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# United States Department of the Interior

NATIONAL PARK SERVICE WASHINGTON, D.C. 20240

JUL 28 1972

Memorandum

To: All Field Directors and Area Superintendents

From:Actingirector

Subject: Report of the Director's Natural Sciences Advisory Committee

Enclosed is a reply by Director Hartzog to Dr. A. Starker Leopold, Chairman of the Natural Sciences Advisory Committee, whose report of the last committee meeting is also enclosed. The committee has made several important suggestions that the Director feels should be implemented. The entire report is recommended to you, with particular attention to "II. Research priorities" and "IV. The research biologist in the park."

aymond L'Freeman

Enclosures



National Parks Centennial 1872-1972

in reply refer to: N22-PN



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IN REPLY REFER TO: N22-PN

AIRMAIL

Dr. A. Starker Leopold School of Forestry and Conservation University of California Berkeley, California 94720

Dear Starker:

Thank you very much for your letter of July 13 that reports your meeting of the Natural Sciences Advisory Committee on June 5 and 6 at Santa Fe. I am especially glad you had the opportunity to meet with the Regional Chief Scientists and that they were able to give you an up-to-date view of the field problems.

The publication of scientific studies within the Service has indeed been especially difficult. To overcome this, I have established, under Dr. Ernest Connally's direction, a new publications unit to deal exclusively with scientific, historic and other professional writings. This action will take these kinds of publications out of direct competition with general park information items.

I am especially grateful for the Committee's views concerning the priorities of jobs to be done. In our haste to resolve minor daily problems we often lose sight of those kinds of studies that would enable us to avoid the larger pitfalls. These priorities, along with your very important comments concerning the use of our scientists' time for other than research purposes belongs in the hands of all our Field Directors and Park Superintendents. Accordingly, I am forwarding these recommendations to all Directors and Superintendents and asking that they be followed with all reasonable haste. I am asking Dr. Linn to work with Associate Director Norwood in developing the budgetary information you have requested on resource study programs.



Again, I wish to thank you and the Committee members for your efforts to keep our sociological and natural resources research efforts meaningful, and for your thoughtfulness in developing the suggestions that will be so useful in our quest to improve the scientific programs.

My best personal regards.

Sincerely yours,

OGD) GEORGE B. HARTZOG, JR. Director

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SCHOOL OF FORESTRY AND CONSERVATION AGRICULTURAL EXPERIMENT STATION BERKELEY, CALIFORNIA 94720

July 13, 1972

Mr. George Hartzog, Director National Park Service Washington, D. C.

Dear George:

On June 5 and 6, in Santa Fe, the Natural Sciences Advisory Committee met along with the Natural Sciences Coordinating Council and personnel of the Water Resources program. This letter constitutes the report of the Advisory Committee. The various points discussed below were agreed upon by all Committee members after a closed session of the Committee, attended by Chief Scientist Linn.

## I. Research publications

We note with pleasure that \$114,000 has been provided in the FY 1973 budget for the publication of research reports and theme studies. Apparently, however, the effectiveness of this appropriation is being blunted by a bottleneck in the Division of Publications. Although eight research monographs are ready to go to the printer, only two were scheduled for publication in 1972-73 by the Division of Publications. This seems to us to be a case of the tail wagging the dog. A primary purpose of research is to make information generally available for use. As we have stressed previously, quick publication is of substantial benefit to all concerned, especially to Superintendents and their staffs of resource managers and planners. We have recent word that a new publication scheme is in the offing, and we sincerely hope that it will offer a more efficient solution to this problem than that mentioned above.

#### II. Research priorities

With a limited research staff, it is important to focus investigative effort on those problems most likely to be crucial in park planning and management. After listening to the reports of the Regional Chief Scientists summarizing on-going studies in parks throughout the country, the Committee undertook to categorize the various types of research and to assign priorities to them. We transmit this list of priorities to you:

### A. Ecologic studies

1. <u>Resource basic inventory</u>. Survey and appraisal of the resources of a park is a primary research responsibility, and all research personnel should be prepared to devote some of their time to this function. By use of aerial photographs and other quick mapping techniques, substantial information can be assembled that will be Mr. George Hartzog July 13, 1972 Page 2

> invaluable to planners and park administrators. From this general inventory will come recognition of specific, acute problems requiring more intensive study.

- 2. <u>Rare and endangered ecosystems</u>. Much of the research endeavor is already being devoted to projects that fall within this heading, and properly so. Rare species, and their habitats, are attractive and important subjects of study and are not likely to be slighted, once recognized.
- 3. <u>Water ecology and aquatic systems</u>. An understanding of water tables, aquifers, and stream characteristics is crucial to proper park planning and development. Knowing water supplies and their limitations can help prevent overdevelopment or improper development of limited water resources. This issue is especially likely to be critical in arid lands, but even in Everglades the issue proved to be central to preservation of park values. We recommend increased emphasis on the study of park water resources prior to exploitation and development of these resources.
- 4. <u>Beaches and dunes</u>. Ecosystems based on sand are likely to be especially friable and delicate. Beaches and dunes often attract heavy recreational use, with potential damage to the natural scene and to the specialized communities of plants and animals found there. Much more caution is required in developing plans for such places as Padre Island, Lookout, or Sleeping Bear than, for example, durable hardwood forests or mountain peaks. Ecologic study of beaches and dunes deserves high priority.
- 5. <u>Fire ecology</u>. This subject is being widely investigated, but is of such significance as to require continuing work.
- 6. Ungulate ecology. Because grazing ungulates are capable of rendering severe damage to plant communities, they require more attention than any other class of animals. This is equally true of native species such as deer, elk, etc., and of introduced feral domestic stock like pigs, burros, or goats, though the objectives of management may be very different for these classes of ungulates. Ungulate ecology will be a continuing problem in the parks. Exotic animals other than ungulates (mongoose, rabbit) may need careful attention on some parks.
- Predator ecology. The larger predators are among the most interesting animals to visitors and have been much studied in the past (wolves, coyotes, bears, etc.) New proposals for predator studies are sure to arise.

- 8. <u>Urban ecology</u>. Studies of urban parks, in Washington, D. C. particularly, deserve support. The problems are unique from most other park ecologic situations and require different approaches.
- 9. Other. In setting up the above priorities we do not intend to exclude other necessary projects peculiar to individual parks. Cave ecology, for example, might be a crucial problem at Mammoth or Carlsbad. Emergency situations like drought or flood may call for intensive attention on short notice, and the research crew and budget should be able to adjust quickly as required.

## B. Visitor studies

1. <u>Visitor impact</u>. Heavy visitation may have physical and ecological impact on park resources, as well as psychological impact on the visitors themselves. This area of study deserves much more attention than it has received in the past.

2. <u>Social studies</u>. A small start has been made in understanding the motivation that brings people to parks and that regulates their behavior while there. The field should expand greatly. The Committee recognizes the great significance of visitor and other types of social studies but cannot place these in the priority scale defined above for ecologic studies.

III. <u>Budgetary support</u>. The Committee notes with gratification that the budget supporting the entire spectrum of natural and social science programs, including the special effort in south Florida, has increased from about \$2,400,000 in FY 1972 to about \$3,300,000 in Fy 1973. It is not clear to us to what extent this increase in funds will result in an increase in research. We are unable to ascertain whether any new research scientists will be employed as a result of the stated budget increases, nor can we be assured that there is firm budgetary support for the necessary field expenses of all the existing research personnel. Research and the equipment needed for it is often expensive, and field administrators may not be naturally willing to support such requests. Part of the reason why we do not have sufficient knowledge of the fund status for field research is that park financial programs do not spell out what funds are available to the scientists. We would be very much obliged to you for additional information that would more adequately inform us as to the nature of the current budgetary process for the research program.

IV. The research biologist in the park. The function of the research biologist is to gather information that will help the Superintendent in managing or planning a park. But there is no clear definition of how much time should be allocated to <u>gathering information</u> and how much to <u>helping the Superintendent</u>. There is an easy tendency for administrators to use all available help in solving day-today administrative problems, and we are anxious that research personnel not be absorbed into the park management machinery to the point where they have no time for research. Mr. George Hartzog July 13, 1972 Page 4

We have no cook-book formula for allocation of a research biologists' time, but we do want to press the point that the research need in the park system is enormous and the number of men assigned to fill the need a mere handful. As one member stated at the Santa Fe meeting, after half a century of park operation without a research program there is "one helluva void to fill." Assignment of research personnel to routine administrative tasks, such as writing environmental impact statements, may effectively preclude the conduct of effective research. The Advisory Committee feels that a memorandum or directive from you might serve to remind administrators at all levels that the primary responsibility of research personnel is <u>research</u>.

The Committee would be grateful for your reaction to these suggestions.

Sincerely,

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A. Starker Leopold, Chairman Stanley Cain Alvin Bertrand Charles Olmstead

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