

Raising Smallmouths

By Shane Bland, Manager, Carbon Hill State Fish Hatchery

Hatchery-raised
smallmouth
bass are being
reintroduced
into southern
tributaries of the
Tennessee River



Superb smallmouth bass fishing is found at Pickwick Reservoir in northwest Alabama.





The Carbon Hill Fish Hatchery has produced over 80,000 smallmouth bass fingerlings to meet management stocking goals.

Smallmouth bass populations are world class in Alabama's Tennessee River reservoirs.

Smallies use the flowing, main channel areas of Pickwick, Wheeler and Wilson to ambush prey. While smallmouth bass populations in the channel are outstanding, these smallmouth bass populations do not interact with stream populations. Some of the southern tributaries to these reservoirs have lost their smallmouth bass populations to poor water quality practices of the past. Now that water quality has improved, smallmouth bass can be reintroduced.

In 2005, the Alabama Department of Conservation and Natural Resources (ADCNR) Wildlife and Freshwater Fisheries Division began an effort to reestablish smallmouth bass populations into several southern tributaries of the Tennessee River. Carbon Hill State Fish Hatchery in northwest Alabama is the primary facility charged with raising smallmouth bass. With assistance from Fisheries Supervisors Keith Floyd and Dan Catchings and their staffs, the smallmouth bass reintroduction into these streams should make them successful smallmouth bass fisheries once again.

Smallmouth bass culture is not new to fish culturists. This species of black bass has been produced in large scale all over the country. Carbon Hill State Fish Hatchery produces and grows several different species of fish throughout the year and have been producing smallmouth bass for the last five years. This effort has produced over 80,000 smallmouth bass fingerlings to meet management stocking goals.

Collecting Brood Stock

Mature adult brood stock is collected from Lake Pickwick on the Tennessee River. With help from renowned smallmouth bass guide Steve Hacker, adult smallmouth bass are collected with surprising efficiency by angling in late February and early March. The number of adult fish needed from year to year depends on the number of fingerlings requested by ADCNR fisheries

biologists. Following spawning, all adult fish are returned to Pickwick; new brood stock fish are collected every year.



Spawning Process

Once adult fish are in the hatchery, fish are separated by sex to prevent an early spawn. While in the holding ponds, adults are able to feed on forage fish so that they can remain healthy. Once the weather and water is optimum for spawning, males and females are stocked together in spawning ponds.

Smallmouth bass spawning ponds must be prepared to replicate their natural spawning habitat. Spawning beds are made with egg-shaped or smaller river rock and shell. The rocks and shells are piled up in a 24-inch square, and each nest is 15 feet apart. Once the beds are made, two concrete blocks are set on either side of the bed and an 8- to 10-foot long log or board is placed across the top of the blocks, as

smallmouth bass prefer to use some sort of cover. A post is staked beside each bed to allow hatchery personnel to find the nest easily once the pond is filled.

The male bass will work the spawning area by pushing and fanning the rocks into a 3-foot large bowl-shaped nest. Once the nest is ready, the male will coerce a female onto the nest to begin the spawning progression. After a long dance, the female deposits her eggs into the nest as the male spreads his milt over the eggs. The eggs will come to rest and adhere to the rocks in the nest. Over the next several days, the male will aggressively guard the eggs. Hatchery personnel monitor each nest and record notes regarding the time of spawn, water temperature, and egg progression. A five-foot long magnifying scope is utilized to monitor eggs and fry under the water.

Rearing and Stocking

After seven to 10 days of warm weather, the eggs will begin to hatch. Monitoring by hatchery personnel then increases. Once the eggs hatch, smallmouth bass fry become visible and look jet black in color. The fry will hop in the nest area and alert hatchery personnel that it is time to isolate the nest. A “retaining hoop net” is used to isolate the nest. This is a cylindrical type net about 5 feet tall and 3 feet wide. The size of the retaining net is large enough to completely surround the nest to prevent smallmouth bass fry from escaping.

As the fry grow over the next couple of days, they remain jet black in color and very easy to see. When fry come to the top of the retaining net, it is time to net them out carefully. The fry are very aware of their surroundings and will flee back down to the safety of the nest, so it may take a day or two to remove all the fry from one particular nest. Once the fry are removed from the nest area, they are stocked into a rearing pond.

The rearing ponds are filled at the same time as the spawning ponds. The difference between the two ponds is that the spawning pond must be kept as clear as possible in order to see the nest, eggs and fry, but the rearing pond must be fertilized to promote food production so the smallmouth bass fry will have plenty to eat when they are stocked. Rearing ponds are fertilized with both organic and inorganic fertilizer. A preferred rearing pond will have a green color and visibility less than 18 inches.




Once smallmouth bass have grown to 2 inches, they are ready to be harvested. After harvesting, the fingerlings are taken into the fish holding house where they are counted, weighed, and prepared for transport to the stocking location.

The fry will begin feeding on microscopic organisms as soon as they are stocked.

During the growth period, hatchery personnel will seine the rearing pond weekly to keep a constant check on growth. After 21 to 28 days smallmouth bass fry have grown to fingerling size, about 1 inch long or larger. By this time, they have progressed to feeding on small insects and other small aquatic animals. Smallmouth bass will also prey upon other smallmouth bass at this stage, as some grow faster than others do. Once smallmouth bass have grown to 2 inches, they are ready to be harvested.

After harvesting, smallmouth bass fingerlings are taken into the fish holding house where they are counted, weighed, and prepared for transport to the desired stocking location. Smallmouth bass are distributed and stocked into various locations along tributaries and streams such as Town Creek, Big Nance Creek, Scarham Creek, and Shoal Creek. The fingerlings are stocked into slack water, which gives them time to adjust to their new surroundings. State district biologists will sample these streams over the next few years to check the survival of the stocked fish.

Ready to Fish

Once these fish reach catchable size, they can be caught with spinning tackle rod and reel or fly fishing gear. Whether you're a wader or a hiker, or like to kayak and canoe, be sure to bring your fishing gear. Match the hatch in regards to what the fish are feeding on during a particular season. Bass lures such as jigs and grubs should also be a part of your arsenal when fishing for smallmouth in these stream locations. If you are able to try it and do hook into a smallmouth bass, be patient, hold on, and enjoy the fight, because it will be an experience you're likely to never forget. 

For More Information

Carbon Hill State Fish Hatchery is located near the town of Carbon Hill in Walker County. Shane Bland is the Hatchery Manager, and he can be reached at 205-924-4321.