DISCUSSION

CONSERVATION VERSUS PRESERVATION

THE Yellowstone Park Act of 1872 refers to "preservation from injury or spoilation of all timber, mineral deposits, natural curiosities or wonders within the park, and their retention in their natural condition." It was apparently considered illegal to carry on any "control" measures under the old law. The National Park Service Act, 1916, states that the purpose "is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." The Secretary of the Interior was further authorized to remove timber, control attacks of disease and insects and to provide for the destruction of such plant and animal life as may be detrimental to the use of the parks. This was very unfortunate legislation, as the confidence in beneficial results from such "control" has, since that time, materially weakened.

Many people conceive of the National Park Service as a conservation organization. To conserve, as the term is now most frequently used, means to preserve while in use and it often implies ultimate depletion. In actual practise the operations carried on in the name of conservation are not designed to preserve the natural order but to establish and maintain a different order as regards kind and abundance of plants and animals present. The difference between preservation is well illustrated in a recent publication by Wright, Dixon and Thompson,[1] who advocate the preservation of the birds and mammals in national parks. They point out the importance of dead timber to various birds and mammals, and the need of such timber for numerous invertebrates might well be added. Conservation as usually practised removes dead and mature timber, while preservation lets nature take its course.

In a series of suggestions by the authors mentioned nearly all the ordinary "conservation" views are reversed:

> Every species shall be left to carry on its struggle for existence unaided, as being to its greatest ultimate good, unless there is real cause to believe that it will perish if unassisted.
>
> No native predator shall be destroyed on account of its normal utilization of any other park animal, excepting if that animal is in immediate danger of extermination, and then only if the predator is not itself a vanishing form.

The authors of the report further advocate the encouragement of visitors to see animals; *e.g.*, bears in their natural surroundings rather than about a garbage pile.

The conservation idea may reasonably be extended to cover the preservation processes described in this recent publication. If so, one may conceive of the maintenance of exotic pheasants in South Dakota as very near the zero point of the conservation of nature with most other so-called conservation measures not far above this level. A nature sanctuary in a national park or national forest in which every effort was made to preserve a sample of original nature without disturbance may well stand at the top of the conservation series.

In nature sanctuaries the natural fluctuations of organisms are allowed free play and serve among other things to show what natural fluctuations in abundance are like. There is or has been so much interference with natural processes in the form of "control" of this and that organism that the student of "wild life" management who would seek a basis for more scientific treatment of the animals in his charge, is left without guiding principles or reliable information and will continue thus until the preservation measures advocated by Wright, Dixon and Thompson with additional measures of equal importance are put into effect in as many nature reserves as possible.

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NOTES ON A SPHAGNUM BOG AT FORT BRAGG, CALIFORNIA

THE farthest south sphagnum bog which the writer has seen on the Pacific Coast is located about three miles east of Fort Bragg, which is on the coast, about 125 miles north of San Francisco. It is from 200 to 400 feet or more in width and is perhaps three fourths of a mile long. The bog occupies an irregular depression in a flat about 300 feet above sea-level. A creek originates in the bog and flows into the Noya River which flows into the ocean at Fort Bragg. The soil of this flat is almost pure sand known as Mendocino sand.

The bog is in a young stage of development in which the aspect is mainly given by *Ledum columbianum,* forming a dense growth four or five feet tall, and a large sedge (*Carex* sp.) which is a little taller than the Ledum and is equally abundant. Scattered *Myrica californica,* mostly five to ten feet tall, occurs much as in the bogs of the Oregon coast, and a low growth of *Gaultheria shallon* is also found. A robust species of *Sphagnum* forms a dense growth among the *Ledum* and *Carex* and forms many hummocks. The herbs identified are *Drosera rotundifolia, Hypericum anagalloides, Lilium maritimum* and *Gentiana* sp.

[1] "Fauna of the National Parks of the United States," Contribution of Wild Life Survey Fauna Series 1, 1933.

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