

SOIL CONSERVATION SERVICE  
CONNECTICUT AND RHODE ISLAND  
STANDARDS AND SPECIFICATIONS

FISHPOND MANAGEMENT (NO.)  
399

Definition

Developing or improving impounded water to produce fish for domestic use or recreation.

Purpose

To improve or maintain fish production and fishery use by making a favorable water habitat, supplementing natural food supplies, and reducing competition from unwanted plants and animals.

Conditions Where Practice Applies

In ponds, lakes, and reservoirs where the production of fish is feasible and desirable.

Planning Considerations

General

Ponds with summertime water temperatures not exceeding 70°F measured 6 inches below the surface are commonly stocked with trout and referred to as cold water ponds. Ponds with summertime water temperatures exceeding 72°F measured 6 inches below the surface are warm water ponds and are usually stocked with largemouth bass.

Brook trout and/or rainbow trout are the two common species suited to Connecticut and Rhode Island waters. Brook trout are easily caught but cannot tolerate ponds in which water temperature exceeds 72°F. Rainbows are somewhat more difficult to catch but are more tolerant of higher water temperatures. Brown trout are difficult to catch, become cannibalistic with age, and they survive 3-5 years. Because of these traits, brown trout are not recommended for stocking in farm ponds. Trout for stocking are available from various commercial hatcheries in Connecticut and surrounding states including New York, Pennsylvania, and through the Soil and Water Conservation Districts.

Trout should be raised alone as other fish species out-compete them. They normally do not spawn in ponds and restocking is necessary every 2 to 3 years.

Largemouth bass are usually stocked alone or with forage fish such as golden shiners or fathead minnows. In a properly balanced bass forage fish population, only the initial stocking is necessary.

Unless intensive pond management is planned, bluegills should not be stocked with largemouth bass or by themselves. Smallmouth bass, perch, bullhead, and pickerel are not recommended for stocking or management.

Fishponds for either species should: (1) be free of pollutants that may be toxic to fish, (2) have a reliable supply of clean, silt-free water, (3) be protected from uncontrolled use by livestock, and (4) be protected from excessive fertilization from outside sources. Where possible, a 50 foot wide permanent grass buffer should be established and maintained around the pond perimeter.

#### Licenses and Permits

A permit is required from the Connecticut DEP fisheries unit to stock fish in all waters of the State. A permit is also required from the Rhode Island DEM fisheries unit for Rhode Island waters.

#### Non-Native Aquatic Animals

Soil Conservation Service policy prohibits making recommendations to stock non-native aquatic animals. The white Amur carp will not be recommended for stocking in either Connecticut or Rhode Island waters.

### SPECIFICATIONS

#### Construction or Reconstruction

Any necessary construction or reconstruction will be in accordance with Standards and Specifications for POND-378.

#### Pond Size and Depth

Spring fed trout ponds or ponds with running water where fish shall overwinter shall be at least 0.1 acre and shall be 8 feet deep or deeper over one-fourth ( $\frac{1}{4}$ ) of the total area. All other ponds shall be one-fourth ( $\frac{1}{4}$ ) acre or larger and shall be 10 feet deep or deeper over one-fourth ( $\frac{1}{4}$ ) of the total area. All pond shorelines should slope at a 2:1 or 3:1 to a depth of at least 3 feet to discourage weed growth.

#### Increasing Food Supply

To increase natural food supplies, fertilize all newly constructed ponds at the time of filling with 100 pounds of 10-10-5 or equivalent per acre commercial grade fertilizer. Do not over fertilize. If fertilizer is not utilized to stimulate natural food sources, fish stocking should not be done until at least six months after the pond fills to allow the natural food supplies to become established.

## Water Quality Management

### pH Control

For very acid waters (pH 5.7 or less), apply one ton of agricultural limestone per surface acre of water. For moderately acid water (5.8 to 6.5), apply one-half ton of agricultural limestone per surface acre of water. Spread lime uniformly over the surface in late fall or early spring. If fish are already stocked, split the application rate over a year to avoid pH shock. Rainbow trout are very sensitive to rapid pH changes.

### Dissolved Oxygen

Dissolved oxygen levels for optimum fish management should be between 5-10 mg/l. Indicators of low oxygen are fish swimming at the surface or "piping," change in color of the water, or a foul or musty odor. Temporary oxygen shortages can be overcome by pumping water from mid-depth, spraying it into the air and allowing it to fall back onto the pond surface.

Winter oxygen deficiencies are usually caused by snow pack on the ice reducing photosynthesis. Shallow weedy ponds are more prone to oxygen shortages. For ponds  $\frac{1}{2}$  acre or less in size, keep the entire surface clear of snow. Ponds larger than  $\frac{1}{2}$  acre should have at least  $\frac{1}{2}$  acre surface area clear of snow.

On a  $\frac{1}{2}$  acre pond, cut 15-20 holes at least 2-3 inches in diameter through the ice, evenly distributed. Pump water from the pond and let it flow over the ice back into the pond. Pump water for 3-4 hours, two to three times a month throughout the winter.

### Stocking

Ponds must be free of fish at time of original stocking. If the pond is being restocked, trout remaining from a previous stocking should be fished out or eliminated. Stock trout under 6 inches every other year or stock larger trout annually.

### Time of Stocking:

<u>Type of Fish</u>	<u>Best Time</u>
Trout Fingerlings	Fall - after September 30th Spring - ice out to May 15th
Bass Fingerlings	Summer - May 15th through September 30th
Golden Shiners or Fathead Minnows	April-May - and same as the bass
Bluegills	Summer - preferably one year after bass fingerlings are stocked or one year prior to stocking adult bass.

STOCKING GUIDE

SPECIES	TYPE OF WATER	RATE OF STOCKING BASED ON POND SIZE		
		1/8-1/4 AC	1/4-1/2 AC	1/2-1 AC
TROUT - Rainbow and Brook				
Spring Fingerling (2"-3")	Cold	250	250-500	500-1000
Fall Fingerling (5"-6")	Cold	150	150-300	300-600
Yearlings (6"-8")	Cold	75	75-150	150-300
Recommended for stocking when other fish are present				
BASS - Largemouth				
Fingerlings (1"-2")	Warm	40	40-75	75-150
Fingerlings (5"-8")	Warm	8	8-15	15-30
Adults (over 10")	Warm	5	5-8	8-16
FORAGE FISH				
Golden Shiners <sup>1/</sup>	Warm	75	75-150	150-300
Fathead Minnows <sup>2/</sup>	Warm	150	150-300	300-600
Bluegills Fingerlings (1")	Warm	200	200-400	400-800

- 1/ Place straw mats or old hay in shallow water 1-2 feet deep in spring to provide spawning habitat.
- 2/ Anchor boards in 1 foot deep water to provide spawning habitat.

Disease and Parasite Control

Control fish diseases and parasites by application of one or more of the following measures:

1. In ponds where a stream (perennial or intermittent) flows through, or bypasses into, install a screen to exclude wild fish from entering the pond.
2. Chemical treatment as prescribed by a fishery biologist of the Connecticut DEP, or the Rhode Island DEM as appropriate.
3. Draining and drying the pond. Accomplished when the pond bottom has dried sufficiently to insure the death of all fish. To the extent practical, remove organic soils and all dead or dying fish.

Aquatic Weed Control

Control by chemical or mechanical means or by draining and drying the pond bottom. All requests for chemical treatment will be referred to the Connecticut DEP fisheries section or the Rhode Island DEM fisheries section, as appropriate. The use of chemicals requires a permit from the DEP Pesticide Compliance Unit.

### Fish Population Control

In bass-bluegill ponds, it is necessary to harvest at least 15 bluegills for every bass harvested to help maintain a proper ratio of bass and bluegills. On a weight basis, this is about 3 pounds of bluegill for every pound of bass removed.

In bass-bluegill ponds, do not harvest any bass until the bass have spawned. Five to eight inch bass should spawn within 2 years. Ponds stocked with 1 or 2 inch fingerling bass will require 3 to 4 years for fish to reach sexual maturity. Bluegill sunfish can be fished at any time as overharvest is unlikely.

**Planning considerations for water quantity and quality**

*Quantity*

1. Effects on the water budget.

*Quality*

1. Effects of pesticide and nutrient use and fish feeding on surface and ground water quality.
2. Effects on the movement of dissolved substances to ground water.
3. Effects on wetlands or water-related wildlife habitats
4. Effects on the visual quality of water resources.