

PROGRESS REPORT - November 1987

Fish Management Plan - Lost Lake

- Management plan adopted by the Commission 1982
  
- Management objectives are being met. In addition, Atlantic Salmon have been approved for release and the first fish went in in the fall of 1987.

L2-20/j

adopted. 1982

TROUT MANAGEMENT PLAN

LOST LAKE

Oregon Department of Fish and Wildlife

Fish Division

August 1982

## TROUT MANAGEMENT PLAN

### LOST LAKE

#### INTRODUCTION

Lost Lake is located adjacent to State Highway 20 about 43 mi west of Bend and 4 mi west of the Santiam Pass (Fig. 1). The lake has about 50 surface acres and is located at an elevation of 3,980 ft. Three tributaries enter the lake, the largest being Lost Lake Creek. The lake has a maximum depth of 12 ft, but most of the lake basin is from 3 to 4 ft deep (Fig. 2).

The U.S. Forest Service (USFS) maintains a campground on the west side of the lake, but it is not accessible until snow melts. Recreational use is primarily camping and angling. The lake receives varying amounts of angling pressure. In 1979, the USFS estimated all recreational use to be 4,000 visitor days.

In 1957, the lake receded to only the stream channels, as considerable flow was visible escaping through the lava fissures. With help from the local resort operator, truckloads of cinders and lava rock were used to fill the two known outlets. Water still escapes through the cinder fills, but the lake has never dropped to the low level experienced in 1957.

In July 1982, the Oregon Fish and Wildlife Commission accepted the Department's recommendation to manage Lost Lake for wild and hatchery fish.

#### HABITAT

Since most of the lake basin is only 3 to 4 ft deep, it has abundant benthic food organisms. The bottom is primarily lava sand with a layer of silt. Extensive weed beds, mostly Elodea, provide some cover for fish as do willow outcroppings along the east side of the lake. Sedge grass is common along most of the shoreline.

Water quality is good. Incoming tributary water is cool (in the 40's) and helps keep the lake temperature down during the summer months.

Some spawning area is available in the lower end of Lost Lake Creek. Although bottom material is largely lava cinders, brook trout have succeeded in reproducing.

The lake's limiting habitat factor is the receding water level during the summer months which reduces surface acreage. Snow pack in the basin generally dictates the amount of water available. Although the lake has not dropped to extremely low levels in recent years, low water in late summer has forced fish into the stream channels and sump holes.

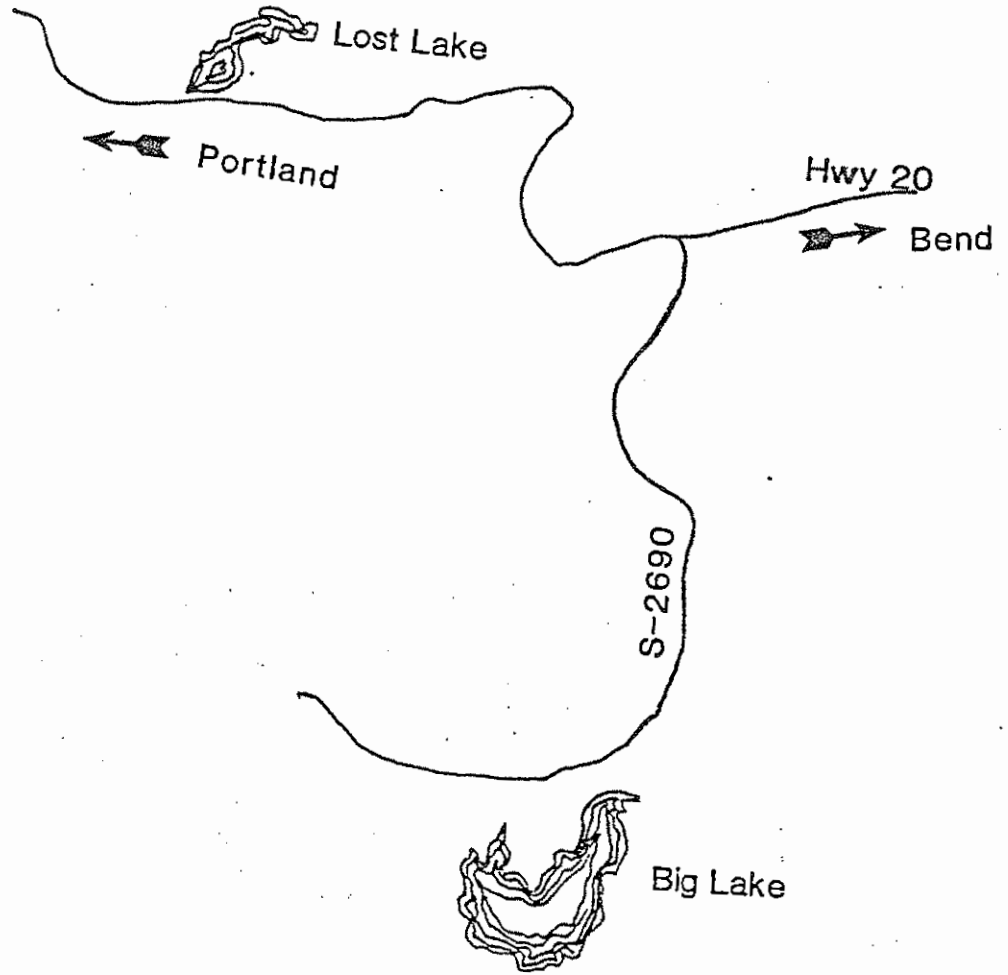
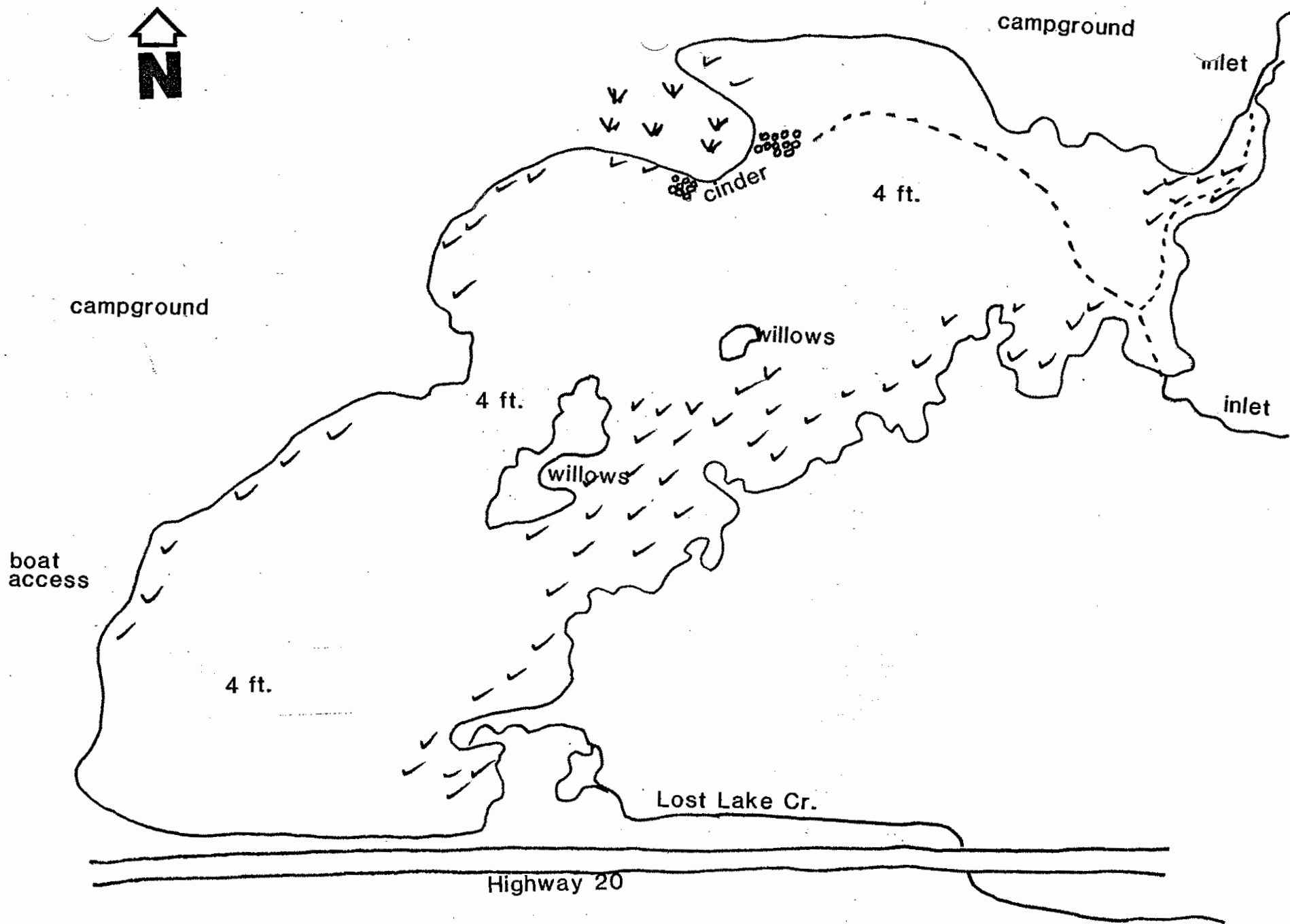


Fig. 1 **LOST LAKE**



**Fig. 2**      **Lost Lake**  
 Oregon Department of Fish & Wildlife  
 Lost Lake Trout Management Plan 1982

## FISH POPULATIONS

Once the lake outlets were plugged to stabilize the water level in 1957, an ambitious stocking program provided good numbers of brook and rainbow for several years. Most fish ranged from 6 to 12 inches during this period. Annual allocations were limited to rainbow starting in 1968, with a stocking rate of 20,000 fingerling. Rainbow stocking was further reduced to 10,000 fish annually from 1976-78, and to the present 5,000 fish/year in 1979. Naturally-reproducing brook trout comprise a substantial portion of the fish population. Gill net samples from 1979-81, showed brook trout dominating the catch. Three rainbow and 75 brook trout were captured in 1979, while in 1980, 31 rainbow and 42 brook trout were captured. In 1981, only 10 brook trout and 4 rainbow were taken; however, the sample may not have reflected the true population as nets were fished in the sump holes where brook trout may have been in greater numbers.

Brook trout captured in 1979 and 1980 ranged from 7 to 14 inches, while the 10 brook trout captured in 1981 were in two size groups - 7 to 10 inches, and 15 to 16 inches. Most rainbow collected have ranged from 7 to 13 inches, although an 18 inch fish was observed in 1980.

## FISHERY

Angling pressure in recent years usually peaked during the first and last months of the season. Up to 100 vehicles have been counted on past opening days. Anglers have also had good success angling through the ice in some years. Success slows after the spring thaw when fish are feeding well and are widely distributed. Bait angling is limited to the deeper portions of the lake such as along the highway or in the channels.

During the 1960's, when the stocking rates were heavy, the lake was a popular fishing area and anglers averaged about 1 fish/hr. Creel data have not been adequate to fully evaluate angling pressure and success since allocations were reduced in an attempt to increase the size of fish.

Regulations have varied over the years and the lake has been closed to angling during certain time periods to protect concentrations of fish. The season opened in April and closed in July during the 1960's, but was extended to October 31 in 1972 when water levels appeared favorable. From 1974 to 1976, the lake was closed after Labor Day to protect trout. The season was again extended to October 31 in 1977. A heavy harvest of trout from the sump holes in 1980 and 1981 again raised concerns of overharvest, and the lake will be closed to angling after Labor Day in 1982. The lake will open January 1, beginning in 1982, as will most lakes in the area; however, trout harvest should be light during the early part of the year due to heavy snow and ice.

## DISCUSSION

The wild brook trout population in Lost Lake is not capable of sustaining a good fishery under present regulations, unless hatchery trout are also stocked.

In 1979, we reduced the stocking level, anticipating more large trout. The lake has the capability of rearing a fair number of 12 to 16 inch trout, but apparently the excessive harvest in the sump holes in the fall has prevented a build up of larger fish. Closing the lake after the Labor Day weekend, effective in 1982, should help provide larger trout.

Heavy stocking rates in a water the size of Lost Lake will produce many small trout. We have avoided this approach in the last few years because a number of nearby waters are either heavily stocked or contain large trout populations (i.e., Suttle Lake, Detroit Reservoir, Clear Lake, EWEB reservoirs, and the North Santiam River).

## RECOMMENDATIONS

### Management Option:

Manage Lost Lake for wild and hatchery fish. The potential for a good number of wild brook trout is there, but this fish is fairly difficult to catch during the late summer.

### Objectives:

1. Protect the population restricted to the sump holes by closing the season after the Labor Day weekend.
2. Attempt to build the trout population to produce fish of two or three age classes ranging from 10 to 16 inches.
3. Evaluate stocking rates of rainbow and value of naturally reproduced brook trout by monitoring fish populations.
4. Evaluate the potential of managing Lost Lake for a trophy fishery.