



## Caring for Neighborhood Ponds

### EXTENSION

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Oklahoma Cooperative Extension Fact Sheets  
are also available on our website at:  
[extension.okstate.edu](http://extension.okstate.edu)

### Introduction

Neighborhood ponds are typically overlooked until a serious issue occurs. To avoid major problems, regular monitoring is recommended. Some basic things to check are listed in this fact sheet as well as additional reading and sources of advice.

### Who is Responsible?

If your neighborhood was completed after the late 1980's, chances are excellent that your neighborhood has a stormwater retention pond. Homeowners Associations (HOAs) own and are responsible for the upkeep of the neighborhood stormwater pond.

The typical cost of building a retention pond is in the tens of thousands of dollars. Usually this is the most expensive thing owned by the HOA. Maintenance is required.

- Unsightly overabundance of pond plants or algae may occur and require ongoing herbicide applications.
- Even a well-managed pond will eventually require some reconstruction; perhaps 20 to 30 years after it was built.
- Funds should be set aside for future repairs and regular inspections made as described below.

*Inspections on a periodic basis are advised to catch problems early while fixes are more affordable.*

### Plants and Algae

#### Points to Check:

- What percent of the pond is covered or filled by plants or algae?
- Is this coverage increasing each year?

#### Consider These Three Situations:

**Solution 1-** A neighborhood may choose to completely suppress the growth of aquatic plants. This is expensive because plants continually attempt to establish themselves. Nature "abhors a vacuum" and the complete lack of plants often leads to erosion issues.

**Solution 2-** Moderate amounts of aquatic plants may be allowed. This is beneficial in suppressing algae overabundance and protecting against wave erosion. As a point of reference, plant coverage in the 20% range is generally considered desirable for fish populations.

**Solution 3-** A pond may suffer from excessive coverage by plants. Excessive shallowness in the pond basin is often at fault. Mats of filamentous algae, however, are typically linked to excess nutrient runoff into the pond.

### Dams Overflows and Shorelines

#### Points to Check:

##### Dam

- At least once a year, walk both dam faces as well as the top. Look for bare or eroding areas. Revegetate with bermudagrass or native grasses as needed.
- Look for wave erosion and seek advice for repair options.
- Watch for beaver burrowing activity which is best detected by watching for them swimming at night. Their entrances will be underwater.

##### Overflow Structures

- Remove debris as often as it is present, but only when not overflowing. Avoid overflow intakes during times of pond overflow – Stay safe.
- Look for signs of structural failure in the overflow pipe or tower. Take some photos and consult with the Natural Resource Conservation Service (NRCS) or private engineers.
- Check for good turfgrass coverage of the earthen spillway channel, especially after an overflow has occurred. Immediately repair and revegetate any new erosion.

##### Shoreline

- Walk the pond edge looking for signs of wave erosion, minor collapses, and slumping.

Earthen dams are vulnerable to surface erosion and erosion from wave action if soils are not protected by proper vegetative cover. Burrowing by beaver is another serious, damaging problem. The third common hazard is growth of trees and woody shrubs. These root systems can seriously weaken dams over time.

Ponds should have a primary overflow and an auxiliary overflow. See [NREM-9221](#). Primary overflows may become clogged by floating debris or fail structurally due to corrosion or other age-related problems. It is important to routinely inspect them; delayed repairs are expensive, and a failed overflow can cause a catastrophic dam failure.

Regular inspections of these structures should be made

by residents. Pond structural issues progressively worsen with time. Take photos and seek expert help if in doubt. The larger the pond the more likely that engineering expertise will be needed.

The Oklahoma Water Resource Board (OWRB) offers free inspections of low hazard dams. These allow an opportunity to learn about proper inspection and maintenance techniques. [OWRB Dam Safety](#) webpage.

*Some problems involve our habits and choices as homeowners and are long-term education and motivation challenges. The good news is that partial successes pay real benefits and set the stage for further improvements.*

## Drainage Area - Watershed

Identify the area of your pond's watershed so you can recognize and consider possible ways to reduce potential problems. These problems include:

- Construction activity that creates bare, eroding soil
- Application of excess phosphorous fertilizers to lawns and yard plants
- Disposal of paints, solvents, and pesticides risking leakage from trash-compacting garbage trucks.

Typically, runoff from all or most of the neighborhood drains to the pond. There may also be additional watershed areas outside the neighborhood. Whatever happens in the watershed is important because of the contaminants carried in that runoff water. These may include eroding soil, excess fertilizers and a wide variety of other products. All of these can cause serious problems (Table 1) for the neighborhood. These issues are often impractically expensive or impossible to correct once they have occurred. Reduction of contaminants at the source (prevention) is best - It starts with awareness by residents and changes in behavior.

Sediment from soil erosion.....	Muddiness and basin filling
Excess Fertilizers.....	Algal overabundance
Pesticides	
Trash truck leakage.....	Contaminants in fish
Vehicle leaks	

**Table 1. Common Contaminants and Resultant Pond Issues**

## Plants and Algae

Excessive amounts of algae or coverage by aquatic plants make the appearance of a pond objectionable.

- Filamentous algae typically creates unsightly floating mats. It can be told apart from similar aquatic plants because it lacks stems and leaves.
- Planktonic algae are microscopic and create a greenish appearance to the water. When excessive,

surface scums are created.

- Toxic algal situations are rare. More information about them is available in [NREM-9213](#), Toxic Blue-Green Algal Blooms.

Phosphorous from fertilizer runoff is the common cause of algal overabundance.

- Doing soil tests through your county Extension office is recommended. Test results will provide recommendations for fertilizer types and recommended amounts.
- If commercial lawncare companies are involved, ask if they are using soil testing to ensure that only as much phosphorous as is needed will be applied.

Aquatic plants on the other hand are typically linked to pond basin shallowness. If the basin was built with proper depth and watershed erosion has not filled in the basin, they will not occupy too much of the pond.

- Submerged plants are often a major source of oxygen, as well as providing hiding places for smaller fish and insects that fish feed on.
- Emergent plants on pond edges provide a natural transition between water and land. These plants hold saturated soils together that would otherwise erode.
- Floating aquatic plants are the exception; they are not limited by basin depth.

Herbicides are likely needed as part of your pond management strategy, but they seldom provide satisfactory results on their own.

- If phosphorous levels are high, algae will repopulate within a few weeks after a herbicide application.
- Aquatic plants often require multiple applications each year to prevent complete coverage.

## Additional Information

- [NREM-9210](#), Neighborhood and Urban Pond Management
- [NREM 9212](#), Keep Your Pond in Good Condition
- [OSU Pond Management Website](#)

## Sources

- Pond Plant Management, soil testing, lawn and yard care [OSU County Extension Offices](#).
- Nutrient and runoff issues
  - Stormwater Management Offices - check municipal government listings.
- Structural issues (Dams, Overflows etc.)
  - [Natural Resource Conservation Service Office Locator](#)

*Please save this publication in the materials which will be passed on to incoming HOA officers.*

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