



The Reality of Ponds

Many landowners dream of fishing, swimming, and relaxing beside recreational ponds on their property. But the *reality* of pond ownership is that it takes constant attention and hard work to keep that pond healthy and looking nice. The following are some important aspects of pond ownership every pond owner should consider...

Site Location

Site selection, soil suitability, engineering survey, and design are extremely important when it comes to building a pond. Estimate the cost of the earthwork, planning, design, and pond construction.

Before you design your pond, consider the shape of the land, water supply, and soil type. If possible, consider more than one location, and study each one to select the most practical, attractive, and economical site. Because pond construction is an important component of successful, long-term pond management,

Pond Soil

Suitable soil is one of the primary factors in selecting a pond site. The soil should contain a layer of material that water will not seep through. Clays and silty-clays are excellent soils for holding water. Sandy clays can work, but avoid soils that are well drained. To determine suitability, take soil samples at frequent intervals and have them analyzed. Not evaluating soil strata properly could result in a pond that will not hold water, and that will make proper pond management very difficult. After all, you need water to have a pond!

Collect soil samples for analysis to determine the soil pH and lime requirements (of the pond bottom) for the site you have selected. **Most state soil testing labs charge only a small fee for soil samples, and they are well worth the costs.**



Topography

Consider topography first when it comes to pond construction because it directly affects building costs and pond management. Put the pond where enough water can be impounded with the least amount of earth fill. A good site is usually one where you can build a dam across a narrow section of a valley and where the slope of the valley floor lets you flood a large area. Such sites are ideal and minimize areas of shallow water.

Avoid large areas of shallow water because they become too shallow to use in late summer and fall dry periods, and they encourage undesirable aquatic plants weeds. However, if you are interested in providing additional habitat for waterfowl, then these shallow areas should be considered an asset to your pond. However, additional management practices will be necessary to maintain this habitat on an annual basis.

Pond Water Supply

Water should be adequate, but not excessive, and may be provided by springs, wells, or surface runoff. For ponds where surface runoff is the main source of water, the contributing drainage area should be large enough to maintain a suitable water level during dry periods. This is critical.

However, the drainage area should not be so large that expensive overflow structures are needed and water exchange occurs too frequently. As a rule of thumb, a pond should have 5 to 10 acres of drainage area for each acre of impounded water. The amount of runoff to be expected from a watershed depends on topography, soil type, and plant cover. Make sure to keep the watershed planted in healthy grass cover to prevent muddy water after each rain.

Keep in mind that deeper ponds do not necessarily produce more fish than shallow ponds. In fact, shallow ponds tend to be more productive, but ponds that are too shallow suffer the risk of drying under summer drought. The average pond depth should

be about 4 feet. This lets fish forage on the bottom, even in summer, when low oxygen concentrations are common in deeper water, while maintaining enough depth to sustain the fish during drought.

Pond Management

Proper pond construction will go a long ways towards allowing pond owners get maximum enjoyment from their pond while minimizing maintenance. Before building your pond, use the above information to do it right from the start and your pond will provide recreational opportunities for a lifetime.



Controlling Weeds

When it comes to pond management, nothing is more aggravating than weeds. But weeds are simply plants in the wrong place at the wrong time. Many types of aquatic plants are beneficial for wildlife, and plants form part of a healthy pond. Farm pond owners may consider leaving vegetation in and around ponds to provide cover and food for wildlife. However, excessive growth of plants can interfere with other uses of the pond, such as watering cattle, fishing and swimming, making the plants “weeds.” Floating weeds, such as duckweed, can become so abundant that the pond surface becomes covered, cutting off light and oxygen to the fish below. In some instances, weeds can literally take over a pond and cause serious problems for the farm pond owner.

The best way to avoid weed problems is prevention. Building the pond correctly, limiting excessive nutrient loading, and keeping invasive weeds out of a pond are crucial. However, when weeds become a problem, there are several ways to manage the infestation. First, you need to identify the species of weeds that are causing the problem(s). Your County Cooperative Extension Service Office can help in plant identification. Once the plants are identified, physical, mechanical, biological, chemical or a combination of these control methods can be used.

Mechanical Techniques for Weed Control

Physical control by cutting or pulling aquatic plants is possible for small ponds or isolated patches of weeds. Weeds that are cut often grow back quickly and they have to

be cut again. Floating weeds often are blown into a corner of the pond, where they can be scooped out with a fine mesh net. For filamentous weeds, dragging a chain through the pond is sometimes an effective method to harvest weeds.



Physical Techniques for Weed Control

Shallow areas where light reaches the pond bottom are ideal for the growth of rooted aquatic weeds, and plants can be expected to grow in these areas. In most cases, measures to control weeds in such shallow water are futile. Deepening pond edges so that the water depth quickly reaches 2 1/2 to 3 feet helps reduce weeds. An alternative is to use pond dye, which provides a shading effect and prevents light penetration to the bottom where rooted plants attach and grow.

Drawing down the water level 3 to 4 feet during the late fall and winter can help control rooted weeds and is also good to reduce overpopulation of prey fish. Shallow weeds are exposed during drawdown and subjected to drying and freezing. An expensive alternative is to use a pond liner which prevents plant roots from penetrating the soil. This option must be installed before filling the pond, or the pond must be drained.

Chemical Techniques for Weed Control

Chemical control is risky, expensive, and should generally be considered as a last resort. When using chemicals, proper identification of the weed is important, as many herbicides are selective, that is, they only work on certain types of weeds. Be sure to follow label instructions, and note that the use of a chemical may restrict uses of the pond water for other purposes, such as irrigation or watering cattle.

Spot treatments of weedy areas usually can be accomplished without problems, but when whole pond treatments are required, actually measuring the pond area is important. To

visually estimate the area of a pond is amazingly difficult, and even “experts” can be off by several-fold. Decomposition of weeds killed by herbicides removes oxygen from the water and can even result in a fish kill, especially in the summer months. When using a fast acting herbicide, treating only a section (up to a quarter of the pond area) at a time will reduce the chances of oxygen problems. Unless the herbicide is intended for whole pond application, treating only a portion of the weeds at a time allows affected weeds to decompose before the next application.

Typically, the heavier the growth of weeds, the smaller the area that should be treated in a single application. The best time to treat aquatic weeds is during the spring when the plants are growing rapidly and water temperatures are cooler (70°F to 80°F).

If you have fish in your pond and are thinking of using copper sulfate (sometimes called “bluestone”) for algae control, be sure to have the alkalinity of your pond water tested. Copper sulfate is toxic to fish in low alkalinity waters (below 50 mg/L), and the correct dose is based upon the alkalinity.

<http://www.pondmanagement.org/2010/06/10/pond-management-takes-planning/>