

So You Now Have the Old Home Place



Part 5: Farm Ponds and Small Lakes

by James L. Cummins

A dam and emergency
spillway on a small lake.

This is the fifth in a series titled "So You Now Have the Old Home Place." In our previous article, we discussed food plots and open areas. In this one, we will discuss my favorite – farm ponds and small lakes.

PLANNING

Whether there is an existing pond on your land or you want to construct one yourself, the most important decision to make concerns the purpose of the pond. A pond can serve many purposes, such as fishing, swimming, fire protection, wildlife habitat or irrigation. The purpose of the pond will influence the design of it.

When designing a farm pond or small lake for fishing, you should take into consideration the species and size of fish you would like to catch. Some pond owners prefer bream fishing and will manage their pond to produce a crop of large bream. Others prefer a good, all-around fishery of largemouth bass, bluegill, redear and channel catfish. However, successful management will typically depend on concentrating on one management objective at a time.

Before you select your pond site, consider the topography, water supply and soil type. If the location of the land permits, consider more than one site. Study each one to select the most practical, attractive and economical site. Be sure to consider potential problems, such as the potential to attract trespassers, past land uses and runoff from adjoining agricultural areas.

Deciding what size pond you want will also influence site selection which is extremely important, especially if you are constructing your own pond. If you are unsure of proper placement, the Natural Resources Conservation Service (NRCS) can help with site selection as well as soil suitability, engineering surveys and design. They can also help with estimating the cost of earthwork and help check on the work during construction.

TOPOGRAPHY

First and foremost: Consider topography. Topography directly affects building costs and management. A good site is usually where you can build a dam across a narrow section of a steep valley and where the slope of the valley floor lets you flood a large area. In the Delta, these idyllic

situations are hard to come by but with proper planning, can be manufactured to some degree. However, avoid large areas of shallow water because these areas tend to encourage the growth of undesirable aquatic plants. Also, avoid locations with constantly flowing creeks or streams, as these flush the pond and make it difficult to manage water chemistry.

When building near a home site, unless you are planning to install a raised pond, the location of any underground obstacles, such as sewers or septic tanks, water or gas pipes and cables should be taken into consideration as well.

WATER SUPPLY

Springs, wells or surface runoff can provide water for your pond. Water availability should be adequate and checked for potentially dangerous substances.

For ponds where surface runoff is the main source, the contributing drainage area should be large enough to maintain a suitable water level during dry periods. As a rule, in Mississippi, a pond should have at least 5 acres of drainage area for each acre of impounded water.

SOIL

Soil suitability is another important factor in selecting a pond site. The soil should contain a layer of clay, or silty-clay material, that water will not seep through. Sandy clays are usually dependable, but the more clay in the soil, the better. At least 20 percent clay is necessary to hold water.

Take soil borings and have them analyzed to determine soil suitability. Many people have learned the hard way that skipping this step can lead to a leaky pond or one that will not hold water. If you are not confident in this area, the NRCS can help with this as well.

Lime content is another important element. Checking for lime requirements, and adding lime, is much easier to do immediately after construction, but before filling begins. If you are unsure of the lime requirements for your area, your county extension agent can advise you on the proper way to collect soil samples for analysis. These samples can be sent to the state soil-testing lab and processed for a small fee.

Other Considerations

WHEN TO BUILD

Summer is usually the best time of year for pond construction because soil conditions allow for use of heavy equipment. Summer construction also makes the way for fall and winter rainfall to fill the pond naturally. However, a pond may be built at any time of the year.

SIZE

Determine the size of your pond by assessing your needs and desires. Bigger is not always better. If good planning and proper management guidelines are followed, 1- to 3-acre ponds provide a lot of enjoyable activities. On the other hand, larger ponds and lakes can provide a greater range of uses such as water supply, limited irrigation and boating.



DEPTH

In Mississippi, ponds should have an average depth of 5 to 6 feet and be no more than 12 feet deep. At least half of the pond should be a depth of 4 to 5 feet. This lets fish forage on the bottom, even in summer when oxygen levels are lower. About 20 percent of the pond should be at least 6 feet deep to provide winter refuge and summer refuge in extremely dry years. During the peak of summer heat, evaporation can reduce water levels at a rate of up to 0.5 inches per day, and ponds may lose 2 feet or more in water depth. It is also important that pond banks slope rapidly to 3 feet deep to minimize the risk of dangerous aquatic plants becoming established. Contrary to what many believe, deep ponds are not necessary for productive fisheries. Deeper water can lead to water quality problems, such as low dissolved oxygen, which can kill fish.

DAMS

A dam is an artificial barrier constructed across a stream channel or drainage area to impound water. Most dams are constructed of earth. There are basic requirements in relation to the height and top width of the dam. For most ponds and small lakes, dams should be at least 8 to 12 feet wide at the top, depending on the height of the dam. And from personal experience, dams with tops wider than the required top width are much easier to maintain. If you plan on using the dam as a roadway, the top width should be a minimum of 16 feet.

You should establish suitable perennial vegetation on the dam as soon as possible to prevent erosion, muddy water and maintenance problems. Non-native grasses such as Bermuda and Bahia are commonly planted because they establish a sod quickly and tolerate frequent mowing to just a few inches in height. A good, deep-rooted native grass

(such as switchgrass) is an alternative that provides better wildlife habitat, requires less mowing and tolerates drought. If you choose to establish native grasses, be careful to mow them no shorter than 6 inches in height.

Do not let trees or shrubs take root on the dam because they tend to weaken the dam and increase the likelihood of leaking or dam failure. However, if you are working with an existing dam that already has large trees or shrubs established, then removing them may weaken the dam.

DRAIN AND OVERFLOW

Water flow and drainage is something that should be carefully considered for the overall health of your pond. An emergency spillway incorporated with a combination drain/overflow pipe are necessary for good pond management. To be able to completely drain your pond, the drain should be placed on the bottom. Water level control measures are vital to controlling weeds and managing fisheries.



Flags are often used to mark water levels.

The drain/overflow pipes, which can be made of steel, aluminum or polyvinyl chloride (PVC), are needed to encourage and promote normal water flow through the pond. Some materials are more durable and may be preferred for the long term, while others are more suitable for short-term use. For instance, PVC pipe, though inexpensive and widely used, can break easily. Whichever material you choose, check to ensure it meets the standards for the specified use.

PERMITS

Some local governments consider ponds to be "structures" and may require site reviews, permits, fees or fencing before and while construction takes place. Be sure to check with local planning and zoning officials to determine what may be required before you begin.

The State of Mississippi has several laws that apply to impounding water. Mississippi State Law (Section 51-3-39) requires that anyone proposing to build, modify or repair a dam must get written authorization from the Mississippi Department of Environmental Quality (MDEQ) before beginning construction. However, written authorization is not required if the dam is less than 8 feet high, impounds less than 25 acre-feet of water at the top of the dam or the dam does not impound a watercourse with a continuous flow of water (as long as failure of the dam would not threaten public safety downstream). A surface-water impoundment permit may be required, even if written authorization to build a dam is not required. The impoundment permit fee is \$10 and is good for 10 years. Penalties may be imposed for failure to file. For more information, go to www.deq.state.ms.us and click on the link titled Dam Safety.

If the construction is expected to disturb between 1 and 5 acres (construction of the dam and the area excavated for dirt used in the dam), then a small-construction permit may be required. If the construction is expected to exceed 5 acres, then a large-construction permit will be needed. If you would like more information on the need for construction permits, you will find this under the title Environmental Permits Division on the MDEQ website as well.

Another possible requirement will be a 404 permit obtained through the U.S. Army Corps of Engineers. To find your local district contact information, go to www.usace.army.mil/Locations.aspx.

FISH HABITAT

Ask any good angler where the best spots are to fish and they will tell you the best places to catch fish are around structures such as docks, the edges of weed beds and submerged stumps and logs. Forage fish use structure for shelter and for feeding on organisms attached to the structure. All fish will use structure when seeking shaded, darkened areas on hot, sunny days.

In order to provide sufficient fish habitat, save some of the trees during construction so that you can cover 10 to 25 percent of the pond bottom for cover and forage. During construction, you may also want to consider placing gravel in your pond for spawning for bluegill. I prefer to use washed gravel approximately 0.5 inches in diameter, placed 4 inches thick at a depth of approximately 3 feet.

LAND

Since 1966, it has been our only business.

Clarke Co. -

Enterprise Gas Plant Tract:
496± acres, \$709,137.00.

Located 17 mi. south of Meridian, MS. The property consists of 173± ac. of 2005 pine plantation, 58± ac. of 2001 pine plantation, 28± ac. of upland hardwood and pine regeneration, and 158± ac. of hardwood bottomland.

Kemper and Neshoba Co.

Kemper-Neshoba Tract:
178 acres \$364,087.00

Located 13 miles north of Collinsville, MS. Kemper-Neshoba makes an excellent recreational property with established food plots, a creek, good interior road system, and road frontage. The timber consists of 88 ac. of mature pine, 20 ac. of hardwood bottomland and 65 ac. of thick hardwood swamp. Power is available.

Kemper Co. - \$100 Tract:

240± acres, \$471,600.00

Located north of Collinsville, MS, this tract consists of 98 ac. of 2000 pine plantation, 40 ac. of 1991 pine plantation and remainder in hardwood timber. The terrain is diverse with a creek running through part of the property. Utilities available. Lots of internal 4-wheeler roads, Established food plots. Good hunting/investment property with several possibilities!

Kemper Co.

Kellis Store Tract:
50 acres \$60,000.00

Kellis Store is beautiful piece of property located just minutes from Kemper Lake and great fishing. It is conveniently located to Meridian and Philadelphia and would make a good hunting/investment property with several possibilities. The timber on the tract consists of 45 ac. of 1 year-old pine plantation and a small area hardwood timber. There is a pond on the property and power is available.

Noxubee Co. - Flora Tract:

34± acres, \$43,363.00

The property is located 7 mi. west of Shuqualak, MS and has approximately 2,328 feet of frontage on Hwy 21. The property consists of 10± ac. of 2003 pine plantation and 21± ac. of upland hardwood regeneration mixed with scattered merchantable hardwood and pine timber. The property is surrounded by large landowners.

Smith Co. - Rose Hill Tract:

120± acres, \$158,400.00

The 120 ac. is located just north of the small town of Mize. The majority of the property was machine planted in pine seedlings during the winter of 2011, but there are also 55 ac. of natural hardwood timber along a small creek. Interior roads and two small food plots for hunting. This is an excellent hunting property.

Scott Co. - Kalem Road Tract:

39± acres, \$120,900

Located just minutes from I-20, Kalem Road Tract is an excellent recreational property with immediate timber income and great potential! The timber consists of 24 ac. of mature pine and hardwood timber, and 14 ac. 15 year-old un-thinned pine plantation. The property joins the Bienville National Forest, has 1,580 feet of road frontage, half-acre pond, and a seasonal creek that flows through the property.

Smith Co. - Vanderford Cemetery Tract:

72± acres, \$157,608.00

The property is 35 mi. southeast of Jackson, MS. Timber consists of 40± ac. of pine plantation and 28± ac. of natural pine and hardwood timber along a seasonal creek. Road frontage and utilities are available. This property is a great place for a cabin or weekend getaway!

For more information on these properties, please contact:

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Disclaimer: All information is assumed to be accurate and substantially correct but no assumptions of liability are intended. Neither the seller nor the agent or representatives warrant the completeness or accuracy of the information. Seller does not guarantee timber volumes, values, acreages (total, woodland/cropland, stand or otherwise), tree ages or the condition and/or function of any improvements, including but not limited to all buildings, machinery, appliances, wells, equipment, livestock and ponds. No representations or warranties are expressed or implied as to the property, its condition, boundaries or logging feasibility. Prospective buyers should satisfy themselves as to the accuracy of this information.

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STOCKING

The kind and number of fish you stock in your pond or small lake will directly affect its success as a fishery. Most waters are stocked with a combination of predator and prey species.

Ideally, fish stocking should be accomplished during either fall or spring, preferably when water temperatures are less than 68 degrees Fahrenheit. Stresses due to handling are reduced in cooler water. You should also check the temperature of the water used to haul the fish to your pond. The difference in temperature between your pond and the hauling tank should be no more than 5 degrees. A larger difference can "shock" the fish and contribute to disease and possible mortality.

You should research and determine the species you desire to stock. This will help you to avoid the pitfalls of stocking a species that will be of no benefit to you. Let's review several of the most common species.

LARGEMOUTH BASS

The largemouth bass is the best predator for maintaining a healthy balance of fish. Stocking 50 2- to 4-inch fingerlings per acre is good for stocking new ponds. Largemouth bass reproduce well in ponds so restocking is not usually needed unless a large harvest has occurred in a short amount of time.

BLUEGILL

Bluegill is the best prey species and provide an excellent source of food for largemouth bass. Prolific spawners, bluegill can quickly become stunted if enough bass are not present or the water becomes choked with vegetation. Stocking 500 1- to 3-inch fingerlings per acre is recommended for stocking new ponds.

REDEAR SUNFISH

The redear sunfish provides an alternative or a supplement to bluegill. They tend to grow larger than bluegill and are effective predators of pond snails, hence the commonly used name – shellcracker. They also produce fewer young and are not likely to become stunted. Because of this lower reproduction rate, redear are not considered adequate to provide enough prey to maintain a healthy bass population; therefore, redear are usually stocked in combination with bluegill. If you choose this combination, use 350 bluegill and 150 1- to 3-inch redear per acre.

CHANNEL CATFISH

Channel catfish grow very well in ponds and generally do not cause problems unless they are overstocked. They typically do not reproduce. New ponds can be stocked with 50 2- to 4-inch fingerlings per acre if you prefer a mixture of the other species discussed above or 150 per acre if stocked alone.

BLACK AND WHITE CRAPPIE

Each year, many large crappie are caught in ponds, so it is understandable that pond owners want to stock them. However, both black and white crappie are very unpredictable in ponds. In the best of cases, stocked crappie grow well but reproduce poorly and will not cause the pond to become unbalanced. Unfortunately, the opposite is the more usual result. The reproduction rate of crappie is high and small crappie overpopulate. They then prey heavily on bluegills and bass and the populations of these desired species drastically decline. Therefore, stocking crappie is not recommended for water bodies less than 500 acres in size.

If you are unsure of your abilities to properly place and manage a pond or small lake on your land, help is always close by. Personnel from the NRCS, the Mississippi Department of Wildlife, Fisheries and Parks and your county extension service are available to provide the assistance you need. One of the best publications available is titled "Managing Mississippi Ponds and Small Lakes, A Landowner's Guide" and is available from the Mississippi State University Extension Service.

In the next issue of *Wildlife Mississippi* magazine, we will discuss cabins.

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A farm pond can often be used for both cattle and fish production.

A wide-angle photograph of a farm pond. The water is calm, reflecting the surrounding environment. On the far side of the pond, a group of dark-colored cattle is grazing in a lush green field. The background is filled with tall, thin trees, likely cypress, growing out of the water. The overall scene is a rural landscape where the pond serves as a dual purpose for agriculture and water storage.