special investigation to find a remedy for it.[6] The fitness of natural areas for scientific purposes can evidently be jeopardized by a much slighter degree of trampling, etc., than is required to kill a redwood tree. Such areas, in fact, should be kept absolutely intact to serve their purpose. In the future, it will be necessary to make some distinction between public "wilderness" playgrounds and areas reserved for scientific research, and to prohibit public access to the latter except by special permit. It would be poor economy to spend, for instance, $65,000 as for the hundred acres in Heart's Content, in order to save a unique, natural document, and then later jeopardize the authenticity of the document by encouraging its use as a picnic ground.

This, of course, is a purely technical, administrative question which will be readily solved as soon as its importance has, more generally, become as clear as it is already to the Forest Service.[7] The most urgent thing is to have the areas selected before it is too late to make a good choice.

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## SCIENTIFIC EVENTS

### FISH CULTURE IN THE NATIONAL PARKS

A COOPERATIVE arrangement has been effected between the Department of the Interior and the Department of Commerce whereby a fish culturist of the latter department will supervise fish culture operations in the national parks and national monuments. The arrangement is expected to become effective next July 1, when the funds for the 1930 fiscal year become available. The full text of the statement follows:

Under the plan of cooperation the fish culturist, to be carried on the pay-roll of the Bureau of Fisheries of the Department of Commerce, will devote his time during the summer to piscatorial problems in the national parks. During the winter months he will direct fish-cultural operations at hatcheries of the Bureau of Fisheries located at points outside the parks.

The work of the fish culturist so far as it relates to the national parks will include the general supervision of fish cultural studies and operations, including detailed studies of park waters to determine suitability for fish, a study of native or related fish species suitable for stocking or restocking, and the preparation of permanent management plans for all park waters. Next summer the fisheries expert will study conditions in Yellowstone and Glacier National Parks.

At the present time the Bureau of Fisheries maintains federal hatcheries in Yellowstone and Glacier National Parks. The Fish and Game Commission of California maintains a state hatchery at Yosemite Park, and state cooperation is given in other national parks through furnishing fish for planting in park waters.

Planting is now done by the individual park organization, but up to the present time it has been impracticable to make scientific studies to determine suitability of fish for planting, and no data have been available on park waters as to the abundance or lack of fish food. Under the new plan it is expected that these fundamental facts will be determined and studies made of the life histories of native species and the desirability of their propagation, as well as of exotic fish species adapted for propagation in park waters.

This cooperative arrangement will be similar to one in force with the Public Health Service of the Treasury Department, whereby a sanitary engineer of that service acts as chief sanitary officer for the National Park Service, having full responsibility in matters of sanitation.

### AERIAL PHOTOGRAPHY

TRUSTEES of The Daniel Guggenheim Fund for the Promotion of Aeronautics announce the authorization of a grant of $30,000 to Syracuse University to assist in the establishment of an aerial photographic surveying and mapping center at that institution for the purpose of offering a course of study in this work. The grant provides the necessary equipment and instruments for a study of this kind and is made with the understanding that Syracuse University will provide the proper instructional staff for the conduct of the course.

Syracuse University was a pioneer in teaching photographic surveying. The first courses were introduced in the college of applied science about the same time that the Wright brothers made their initial flying experiments twenty-five years ago.

The program will consist of eight courses, ranging from map-making and aerial navigation to the economics of aerial mapping. General courses in photo aerial surveying will be given to all students in civil engineering as a part of the regular curriculum, with advanced courses for those specializing in this work.

It is believed that this comprehensive program for instruction and research will bring significant results in the application of aviation to an important field

[6] E. P. Meinecke, "A Report upon the Effect of Excessive Tourist Travel on the California Redwood Parks," State of California, Department of Natural Resources, division of parks. California State Printing Office, Sacramento. 1928.

[7] The question is touched upon in the letter of March 11 mentioned above.