

# TPWD

## Handling Protocols for Spotted Seatrout Procurement

### Introduction

The spotted seatrout (*Cynoscion nebulosus*), commonly called speckled trout, is a popular sportfish sought by many anglers on private and guided trips. The efficiency of anglers and the fishing pressure on the species continues to increase. The Texas Parks and Wildlife Department (TPWD) manages the fish populations in Texas Bays. One tool used in managing is regulations (methods of capture, size & bag limits). The daily bag and length limits for spotted seatrout is 10 fish with a minimum of 15" and one fish 25" or better per day (5 fish for the lower Laguna Madre). The regulations placed on spotted seatrout allow biological benefits to sustain the fishery. See the Texas Parks & Wildlife Outdoor Annual or call 1-800-792-1112 for information on fishing rules.

A key element in setting regulation is the survival of fish which are caught and released. Physiologically, fish experience many stressors during a catch and release. By minimizing the amount of stress, the fish's chance of survival after release improves. During a catch and release, fish can experience a combination of many stress factors. Below is a list of some types of stress saltwater fish can experience during catch and release.

- behavior stress – crowding
- handling stress – capture, struggle, confinement
- exercise stress – prolonged swimming, being chased
- temperature stress – change in temperature
- salinity stress – change in salinity
- hypoxial stress – removal from the water/low oxygen
- toxicity stress – exposure to ammonia

The primary response of stress is the releasing of hormones into the blood causing a disturbance to the physical state of the fish. The secondary stress responses are disturbances to osmoregulation, blood chemistry, metabolism, and immune system. These effects can reduce the fish's resistance to fungal and bacterial infections that lead to mortality in some cases.

In order to reduce these effects, proper care and procedures should be taken when catching and releasing fish. In particular, spotted seatrout are known as a "weak fish." The anatomy of the fish especially its small scales and voracious feeding habits are factors effecting the survival of the fish. In order to minimize these stresses and release a healthy fish with a greater chance of survival follow the suggestions listed below.

## Handling, Maintaining and Transporting live Spotted Seatrout

- Catch the fish fast and efficiently. As the fish resists capture, its oxygen demand increases. The fish will need oxygen to recuperate after the capture. Therefore, keep water in transport basin well aerated.
  - If a landing net is used, rubber netting works best for minimizing mucous (trout “slime coat”) loss. Cloth and nylon type dip nets disrupt the protective mucous coating, disturb scales, and increase the possibility of injury or secondary infection that usually results in fish mortality.
  - Help keep the protective mucous coat and scales of the fish from rubbing off by using wet hands when handling fish.
  - Keep handling of the fish to a minimum. If at all possible, do not grab fish with hands. Instead, go directly to the transport basin and dislodge fishing hooks with hook-outs or needle nose pliers while the fish is just above or in the water of the transport basin.
  - Avoid excess handling and/or dropping of the fish on the ground and floor of boat. The use of barbless hooks or the flattening of the barb on hooks allows for easier removal with less stress and damage to the fish.
  - To remove a hook deep in the gullet, it is best to cut the line close to the fish’s mouth. The chances of survival are better if you cut the line and lose the hook than having the hook removal process damage a sensitive internal area of the fish. When using bait (live or dead) wide gap hooks in 2/0-3/0 sizes seem to produce less gullet hook-ups. Avoid the use of treble hooks.
  - Keep the fish in the water as much as possible to reduce stress. As a rule, keep the fish out of water no longer than you can hold your breath (Campbell and Magnelia). Fish can suffer from brain damage from prolonged loss of oxygen.
  - If necessary, hold the fish by the lip and for larger fish support with a wet hand under the belly. Also, you can use a tool (i.e. “Boga-Grip™”) for handling fish for hook removal.
  - Seawater temperatures above 84° Fahrenheit tend to be stressful for trout. Therefore, adding ice to the transport basin can or will minimize stress.
- 
- Avoid overcrowding fish in the transport basin. Rule of thumb, 5 trout in the 15”-20” range for 120 quart cooler equipped with oxygen system. Plan on 25% water exchange every 20-30 minutes. About 7.5 gallons (1.5 buckets if using a five gallon bucket). Use common sense, the more fish

- (>5) and the longer they sit in the transport basin, the more frequent water exchanges need to occur.
- Live-wells or other holding tanks should be fitted a water recirculation system. Oxygen cylinders are expensive, but provide the best aeration while maintaining water temperature.
  - Run the aeration system continuously! Transport basins should be filled with ambient seawater from near the vicinity of the fishes capture. This will aid in acclimating the fish to transport conditions.

**Note: TPWD hatchery staff will be on-site with an aerated fish hauling trailer to collect the captured fish, answer questions, etc. Staff will have their TPWD collecting permits on-hand during procurement dates. Volunteers collecting fish must follow all fishing regulations. Overall, thank you for supporting the conservation of our marine resources by providing fish to the TPWD hatchery.**