

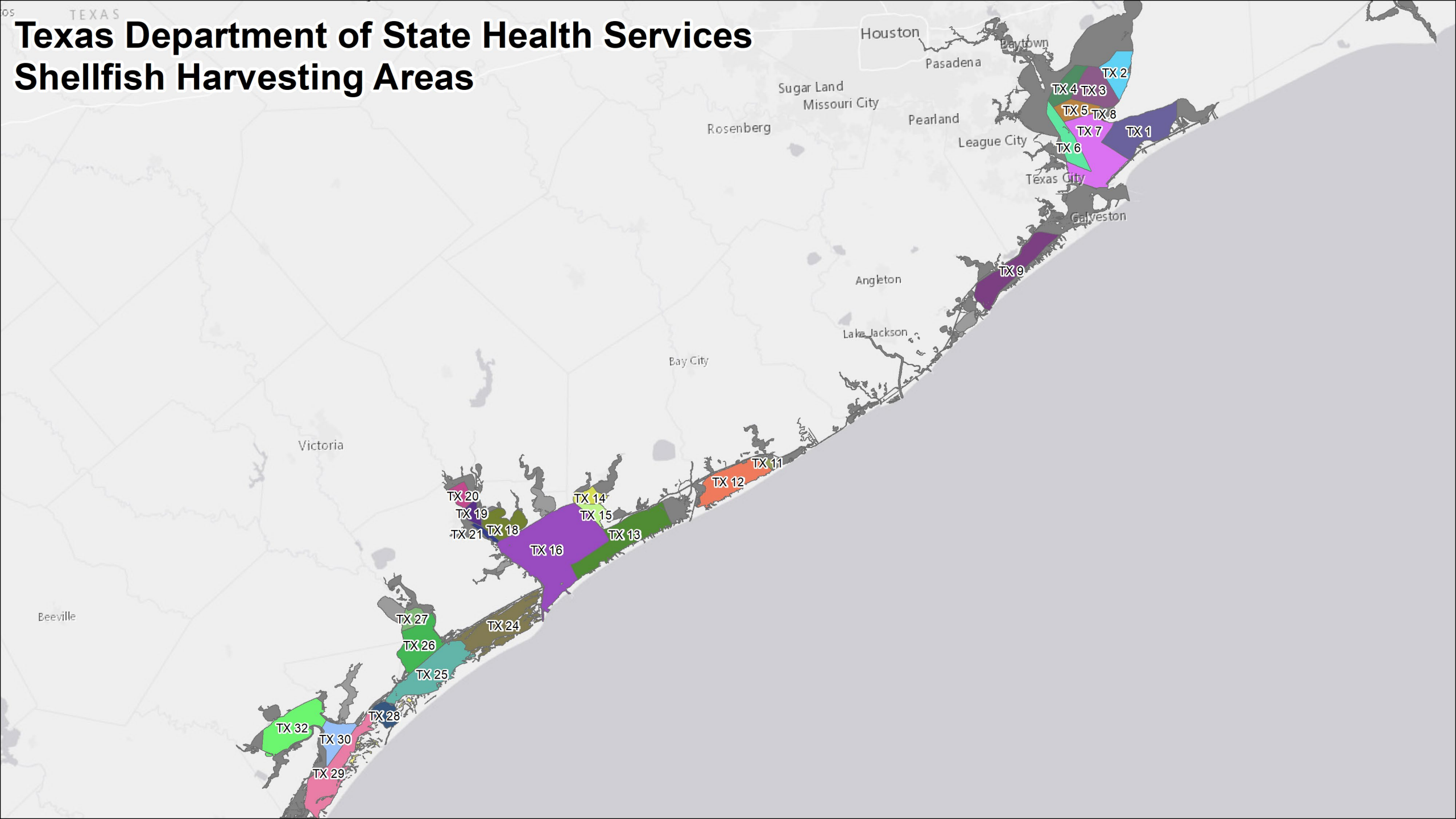


TEXAS OYSTER HARVEST CLOSURE PROTOCOLS

Background

- Senate Bill 932 (82nd Legislature, 2011) delegated authority to the TPWD Executive Director to close areas to commercial harvest
- Provide public notice at least 3 days prior to closure
- 1st Closure under this authority occurred April 2014
- Closures informed by “Targeted Oyster Sampling”
 - Additional oyster dredge sampling
 - Utilize existing TDSHS Shellfish Harvesting Areas

Texas Department of State Health Services Shellfish Harvesting Areas



Initiating Targeted Oyster Sampling (TOS)

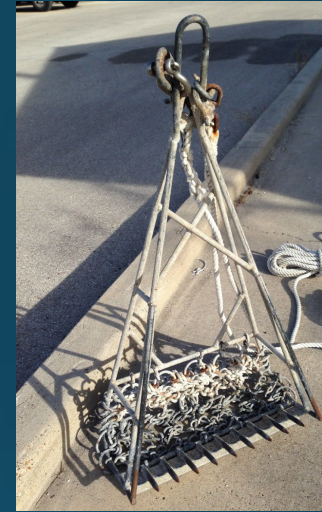
- Pre-season TOS (annually)
 - Historically fished Harvest Areas
 - Harvest Areas closed the previous season
- In-season TOS triggered by...
 - Notifications from oyster industry
 - Notifications from Law Enforcement
 - Trends from routine oyster dredge monitoring program
 - Observations of increased harvest pressure
- Periodic TOS to re-open closed areas

TOS Site Selection

- Up to 10 dredge samples per reef complex, per Harvest Area
- # Samples proportional to oyster extent and Harvest Area size
- Site selection informed by...
 - Input from local management teams
 - Existing oyster maps
 - Routine monitoring data
 - Reef size and consolidation
 - Harvest activity

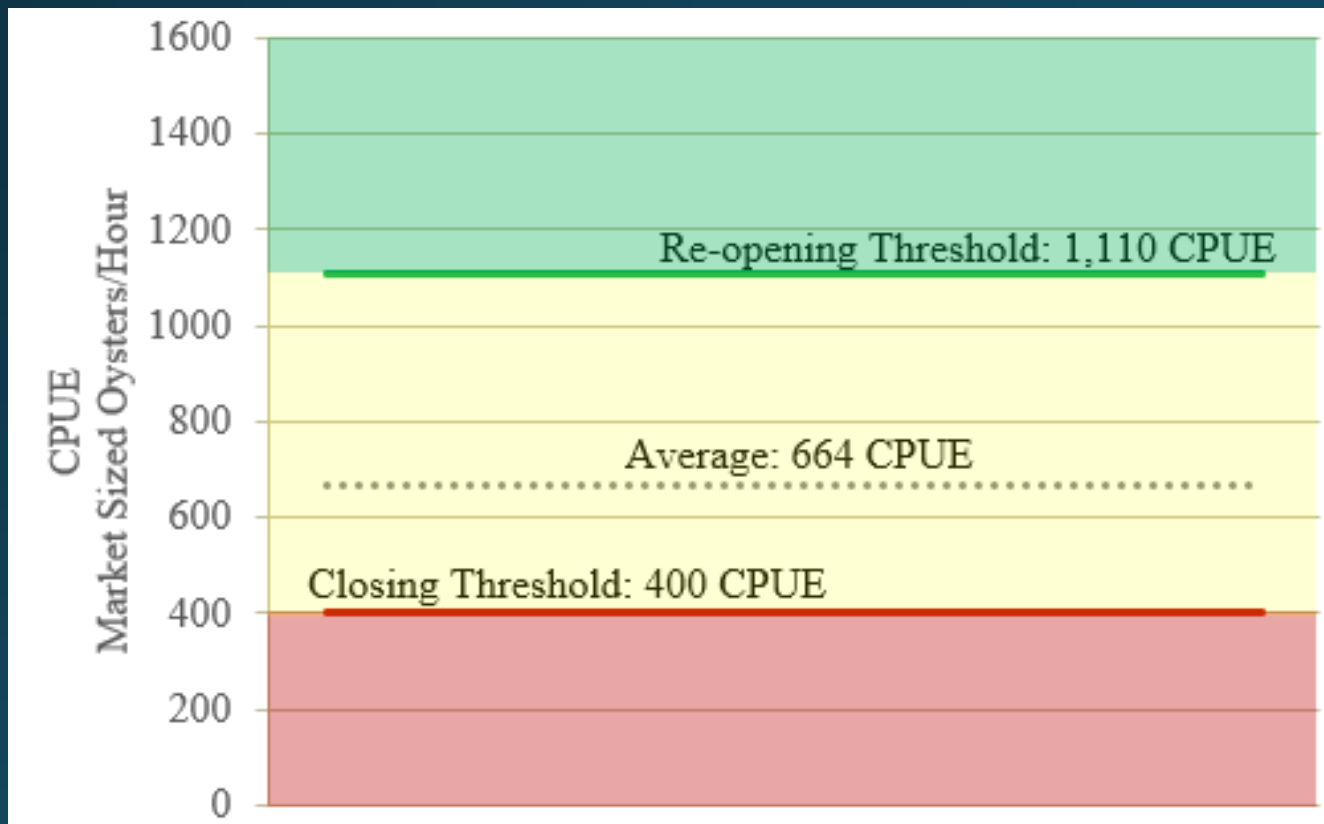
TOS Methodology

- Consistent with routine monitoring
 - Oyster dredge (Width: 0.5 m)
 - 30 sec tow at 3 mph
- Enumerate...
 - Market oysters (≥ 77 mm)
 - Undersized oysters (51-76 mm)
 - Small oysters (26-50 mm)

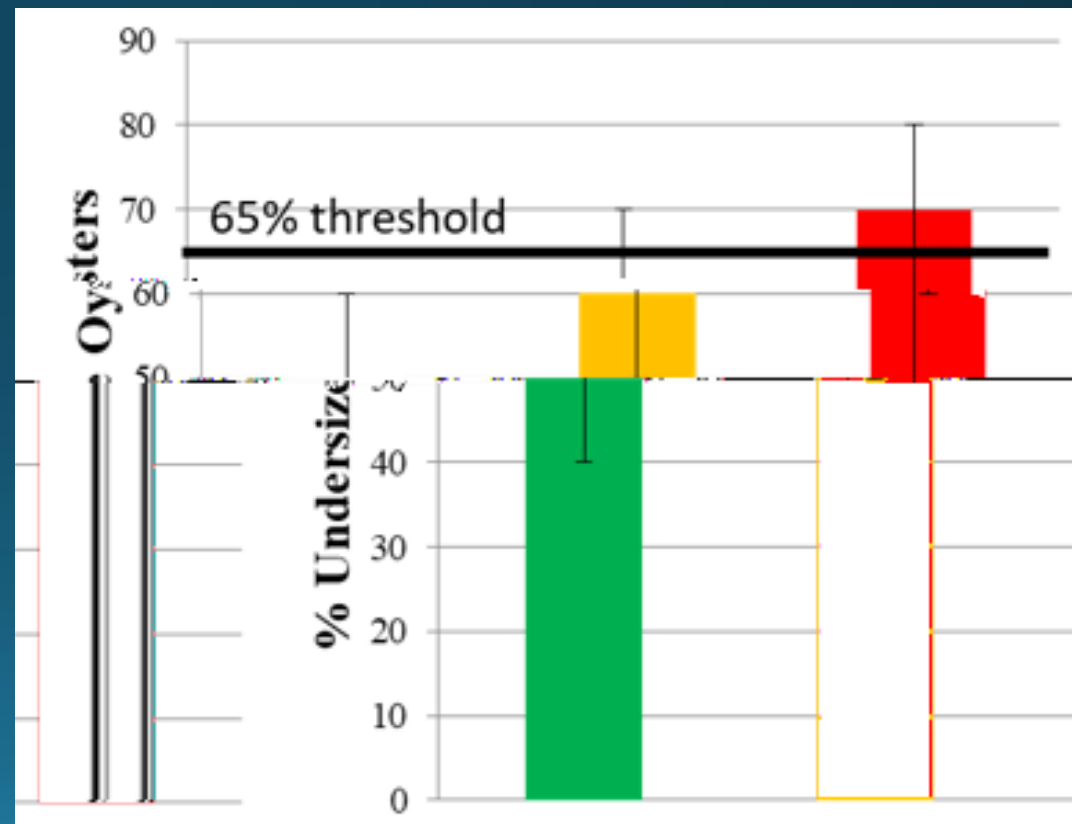


TOS Closure Criteria



















- PRIMARY: Market CPUE



- Percent undersized



TOS Traffic Light Approach

Market Catch Rate	Percent Undersize	Initial Closure	Reopen
		Open	Open
		Open	Open
		Open	Open
		Open	Closed
		Open	Closed
		Closed	Closed
		Closed	Closed
		Closed	Closed
		Closed	Closed

Additional Strategies and Approaches Under Consideration

- Roving vessel counts
- Shell budget model
- Density-based sampling (patent tongs)
- Incorporating data from bathymetric sonar surveys
- Permanent closure of environmentally sensitive areas
- 2-year closures of restored reefs