

## An Introduction to Ponds

### Introduction

During years of normal precipitation, ponds are generally a reliable and economical source of water. Ponds are constructed for many reasons including livestock watering, irrigation, fishing, fire protection, wildlife habitat, recreation and aesthetics.

### Site Selection

Selecting a suitable site for a pond is important; there are many factors to consider and many questions to ask. Look around your property - is there a fairly flat area that is not a wetland? Is the area of land sloping toward the flat area protected from erosion, nutrients and toxicants? If your goal is aesthetics, is the flat area within view of your desired vantage point?

You may want to seek advice from the Natural Resource Conservation Service, the Pennsylvania Fish and Boat Commission or the Penn State Cooperative Extension Office. Local contractors, environmental consultants and engineers will be able to provide the most direct advice for planning, design and construction.

### Will I be impacting any other water resources?

As you consider where to locate your pond, avoid impacts to aquatic resources. The Department of Environmental Protection (DEP) strongly discourages the excavation of wetlands or the construction of ponds on-stream.

The number one loss of wetlands in the state is due to conversion to ponds. Wetlands serve a unique function in the environment, and that function is lost when wetlands are excavated or inundated to construct a pond. While ponds do attract a number of aquatic species, the overall biodiversity of a pond ecosystem is less than that of a wetland.

### How big should I make my pond?

What is the purpose of your pond? For example, if you would like a fishing pond, it is suggested that the pond be a quarter to two acres in area and have a depth of eight feet over a minimum of 1,000 square feet.

When surface water runoff will be the primary source of water, it is generally suggested that the pond have between two to four acres of drainage for each acre-foot of water stored in the pond. When a pond is excavated and the primary source of water is groundwater, the water in the pond will depend upon the depth and reliability of the groundwater.

### Permits

If the pond will impact a wetland or stream (generally by excavation), Chapter 105 Water Obstruction and Encroachment permits and federal Section 404 permits will be required. If wetlands are impacted during construction, the wetlands are required to be replaced at a minimum of 1:1 ratio. For example, if you propose to excavate two-tenths acre of wetland you will have to create at least two-tenths acre of new wetland nearby. This will raise the cost of the pond construction and increase the time it will take to move on to construction. Further permitting in wetlands is not automatic and, before replacement can be considered, the applicant will first need to demonstrate how impacts to wetlands have been avoided and minimized.

When you believe you have found the right location, you may need to call in a wetland consultant to identify and delineate wetlands and a professional engineer to do a survey and prepare a construction plan.

Remember as you select your site, many impacts to streams and wetlands can be avoided with good planning. Avoiding and minimizing impacts to aquatic resources will save time and money.

If you are considering the construction of a dam, the Chapter 105 Rules and Regulations require a person to obtain a dam permit to construct a dam if one of the following applies:

1. The construction of a dam across a watercourse where the contributory drainage area exceeds 100 acres;
2. The maximum depth of water measured at the upstream toe to the top of the dam is greater than 15 feet; or
3. The impounding capacity is greater than 50 acre-feet.

If you have any questions about dams, contact DEP's Division of Dam Safety at 717-787-8568, or visit DEP's website at [www.dep.state.pa.us](http://www.dep.state.pa.us), keyword: Dam Safety.

Erosion and sediment (E&S) control measures are required to protect receiving waters during earth disturbance activities. You may contact the local county conservation district regarding E&S control requirements.

Additionally, a federal permit will be required for impacts to wetlands and watercourses. Contact the U.S. Army Corps of Engineers for more information.

If a pond is properly planned, constructed and maintained, it will provide you with many years of pleasure. For more information, contact one of the regional offices listed below.

For more information, visit [www.dep.state.pa.us](http://www.dep.state.pa.us), keyword: Wetlands or contact.

| <b>WATERWAYS AND WETLANDS PROGRAM SECTION</b>   | <b>COUNTY RESPONSIBILITY</b>   | <b>WATERWAYS AND WETLANDS PROGRAM SECTION</b>   | <b>COUNTY RESPONSIBILITY</b>  |
|---|--|---|---|
| North-central Regional Office<br>208 W. Third St., Suite 101<br>Williamsport, PA 17701-6448<br>570-327-0529 | Bradford, Cameron, Centre, Clearfield, Clinton, Columbia, Lycoming, Montour, Northumberland, Potter, Snyder, Sullivan, Tioga and Union | South-central Regional Office<br>909 Elmerton Ave.<br>Harrisburg, PA 17110-8200<br>717-705-4800 | Adams, Bedford, Berks, Blair, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry and York |
| Northeast Regional Office<br>2 Public Square<br>Wilkes-Barre, PA 18701-1915<br>570-826-2511                 | Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Schuylkill, Susquehanna, Wayne and Wyoming                             | Southeast Regional Office<br>2 East Main St.<br>Norristown, PA 19401-4915<br>484-250-5970       | Bucks, Chester, Delaware, Montgomery and Philadelphia   |
| Northwest Regional Office<br>230 Chestnut St.<br>Meadville, PA 16335-3481<br>814-332-6984                   | Butler, Clarion, Crawford, Elk, Erie, Forest, Jefferson, Lawrence, McKean, Mercer, Venango and Warren                                  | Southwest Regional Office<br>400 Waterfront Drive<br>Pittsburgh, PA 15222-4745<br>412-442-4315  | Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington and Westmoreland                                |

**Bureau of Waterways Engineering and Wetlands  
Division of Wetlands, Encroachments and Training**

P.O. Box 8460  
Harrisburg, PA 17105-8460  
Phone: 717-787-7432  
Fax: 717-772-0409

**U.S. ARMY CORPS OF ENGINEERS**

Delaware River Basin  
Philadelphia District Corps of Engineers  
Wanamaker Bldg.  
100 Penn Square East  
Philadelphia, PA 19107  
Phone: 215-656-6725  
Fax: 215-656-6724

Susquehanna River Basin  
Baltimore District Corps of Engineers  
P.O. Box 1715  
Baltimore, MD 21203-1715  
Phone: 410-962-5673  
Fax: 410-962-6024

Ohio River Basin  
Pittsburgh District Corps of Engineers  
Room 1817 Federal Bldg.  
1000 Liberty Ave.  
Pittsburgh, PA 15222  
Phone: 412-395-7154  
Fax: 412-644-2811

or

Baltimore District Corps of Engineers  
Pennsylvania Field Office  
1631 South Atherton St.  
State College, PA 16801  
Phone: 814-235-0570  
Fax: 814-235-0576

**Natural Resources Conservation Service (NRCS)**

Pennsylvania State Office  
1 Credit Union Place, Suite 340  
Harrisburg, PA 17110-2993  
717-237-2210