

PROGRESS REPORT - November 1987

Fish Management Plan - Chewaucan River above Paisley

- Management plan adopted by the Commission 1983

- Management objectives are being met. An ambitious habitat improvement program is being pursued in conjunction with the Forest Service.

L2-20/j

## FISH MANAGEMENT PLAN CHEWAUCAN RIVER ABOVE PAISLEY

### INTRODUCTION

The Chewaucan River is the largest stream in the Goose and Summer lakes basin. It originates on the east slopes of Gearhart Mountain and Deadhorse and Coleman rims in the eastern Cascades and flows northerly and then southeasterly 52 miles to terminate in Abert Lake (Fig. 1).

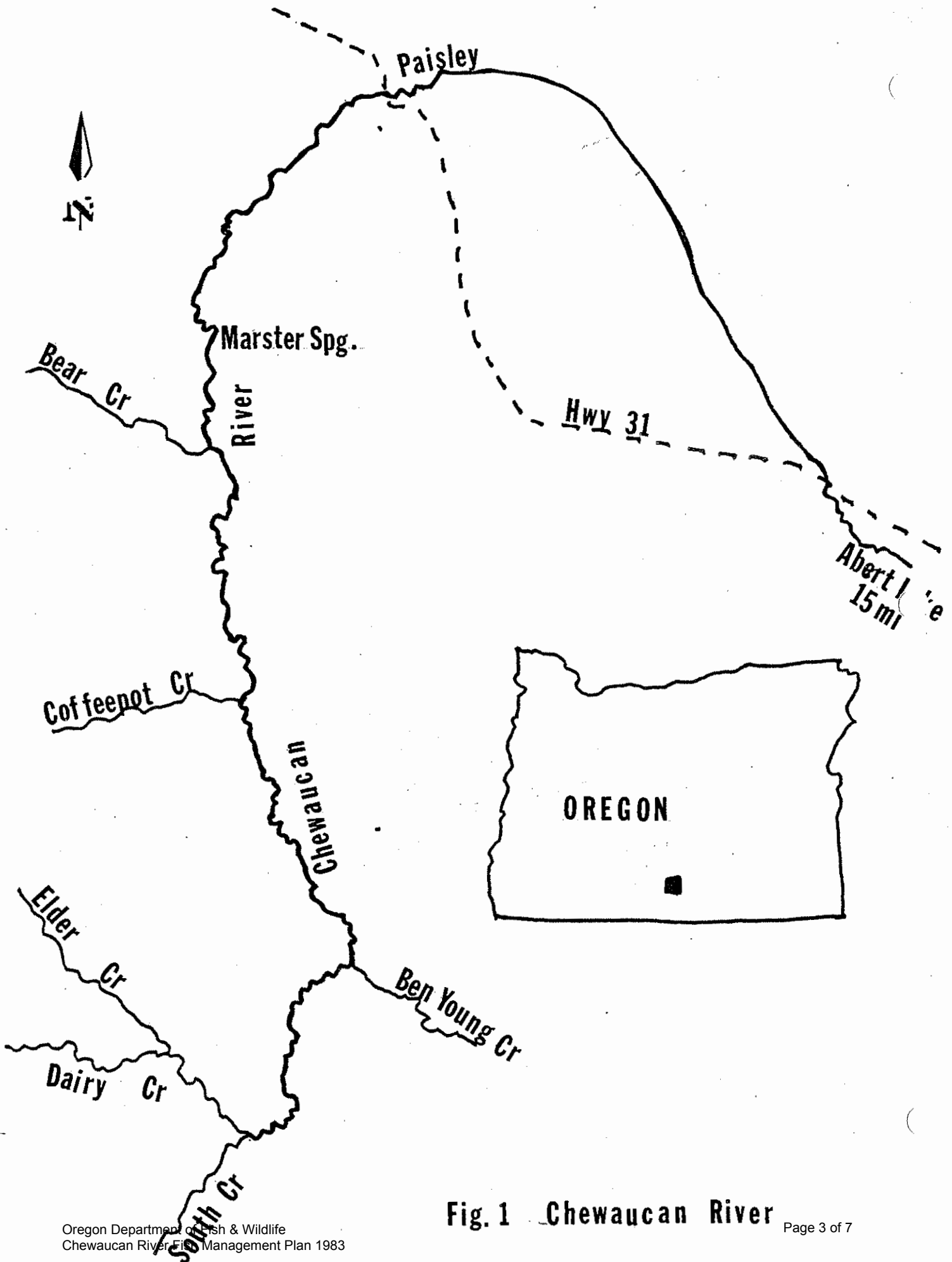
The lower 27 miles of river, from Abert Lake up to the town of Paisley, is a low-gradient, channelized waterway, flowing through private lands of the Upper and Lower Chewaucan marshes. Fish management and public use opportunities in this section are limited. The 25 miles of river upstream from Paisley is 62 percent federally owned, with the remainder in private ownership. It contains native redband and hatchery rainbow trout, and provides an important trout fishery. The stream has been managed primarily for hatchery fish with no special angling regulations imposed to protect wild fish populations. This plan addresses only the portion of the Chewaucan River upstream from Paisley.

In September 1983, the Oregon Fish and Wildlife Commission accepted the Department's alternative to manage the Chewaucan River above Paisley for wild and hatchery trout.

### HABITAT

The Chewaucan River is formed by the confluence of Dairy, Elder, and South creeks at an elevation of 5,130 feet and drops to an elevation of 4,350 feet at Paisley for an average gradient of 31 feet per mile. The first 10 miles of stream above Paisley is in a steep canyon with an average fall of 47 feet per mile. Above this the stream flattens out through 10 miles of mostly meadow habitat where the average gradient is 18 feet per mile. Most of the last 5 miles of river is in another steep canyon where the gradient is 37 feet per mile. The stream originates in another large meadow where its main tributaries converge. The river averages about 30 feet wide at summer flow. Flows range from about 30 to 650 cfs. Water withdrawal above Paisley is not an important factor. Stream productivity, based upon conductivity readings of 70 to 90 micromhos/cm, rates as moderate to high.

Summer water temperatures reach a maximum of 82°F below long, exposed stream sections, and reach a daytime peak of 75°F or more on up to 50 days per year. Cool summer nights reduce water temperatures to the mid 50's, resulting in diel temperature fluctuations of up to 25°F. A heavy ice pack forms during the winter, resulting in severe ice scouring of streambed and banks during spring breakup. Ice scouring is believed to be a factor limiting fish production.



**Fig. 1 Chewaucan River**

Turbidity is generally low except after storms and during spring runoff. Spawning gravel is relatively abundant in the flatter sections of stream, but is mostly compacted with silt and of low quality. A survey conducted in 1964-66 revealed 45,700 square yards of good spawning gravel. However, recent examination indicates that most gravel should now be classified as marginal.

The most serious habitat problems are lack of streamside and in-stream cover, extremes in water temperature, and siltation of spawning and food-producing areas. These conditions are related to the lack of streamside vegetation which is needed to stabilize eroding banks, filter out silt, provide shade and an insulating canopy, and provide streamside and in-stream cover for fish. A project to begin correcting these problems was conducted by this Department and the Fremont National Forest in 1982. It involved protecting stream banks along 1.5 miles of river with a combination of willow planting, control of livestock grazing, juniper revetments, rock deflector dams and riprap. The work was also designed to provide fish cover, increase pool area and depth, and improve spawning areas.

#### FISH POPULATIONS

The Chewaucan River above Paisley contains native redband trout and has been stocked annually with catchable-size hatchery rainbow since 1948. Under current management, the stream receives 9,000 catchable rainbow per year. Speckled dace are the only other fish present. Brook trout occur in the upper tributaries, but rarely enter the river.

No population estimates have been made, but relative population data were collected from representative stream sections in 1982. The sampling revealed good numbers of redband trout up to 12 inches in length in the steeper areas where in-stream cover in the form of boulders, debris, turbulence, or pool depth are available. The wide, shallow and exposed sections of stream typical of the meadow areas were largely devoid of trout except where an occasional bit of cover occurred. The game fish population consisted of 89 percent native redband trout and 11 percent hatchery rainbow. Dace were abundant throughout the river. The low number of hatchery rainbow remaining from the 9,000 released in spring and early summer suggests a low carryover of these fish.

Trout growth is good with yearling redbands measuring about 6 inches and age 2 trout reaching 10 inches. No age 3 fish were present in the sample, which consisted entirely of trout under 12 inches in length. Redbands appear to mature at age 3 and a length of over 12 inches based on egg development noted in age 2 fish.

## FISHERY

Forest Service roads provide good public access to nearly the entire length of the Chewaucan River above Paisley. A main forest road parallels the first 12 miles of stream above town, and another main road crosses the river 21 miles up. Several secondary forest roads provide access points to other stream sections. Private lands that border 9.5 miles of river are mostly unposted and open to public foot access from forest roads. A major Forest Service campground is located on the river 8 miles above Paisley and a number of small or unimproved campsites are scattered along the length of the stream.

The Chewaucan River receives the most angler use of any stream in the basin and provides a successful fishery for stocked catchable-size trout. The bulk of the angler use normally occurs between Memorial and Labor Day weekends. A statistical creel survey conducted in 1982 showed a total use from season opening through Labor Day weekend of 3,205 angler-days in which 8,406 hours were expended to harvest 5,462 trout. This produced an average catch rate of 0.6 fish per hour and 1.7 fish per angler. The catch consisted of 3,647 stocked catchables (67 percent) and 1,815 wild redband trout (33 percent).

An analysis of the catch by river section showed that 78 percent of the stocked trout and 54 percent of the redband trout were harvested from the first 11 miles of river above Paisley. Forty percent of the stocked trout were taken from a 3-mile section in the vicinity of the Marster Spring and Jones Flat camping areas.

The catchable rainbow harvest represents a return to the angler of 41 percent of the trout stocked. This low return on stocked trout is not believed to be representative of the normal fishery on the river because of the unusually high, sustained spring runoff that occurred in 1982. We believe the runoff interfered with the early fishery and probably caused more movement of stocked trout than would occur in a normal year. This hypothesis is supported by the fact that random creel census collected over the past four years showed:

- (1) Average catch rate of 1.0 fish per hour, indicating that hatchery trout remained in the stocked area longer than in 1982 (0.6 fish per hour).
- (2) Redband trout made up only 10% of the creeled trout checked, inferring that, in 1982, when angling pressure stayed up and hatchery trout moved out, redbands absorbed the pressure (33% of the catch).

Less than 2% of the creeled fish checked during the past four years exceeded 12 inches in length.

## DISCUSSION

The Chewaucan River once provided a good fishery for native redband trout, many of which were reported to exceed 12 inches in length. However, a combination of factors has reduced or eliminated the wild trout population in much of the river. Most important of these factors has been the degradation of fish habitat resulting from poor land management practices, primarily overgrazing. Natural events, such as drought and severe flooding, have accelerated the process. The initiation of a catchable trout stocking program to maintain a fishery further impacted wild trout by increasing competition for available habitat and by generating additional angling pressure. The result has been a successful put-and-take trout fishery, but a suppressed population of wild redband trout. Most anglers appear to be satisfied with the present fishery and have not requested a change in management. However, Department policies concerning the protection and enhancement of wild fish stocks, and the optimization of public benefit from fish resources, require a continuous evaluation and improvement of management methods.

## MANAGEMENT OPTION

ODFW will manage the Chewaucan River above Paisley for wild and hatchery trout. More specifically, we will stock catchable rainbow trout in areas with poor year-round habitat and redbands in areas with better habitat until such time as redbands are available for stocking. Thereafter, catchable rainbow trout will gradually be replaced with hatchery redbands.

## OBJECTIVES

1. Improve fish habitat.
  - a. Maintain and/or improve watershed condition through good range and timber management.
  - b. Improve stream habitat on all federally owned lands where habitat problems exist.
  - c. Encourage and assist private landowners to voluntarily improve stream habitat on private lands under the Oregon Riparian Tax Incentive Program or other state or federal assistance programs.
2. Maintain a fishery which provides opportunity for anglers to catch and keep trout.

3. Enhance the native redband trout population.
4. Provide a fishery in those sections of river where year-around trout habitat is poor.