



Louisiana State University
Agricultural Center
Louisiana Cooperative Extension Service



**LOUISIANA
SEA GRANT**
College Program



RECREATIONAL POND MANAGEMENT

Satisfaction and enjoyment from a pond begin with proper design and construction. Pond sites should possess three characteristics: an adequate supply of good quality water, topography that can be economically converted into a pond and soil that will hold water. The local office of the U.S. Soil Conservation Service can provide valuable assistance in determining if soil types and proposed locations are suitable for pond construction.

Most ponds in Louisiana are 'watershed' ponds, which depend totally on rainfall runoff across pastures or woodlands to fill and maintain water levels. Watersheds must be well vegetated to keep pond water from becoming turbid with mud. Runoff from cropland is not suitable for ponds because of potentially harmful fertilizer runoff and excessive turbidity. Pastures make good watersheds, but too many animals on a pasture will result in excess nutrients entering the pond and cause serious problems with water quality. Water from pine forest watersheds is usually a bit acidic (low pH), and the addition of limestone may be required in some ponds receiving this water.

Canals, streams and rivers may also be used as sources for pond water if certain precautions are taken. Water must be free of contaminants and should be carefully filtered with a fine mesh screen to minimize the possibility of stocking ponds with undesirable species of trash fish like green sunfish, carp and bullhead catfish. Water wells must be used when surface water sources are unacceptable or not available. Wells are expensive to install and operate and must be of sufficient size and discharge capacity to be useful. Ground water often contains dissolved gases like carbon- and sulfur dioxide and minerals like iron and calcium. Ground water also contains no oxygen. Aeration of well water by splashing through a series of screens will add sufficient oxygen and take care of problem gases and minerals.

Fertilization increases the capacity of a pond to produce fish. Nutrients provided from fertilizer increase production of microscopic plants (phytoplankton) that in turn serve as food for microscopic animals (zooplankton) and aquatic insects. An abundance of these small creatures give ponds a shade of green color and is called a "plankton bloom". Plankton and insects serve as food for bream which are in turn eaten by bass. Fertilization increases the production of natural fish food organisms in ponds and so results in greater

fish production and better fishing.

Proper use of fertilizer can increase fish yields 2 to 5 times. Fish are easier to catch in fertilized ponds because plankton turbidity limits their vision causing them to be less wary. Plankton blooms also reduce light penetration to pond bottoms, preventing growth of troublesome aquatic weeds. Muddy ponds and ponds with excessive amounts of water flushing through cannot be fertilized effectively. Ponds with soft, acid water may need to be limed before fertilization may be effective. Your local Louisiana Cooperative Extension Service office can provide assistance in submitting soil samples for liming recommendations.

Too much fertilizer can also be a problem. Most fish kill incidents in recreational and farm ponds are the result of oxygen depletions. Dissolved oxygen levels depend on temperature, pond depth, productivity and fertilization, and water movement. In almost any aquatic environment, fluctuations in natural nutrient cycles create imbalances which can lead to oxygen depletions and fish kills. Generally, these fluctuations are difficult or impossible to predict, but high nutrient levels from feeding or over-fertilizing almost always compound problems with oxygen management.

When considering what fish to stock, pond owners should consider their objectives in terms of food production, recreation, aesthetics or trophy angling and how much time they will have to devote to pond management. Small ponds (less than 1 acre in area) provide the best fishing and the most food on the table when stocked with 200-400 catfish per acre. Bass-bream combinations are not recommended for ponds less than 1 acre in size due to problems in maintaining a balance between these predator and prey species. Bream populations tend to become overpopulated, resulting in stunting and eventually interfering with or preventing bass spawning. Crappie, sac-a-lait or white perch populations cause even more severe problems, and this species should not be stocked in any recreational pond.

Bream-Bass-Catfish Combinations (Fish per Acre) For 1 Acre or Larger Ponds

	Bream		Bass	Catfish	
	Bluegill	Redear			
	1000		100	100	(fertilized)
or	700	300	100	100	(fertilized)
or	500		50	50	(unfertilized)
or	350	150	50	50	(unfertilized)

Bream (1- to 3-inch) should be stocked in the fall with bass (1- to 3-inch) stocked early the following summer. Catfish can be stocked in the fall or spring in new ponds, but should be at least as large as any bass fingerlings present. Supplemental stocking of catfish into existing bass-bream ponds should use 10-inch fish at a rate of 25 per acre in unfertilized ponds or 50 per acre in fertilized ponds. Harvest of bream and catfish can begin the year after stocking, but bass should not be caught until after their second spring in the pond to provide the initial fingerlings an opportunity to mature and spawn before they are removed. Once bass harvest begins, ten bream should be removed for every bass caught. Harvest should also be spread out over the course of the year to maintain good fishing.