



LONG-RANGE AQUATIC RESOURCES MANAGEMENT PLAN  
Crater Lake National Park  
1969-1978

Introduction:

When the first white man saw Crater Lake in 1853 the Lake was probably without fish. The streams originating upon the slopes of Mount Mazama were without fish with perhaps one exception. Upstream movement of fish from lower elevations was effectively reduced by the almost insurmountable waterfalls. As western man arrived, he began to alter natural conditions. Exotic fish were planted in park Lake and streams. His changes have made the original character of the aquatic resource a matter of uncertainty.

Man was not content to simply view the Lake. To many, Crater Lake seemed ideally suited for fishing. So planting of fish began prior to establishment of Crater Lake as a national park. Formal stocking plans began in 1910 and ended after the 1941 season. Over 1 million fish (1,485,120) were planted during this period. Various species were introduced since the initial stocking in 1888, with varying degrees of success. Cutthroat trout (Salmo clarkii), and coho or silver salmon (Oncorhynchus kisutch) died out within a few years. However the rainbow trout (Salmo gairdneri), sockeye salmon or kokanee (Oncorhynchus nerka), and brown trout (Salmo trutta) have been able to maintain small, fluctuating populations by natural reproduction. Introductions of the several species of fish then, were only moderately successful.

With this in mind, a new fishing policy was approved by Acting Director Tolson in 1958. "Fishing shall be permitted in Crater Lake and the streams of Crater Lake National Park, but this activity shall be of subordinate importance. The catch shall be dependent upon the self-sustaining populations of fishes. Additional planting of fishes and other organisms shall not be made in Crater Lake or in the streams of the Park."

Use of fishing resources decreased following the end of World War II, although there has been a slight increase since the early sixties. The natural reproduction is thought to be sufficient to meet this limited fishing pressure. Data is insufficient to verify this. Most fishing in the Park is by local residents. However visitor use is increasing on the Lake. In 1941 one visitor out of approximately 183 fished the Lake. In 1966, the Lake was fished by one out of about 150. Fishing is now concentrated in two areas; Cleetwood Cove on Crater Lake and the portion of Annie Creek below Mazama Campground.

In the near future park visitation may increase rapidly. Angler use should increase, but likely at a somewhat slower rate. If this trend follows recent years, angler use will increase about one to three percent annually. Visitation will increase 5 to 10 percent. This increased demand on aquatic resources will probably be felt more at the Lake than in any of the streams.

The fishery resources of the Park are managed by the National Park Service, which administers the Park under exclusive jurisdiction. A Long Range Plan is designed to provide direction to the management of these park resources. Tentative in nature, this plan is subject to periodic review and revision as new information is acquired and the pattern of angler-use changes.

Aquatic resources do not provide a major management problem for this park. Nevertheless, we must recognize the critical nature of that management which is needed, implement it promptly, and maintain it both diligently and thoroughly. Park streams, due to their relative inaccessibility and limited fish productivity, are not likely to attract significantly increased angling pressure in the foreseeable future. Crater Lake, however, must be maintained in its pristine condition for visitor enjoyment and, because of its unique characteristics, for scientific investigation. Management practices for the Lake are therefore required which will adequately protect it from all forms of artificial modification, including its use as a "domestic" water supply.

#### Objectives:

The management of the aquatic resources of Crater Lake National Park is governed by the management objectives and principles identified in the Wildlife Management Handbook, Part II: Aquatic Resources, Natural and Historical Areas. Within the framework of broad Servicewide objectives are the Park's specific objectives, as listed below:

1. Whenever feasible, restore park waters to their natural condition, particularly with respect to fish life.
2. Maintain natural populations of native fish species in all park waters (e.g., Sun Creek), where they are determined to have occurred, by regulation of fishing pressure as needed.
3. Prevent any construction or other development that might significantly modify the natural conditions of park waters.
4. Prevent further introductions into park waters of any harmful or persistent exotic substances or any exotic forms of life.

5. Permit continued fishing of all park waters under regulations designed to be consistent with the preceding objectives.

Designation of Fishes:

1. Crater Lake: Rainbow trout, sockeye salmon (Kokanee), and brown trout are non-native but are classified as sport fishes.
2. Streams except Sun Creek: As non-native fishes, eastern brook trout and rainbow trout are classified as sport fishes.
3. Sun Creek: Dolly Vardens and rainbow trout are native and classified as sport fishes.

Classifications of Park Waters:

Park Lakes: Crater Lake, the only lake, is classified Class II. Management shall strive toward returning the environment to natural conditions in the Lake (Class I), since it has been modified by the fish stocking. The Lake itself is the crowning feature of the Park, and the Service is obligated to protect it and its setting above all other considerations.

Park Streams: All park streams are classified Class II. The ultimate goal, however, is to return all originally barren streams to Class I through management (fishing and feasible eradication programs) with minimal interference to evolution of environmental conditions.

Management Activities:

1. Fish Stocking: No stocking of fish or other species shall be conducted as part of aquatic resource management. This agrees with management objectives for the following reasons:

a. Crater Lake and all park streams except Sun Creek were originally barren. Fish in these waters are exotic.

b. Streams are small, cold and barrier strewn. Natural reproduction of native dolly varden and rainbow trout is considered adequate to maintain populations under the present limited fishing pressure.

c. Crater Lake is not readily accessible. It can be reached only by a steep trail or by the more difficult and dangerous "unofficial" routes at the Wineglass and other points. Snow and other climatic conditions make it difficult to keep the main trail open for many months. Consequently, the fishing season is short and fishing pressure is light.

d. A majority of the streams are not readily accessible. Most are located some distance from roads or are at the bottom of steep gorges. Fishing is minimal.

e. Fishing is now virtually limited to Cleetwood Cove, Wizard Island, lake banks and a small portion of a few streams. Even here there is little significant fishing pressure.

f. Research has not yielded complete data on environmental factors governing fish population, composition, distribution and reproductivity.

g. Crater Lake National Park does not meet the purposes of stocking as outlined in the Wildlife Management Handbook, Part II: Aquatic Resources, Natural and Historical Areas. Records reveal that stocking did not significantly increase the creel catch.

#### Restoration of Native Species and Natural Aquatic Conditions:

Natural conditions and native fishes will be restored to the Park waters by:

1. Continued policy of no fish stocking so that existing populations of exotic fish will stabilize with the natural environment, or be eliminated naturally.
2. Through research, determine feasible methods to remove or eradicate exotic fish.

#### Fact Finding Investigations:

1. Inventory Surveys. All park streams were inventoried in 1947. Natural changes since then are unknown. An extensive, continuing creel census program should be initiated. Periodic surveys of the streams will be conducted by qualified protection personnel through cooperation with other federal or state agencies. Various lake studies including inventories of fish populations are to be undertaken. One such study in the summer of 1966 found a brown trout, the first confirmed in many years. Other limnologic studies are being pursued.

2. Angler-Use Studies. Creel census studies have been conducted intermittantly for many years. In order to obtain information needed to manage park waters, the creel census program should become an annual undertaking.

3. Follow-up Investigations. To facilitate attainment of management objectives, research that brings forth new or different outlooks on aquatic resources will be evaluated for changes in management planning.

Cooperation with other Agencies:

The park is currently cooperating with no outside agencies in its aquatic resource management. Cooperation will be sought with the Oregon State Game Commission and other pertinent agencies as our needs indicate.

Research Needs:

1. Describe fully the stream and lake ecosystems.
2. Determine the extent of man's influence on the aquatic resources, including particularly:
  - a. Modification of Crater Lake.
  - b. Extent and distribution of fishing pressure on Sun Creek.
3. Maintain up-to-date knowledge as to the feasibility of eradicating all fish from Crater Lake and exotic fishes from park streams.