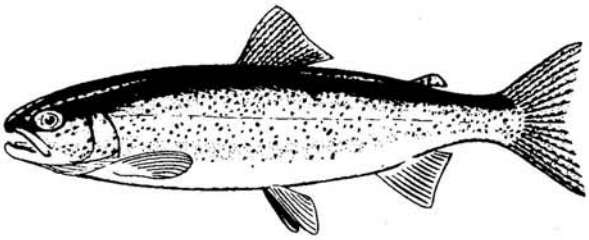
Habitat management for

RAINBOW TROUT



In the State of Oregon

Rainbow trout (Salmo gairdneri) is the most common fish stocked in farm and ranch ponds in Oregon. It is the only species commonly available from private hatcheries in this state.

WATER AND TEMPERATURE REQUIREMENTS

A cold water pond for trout is one in which summer temperatures in the top six inches of water seldom rise above 70°F, and then only during the afternoon of the few hottest days. The temperature is always lowest each day before dawn. The optimum water temperature for feeding and growing is from 55°F to 68°F, but a more realistic range is 45°F to 70°F. Trout are not seriously harmed in temperatures up to 75°F for a few hours, but 86°F is considered lethal.

Water should be free of silt, excessive organic matter and other pollution. The water should be within the acidity-alkalinity range of pH 6.5 to 9.0; however, slightly alkaline waters are best for fish. Agricultural sprays are toxic and must be used with caution near fish ponds and the water source of ponds.

STOCKING AND PRODUCTION RATES

Stocking. Trout stocking in waters warmer than 68°F is not recommended, especially for the smaller sizes of fish. Early fall is the best time to stock. Early spring plants are satisfactory where fall stocking is not feasible. When fish are received, place bags or containers in your water supply 10 to 30 minutes and temper to within 6° of pond water before releasing fish into the pond.

The number of rainbow trout to stock in a pond is related to the available food and the size of fish wanted when fishing begins.

Natural ponds. Natural ponds are unfed and unfertilized. Ponds with natural fertility and accompanying waterweed growth are likely to produce enough food for 50 to 100 pounds of trout per surface acre of water.

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Since waters vary in productivity, some owners will want to record the rate of growth, number of fish, and pounds of fish removed by fishing, seining, or both. When an owner knows how productive his pond water actually is, he can stock the next time with the proper number of fish to produce a lot of small fish, a moderate number of medium-size, or a fewer number of jumbo-size fish.

A one-acre pond with enough natural food to support 75 to 100 pounds of trout should be stocked with about 400 to 500 fingerlings if four ounce size fish are desired; 300 to 400 if five to six ounce fish are wanted; or 200 to 300 if seven or nine ounce fish are desired. A mortality of 30 to 50 percent may be expected from one to two inch fry, and 10 to 20 percent of three to four inch fingerlings.

For emergent weed control, the pond should be designed with drain, trickle tube, and edges rapidly sloping to a depth of three feet or more. These specifications make pond management easier. Ponds for trout range from one-fourth acre to many acres in size. Generally, smaller ponds (up to two surface acres) are easier to manage intensively than are larger ponds.

Fed ponds. Much higher production is possible with fed ponds and, therefore, stocking rates are possible with regular daily feeding. Dry pelleted trout foods are now available from many feed manufacturers and dealers. If properly fed, a pond can produce 1,000 to 2,000 pounds per acre. This is the way to produce the most profitable fishing, to best utilize the water resource, and may be the most practical way to prevent and control submersed waterweeds. Usually, increased manure (from 1,000 to 2,000 pounds of fish per acre) produces microscopic algae, as fertilizer does.

The trout should be fed every day, or at least two or three times a week. Do not overfeed! Feed only what the fish will clean up promptly. If food remains 15 minutes after feeding, the decomposing food is wasted, uses oxygen, and may cause loss of fish. Trout grow much slower during the winter months; therefore, feeding can be reduced accordingly.

A one-acre pond fed to grow 1,000 pounds of trout could be stocked with 4,000 fingerlings if all four ounce size fish were desired; 3,000 if six ounce fish were wanted; or 2,000 if one-half pound fish were wanted. Add 20 percent to 50 percent if fingerlings are less than four inches. Compute total weight of fish in the pond using the following table:

If length of trout is:	1"	2"	3"	4"	5"	6"	7"	8"	9"	10"
The number of fish per lb. will be:	2500	300	90	40	20	12	7	5	4	3

Fertilized ponds. This practice is not sufficiently developed for trout ponds. Theoretically, it might produce a crop of fish intermediate between natural productivity and feeding.

Growth rate. Trout can be expected to grow about one inch in length per month during the spring and summer growing season in natural waters. Fed fish grow somewhat faster.

Advanced fry (fish one or two inches in length) are cheaper but mortality losses are about 30 to 50 percent. Fingerlings (two to four inches long) have losses of about 10 to 20 percent. Larger fingerlings or catchables are more expensive, of course, but have no appreciable death loss.

Rainbow Trout Fingerling Growth

Stocking Time	Length (inches)	Months when weight attained should be: 4 oz. (8-9")	6 oz. (9-10")	8 oz. (10-11")
* Fall	3/4-2" fry	June	July	August
	3-4"	April-May	May-June	June-July
	5-6"	March	April	May
**Spring	3/4-2" fry	August	September	October
	3-4"	June-July	July-August	August-September
	5-6"	May	June	July

* About September 1.
**About March 1.

Fishing. As trout reach catchable size and approach ceiling capacity of the foods, fishing should begin. The uncaught fish will grow better as competing numbers are removed. Completely harvest the fish in one or two years; then, restock. There is no advantage in leaving them longer than three years. After three or four years, a large percentage of the trout in a pond will die of natural causes.

Record keeping. Experience is the best teacher. The pond owner should keep records of stocking rates, time of stocking, harvest in pounds of fish, the amount of food fed, costs, and other management information which would assist him in making future management decisions.

Transportation permit. It is unlawful for any person to transport any fish (except for aquaria) within the state from any stream, lake or body of water to another public or private body of water without first obtaining a permit from the Oregon State Game Commission. This applies to fish brought in from out of state as well. Permits may be obtained through any office of the State Game Commission or, in many instances, the hatchery can obtain the permit. The permit is free of charge.

Hatchery license. Anyone in Oregon who sells fish from a private pond or hatchery needs a $5.00 license which is issued by the State Game Commission. This ruling applies to "fish out ponds" where fish are sold.