



Photo Credit: Christine Jensen, TPWD

The Status of the Oyster Fishery in Galveston Bay



Christine C. Jensen
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Department

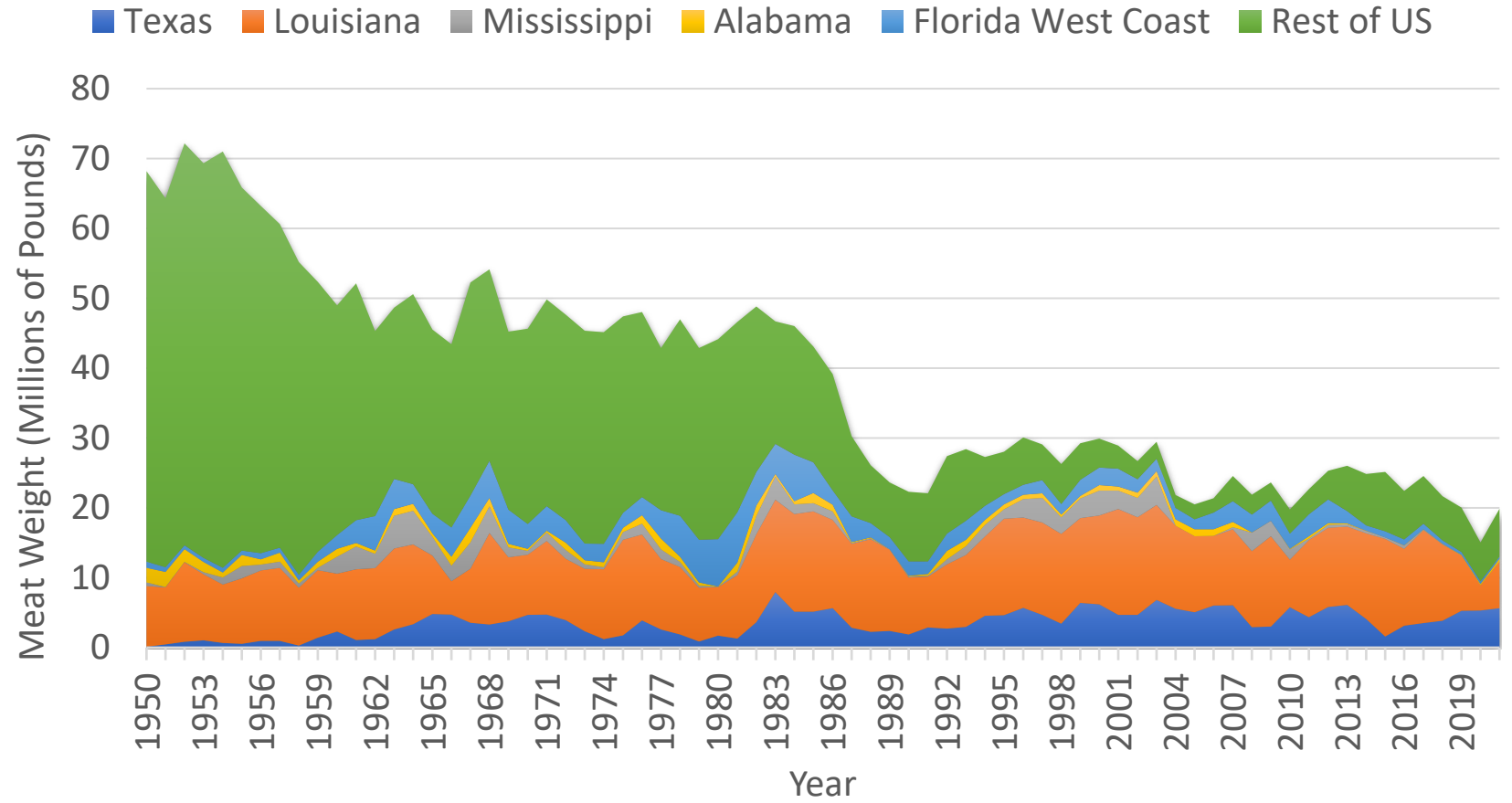
Oyster-Producing Bays in Texas



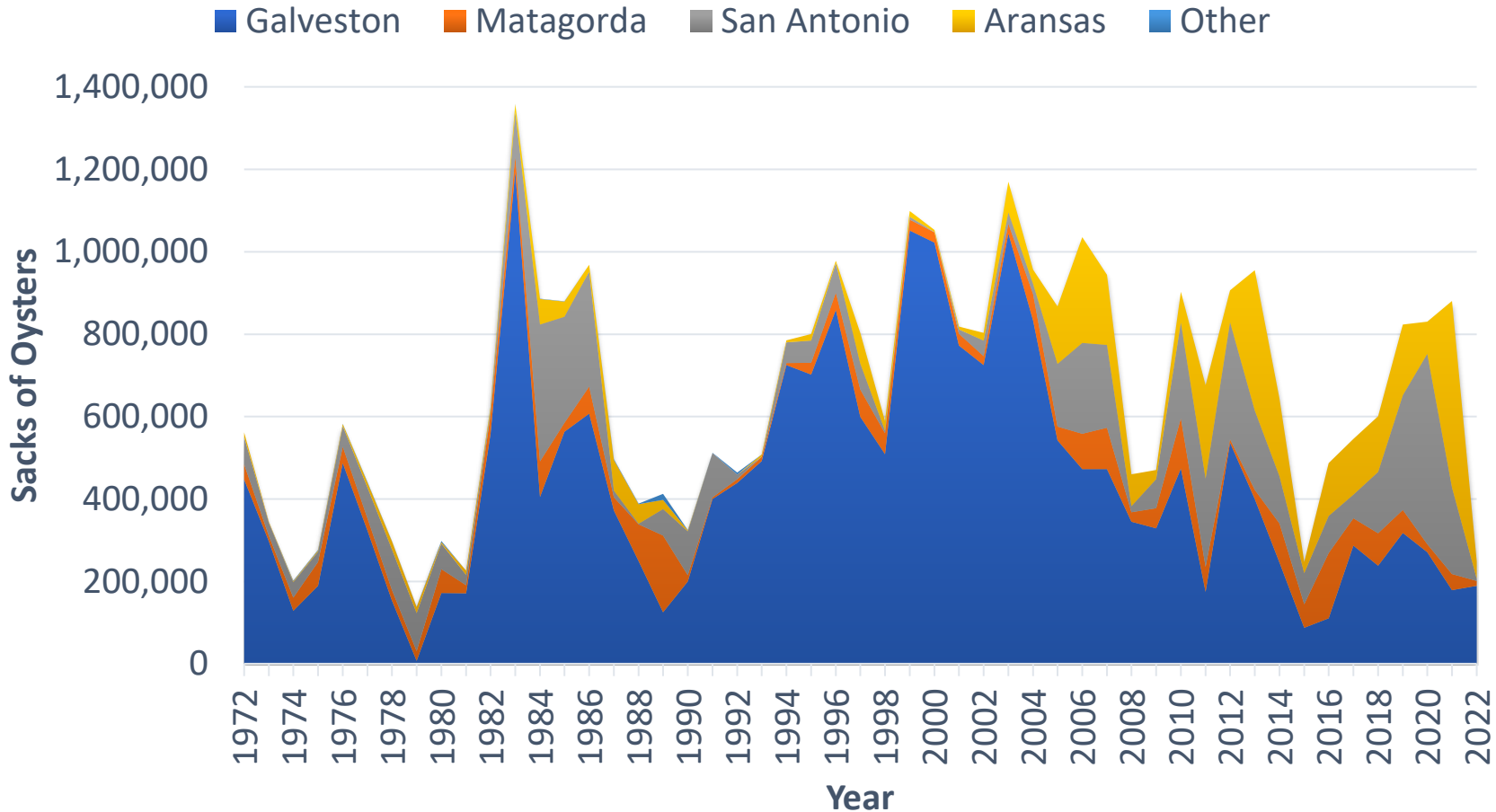
U.S. Commercial Eastern Oyster Landings

Texas avg - last 10 years:

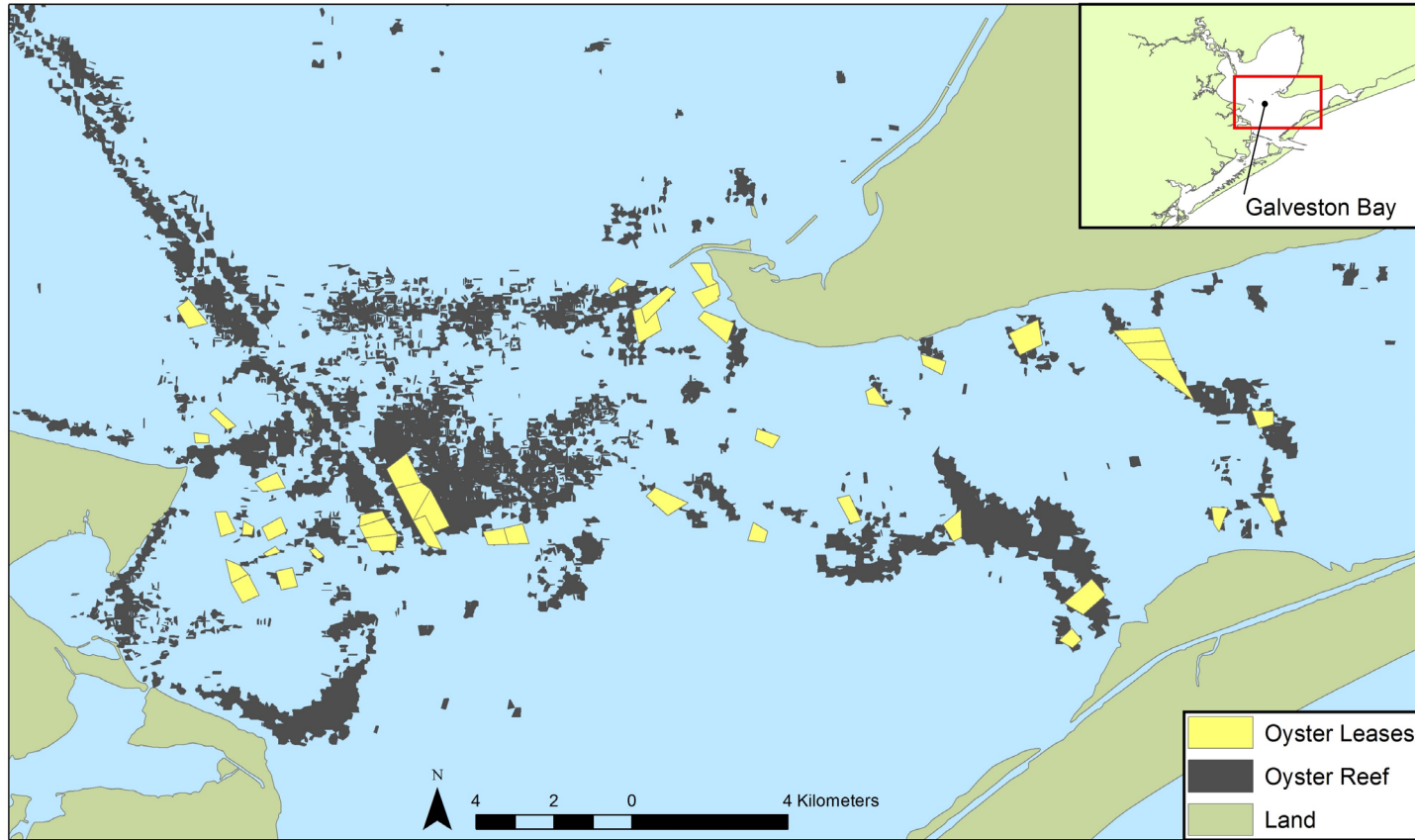
- 21% of US
- 30% of Gulf
- 4.4 million lb
- \$22.9 million dockside value



Texas Commercial Oyster Landings



- Galveston Bay makes up majority of landings
- Historically 71%
- Last 10 years 42%
- Increase in harvest from southern bays



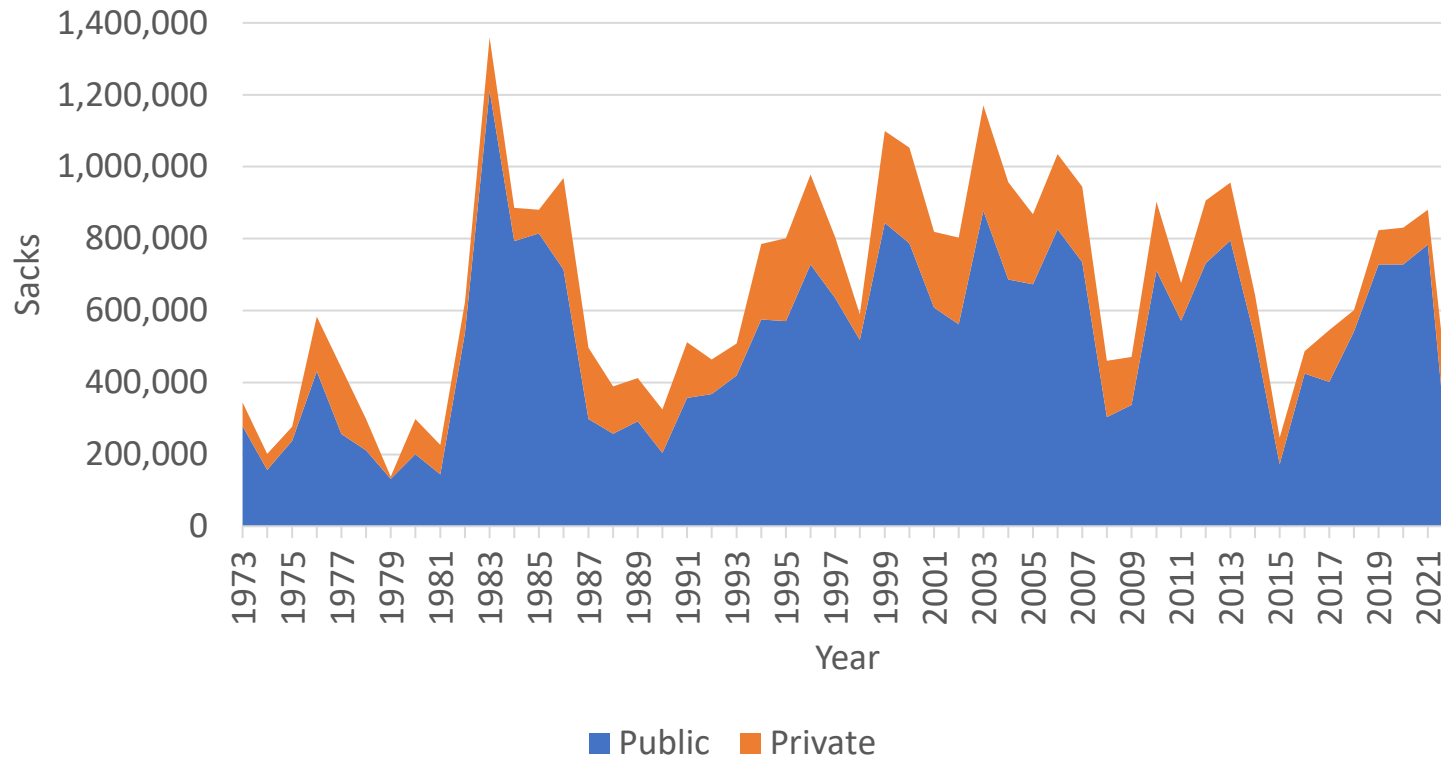
Certificates of Location (a.k.a. Leases)

- Currently:
 - 43 locations
 - 2,322 acres
 - All in Galveston Bay

Original Objectives:

- Reduce illegal harvest in restricted waters and protect public health
- Opportunity to harvest reefs in restricted areas

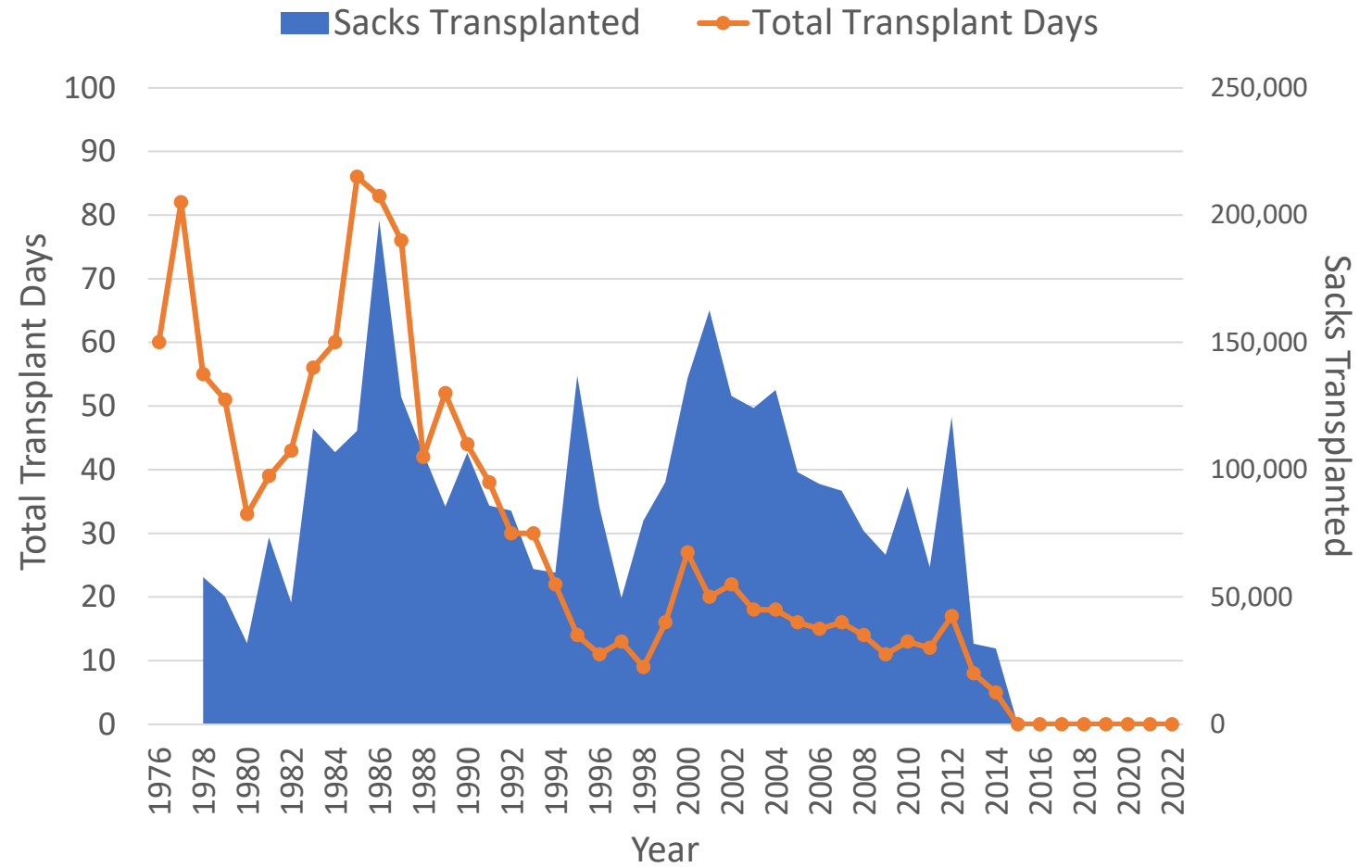
Texas Statewide Commercial Harvest



- Private Harvest
 - ~25% of Statewide
 - ~40% of Galveston Bay

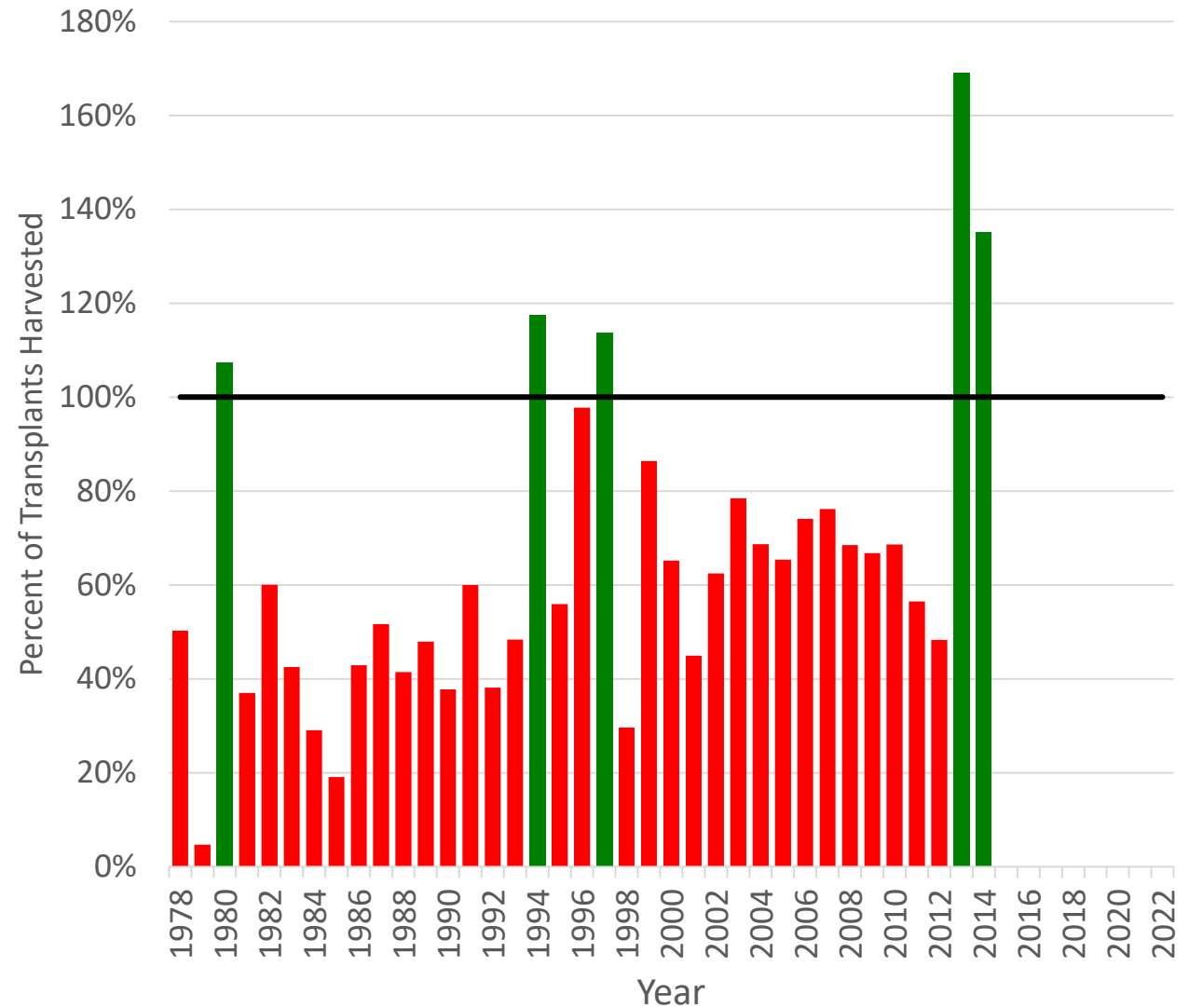
Public Reefs vs. Private Reefs

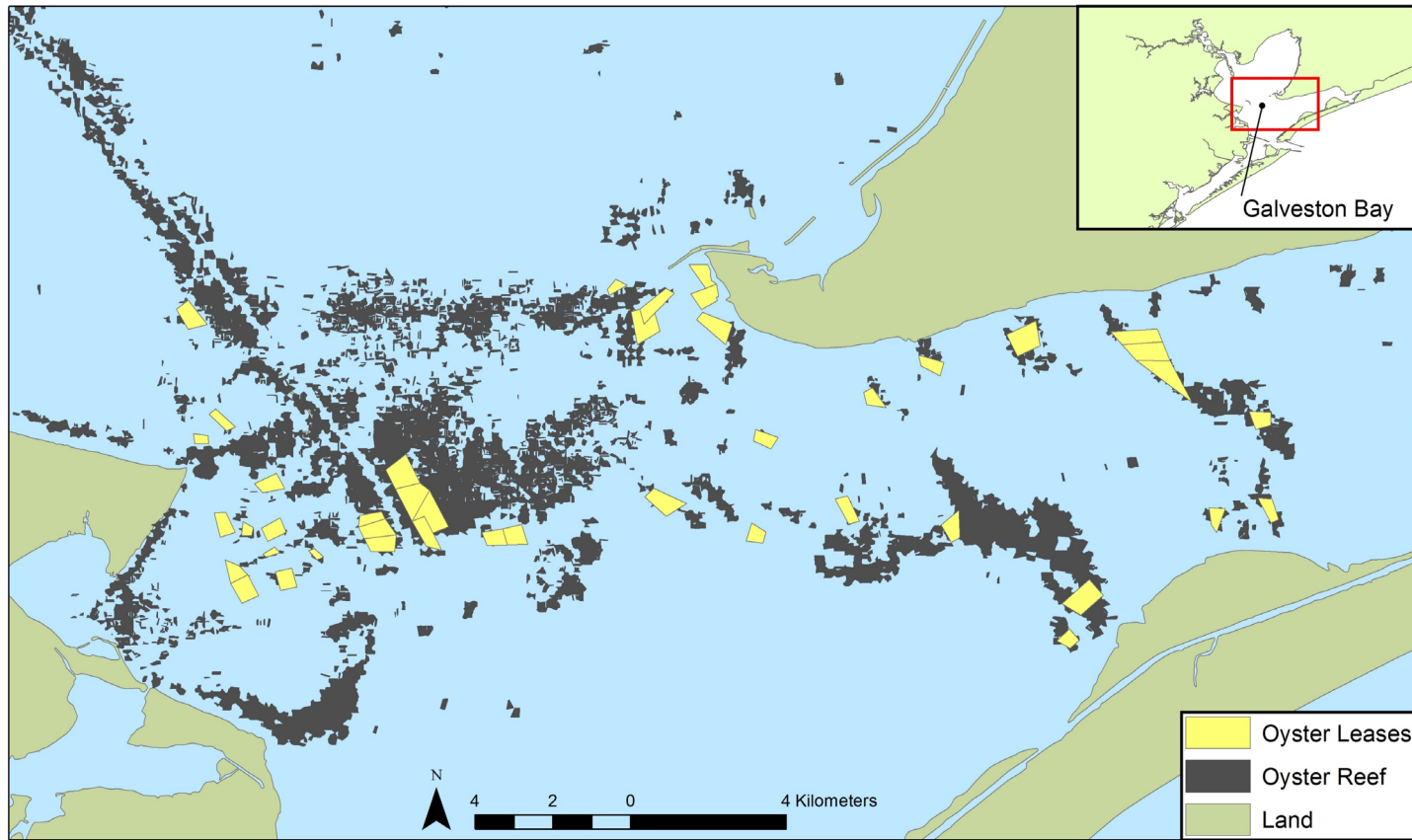
Transplants



Transplants

- Transplant more than is harvested
- Traditionally have not culled, so cultch, undersize, and market oysters are transplanted





Certificates of Location (a.k.a. Leases)

- SB 1032 just passed
- Redefined “natural oyster bed”
 - From at least 5 barrels of oysters within 2,500 sq ft of any position
 - To substrate that is predominantly composed of oyster shell or live oysters
- Removed the requirement for COL renewal to depend on “the need for depuration of polluted oysters”
- New COL for restoration purposes
 - May have different fees, approval requirements, lease terms, renewal procedures, maximum acreage, and siting and marking requirements than commercial COLs
- TPW Commission
 - Encourage private harvest to reduce pressure on public reefs
- Anticipated that COL:
 - May expand in Galveston Bay
 - May expand to other bay systems

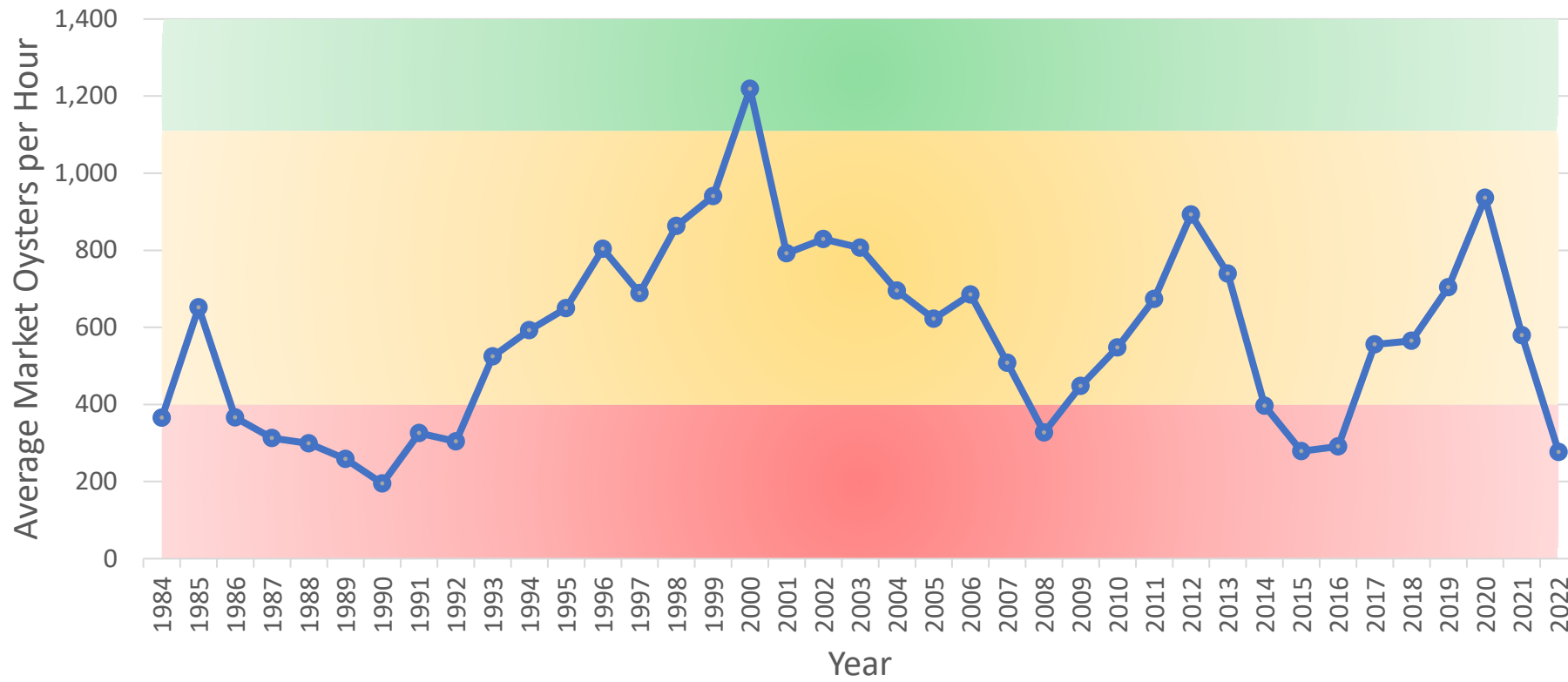
TPWD Oyster Dredge Sampling

- Routine Monitoring
 - Monthly random sampling
 - 20-30 per bay system
 - Not enough to manage by harvest area
 - Targets both productive and degraded areas
- Targeted Oyster Sampling
 - Targets more productive areas that could be fished
 - Up to ~180 per bay system
 - More intensive sampling per harvest area
 - Pre-season and as needed
 - Triggered by:
 - Industry reports
 - Undersized oyster citations
 - Routine samples
 - Heavy harvest pressure
 - Samples nearing threshold

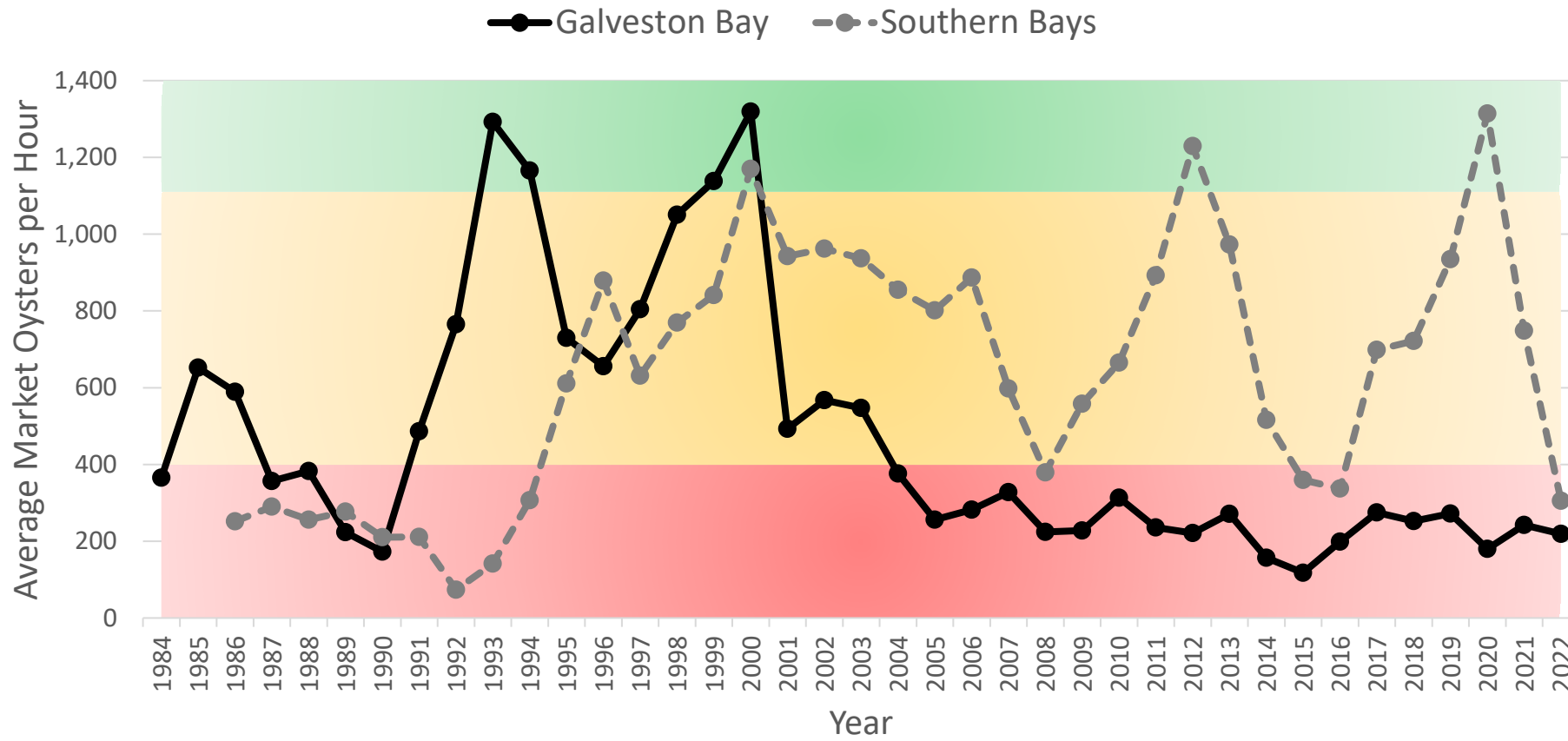


Market Oyster Abundance ≥ 76 mm (3 in)

Coastwide



Market Oyster Abundance ≥ 76 mm (3 in)



Available Substrate on Public Reefs

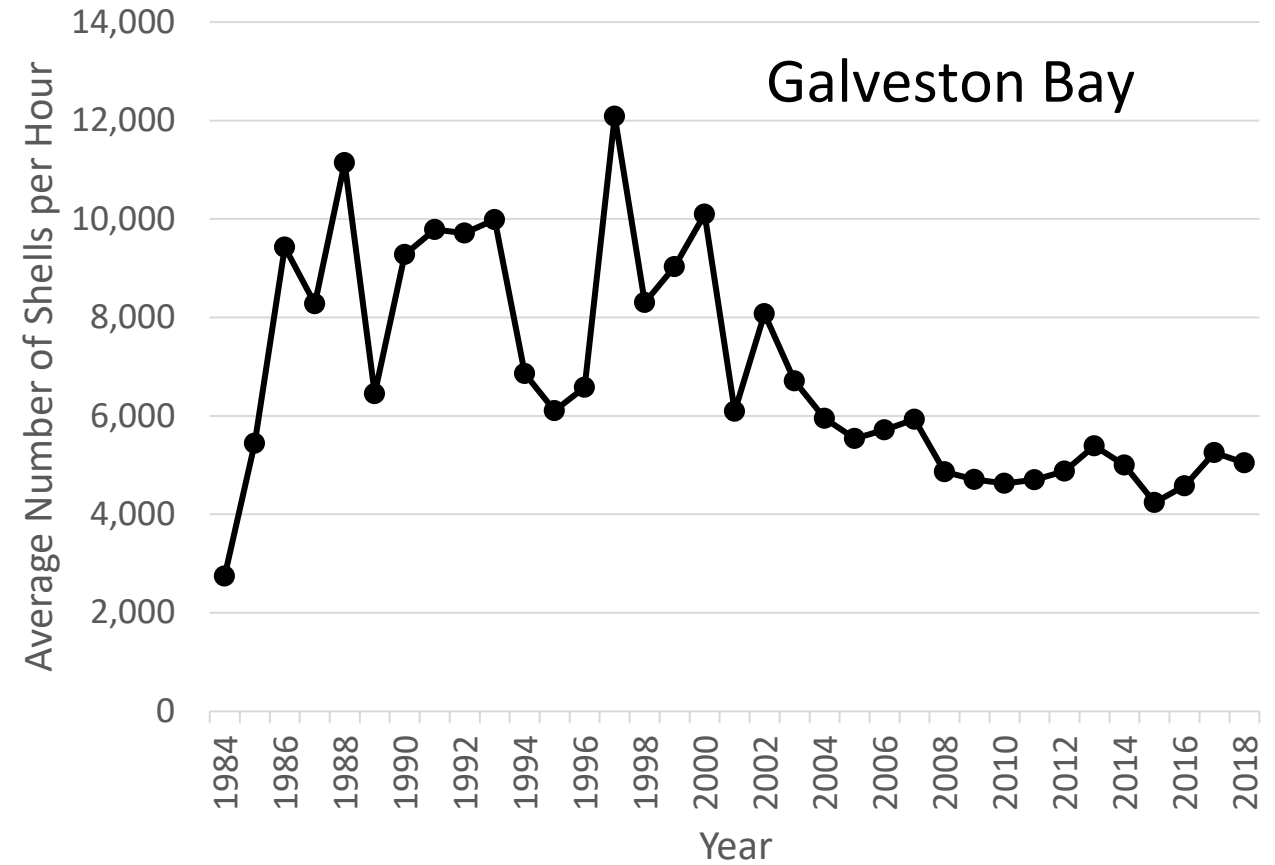




Photo Credit: Nick de la Torre, Houston Chronicle

Fishing



Photo Credit: Charles Vonschmidt

Reduced freshwater inflow



Photo Credit: Antonprado, Dreamstime.com

Drought



Photo Credit: Bryan Rumbaugh

Flooding

Why the decline?



Photo Credit: Brenda Bowling, TPWD

Predators



Photo Credit: Unknown

Habitat Destruction



Photo Credit: Sowal.com

High Demand

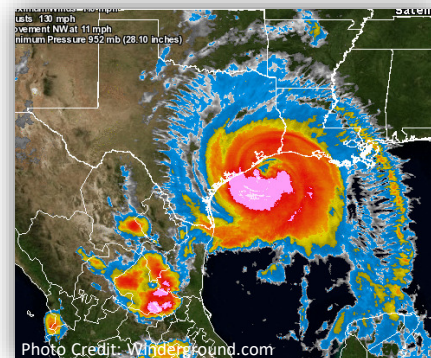
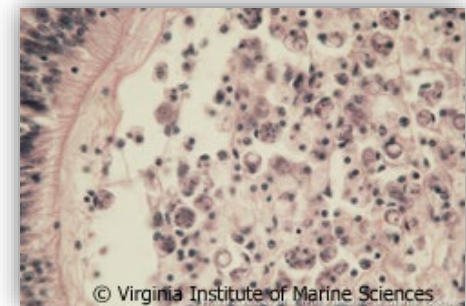


Photo Credit: Windersound.com

Sedimentation



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Disease

Restoration

- Previously no regular funding source for cultch planting
- Relied on donations, grants, and disaster relief
- 2017 – Regular contributions from oyster dealers
 - Dealers must plant cultch = 30% of volume of oysters purchased or pay a fee



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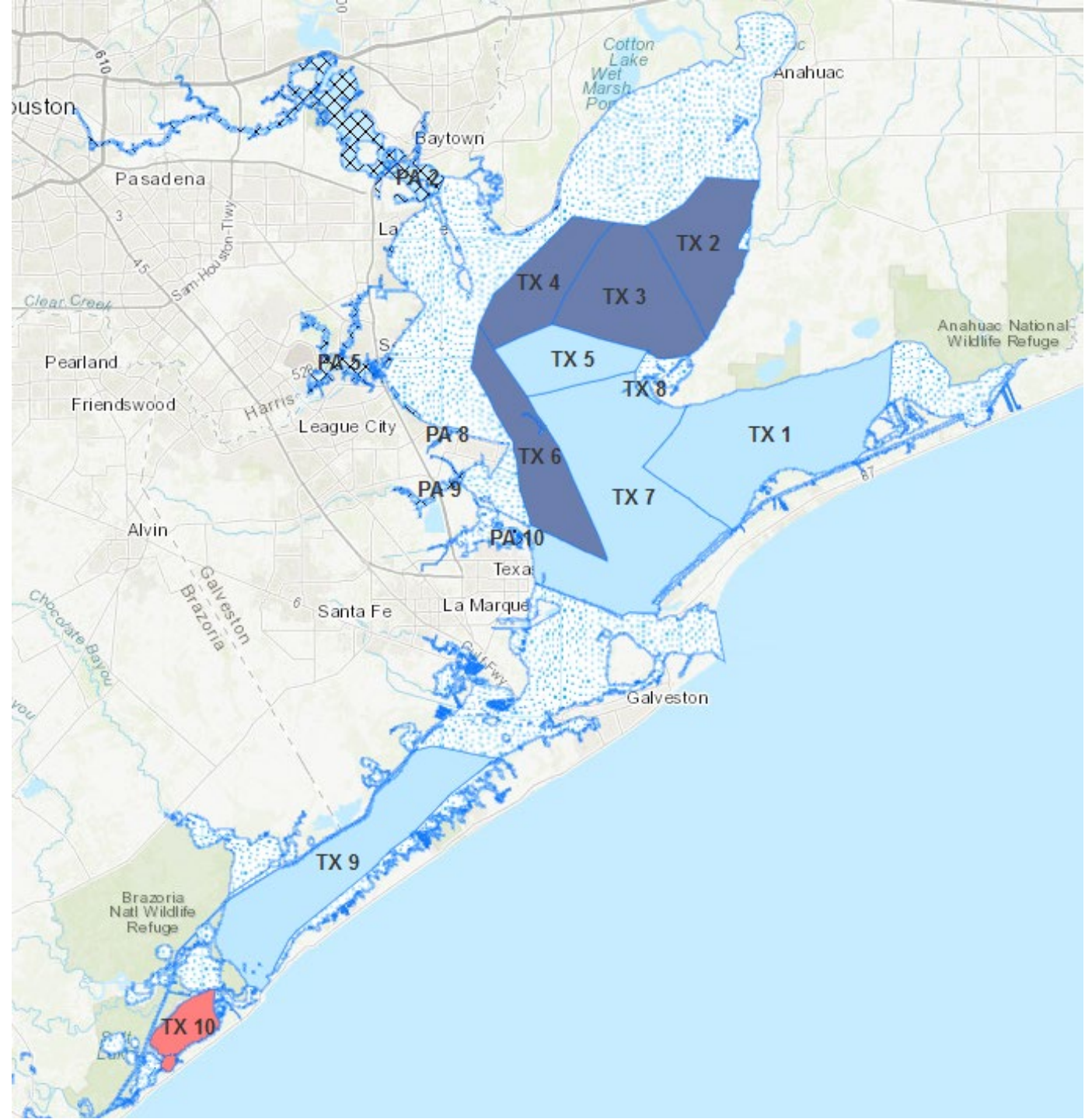
<u>Year</u>	Cultch (Yards³)			Acres		
	<u>Galveston</u>	<u>Matagorda</u>	<u>Total Cultch</u>	<u>Galveston</u>	<u>Matagorda</u>	<u>Total Acres</u>
2018	1,985.2	4,605.3	6,590.5	2.5	5.7	8.2
2019	7,413.3	2,292.0	9,705.3	9.2	2.8	12.0
2020	3,220.0	-	3,220.0	4.0	-	4.0
2021	14,673.8	1,476.0	16,149.8	18.2	1.8	20.0
2022	7,084.4	640.5	7,724.9	8.8	0.8	9.6
Totals:	34,376.7	9,013.8	43,390.4	42.7	11.2	53.8

Restoration

- 1947 - Present
 - >1,900 acres
- Since 2009
 - >600 acres
- Additional mitigation reefs and NGO restoration
 - ~200 acres
- Most of restoration in Galveston Bay



















Area Management

- TDSHS shellfish harvest areas
 - Closures based on public health
- TPWD started implementing area closures in 2014
 - Closures based on percent undersized oysters






Area Management

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 - Closures based on public health
- TPWD started implementing area closures in 2014
 - Closures based on percent undersized oysters
- Traffic Light Precautionary Approach in 2015
 - Closures based on abundance and percent undersized

Lights		Rules	
Abundance	% Undersize	Initial Closure	Reopen
		Open	Open
		Open	Open
		Open	Open
		Open	Closed
		Open	Closed
		Closed	Closed
		Closed	Closed
		Closed	Closed
		Closed	Closed

Current Management

- 2020 simplified to looking at just abundance of market-size oysters

Lights	Rules	
Abundance	Initial Closure	Reopen
	Open	Open
	Open	Closed
	Closed	Closed

Current Management

- 2020 simplified to looking at just abundance of market-size oysters
- In last two years, not many areas opened, and boats are forced into small areas



TEXAS
Health and Human
Services

Texas Department of State
Health Services

Status of Shellfish Harvesting Areas
on January 29, 2023

Harvest Area	Public Harvest Area Status	Private Oyster Area Status	Reason for Status
TX 1	Closed	Open	TPWD Action
TX 2	Closed	n/a	TPWD Action; Rainfall
TX 3	Closed	n/a	TPWD Action; Rainfall
TX 4	Closed	n/a	TPWD Action; Rainfall
TX 5	Closed	n/a	TPWD Action
TX 6	Closed	Closed	TPWD Action; Rainfall
TX 7	Closed	Open	TPWD Action
TX 8	Closed	Closed	Sample Results
TX 9	Closed	n/a	TPWD Action
TX 11	Open	n/a	n/a
TX 12	Closed	n/a	TPWD Action
TX 13	Closed	n/a	TPWD Action
TX 14	Closed	Open	TPWD Action
TX 15	Closed	n/a	TPWD Action
TX 16	Closed	n/a	TPWD Action
TX 18	Closed	n/a	TPWD Action
TX 19	Closed	n/a	Water Release
TX 20	Closed	n/a	Water Release
TX 21	Closed	n/a	TPWD Action
TX 24	Closed	n/a	TPWD Action
TX 25	Closed	n/a	TPWD Action
TX 26	Closed	n/a	TPWD Action
TX 27	Closed	n/a	TPWD Action
TX 28	Closed	n/a	TPWD Action
TX 29	Open	n/a	n/a
TX 29 Carlos Bay	Closed	n/a	TPWD Action
TX 30	Closed	n/a	TPWD Action
TX 32	Closed	Open	TPWD Action
TX 33	Open	n/a	n/a
TX 34	Open	n/a	n/a

n/a = not applicable



Photo Credit: Laurie Lyng



Photo Credit: Christine Jensen, TPWD

Summary of Recent Regulations

- Closed several environmentally sensitive bays (including Christmas Bay)
- Closed 300 ft from shore
- No fishing on Saturday or Sunday
- Reduce sack limit to 30
- Additional license requirements for deckhands and those harvesting by hand
- Authority to implement a Vessel Monitoring System



Photo Credit: Frank Tilley, The Victoria Advocate

Summary of Recent Regulations (cont'd)

- 15 → 5% undersized tolerance
- Increased penalties for undersized oysters including the shell
 - Fines, license suspensions, and jail time
 - For both fishermen and dealers
 - Those who possess a cargo of undersized oysters to return oysters to the bed from which they were taken
- Dealers must plant cultch = 30% of volume of oysters purchased or pay a fee
- Established license buyback

Too Much
Fishing
Pressure

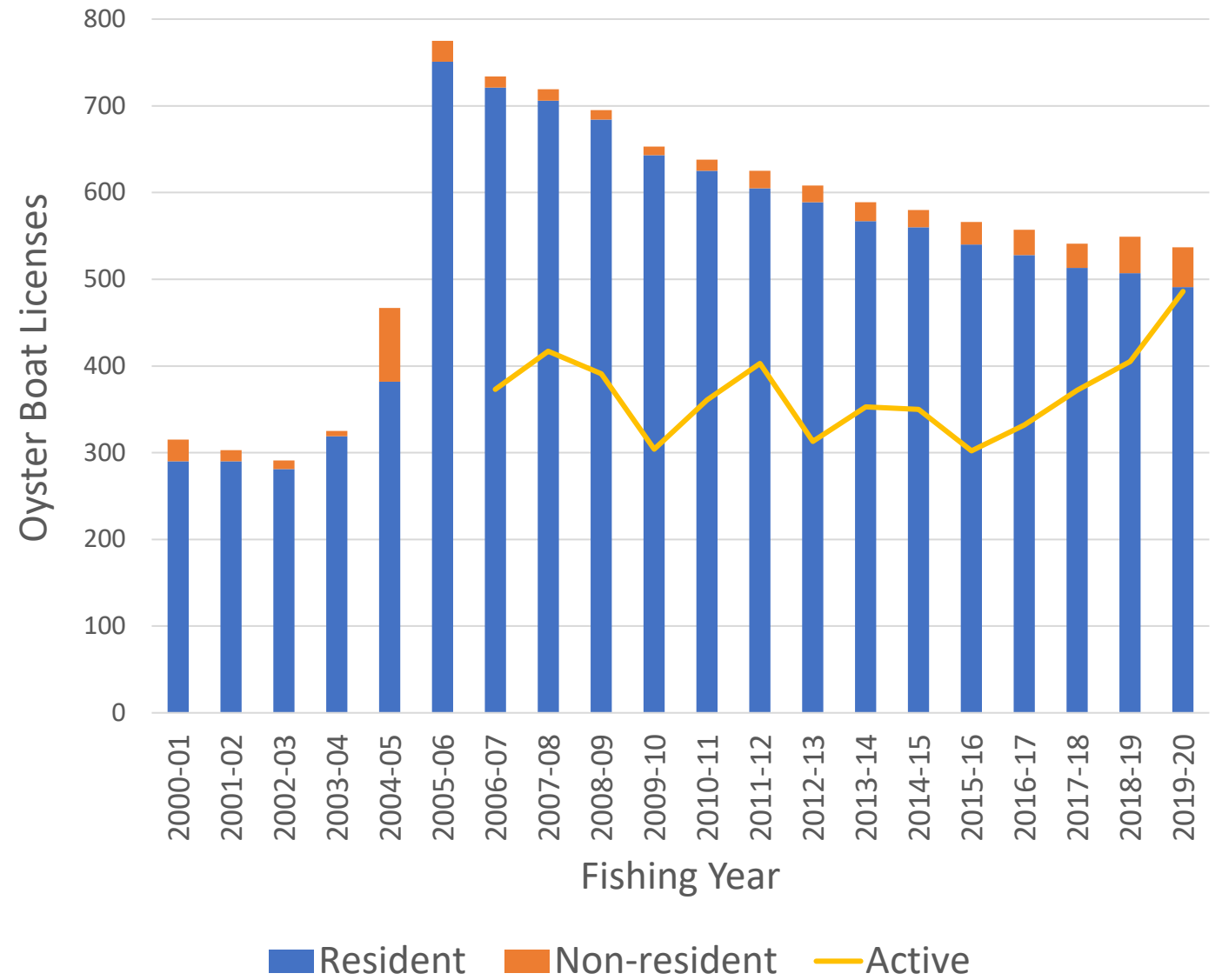


Photo Credit: Jennifer Reynolds, The Daily News

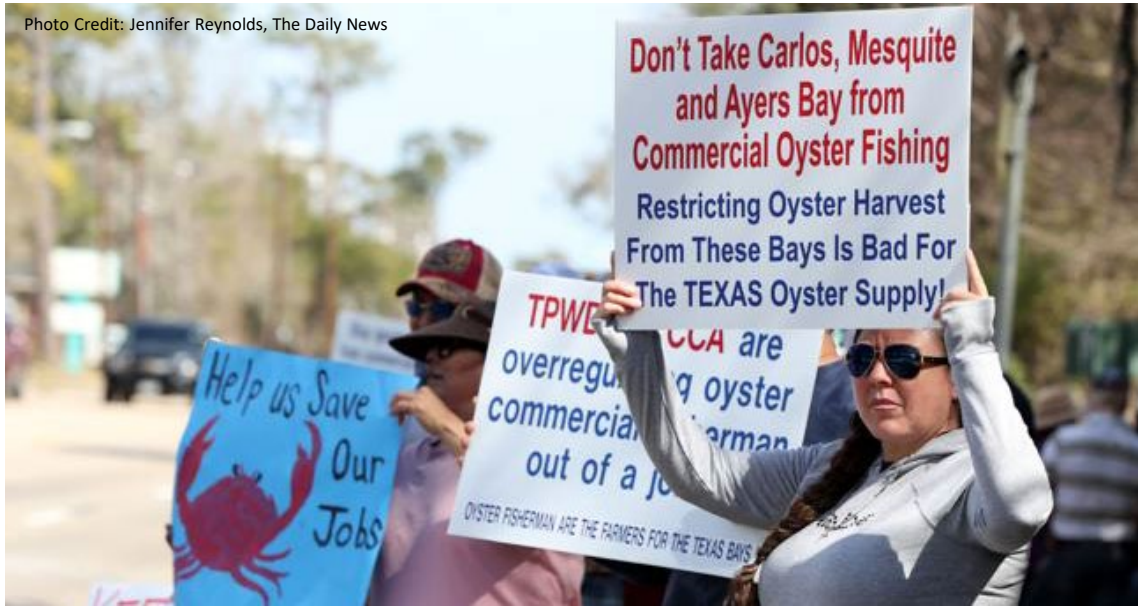


Photo Credit: Save Texas Oysters



Photo Credit: Jennifer Reynolds, The Daily News

Mariculture

- Separate from Certificate of Location
- Off-bottom operations
 - Examples:
 - Adjustable Long lines
 - Floating cages
 - Upwellers
- First farms in 2021
- Started harvesting 2022
- Currently permitted:
 - 5 Grow-out facilities (2 in Galveston Bay)
 - 2 Nursery-Hatchery facilities
 - 8 Grow-out facilities in progress



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Achieving Sustainable Harvest

- Mapping Reef
- Restoration
- Encourage private harvest (mariculture and Certificate of Location)
- Currently open/close areas based on market abundance from dredge surveys
- Alternate monitoring gears (patent tongs)?
- Shell budget model?
 - Provides estimate of sustainable harvest based on cultch availability
 - Data needs:
 - Density estimates (Oysters/m²)
 - Mapping data
 - Implementation needs:
 - Way of projecting when an area reaches quota
 - More frequent reporting
- Other?



Questions?

