



Monroe County Soil & Water Conservation District

1200A Scottsville Rd, Suite 160

Rochester, NY 14624

Ph: 585-473-2120 x 3

www.monroecountyswcd.org

Fish Pond Information

Creating a fish pond can be an easy and rewarding venture. The success of your fish pond relies greatly on the habitat you provide. The type of habitat you create will determine the type of fish that it can support. The following are important characteristics of a fish habitat.

Temperature

Temperature is fundamental in determining what type of fish will live in your pond. There are two categories of ponds with regards to temperature. Cold water ponds are those with temperatures of 74 degrees or below. Warm water ponds are those with temperatures regularly exceeding 74 degrees. The distinction is made primarily to determine whether a pond can support trout, which require cold water. The temperature of your pond water is influenced by the source of water, geographic location, size and depth. Ponds fed by surface runoff tend to be on the warmer side due to exposure to the sun and warm air before the water enters the pond. Ponds fed by ground water often stay cooler, as groundwater can maintain a much lower temperature in the summer months than surface water. Cold water ponds are almost always fed by some ground water source. Generally, the larger the volume of water present in your pond, the longer it will take to warm in the summer months and the cooler it will stay. In addition, the deeper your pond is the cooler the water will stay.

Depth

For a warm water pond which supports fish, a minimum depth of 8 feet is necessary over a ½ acre of surface area or greater, a depth of 10 feet is recommended. For a cold water pond that will support trout, 8 to 10 feet of depth over a ½ acre of surface area or greater is recommended for a spring fed pond. 16 feet of depth over a ½ acre or greater is necessary if no spring is present. Don't forget that ice will most probably cover your pond in mid winter. On average in Monroe County, the thickness of ice on a pond will reach 12 inches. If the ice is then covered with snow, sunlight will be prevented from penetrating. If your pond is shallow and therefore contains excessive vegetation, the lack of sunlight will cause the plants to die. As a result, the decomposition of aquatic vegetation will deplete oxygen from the water and your fish will die.

Many species of warm water fish also require shallow waters for spawning. The depth and character of the spawning area is species specific and will be discussed later.

Water Quality

Phosphorous and nitrogen are nutrients which are important to an aquatic ecosystem. Appropriate amounts enrich the growth of aquatic vegetation. The growth of plants provides habitat for forage fish and insect life which are then consumed by predator fish. In addition, vegetation provides spawning areas. Excess nutrients can be detrimental however. Excess nutrients enter your pond through runoff from cropland and livestock holding areas, or from your own fertilized lawn and neighboring residential areas. This can catalyze algae blooms which contribute to the turbidity the water in your pond. As a result, vegetation beneath the surface lacking enough sunlight can die and decompose, thus depleting the water of dissolved oxygen. Dissolved oxygen is a necessary component for fish survival.

A well balanced pond would consist of 1, 2 or 3 game fish or predator species, an adequate forage base, insect life and aquatic vegetation. Fathead Minnows and Golden Shiners can be stocked in combination as forage food or a single species plus additional life such as: frogs, tad poles, crayfish and insect larvae. Fish and other pond life can be ordered through the Monroe County Soil and Water Conservation District office or from local hatcheries. Be sure to request an order form at least 30 days before your stocking date. A farm fish pond license or stocking permit may be required. Contact the New York State Department of Environmental Conservation for further information. (See appendices A and B for contact information and area hatcheries)

Warm Water Fish

Fish: Largemouth Bass (*Micropterus salmoides*) Predator Fish

Preferred Habitat: Well vegetated areas

Food Preferences: insects, frogs, crayfish and small fish

Spawning Preferences: Water depth of 1-3 feet and in shallow depressions about 20 inches wide. Spawn in early May to late June when the water temperature reaches 62-64 degrees.

Stocking Facts: 100 per surface acre

Miscellaneous Facts: Adults reach size of 8-17", females carry 2,000 – 7,000 eggs per pound of body weight, eggs hatch within 7-10 days depending on water temperature

Cold Water Fish

Fish: Brook Trout (*Salvelinus fontinalis*) Predator Fish

Preferred Habitat: Surface water must stay below 72 degrees in the summer and sustain temperatures below 65 degrees at greater depths, prefer variable underwater habitat (boulders, rock piles, bumps and depressions)

Food Preferences: Mollusks, crayfish, other small fish and insects

Spawning Preferences: Spawn in the spring in shallow areas of gravel or cobble and require running water

Stocking Facts: 300 per surface acre

Miscellaneous Facts: Relatively easy to catch and short-lived in relation to Brown and Rainbow Trout, average life expectancy is 3 years

Fish: Brown Trout (*Salmo trutta*) Predator Fish

Preferred Habitat: Water must stay below 75 degrees in the summer, prefer variable underwater habitat (boulders, rock piles, bumps and depressions)

Food Preferences: Mollusks, crayfish, other small fish and insects. Exceptionally large Brown Trout will occasionally feed on frogs, birds and small rodents

Spawning Preferences: Spawn in the fall in shallow areas of gravel or cobble, require running water, eggs do not hatch until the spring

Stocking Facts: 300 per surface acre

Miscellaneous Facts: Very active at night, somewhat difficult to catch during the day

Fish: Rainbow Trout (*Oncorhynchus mykiss*) Predator Fish

Preferred Habitat: Water temperature must stay below 75 degrees in the summer, can stand long periods at 65-70 degrees but prefer colder.

Variable underwater habitat (boulders, rock piles, bumps and Depressions)

Food Preferences: Mollusks, crayfish, other small fish and insects

Spawning Preferences: Spawn in the fall in shallow areas of gravel or cobble, require running water, eggs do not hatch until the spring

Stocking Facts: 300 per surface acre

Miscellaneous Facts: Life expectancy is 3-5 years

Warm and Cold Water Fish

Fish: Yellow Perch (*Perca flavescens*) Predator and Forage Fish

Preferred Habitat: Cool, clean water with a sandy or plant covered bottom

Food Preferences: Small Perch: zooplankton and insect larvae Larger Perch: crayfish, snails, insects, other small fish and young of its own species.

Spawning Preferences: Spawn in shallow, weedy waters at night when the temperature reaches 45-50 degrees in the spring.

Stocking Facts: 300 per surface acre

Miscellaneous Facts: Average 6-12" in length, females carry 10,000 to 75,000 eggs which are emitted in a gelatinous ribbon over weeds and brush. Due to high fertility, 1/4 to 1/2 of eggs will hatch.

Fish: Walleye (*Stizostedion vitreum vitreum*) Predator Fish

Preferred Habitat: Requires somewhat cool water with temperatures less than 85 degrees in the summer, they have large light sensitive eyes, so they stay in deeper water during the day and go to the shallows at night.

Food Preferences: Young Walleye: zooplankton and insects and their larvae After 2-3 inches in size: small fish of all kinds and crayfish

Spawning Preferences: Spawn in April and May when temperatures reach 45-50 degrees, they build nests in colonies in firm sand or fine gravels in water 7 feet deep or less

Stocking Facts: 100 per surface acre

Miscellaneous Facts: Primarily feed at dusk and dawn, largest member of the Perch family, female carries 25,000-50,000 eggs per pound of body weight, 5-20 percent of the eggs will hatch within 12-18 days depending on water temperature

Fish: Fathead Minnow (*Pimephales promelas*) Forage Fish

Preferred Habitat: Areas with abundant vegetation

Food Preferences: Microscopic algae and other types of plankton

Spawning Preferences: Eggs are laid on the underside of boards, rocks or other flat objects

Stocking Facts: 2,000 per surface acre

Miscellaneous Facts: Valuable forage fish and bait species for all predator fish

Fish: Golden Shiner (*Notemigonus crysoleucas*) Forage Fish

Preferred Habitat: Clear water with weedy areas

Food Preferences: Aquatic insects, mollusks and algae

Spawning Preferences: Spawn at numerous intervals in weed beds during midsummer

Stocking Facts: 2,000 per surface acre

Miscellaneous Facts: Adults grow to a size of 3-7 inches long, considered a valuable forage fish due to the fact that they spawn more than once, producing young throughout the summer

Crustacean: Crayfish (*Cambarus cambarus*) Forage Fish

Preferred Habitat: Rocky bottoms with places to hide, they are sensitive to light and therefore most active at night.

Food Preferences: Small fish and dead crayfish

Stocking Facts: 600-1,000 per surface acre

Miscellaneous Facts: When a crayfish is molting, their hard shell is discarded. This is when they are most desirable as bait and forage.

Additional information can be found on the Cornell Cooperative Extension Website.

<www.dnr.cornell.edu/ext/fish/pond1.htm>

Appendix A

New York State Department of Environmental Conservation (NYSDEC)

Region 8 – Division of Regulatory Affairs
6274 E. Avon-Lima Road
Avon, NY 14414-9519
(585) 226-2466
<www.dec.state.ny.us>

United States Army Corps of Engineers

Regulatory Branch
Buffalo District, Corps of Engineers
1776 Niagara Street
Buffalo, NY 14207
(585) 879-4313
<www.usace.army.mil>

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Cornell Cooperative Extension

Main Office
365 Roberts Hall
Ithaca, New York 14853-5905
(607) 255-2237
<www.cce.cornell.edu>

Monroe County Branch
249 Highland Ave
Rochester, NY 14620
(585) 461-1000

Field Crops Specialist
(585) 433-2651

Monroe County Department of Health

111 Westfall Road
Rochester, NY 14620
(585) 274-6068
<www.co.monroe.ny.us/health/>

Dig Safe New York

1-800-962-7962

Appendix C

Fish Hatcheries

Fish can be ordered through the Monroe County Soil and Water Conservation District in early spring, mid-summer and late summer. We provide Triploid Grass Carp, Koi, Golden Shiners, Fathead Minnows and Crayfish. Please call our office at (585) 473-2120 x3 for more information. Fish are also available through the hatcheries listed below. This list is provided for information purposes. The Monroe County Soil and Water Conservation District does not specifically endorse or recommend these businesses.

Bogner's Hatchery

2045 Route 5 Utica, NY 13502
(315)733-3046

Brook Trout

Finger Lakes Aquaculture

7627 County Rd 36 Naples, NY 14512
(585) 374-2974

Bass, Black Crappie, Bluegill, Brook Trout, Rainbow Trout, Fathead Minnows, Golden Shiners, Walleye, Yellow Perch

Fenton's Smith Creek Fish Farm

5249 Poplar Tree Rd Bliss, NY 14024
(585) 322-7703

Bass, Trout, Bluegills, Catfish, Fathead Minnows, Gold Fish, Koi, Perch, Shiners, Walleye, Rosey Red Minnows, Grass Carp

Empire Fisheries

4695 Quarry Rd Warsaw, NY 14569
(585) 786-3315

Large Mouth Bass, Walleye

George's Bait Farm

1980 Eastwood Rd East Aurora, NY 14052
(585) 652-5129

Large Mouth Bass, Fathead Minnows

Brown's Trout Hatchery

Route 362 Bliss, NY 14024
(585) 322-7322

Bass, Trout

Willow Pond Aqua Farm

171 Telyea St Canandaigua, NY 14424
(585) 396-2753

Large Mouth Bass, Trout, Walleye

Larry Myers

4825 Federal Rd Hemlock, NY 14466

Large Mouth Bass, Channel Catfish, Yellow Perch, Black Crappie, White Crappie

Highline Bass

8050 Garlinghouse Rd Naples, NY 14512
(585) 374-5114

Large Mouth Bass, Walleye Fingerlings, Trout

Coolwater Fish Farm

5636 Lakeville-Groveland Rd Geneseo, NY 14454
(585) 243-3543

Trout, Walleye, Yellow Perch, Large Mouth Bass, Catfish, Northern Pike, Landlocked Salmon, Fathead Minnows, Golden Shiners, Sunfish

References

Burkunas, Vytautas, J. Fish Pond Information. Monroe County Soil and Water Conservation District. January, 1993.

Burkunas, Vytautas, J. Personal Interview. May, 2002.

“Farm Fish Pond Management”. New York State Department of Environmental Conservation. 2002. <dec.state.ny.us/website/dfwmr/fish/farmpdmg.html>

“Fish Pond Management in New York Ponds.” Cornell Cooperative Extension. 2002. <dnr.cornell.edu/ext/fish/pond1.htm>

“Permits, Applications.” New York State Department of Environmental Conservation. 2002 <www.dec.state.ny.us/website/dcs/permits_level2.html>