

THREADFIN SHAD MANAGEMENT AND CULTURE

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Threadfin shad is one of the most important forage species in many Texas lakes and reservoirs. The threadfin's native range includes most of the southeastern United States, but it has been successfully introduced as far away as California. In Texas, this species has been stocked in many smaller lakes as additional forage for sportfish such as largemouth bass, catfish and crappie or to aid in correcting stunted largemouth bass populations.

Advantages and Disadvantages

The small size of threadfin shad at maturity (2 to 5 inches) makes this species a readily available food source for predators. In addition, the high fecundity and early maturation rates (young hatched in the spring often spawn the following fall) help sustain the shad population from year to year.

However, threadfin shad is not successful in all lakes. One reason is its sensitivity to extremely cold water. Small, shallow lakes open to prevailing winds cool down during cold weather more rapidly than deeper, larger lakes and may become too cold for shad survival. Such lakes are not good places for stocking shad.

Threadfins are also less likely to become established in small lakes (less than 10 acres) with existing fish populations because of heavy feeding pressure exerted by predatory species. Being a slow swimmer, the threadfin is vulnerable to predation. Since most predators prey mainly by sight, clear lakes are less likely to sustain a shad population. Clear lakes can be made more suitable for shad by fertilization which gives the water a greenish color and produces more food for all the fish in the lake.

Although threadfin shad are introduced to increase the food supply for sportfish species, sufficient numbers must survive to reproduce.

Lakes Suitable for Threadfin Shad

New or recently renovated lakes (containing no fish populations) are best suited to threadfin shad introductions. They should be at least 10 acres in size (the larger, the better) with some deep water to decrease losses from winter kill. In lakes smaller than 10 acres, threadfin shad may provide an excellent food source and promote faster predator growth during the first summer following stocking. In addition, annual spring introductions may be feasible to maintain shad if a supplier is readily available. If the lake is fairly clear, begin fertilization. Place broken bales of hay near the shoreline (late spring to early fall) to provide spawning habitat.

Threadfin shad often are stocked in lakes with established fish populations to control stunted bass or to increase sportfish. Introducing shad is more difficult in populated lakes because of predation and requires higher stocking rates.

Stocking Rates

Depending on the lake's characteristics, the following stocking guidelines for threadfin shad are recommended:

Lake Characteristics	Stocking Rate
New or renovated lakes	100/surface acre
Lakes smaller than 100 acres*	200/surface acre
Lakes larger than 100 acres*	100/surface acre

*fish populations already present

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When to Stock

Ideally, threadfin shad should be stocked just prior to the spring spawning season (April through June) in lakes with established fish populations (specifically predatory species). This helps reduce the effects predation may have on the shad before spawning occurs. If the shad are stocked earlier, the chances of survival are better, but predation may be increased. Every situation is different, but consider these factors when scheduling the delivery of shad.

In new or renovated lakes, stock shad during the fall, winter or spring months and allow them to spawn once prior to introducing predator species.

Threadfin Shad Culture in Nursery Ponds

A nursery pond is a useful long-range management tool for sportfishing lakes. Forage or sportfish species can be spawned and/or grown as needed for supplemental stocking.

Nursery ponds should be located adjacent to the fishing lake and connected by a drainpipe or gate/ditch system. The pond should be from 0.1 to 1.0 acre in size, slope from 2 to 6 feet in depth and have a smooth bottom. The gate or drain should be located at the deep end of the pond and constructed so that all pond water can drain into the lake by gravity flow. This type of pond is especially suited for threadfin shad production.

Well or filtered lake water should be used to fill the nursery pond and to prevent the introduction of undesirable fish species. Threadfin shad are plankton and detritus feeders, so fertilization in mid-March will help provide an adequate food supply. Inorganic fertilizers, such as 20-20-

5 at the rate of 80 pounds/surface acre, can be used. Organic fertilization using fresh cow manure at the rate of 500 pounds/surface acre has also been successful.

Adult threadfin shad are stocked following fertilization at the rate of 100/surface acre. If threadfin shad are available in the lake to be stocked, broodfish can be collected by shoreline seining at night. Otherwise, broodfish can be purchased from a commercial fish producer.

Spawning usually begins in April or May in Texas and continues through the summer. Six-inch layers of hay from bales should be stacked in shallow water to provide spawning habitat.

Supplemental feeding of threadfin shad using a floating catfish ration has increased production in some ponds. One successful feeding rate is 8 pounds of ration/surface acre on a 5-day-a-week basis.

Overfeeding, overfertilizing or placing excessive amounts of spawning material in a nursery pond can result in an oxygen depletion and fish die-off. An emergency water source should be available to help prevent possible oxygen problems and to maintain water levels during the summer.

In a well designed nursery pond, stocking is accomplished by simply opening the drain or gate to flush the shad into the lake. Some threadfin shad have been successfully stocked by transferring the egg-laden spawning material directly to the stocking site. However, losses by predation in populated lakes may be high. Yields of 50,000 to 100,000 threadfin shad/surface acre are possible if good culture techniques are used.

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