospital), S. T. Tyng and F. B. Hubachek? I name the latter two lawyers, because they are extremely able legally as well as in many other ways and familiar with the problem from a broad public point of vie Dalldorf is a flyer himself and knows the Quetico-Superior region and the importance of protecting it, and of course you know of his other attainments in the fiaad of medical research.

Others that I would particularly consider are Dr. Charles C. Adams, Aldo Leopold, Benton Mackaye, Ovid M. Butler, Stuart Chase, Professor Shirley W. Allen, and perhaps Viljalmur Stefansson, as well as Charles S. Kelly of our Committee.

The material you sent is of great interest. I should like to comment on it a little later.

Most gratefully yours
Ernest C. Oberholtzer

THE STATE COLLEGE OF WASHINGTON
PULLMAN, WASHINGTON

March 9, 1945

Dr. R. F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington, 25, D. C.

Dear Doctor Briggs;

I have your letter of February 28 to members of the Wildlife Committee. I well appreciate the problem of invasion of roadless and wilderness areas by airplane and power boats. I would suggest the names of the following as likely names from which you could select a group to examine this question.

Richard Pough, National Audubon Society
Aldo Leopold, University of Wisconsin
Olaus Murie, Jackson, Wyoming
Victor Shelford, University of Illinois
Shirley Allen, University of Michigan
Stanley Cain, University of Tennessee
Dwight Jeffers, University of Idaho
Robert S. Yard, Washington, D. C.

I hope that in selecting your committee you will give due regard to geographic distribution, for many of the problems are Western ones where wilderness areas are great. For this reason, I would suggest special consideration to the names of Jeffers, Leopold, and Murie, who are or have had long experience in the Western wilderness areas.

This matter of wilderness areas is one in which I am deeply interested. I do not know whether you desire members of the Wildlife Committee in on these discussions or not. I should be glad, however, to do anything which I can to promote better protection for wilderness areas. If you should so desire, I should be glad to serve on such a committee or to cooperate with them to the very best of my ability. I hope that in so stating my interest, I do not appear too forward.

Yours sincerely,

Leonard Wing

Leonard Wing
Assistant Professor
Wildlife Management

LW: zu

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
WASHINGTON 25, D.C.

RECEIVED MAR 19 1945

March 9, 1945.

Mr. Robert F. Griggs, Chairman
Division of Biology and Agriculture,
National Research Council,
2101 Constitution Avenue,
Washington 25, D.C.

Dear Mr. Griggs:

In reply to your letter of February 27, I wish to state that I am in full accord with your idea that a committee should be appointed to study the problem of the possible effect of the airplane in roadless and wilderness areas. It is something which vitally affects the National Park Service and it is a privilege to be able to make the following suggestions for membership in such a committee:

Myron H. Avery, Comdr., USNR. Office of the Judge Advocate General, Washington 25, D.C.
Phillip H. Ellwood, Iowa State College, Amos, Iowa.
Laurie D. Cox, Professor, State College of Forestry, Syracuse, New York.
Frederick Law Olmsted, Elkton, Maryland.
Shirley W. Allen, Professor, School of Forestry and Conservation, University of Michigan, Ann Arbor, Michigan.
Irving Clark, Belleview, Washington.
Duncan McDuffie, Sierra Club, 1050 Mills Tower, San Francisco 4, California.
Olaus Murie, Jackson, Wyoming.
Emanuel Fritz, University of California, Berkeley, California.
Aldo Leopold, University of Wisconsin, Madison, Wisconsin.
William P. Wharton, Groton, Massachusetts.

Of course it is the hope of this Service to prevent the building of landing fields on lands within natural areas of the National Park System. I do not see how we can make any pretense of maintaining a wilderness atmosphere if we permit, or are unable to prevent, the intrusion of this machine into areas now held in wilderness status. The material that you furnished with your letter brings to mind that there are some situations where any chance of complete control may be impaired by the presence of private lands within our boundaries. Added to this we have lakes in virtually all of our back country which are large enough and well enough situated from the safety standpoint to be used by hydroplanes in their present stage of development. In view of this, your information about the control of navigable and non-navigable lakes and streams is of great interest, as is the situation regarding "Airspace Reservations."

Perhaps we should have a meeting with you and the Forest Service at the time the membership of the committee is definitely determined and then later with the committee to discuss the project and get an understanding of the extent of the cooperation it will be possible for us to furnish. If the job is finally undertaken you can count on this agency for all possible assistance. In the meantime, we shall tabulate the problems that we feel we shall be confronted with in years following the war pertaining to the airplane.

Sincerely yours,

Newton B. Drury

Newton B. Drury,
Director.

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

ADDRESS REPLY TO
CHIEF, FOREST SERVICE
AND REFER TO

WASHINGTON

U
USES
Airplane Landing Fields

March 8, 1945

Dr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington 25, D. C.

Dear Dr. Griggs:

The approach outlined in your letter of February 27 to the problem of the airplane in roadless and wilderness areas is regarded by the Forest Service as wholly satisfactory and we feel sure that its result will be of great assistance in meeting the problem. The willingness of the National Research Council to devote time to the subject is very much appreciated.

Since your letter was received it has been referred to the several assistant chiefs of the Forest Service for suggestions of names of persons whom you might be prepared to consider as members of the proposed committee. The names which have been suggested are listed below. Of course, our contacts are limited to the groups and individuals who have manifested most interest in the conservation of forests, natural interests, wildlife, and outdoor recreational activities. You perhaps have other sources from which to draw suggestions as to the other fields of interest which merit inclusion.

During our conference I mentioned Kenneth Reid of the Izaak Walton League of America and Commander Avery of the Appalachian Trail Conference. Other assistant chiefs of the Forest Service concur. Names of other persons which suggest themselves are:

Tom Gill, who is affiliated with the Pack Foundation

Henry Clepper, Secretary of the Society of American Foresters, or some other qualified member of the Society

Ovid Butler, Secretary of the American Forestry Association, or some other qualified member of that Association.

Paul B. Sears, Oberlin College

S. C. Kendeigh, University of Illinois (Ecological Society)

Shirley W. Allen, University of Michigan (Society of American Foresters)

VICTORY BUY UNITED STATES BONDS AND STAMPS

Olaus Murie, Fish & Wildlife Service (President Wildlife Society)

Pete Hoffmaster, Michigan Conservation Department (President International Association of Game, Fish, and Conservation Commissioners)

Aldo Leopold, 424 Farm Place, Madison, Wisconsin

Alexander Wetmore, Smithsonian Institution

Seth Gordon, naturalist, Pennsylvania Game Commission, Harrisburg, Pa.

Wm. Van Dersal, Soil Conservation Service

Dr. Homer L. Shantz, 454 Paseo del Descanso, Santa Barbara, California (former Chief of Division of Wildlife Management, U. S. Forest Service)

One of the assistant chiefs raised the question of desirability of representation by organized labor, by business and professional womens' organizations, or by service clubs such as Rotary, Kiwanis, etc., as representing realms of thought or interest which comprehended subjects such as that to be studied; however, he made no specific nominations.

The telephonic inquiry of your secretary as to the addresses of Charles E. Kelly and Sewell T. Tyng, who are members of the Quetico-Superior Council, suggests that you may be considering their names. Both would be eminently qualified from first-hand knowledge to discuss the effect of promiscuous air travel on roadless areas such as in northern Minnesota.

Were Robert Sterling Yard of the Wilderness Society in good health, I would suggest his name also; but my understanding is that he would hardly be prepared to engage in any great degree of physical or mental effort.

The foregoing list is not as comprehensive as we would like it to be but we have every confidence that the composition of the committee will assure a high level of analysis and conclusion.

Very sincerely yours,

LYLE F. WATTS, Chief

By:

IN REPLY REFER TO

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

TEXAS COOPERATIVE WILDLIFE RESEARCH UNIT
COLLEGE STATION, TEXAS

March 7, 1945

Dr. Robert F. Griggs, Chairman
Division of Biology and Agriculture
National Research Council
2101 Constitution Avenue
Washington 25, D. C.

Dear Dr. Griggs:

Answering your letter of February 28, may I suggest the following for consideration for the committee to consider regulation of airplane travel in the wilderness areas.

Natt Dodge, Regional Naturalist
National Park Service
Santa Fe, New Mexico

Aldo Leopold
Department of Wildlife Management
University of Wisconsin
Madison, Wisconsin

O. J. Murie
U. S. Fish and Wildlife Service
Jackson, Wyoming

I think these men would be highly competent to assist at least on biological phases of the problem. I am not so familiar with those who might be best qualified to address themselves to legal phases.

Hope something may be done to properly take care of this important problem.

Sincerely yours,

Walter

Walter P. Taylor

WPT:sh-5

FOR VICTORY
BUY
UNITED
STATES
SAVINGS
BONDS
AND
STAMPS

RECEIVED
MAR 10 1945