



## Building a Pond: What Questions Should You Ask?

Constructing a pond may seem as easy as digging a hole. However, reality is much more complex. Site selection and design criteria are essential if your pond is going to meet your needs and expectations. Some of the criteria that you should examine are:

- Soils – Soils with high clay content are essential for their water-holding ability. Otherwise, you will have to invest in expensive plastic lining.
- Size – Ponds less than 1 acre are usually difficult to manage, especially in terms of the water chemistry and ecosystem. Shallow ponds, less than 4 feet deep, are also difficult to manage.
- Source of water – Where does the pond water come from? Runoff from cropland or heavily grazed pasture may contain excessive nutrients. Water from springs or wells may lack sufficient dissolved oxygen to sustain fish in your ecosystem.
- Surrounding land uses – Cropland in the subwatershed may contribute excessive sediment, thus reducing the life of your pond. In more urbanized or suburban areas, runoff from homes, streets, barnyards, etc. may contain nutrients and toxic chemicals that are difficult to manage in a pond ecosystem.
- Shoreline – On the shoreline, while trees and bushes provide shading for fish, they also contribute nutrients from their leaves falling into the pond. In addition, be cautious about where trees are planted so that prevailing winds are not blocked. Wind aeration increases dissolved oxygen in a pond's water, which is essential to fish survival.
- Wildlife – While open water, such as a pond, attracts wildlife, there are concerns about the impacts of various species. Turtles and some bird species eat fish, thereby reducing your potential

fish harvest or requiring additional stocking. Muskrats will create holes in your levee, often leading to extreme water loss and structural failure. Geese and ducks may be aesthetically pleasing, but their manure contains a lot of nutrients that can lead to excessive plant growth and a poor habitat for fish. Finally, the various species of fish have vastly different needs in terms of their ecosystem. Stock carefully!

The design and building of a pond is NOT as simple as digging a hole. If you want a pond to satisfy your needs for recreation, aesthetics, habitat improvement, etc. you will need considerable information beyond that of a local excavator. Before starting a pond, contact the Purdue Extension office in your county for assistance.

### For More Information

More information and tips for owners of ponds can be found on the Purdue Extension Water Quality Web site at [www.ces.purdue.edu/waterquality](http://www.ces.purdue.edu/waterquality), and then clicking on the "Ponds" button.

### Purdue Contacts (1-888-EXT-INFO)

#### *Ponds and Fish*

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### Additional Contacts and Information

- Your local Soil and Water Conservation District

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