

## News Release

**Media Contact:** TPWD News, [news@tpwd.texas.gov](mailto:news@tpwd.texas.gov), 512-389-8030

**March 9, 2021**

### **At least 3.8 Million Fish Killed by Winter Weather on Texas Coast**

AUSTIN- Winter weather the week of Feb. 14, 2021 led to [fish kill events](#) on the entire Texas coast. If fish do not make it to a refuge in deeper, more temperature stable water during cold weather, they may die when water temperatures reach a certain threshold. After the first fish kill was reported in the Lower Laguna Madre, Texas Parks and Wildlife (TPWD) biologists began the process of assessing kills across multiple bay systems on the coast.

#### *Impacts to Fish from Feb. 2021 Event*

An estimated minimum of 3.8 million fish were killed on the Texas coast during the Feb. 2021 freeze event. This fish kill consisted of at least 61 species. Non-recreational species contributed to 91% of the total mortality in numbers of fish. This includes species like Silver Perch, Hardhead Catfish, Pinfish, Bay Anchovy and Striped Mullet. While not sought after by most anglers, non-game fish are ecologically important, providing food for larger game fish as well as adding to the overall diversity of Texas Bays. Recreationally important game species accounted for the other 9% of the total. Of that 9%, the dominant species included Spotted Seatrout (48%), Black Drum (31%), Sheepshead (8%), Sand Seatrout (7%), Red Drum (3%), Gray Snapper (2%), and Red Snapper (<1%).

Both the Upper and Lower Laguna Madre bay systems were hit particularly hard by this event. The Lower Laguna Madre had the highest mortality of Spotted Seatrout with an estimated 104,000 fish killed. That comprised 65% of the total estimated Spotted Seatrout killed and when combined with the Upper Laguna Madre, it comprised 89% of the total estimated Spotted Seatrout mortality along the Texas coast. Similarly, the Upper Laguna Madre had experienced Black Drum mortality at an estimated 82,600 fish and comprised 78% of the coastwide Black Drum killed.

#### *Historical Comparison*

This is not the first freeze to occur in Texas coastal waters. Multiple freeze events during the 1980s killed almost 32 million fish, with the most severe impacts being on the lower coast. While the February 2021 event impacted a large area of the Texas coast, the overall number of fish killed in this event appears to be lower than any of the three freeze events in the 1980s.

“Using history as a guide, we believe our fishery has the potential to bounce back fairly quickly as it did after the 1980s freeze event. Based on our long-term monitoring, we saw the recovery in terms of numbers of Spotted Seatrout bounce back in approximately two to three years. This does not mean the fish size and age structure were the same as pre-freeze but the overall numbers did return in that timeframe.” said Robin Riechers, Coastal Fisheries Division Director.

However, the Spotted Seatrout mortality in the combined Upper and Lower Laguna Madres is comparable to the events from the 1980's. Below is a breakdown of each event in the 1980s.

- **December 1983**: 14.4 million fishes killed with a geographic extent of the entire coast
- **February 1989**: 11.3 million fishes killed with a geographic extent of East Matagorda Bay south to the Lower Laguna Madre
- **December 1989**: 6.2 million fishes killed with a geographic extent of the entire coast

The Feb. 2021 freeze event appears to have been larger than any other fish kill event seen since the 1980s, including those in the 1990s and 2000's. The 1997 freeze event saw 328,000 fishes killed but had a significantly higher percentage of game species killed (56%) than in 2021.

“While some areas of the coast and some species of fish were clearly impacted more than others, overall this is the worst freeze related coastal fish kill we have experienced since the 1980's. There are some important lessons from those historical events that we need to draw upon as we work to accelerate the recovery of our fish stocks, particularly speckled trout along the mid and lower coast,” said Carter Smith, Executive Director of TPWD. “The most obvious, and immediate one for speckled trout is conservation, a practice where every Texas coastal angler can make a contribution right now. Practicing catch and release and/or keeping fewer fish to take home in areas like the Laguna Madre will only give us that many more fish to rebuild from as we augment populations through our hatchery efforts, and we carefully evaluate what regulation changes may be needed to foster a quicker recovery for our bays.”

### *Fish Kill Assessment Methodology*

Assessments for large geographic fish kills occur using a phased approach. The first phase is determining the geographic extent and distribution of fish. This is achieved through observations from staff, state, and local partners as well as the public. Rapid assessments to determine the rough estimates of the number of fish killed as well as species impacted are completed.

Next, TPWD coastal teams are assigned sampling areas, and staff count, measure and record each individual fish present in an area. By following American Fisheries Society guidelines for sampling in this manner, a summary can then be completed for each bay system along with a coast wide assessment. While assessment methods have evolved slightly over time due to better technology and resources, general methodology for how TPWD assesses fish kills is comparable over the decades.

As the TPWD Coastal Fisheries Division continues to assess this event and determine the impact to the overall fish populations, they will compare this event to past freeze events and brief the Texas Parks and Wildlife Commission (TPWC) on those impacts relative to the historical record of coastal freezes. In the near term, TPWD coastal fisheries biologists will continue to analyze this event's impacts on populations by species and bay systems and work with the TPWC to determine what actions, if any, may be needed to accelerate recovery of fish populations and to help address future events.

The Coastal Fisheries Division's long-term routine monitoring programs (e.g. gill nets, bay trawls, and bag seines) allow for analysis of this freeze event by comparing it to past events, even before additional routine sampling is conducted. Additionally, as a part of year-round survey efforts, biologists are already collecting information from recreational anglers to provide additional information regarding the impacts of this cold-weather event on angler catch rates of game fish. TPWD will also be evaluating an increase in Spotted Seatrout production at its coastal fish hatcheries to aid the recovery efforts

What can you do to help? As fish stocks recover from this freeze event, anglers are encouraged to practice conservation by choosing to catch and release fish or to harvest only those fish they feel they need to take home to eat. Conserving fish now can only aid in a quicker recovery.