



Survey of Pond Problems

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There are more than 326,000 ponds in Oklahoma and their owners experience numerous management challenges. Three major agencies offer technical assistance for ponds: the Oklahoma Department of Wildlife Conservation (ODWC), OSU Extension and the Natural Resource Conservation Service (NRCS). Looking at the frequency of pond-owner-identified problems provides useful insights, but is not enough because pond owners often overlook underlying issues. The insights of professionals who assist pond owners also are needed to provide a balanced picture. When combined, this information offers agency administrators a useful basis on which to allocate resources and choose approaches for better solving common pond problems. The author has been working with Oklahoma pond owners to educate and provide technical assistance for more than 30 years and brings that perspective to formulating this survey and the interpretation of its results.

Why Survey ODWC?

Of the three major organizations assisting pond owners, ODWC has fisheries professionals who are exclusively concerned with aquatic resource management. In addition, they offer a major service to pond owners: the Farm Pond Stocking Program. Because of the prominence of the stocking program, three state fish hatcheries and the visibility afforded by the Outdoor Oklahoma television program, they are well positioned to receive pond technical assistance requests. Additionally, their professionals can be readily contacted and are amenable to responding to surveys.

The Respondents

Twenty-eight ODWC professionals engaged in fisheries operations responded. The average length of employment was 14 years. The average number of pond technical assistance calls handled per year was 43 (median 102). The majority of respondents are fisheries biologists and technicians holding a bachelor's or master's degree in fisheries.

Farm Pond Stocking Program

The Oklahoma Department of Wildlife Conservation offers free fingerlings to Oklahoma residents who have a fishing license and whose pond has been verified as being free of fish by an ODWC game warden. ODWC respondents to this survey were asked two questions regarding the stocking program: the percentage of their technical assistance requests which are about the program and their assessment of the adequacy of information provided to program participants.

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- Calls regarding the Farm Pond Stocking Program made up an average of 29% of all technical assistance calls (median 51%).
- Respondents were evenly divided when asked if they believe that Farm Pond Stocking Program participants received adequate education to maintain the needed healthy predator-prey balance in their pond.

The Problems

Most respondents (25 out of 28) believed more education for pond owners is needed. When asked for suggestions in this regard, many different ideas were shared. Notable among these:

- An educational program through the OSU Extension for people purchasing a property with a pond.
- Improved online and personal interactions between pond owners and sources of technical expertise.
 - A brief, one-shot educational effort is not retained by most pond owners.
 - Follow-up contacts of some sort are needed before predator-prey balance problems occur.
- Pond owner lack of motivation as an underlying problem.
- Pond owner inability to recognize undesirable fish species or to accept that some species are undesirable in ponds e.g. crappie.
- An ODWC professional or pond management section dedicated to the topic.
- Host or offer direct links to OSU Extension fact sheets on the ODWC website.
- Create better navigation features on the ODWC website with direct links to pages addressing the most common pond problems.
- Explore the creation of short, online multi-media presentations showing and explaining real-world pond issues visually.

The incidence of requests for help for nine pond problems was quantified (Figure 1). Not shown are requests for advice on problems with dams (never or rarely: 23 out of 28, or 82%) and spillways (never or rarely: 24 out of 28, or 86%). These two issues are normally handled by engineers and pond technicians with the NRCS, so the low frequency is not a surprise. Such problems are both widespread and commonly go unrecognized by pond owners until they are expensive to

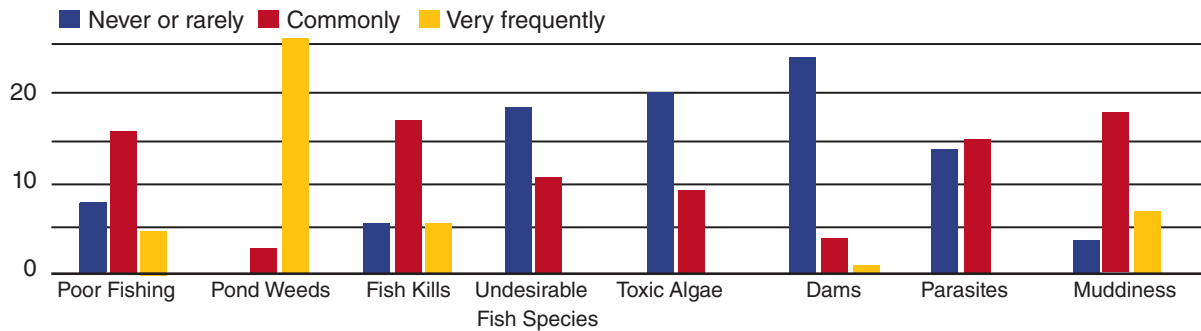


Figure 1. Frequency with which different technical assistance requests are received.

repair or unrepairable. Poor design and lack of maintenance are both at play.

The leading question being handled by ODWC professionals is pond weeds. The relatively rapid speed with which plants can cover or fill a large portion of a pond make their overabundance obvious even to casual observers. In most cases, a developing plant overabundance situation could have been detected a year or more earlier, but to do so requires more knowledge and acuity than most pond owners possess.

It is significant that undesirable fish species were one of the least frequent requests (never or rare: 61%). Typically, pond owners do not equate the presence of undesirable fish species with poor fishing. Some undesirable pond species are even stocked deliberately because they are held in high regard by pond owners. Others find their way into ponds through negligence or accident. In both cases, there is a failure by pond owners to understand that food resources are limited. Undesirable species such as crappie, green sunfish and bullheads are not subject to effective population control by bass. As they consume the limited supply of food, desirable species starve.

Less surprising is the somewhat low frequency of toxic algae requests. Hazardous aquatic blooms (HABs) are infrequent occurrences and perhaps of greatest concern to owners of livestock watering ponds. It may be that either ODWC is in contact with relatively few livestock-watering pond owners or that cattle producers are more apt to contact OSU Extension when they experience or suspect this problem. The number of such calls OSU Extension is experiencing has increased during the past several years. This is primarily due to increasing media coverage and, to a lesser extent, an increase in actual occurrences due to drought conditions.

Concern over fish parasites appears to be an intermediate concern of pond owners. With few exceptions, yellow grub is the fish parasite problem noticed by pond owners. It may be that low levels of grub infestation are so commonplace, it is viewed as somewhat normal.

Management Practices Worthy of Promulgation

Respondents were asked to share a single, simple management practice pond owners could be encouraged

to implement that would have a big payoff, possibly causing the practice to be imitated by other pond owners. Some respondents were able to give a single suggestion. Others had multiple suggestions.

The most common theme shared by respondents dealt with solutions to implementing and maintaining predator-prey balance (seven out of 23 responses). To manage for sustained good fishing, it is essential pond owners regulate the harvest of bass and bluegill. To this end, respondents suggested the following goals:

- Understanding the need to harvest bass.
- Catch recordkeeping.
- Understanding the time, patience and effort required.
- Realistic harvest expectations.

Other notable suggestions:

- Empower pond owners to understand possible goals for the pond fishery and the pond and to choose their own goals. Then work with them to develop a management plan.
- Consistent vegetation management...presumably this involves regular monitoring and early management actions.
- Water level manipulation...most likely to reduce excessive fish reproduction and/or increase the ability of bass to thin overabundant bluegill.
- Awareness and management of negative factors in the watershed.
- Create fish habitat...presumably this involves both submerged plant beds, fish attractors and irregularities in the pond bottom.

Conclusion

It is hoped that the results of this survey will stimulate discussion of possible new directions and approaches in assisting Oklahoma pond owners. In the future, the results of this survey also may be useful as baseline data.

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