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More than Luck

So you like to fish, do you?

You and three million other Texans will spend about 32 million days dangling hooks in the state's reservoirs in 1979.

Collectively you will spend over $300 million this year on your way to fish your favorite reservoirs.

If you are one of the 90,000 who belong to one of the 270 bass clubs in the state, you will be competing for less than five percent of a stable reservoir's fish population: namely, bass.

The next time you pull in–or dream of pulling in–one of those trophy fish you might think about the following:

- First of all, you need "permission" from the state to catch any one of the 211 varieties of fresh water fish in Texas reservoirs because they all belong to the state.
- Even though the fresh water you fish on and the fish you catch are "natural resources," reservoirs and game fish exist in Texas largely due to careful planning and management by government agencies.
- Since there are no large natural lakes in Texas, your choice of over 1.5 million surface acres on which to fish is due to state and federal authority to build flood control structures or to impound water for water supply.
- Whether you like to admit it or not, your prizewinning catches are more the result of policies and activities of a state agency than your skill as a fisherman. Bass and other popular fish are in the manmade reservoirs because state policy recognizes the recreation potential of state waters and therefore stocks and encourages appropriate game fish.

The **Texas Parks and Wildlife Department** is the state agency which administers state policy concerning Texas reservoir fish and fishermen. As a fisherman, you come in contact with the Department through its game wardens enforcing regulations for fishing licensing and water safety. You probably also learn from the Department's public education programs on radio, television, and public meetings as well as in pamphlets and newspapers.

INLAND FISHERIES PROGRAM

You may not be as familiar with Department fish culture, research, and management activities. These are the activities, however, which definitely influence your success as a fisherman.

The **Inland Fisheries Branch** of the Department has the responsibility of managing the state's fresh water fishery resources. The major objective of the Inland Fisheries Branch is to propagate desirable fish in new and existing reservoirs by operating fish hatcheries, stocking reservoirs, and encouraging proper management practices. The program includes research on new species and new management techniques.

The Inland Fisheries Branch operates 11 fish hatcheries–totaling 458 surface acres–which produce both native and nonnative fish in hatcheries located in San Angelo, San Marcos, Dundee, Lewisville, Fort Worth, Tyler, Jasper, and Huntsville. In the past five

years, these hatcheries produced 35 different species of fish to meet management and research needs of the Texas Parks and Wildlife Department. State hatcheries produced 38 million fish which were introduced into new or existing reservoirs in 1978. The federal fish hatchery system provided another 600 thousand fish to introduce or augment desirable fish populations in 73 different reservoirs. Types and quantities of fish fingerlings added to Texas waters in 1978 are as follows:

Brown trout: 6,500
Blue catfish: 173,210
Channel catfish: 291,358
Florida bass: 4,767,769
Hybrid striped bass: 534,615
Largemouth bass: 6,120
Rainbow trout: 142,851
Striped bass: 186,340
Smallmouth bass: 734,700

In addition to these pond-raised fingerlings, 30 million just-hatched walleye fries were added to North Texas lakes.

The Inland Fisheries Branch surveys 40 to 60 reservoirs each year to determine fish populations and recommend management procedures to maintain or improve fisheries.

Branch Chief Ernest Simmons likes to point out that Texas fishermen spend $590–on gas, lodging, food, bait, gear, and boats–for every $2 of state and federal funds his agency spends to manage the fish populations in state reservoirs. His program is partially supported by the Special Game and Fish Fund which includes revenue from licenses, fines, rough fish sales, sand and gravel sale, and federal grant funds. The fund is used for law enforcement, public information, and propagation and management of fish.

Approximately half of the Inland Fisheries Branch budget of $2.3 million is reimbursed through federal aid grants.

STATE RESERVOIRS

Bass and other desirable fish do very well in a new reservoir because of available space, lack of competition, and abundant forage species. This means that Texans have enjoyed two decades of exceptionally good fishing because of the large number of reservoirs built in the state since 1950.

Construction of new reservoirs, however, has declined dramatically in the 1970's. Only 200,000 acres of new reservoirs have been added since 1970. This figure is well below the 750,000 surface acres of reservoirs constructed in the 1960's and the 325,000 new surface acres in the 1950's. Some of the reasons for the slower construction rate which will likely continue into the future include:

1. Construction costs for new reservoirs have skyrocketed.
2. Most appropriate reservoir sites in the state are already developed.
3. Environmental impact concerns are slowing all projects and stopping some completely.
4. Fewer federal dollars are available for water development.

RESERVOIR MANAGEMENT

The large number of surface acres made available to Texas anglers since 1950 must be managed properly to continue providing a good supply of game fish. Without proper management, rough and forage fish will gradually dominate so that fishing quality and harvest will begin ;to decline by the time a reservoir is ten years old.

Bob Bounds, who heads the management program in the Inland Fisheries Branch, points out that management techniques which benefit a reservoir's bass population generally encourage the establishment of other desirable species. He lists five procedures his staff follows to slow or reverse the decline in bass quality, quantity, and size. They are to (1) regulate harvest, (2) manipulate fish populations, (3) improve habitat, (4) provide public access; and (5) inform fishermen.

1. Regulate harvest. The Texas Parks and Wildlife Department regulates the harvest of game fish by the number of fish an individual can catch each day and by

the size of fish a fisherman can keep. Examples of these regulations are the 10 bass per day bag limit in most Texas counties and the requirement that bass less than 10 inches long be returned to the reservoir.

Another regulation on catching fish from Texas rivers and reservoirs has to do with the method of harvesting. Game fish can only be taken with a hook. Department regulations prohibit netting and traps except for small bait fish.

2. *Manipulate fish populations.* The Texas Parks and Wildlife Department has the sole legal authority to alter fish populations in public waters by removal of existing fish stocks and addition of new species. This alteration –also called population manipulation–is the management tool most readily available to fisheries managers.

The Department has removed fish in the past by chemical methods and by netting, but does not use either method at the present time. Chemicals are no longer feasible at today's prices, and gill netting has proven ineffective.

According to Department personnel, the most practical form of altering fish populations is the introduction of new predator species. During the last ten years, the Inland Fisheries Program has introduced a variety of predators into Texas reservoirs. On a statewide basis, striped bass, hybrid striped bass, and Florida bass are the newcomers most familiar to Texas fishermen. On a local basis, walleye and smallmouth bass are making their presence known–and fishermen happy.

3. Improve habitat. There are two obvious reasons for improving bass habitat: to increase the bass population and to concentrate bass for better fishing.

Habitat improvement includes preventing water pollution, removing harmful vegetation, and allowing standing timber in certain areas of new reservoirs. Inland Fisheries personnel investigate fish kills caused by water pollution on fresh water and review all environmental impact assessments which might affect fresh water fish.

One of the best bass management techniques available, according to Bounds, is water level manipulation. Significantly lowered water levels in the fall (after the spawning and rearing period for bass) concentrates rough and forage fishes, so bass can find them and decrease their number while increasing bass size. Higher water levels just prior to the bass spawning season usually increase bass populations. Such water level manipulations, however, are generally in direct conflict with other reservoir uses since most impoundments are constructed primarily for flood control or water supply and their levels reflect seasonal rainfall and water use.

Adding places for fish to hide is another type of habitat improvement. "Artificial reefs" or brush shelters installed by Inland Fisheries personnel, bass clubs, and individual fishermen concentrate fish for harvest and also add desirable fish habitat in existing reservoirs. The Inland Fisheries Branch has a fulltime crew assigned to instruct and assist groups constructing various types of "artificial reefs" in suitable inland waters. "Big fish

and fishermen," according to Bounds, "get together more often at these structures than in many other parts of the lake."

4. Provide Public Access. The Texas Parks and Wildlife Department administers federal funds from the Bureau of Outdoor Recreation to build boat ramps and fishing piers on new and existing reservoirs. The Department carefully considers locations of these to distribute recreation over an entire reservoir.

5. Inform Fishermen. Inland Fisheries personnel conduct seminars on fishing techniques, furnish news releases to state newspapers, and write and distribute literature on good management practices.

By now you are probably convinced that what is good for the game fish is generally good for the fisherman. Management practices which protect water quality, control harmful weeds, concentrate game fish, and provide public access are almost certain to please you as a fisherman.

More importantly, however, procedures to enlarge game fish populations in Texas reservoirs give you a better chance to catch a BIG ONE–maybe even a trophy-winner!