

GOLD LAKE
FISH MANAGEMENT PLAN

INTRODUCTION

Gold Lake lies two miles north of Highway 58 at an elevation of 4,800 feet near the crest of the Cascade Range. Access is via a deadend gravel road (Forest Service Road 500) leaving the highway at a point 22 miles east of Oakridge (Fig. 1). The lake is in the Oakridge Ranger District of the Willamette National Forest. It is also within the "Waldo Lake Recreation Area", an area managed by the U. S. Forest Service (USFS) primarily for recreational uses. There is a developed campground on the south end of the lake and a boat ramp at the outlet, Salt Creek. No motorized boats are allowed. Fly angling is the primary summer recreation activity at the lake, while cross-country skiing is popular in winter.

In October 1986, the Oregon Fish and Wildlife Commission accepted the Department's recommendation to manage Gold Lake for wild trout.

HABITAT

Description

Gold Lake covers 104 surface acres and has a maximum depth of 40 feet. The lake bottom is composed almost entirely of mud. Dense timber encircles the shorelines, except for a large marshy bog at the north end. The bog has been designated as a Research Natural Area by the USFS.

Salt Creek flows through the lake and provides high quality trout spawning and rearing habitat. Gold Lake rainbow spawn mainly in Salt Creek within 100 yards of the lake outlet. Brook trout spawn mostly in Salt Creek above the lake and in springs associated with the bog. Spawning gravel is not plentiful in either area but is sufficient to maintain large self-sustaining populations of both trout species; in 1983, about 135 square yards of gravel were experimentally placed in the outlet to enhance rainbow spawning. There are no other known significant habitat limitations.

Considerable amounts of submerged and emergent aquatic vegetation along the lake's shoreline, especially the northeastern end, provide favorable habitat for fry and aquatic insects.

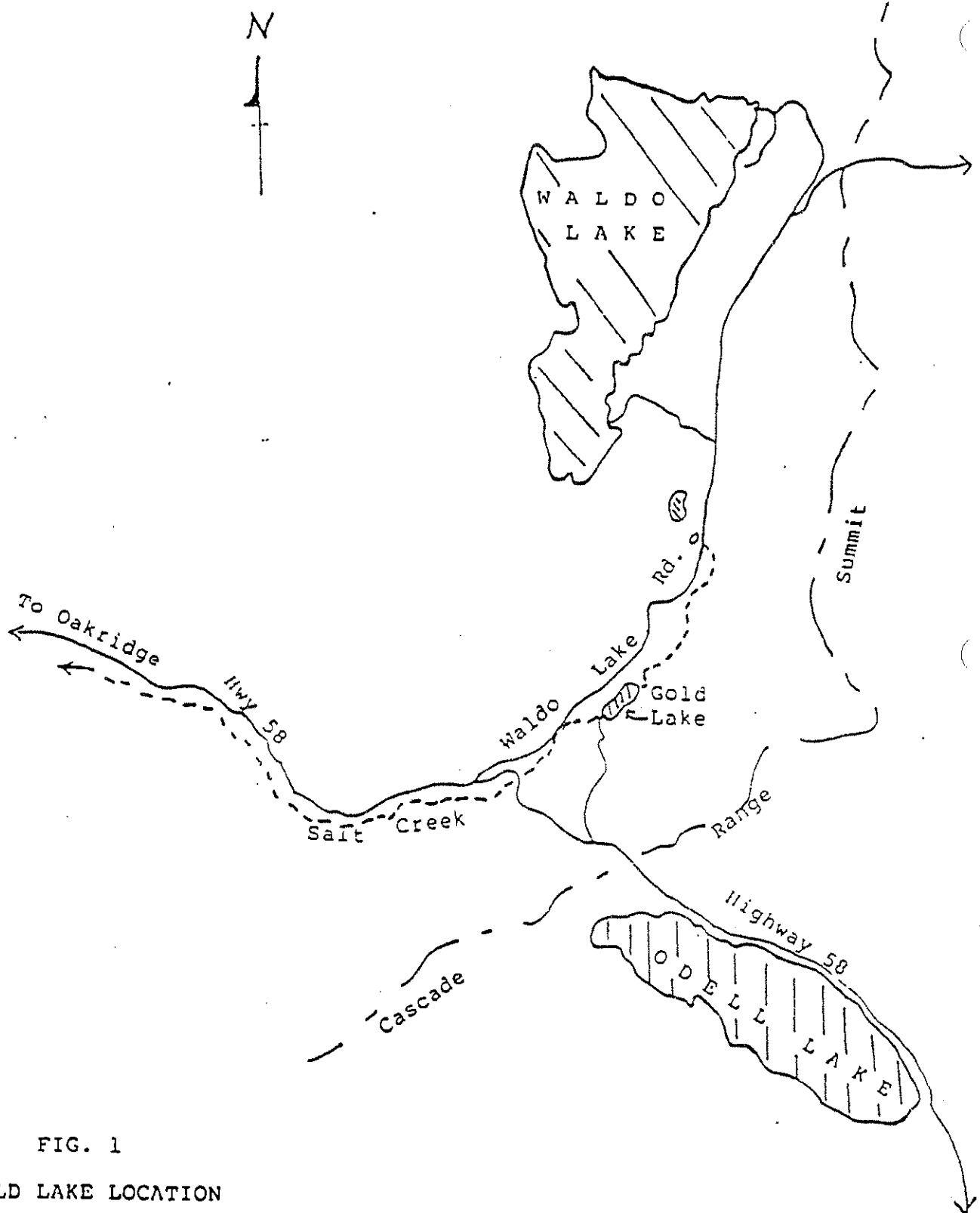


FIG. 1

GOLD LAKE LOCATION

Scale: 1/2 Inch = Mile

FISH POPULATIONS

According to a USFS survey, only rainbow were present in Gold Lake in 1932. These trout probably originated from a prior stocking, of which there is no record. Available records show that Gold Lake was stocked with about 8,000 rainbow in 1940 and approximately 8,700 rainbow in 1941, with no stocking since.

Brook trout in the Gold Lake watershed originated from late 1940's stocking of Lower Betty Lake and a few other nearby small high lakes. Stocking in those waters was eventually switched entirely to rainbow to avoid contribution of additional brook trout to Gold Lake.

Brook trout first appeared in Gold Lake net samples in 1952, and in angler catches (less than 1 percent) in 1963. By 1975 brooks formed 82 percent of sample net catches (Table 1).

FISHERY

The Gold Lake angling season has varied from one month (June 15 - July 15) in the late 1940's to the current season extending from the last Saturday in May to October 31. The late spring opening is designed to protect spawning rainbow in the outlet. A "fly fishing only" regulation adopted in 1948 remains in effect. This regulation is socially rather than biologically based, yet is well supported by the angling public.

Many fly anglers do not creel their fish, or only keep brook trout, so it has been difficult to determine catch rate or species mix strictly through creel data. Because of this, annual net sampling has been conducted at Gold Lake for many years. Angler catch information has consistently indicated brook trout in higher proportions than net samples reveal.

Most Gold Lake anglers prefer catching a rainbow/brook trout mix, with emphasis on rainbows. In recent years, rainbow contribution to anglers has been relatively poor and inconsistent. This has occurred largely because brook trout have overpopulated and are out-competing the rainbow.

Angler catches of both rainbow and brook trout fall mainly in the 8 to 16 inch size range. Trout over 20 inches in length are seldom observed. Scarcity of larger trout is attributed in part to rather heavy angling pressure (many trout are caught and kept before attaining large size) and to an abundance of younger trout which compete for available food.

Records are not available on numbers of Gold Lake anglers, but fishing pressure is known to be substantial. Department and Forest Service estimates indicate that about 25 anglers per day (3,800 angler days per year) throughout recent seasons is believed realistic.

DISCUSSION

Because of its good trout population, easy road access, scenic mountain setting and fly-angling-only regulation, Gold Lake has long been a favorite among high lake anglers. Favorable spawning and rearing habitat contribute to the lake's large, self-sustaining trout population; growth is good, and rainbows still exist in sufficient numbers. However, brook trout overpopulation threatens average size of all trout present. Without control, brook trout will also form a progressively greater proportion of the trout population and will reduce rainbow numbers.

In an effort to reduce their numbers, about 7,500 brook trout were live-trapped and transported to Waldo Lake from 1975 through 1978. This limited brooks to 17 percent of the trout population in 1980 net samples. But by 1984, brook trout had again increased and formed 68 percent of the annual net sample.

Another control method attempted in the mid-1970's, and again in 1984, was screening the lake tributaries to block adult brook trout access to better spawning areas. High stream flows commonly washed holes under or around the screens, although this technique shows promise if improved screens can be installed.

Opinions regarding future management of Gold Lake trout were obtained at two 1984 meetings (one public and one McKenzie Flyfishers). The 36 Gold Lake fishermen who participated were given a background description of the lake's trout fishery, the current problem of brook trout overpopulation and possible approaches to alleviate the problem. Participants then ranked management options and preferences (Tables 2 and 3).

As previously mentioned, most Gold Lake anglers enjoy catching both brook trout and rainbow, particularly the latter. There is almost unanimous concern over the threat of brook trout overpopulation and related potential smaller average size of all Gold Lake trout.

The fishermen had divergent views on how to tackle the brook trout overpopulation problem. Approaches receiving the most support in the near future were: (1) A daily catch limit change (see footnote 2 of Table 2), (2) information signs or other methods to encourage keeping smaller brook trout, and (3) tributary barriers to discourage brook trout spawning (4) periodic trap and removal of the maximum number of brook trout of all sizes (using volunteer help where feasible) also received a large amount of support. Trapping and live removal of brook trout of all sizes, as done in the 1970's, was unpopular with several anglers.

RECOMMENDATIONS

Management Option: Manage Gold Lake for balanced and self-sustaining rainbow and brook trout populations using the four methods noted above. Emphasis will be placed on providing an abundant, good-sized trout mix in a natural alpine environment.

Objective 1: Routinely monitor status of the Gold Lake trout population.

Task 1a: Annually continue July sampling with a trapnet to evaluate species composition, age, growth and relative abundance.

Task 1b: Annually maintain the voluntary creel record box at the boat ramp.

Task 1c: Periodically observe and record distribution, intensity and timing of brook trout and rainbow spawning.

Objective 2: Provide a mix of rainbow and brook trout, with an average catch rate of at least 2 to 3 trout per day for those anglers keeping fish. In the July trapnet samples, attempt to maintain (a) 50 to 80 percent rainbow contribution to the total population and (b) an average fork length of 10 inches or greater for all trout over 6 inches in length.

Task 2a: Control brook trout overpopulation by liberalizing the brook trout daily catch limit; encourage anglers to keep brook trout, if feasible, construct improved barriers in the lake's tributaries.

Task 2b: Explore and implement other appropriate methods of maintaining a balanced population of trout, with emphasis on possible removal of small brook trout from the lake or its tributaries.

Objective 3: Retain the approximate current level of Gold Lake access and public facilities in order to provide the setting for a continued high quality angling experience.