



STOCKING PRIVATE PONDS

by Tom Wiggins



Keeping fish in private ponds is more popular than ever before and with good reason. Having your own pond full of fish can bring a lot of enjoyment. As a result of the increased interest in private fish ponds, we receive many questions on pond fish culture procedures. The following is written to help with some of the most commonly asked questions.

VERMONT FISH CULTURE FACT SHEET

1. Will fish stocked into my pond survive?

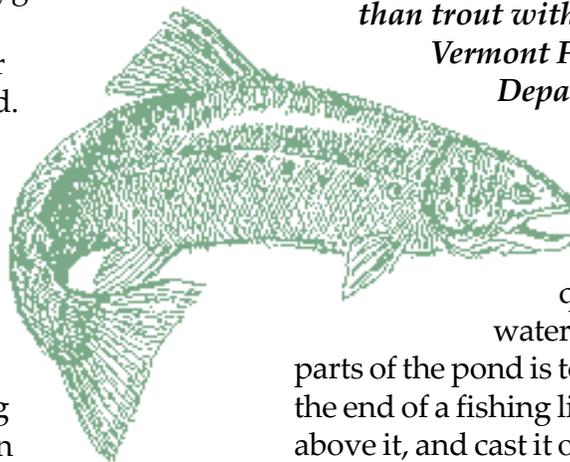
Many things can affect stocking fish into a pond, but the most important is oxygen availability. It is important to have some idea of the potential availability of oxygen (good, okay, or bad!) in your pond. Only the lowest oxygen levels during the year, or worst case, matter. Even if the oxygen available to your fish is too low for only a matter of minutes throughout the year, the fish will die. (They need to breathe too!)

August frequently provides a good indication of how well a pond will hold fish. There are generally 3 primary sources of oxygen in a pond: photosynthesis of plants, absorption from the air, and water flowing into and through the pond. In small ponds, the type found on most properties (less than an acre and fairly shallow), the ponds' water supply is the most reliable source of oxygen through the year. If you have a pond that does not discharge water in August, and starts getting shallower, it is also probably low in oxygen and risky to stock with fish.

2. What kind of fish should I put into my pond?

Although habitat, pond size, etc., all help determine the species of fish that should be stocked in a pond, water temperature, State regulations, and the fish's reproductive capacity probably have the greatest impact.

If a pond rarely exceeds 59 degrees (fahrenheit) brook trout are a good choice. If the pond rarely exceeds 69 degrees, rainbow trout will generally do well. If a pond stays in the 70s, then warm water fish (bass, blue gills, etc.) can survive better; however, ***it is illegal to stock fish other than trout without the approval of the Vermont Fish and Wildlife Department.***



When measuring the pond's water temperature, do not measure the temperature at the surface of the pond. A quick and easy way to get water temperatures from deeper parts of the pond is to tie the thermometer on to the end of a fishing line, place a bobber six feet above it, and cast it out to the center of the pond. After a couple of minutes, quickly reel the

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thermometer in and read the temperature. (Remember, August is probably the best month to get a worst case temperature.)

Reproductive abilities of the fish you stock are important. Trout rarely reproduce in a pond. This means the pond owner has more control on the number and size of fish his pond contains. The warm water fish will generally reproduce. More often than not this leads to large numbers of stunted (small) fish that are not generally suited for fishing or eating and sometimes even impact swimming. When possible, trout are frequently the most desirable fish to stock in a pond.

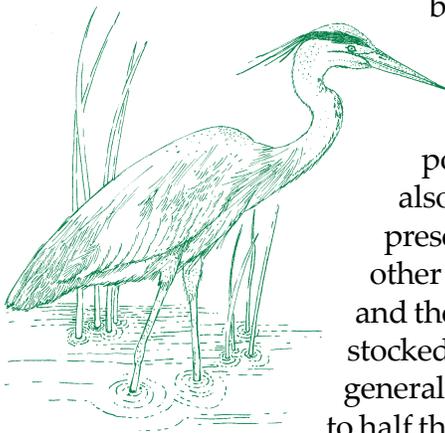
3. Where can I get fish to put into my pond?

The Fish and Wildlife Department annually develops a list of commercial hatcheries in Vermont where fish can be purchased. If fish are to be purchased from out of state, then an importation permit is required. Importation applications can be obtained from the Department.

4. How many fish should I put into the pond?

First, remember the typical pond is not, and cannot be, a hatchery. The best lakes and ponds in the state have wild trout populations at approximately 30 pounds of fish (of all sizes) per acre. If the 30 pounds per acre were all adult fish, this would be equivalent to approximately 60 to 100 trout (7-10 inches) per acre. There are many valid reasons for stocking more fish.

Fish may be harvested through fishing, predators (other fish, birds, otter, and mink) may get some, and some may escape the pond. Stocking is also affected by the presence and size of other fish in the pond, and the size of fish being stocked. (Fish will generally eat other fish up to half their length!) When stocking smaller fish, more



fish need to be stocked, but be careful. Too many fish can result in disease and other problems.

The following are some conservative stocking rates.



If adult fish are already in the pond, it is recommended to stock the pond with adult fish. Stocking 60 to 200 trout (7 to 10 inches) per acre should be adequate.



If the pond contains no other fish, stocking spring fingerling trout (2 to 3 inches) is less expensive. Generally, twice as many spring fingerlings should be stocked. Spring fingerlings should be stocked at 200 to 400 trout per acre.



Fall fingerlings are a compromise between the spring fingerlings and adults, and are not as subject to predation, although some over winter mortality generally occurs. Stock at rates of approximately 150 to 300 per acre.

If you are not sure if conditions are available for stocking trout, stock a few and see if it works.

5. My fish die, why?

Fish mortality can occur for many reasons. Here are some of the most common problems.



When fish die immediately after stocking, the fish could have been severely stressed during transport and introduction, but it could also be a water quality problem. In addition, the water temperature of the pond should not be greater than 10 degrees higher than the water in the distribution unit at stocking. Most commercial fish farmers are familiar with the stocking fish and will avoid these types of problems. (Few will stock in the summer for these reasons.)



If rainbow trout are being stocked, the pH of the water should not be significantly lower than the water the fish have been reared in. Significant changes in pH of the water will kill the rainbow trout soon after stocking.



If the fish start dying within a few days of being stocked and the number of dead

fish keep increasing daily, it is possible the fish were diseased, and the disease is beginning to kill them.



If there are constantly a few dead fish over a period of time, it is possible that predators (herons, ducks, mink, etc.) are killing fish. There also are some natural parasites, etc., that can cause this type of mortality.



Probably the most devastating and frequent losses of fish occurs in later summer. After several cloudy days with little wind, all of the fish (or at least all the large fish) die. This is the result of too little oxygen in the water.

If you see fish that appear to be gulping air at the surface during this time of the year, try to get more water to the pond or some sort of aeration. Pumping water from the bottom of the pond and spraying across the surface will help aerate the water.

Low oxygen levels can also occur in the winter under the ice, particularly if too much snow covers the ice.

6. Predators are eating my fish - how can I stop them?

Frequently herons, ducks, kingfishers, mink, otter, etc., find that stocked ponds are an excellent place to dine.

Some pond owners appreciate seeing the diversity of wildlife. Many do not want to lose their fish to predators. Although there are no foolproof methods to stop predation, there are some things that can be done.

A nonlethal and inexpensive method is to string 2 strands of monofilament fishing line around the perimeter of the pond. Generally the height of 1 strand is 12 inches and the second is 18 inches. (The heights of the strands sometimes need to be adjusted until the most effective heights are found.) This will often stop many of the wading birds and ducks. This can also be done with a single strand of electric fence such as that used for cattle. By adjusting the height of electric fence it

can be effective for wading birds and ducks as well as mink and otter.

7. How can I get fish out of my pond?

People occasionally stock perch, bass, bullhead, panfish, and even goldfish (which are illegal), and the fish take over the pond. These fish commonly overpopulate the pond and stunt in size, becoming a nuisance. There are a couple nonchemical ways to eliminate these fish. The easiest is to drain the water from the pond.

Remember, in most cases it would be illegal to allow these fish to escape to public waters so they must be left high and dry in the pond. A second method is to seine (net) the fish from the pond. Many minnow dealers have seines that can cover ponds that are a half acre or less. The fish could be netted from the pond and disposed of. Netting rarely eliminates all the problem and generally has to be repeated every few years.



Remember, there will be as many exceptions to the rules of thumb in stocking ponds as there will be ponds that fit in.
