The supply of full copies of the report described in the attached release, "Natural Areas as Research Facilities," is small. Therefore, there will be no complementary press copies. (Those available will be sold at $3.75 per copy.) In addition, some will be loaned for a few days to the first writers requesting them, or a copy may be inspected at the AAAS or at the Nature Conservancy. Writers who cannot wait for a borrowed copy will be referred to the nearest of the 300 copies already distributed to ecologists and conservation officials.

0490

Interested writers should contact:

Miss Linda Biser, Research Associate
The Nature Conservancy
2039 K Street NW
Washington D. C.
Tel: FE 3-6933, area code 202

PW 1/63

NEWS RELEASE

American Association for the Advancement of Science

1515 Massachusetts Avenue, N.W. ■ Washington, D. C. 20005 ■ Tel: 387-7171, Area Code 202

Immediate Release

WASHINGTON D. C. -- A growing U. S. population, with increasing leisure time, demands and is getting more parkland for recreation in such forms as national parks, national forests and city and state parks. Visits to U. S. national parks have more than doubled in a decade to a record 94 million last year, and the recreation areas of the Park Service and the Bureau of Reclamation have increased approximately two million acres in the last ten years until they now consist of approximately 24 million acres, which is roughly the size of Indiana.

There is a second, less-well-known use for the nation's wilderness, vital to the nation's scientists but not always in the past taken seriously by those who set park policy. This use, which can conflict with recreation, is the reserving for the purpose of research, certain modest-sized but ecologically significant areas which have never been invaded by man. Typically these areas run to 40 acres.

A limited-edition report on this subject, "Natural Areas as Research Facilities," was released in February by a study committee of the American Association for the Advancement of Science.

An early result of this report is that Secretary of the Interior, Stewart Udall, is organizing a working group to establish the machinery which will identify and then protect from enroachment and changed status, representative wilderness or natural areas, on lands which contain important American biotypes.

(more)

Two dramatic examples of the value of natural areas are given in a letter, reprinted in the report, from former National Park Service director Conrad Wirth:

In the "narrow, well-watered gorge of McKittrick Canyon [in Carlsbad Caverns National Park in New Mexico] scientists have found an association of plant species surviving today which represent a carry-over from the Pleistocene epoch of half a million years ago. . . Over 20 species of insects new to science have been discovered there so far. Four of them represent new genera, a fact that emphasizes their lack of close relationship to other groups living today."

In Rocky Mountain National Park in Colorado, "the isolated, high-altitude valley of Paradise Park [has been found to be] virtually unmolested, ecologically, since the last glacial epoch, which means that it has never been ecologically modified by man. . . Comparable areas are known in other parks."

Wilderness areas have another function less exciting but perhaps even more valuable. The wilderness represents perhaps the ideal of healthy land, and can tell ecologists much because it forms a control against which they can measure the effectiveness of their experiments at improving upon nature.

The report quotes University of California zoologist A. Starker Leopold: "Paleontology offers abundant evidence that wilderness maintained [itself] for immensely long periods; that its component species were rarely lost, neither did they get out of hand; that weather and water built soil as fast or faster than it was carried away." In short, to quote again from Leopold, " . . . a science of land health needs, first of all, a base datum of normality, a picture of how healthy land maintains itself as an organism."

But the federal agencies, which hold much of the nation's scientifically valuable land, have had no common policy for preserving key pieces of it in its virgin state, and in fact some agencies have no firm policy for this at all.

(more)

add two
natural areas
aaas

Of the past situation in the National Parks, the report states:

> Any time engineering considerations run contrary to scientific considerations, the engineers win, hands down. The scientists are not even consulted. This is likely to be true as long as the public benefit derived from a National Park is judged solely by the number of visitors who check in and out the gates. If a quick drive to the parking area at Clingman's Dome and a short walk to the top of the observation ramp is given the same significance in Park Service thinking as a summer's study by an ecologist of the ecological factors influencing a virgin hardwood forest in the same park, then the long-term value of the park as a natural area is small, indeed. No accessible patch of forest is safe from being converted into a camp-ground, and accessibility is limited only by current and temporary engineering limitations. If extensive aerial spraying of pesticides can be carried out in a National Park . . . where is to be the limit of disruption of natural ecosystems?

Though the National Park Service does plan to set aside certain lands as research areas in which "scientific considerations [will be] pre-eminent and mass public use discouraged," the committee reports that progress has been slow in setting aside such lands. However, the report commends the Park Service's "proposed National Natural History or Scientific Landmarks program [which] would officially recognize nationally significant preserved natural areas regardless of ownership."

As for the Bureau of Land Management, it was commended for establishing its first research reserve, 600 acres of Western Juniper, in Oregon in the fall of 1962. But the Bureau has established none since. This was termed discouraging, for "the real opportunity really rests with this agency because of the one-half billion acres [three times the area of Texas] which are under its jurisdiction" compared with only 15 million acres under the Forest Service and 24 million acres controlled by the National Park Service.

But the report is by no means entirely critical. It commends the Smithsonian Institution for maintaining "probably the most successful of all natural area research facilities, Barro Colorado Island in the Panama Canal Zone." The committee also praises some states for a growing movement in the past ten years to set aside

(more)

add three
natural areas
aaas

natural areas in state parks and other state lands. "It is obvious that certain states such as Michigan and Virginia [and Wisconsin] show pride and leadership in establishing and protecting preserved areas, while there [is little] interest in such a program [in] western and southern states, notably Kansas, Nebraska, Arizona and Mississippi."

Among the other conclusions:

--After analyzing the nation's land by geologic and botanic types, the committee points out the major categories in which few or no natural areas are now preserved. In effect, it suggests that majestic mountains and towering trees are not the only scientifically valuable biotypes -- prairie-state grasslands and Great Lakes dunes, for example, are just as significant to the ecologist.

--The report contains a 39-page table listing all U. S. natural areas (over 500) known to the committee and identified by location, ecological type, ownership and area. Analysis of these shows, the committee concludes, that too often the agency holding a natural area is bound by no legal provision requiring it to maintain the area's wilderness status, despite, for example, a change in national political administration. It is recommended that "an organization be formed to provide legal counsel and to advise on land preservation."

--"One of the urgent matters before ecologists is to make a survey of their own literature to find out which unprotected areas have large investments of research in them" and then to try to protect these from any change in status which would cancel out much of the value of the earlier research. "Outstanding examples of areas where much [research] has been done, but which have no real [legal] protection, are Neotoma Valley, near Columbus, Ohio, and the Hastings Reservation, in Monterey County, California."

--Ecologists cannot yet cope with the complexities of a complete landscape

(more)

add four
natural areas
aaas

pattern, such as found in wilderness areas. So far, ecologists are able to deal only with one or a few components in an ecosystem, but cannot explain how all elements in nature interact. Geographers, ecologists and regional planners have a challenge thrown at them here, the report implies, and wilderness areas must be preserved now if such research is ever to be done.

--The bulk of the 350-page report consists of the first systematically compiled bibliography (with 2,400 titles) of all research done in U. S. natural areas. Despite the number of research studies, the committee found that scientists in many disciplines have little used these natural areas. Among the scientific fields faulted are these four:

1. "Agriculture [could use wilderness areas as controls] to determine the results of the various treatments that soils are subjected to . . ."

2. Soil science, too, should be making much more use of wilderness areas as research controls. (Lack of representative undisturbed soil types in existing natural areas was termed "by far the most serious gap in the system of natural areas at the present time.")

3. "It would seem that natural areas are vital in pesticide research, simply to know whether or not one had any results." Only ten research studies using natural areas in this way could be found.

4. "The low [number of studies dealing with] range management may be the result of poor sampling. If it is not, then the science of range management must be in a poor state, indeed, with very little in the way of long-term controls."

Members of the AAAS study committee were F. Raymond Fosberg (chairman), botanist with the U. S. Geological Survey; P. Bruce Dowling, Nature Conservancy; Francis H. Eyre, Society of American Foresters; Richard H. Goodwin, professor of botany at Connecticut College; S. Charles Kendeigh, professor of zoology at the

(more)

add five
natural areas
aaas

University of Illinois; Jack McCormick, ecologist at the Philadelphia Academy of Sciences; James B. Ross (who had the idea for the study), Reinhold Publishing Company; and George Sprugel, Jr., National Science Foundation.

Much of the work on the report was done at the Nature Conservancy, Washington, D. C., where Mary Sherman was staff research assistant to the committee. The master card files for the study, which include a bibliography of research done in natural areas and a list of existing natural areas, are maintained at the Nature Conservancy.

18 March 1964
K. A. Godfrey, Jr., Information Officer
American Association for the Advancement of Science
1515 Massachusetts Avenue NW
Washington D. C. 20005
Tel: 387-7171, area code 202

###