

# GULF STATES MARINE FISHERIES COMMISSION FALL MEETING

Jason Rider



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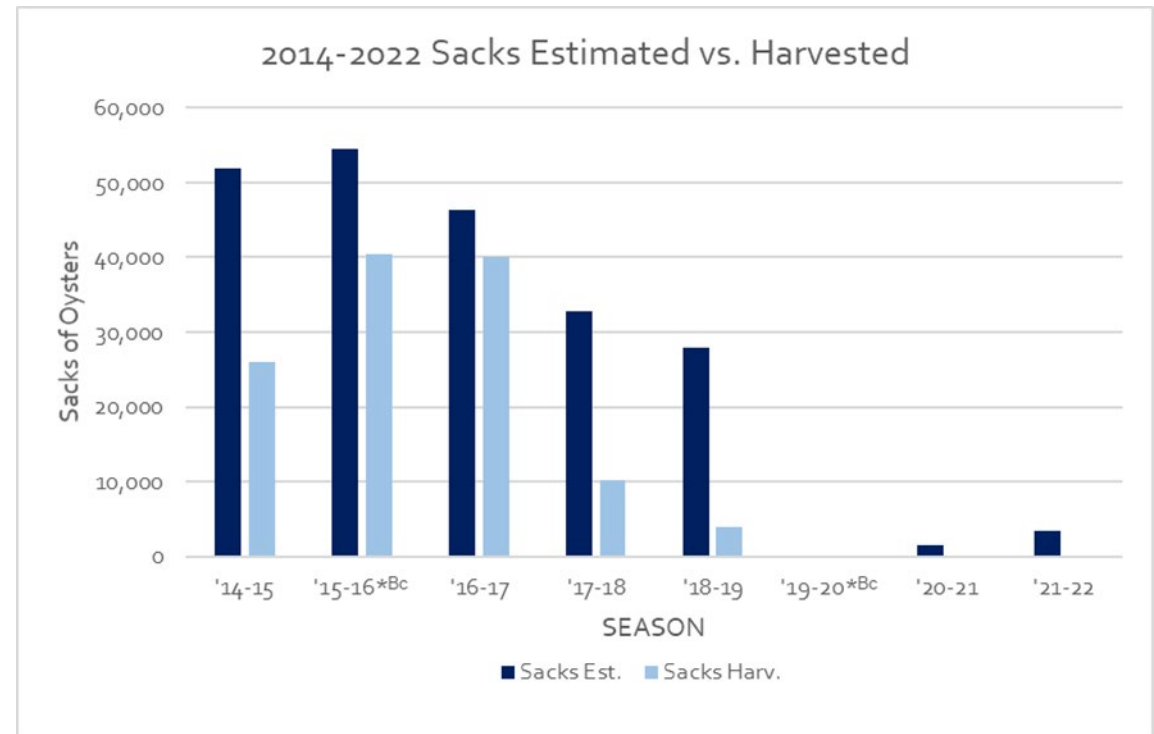
# Mississippi Oyster Restoration Goals

- **Main Goal**

- Rebuild and enhance oyster reef production and balance size class dynamics to re-establish sustainable public harvesting

- **Secondary Goals**

- Ecosystem Services
- Water Quality Improvements
- Shoreline Protection



# Current Activities

- **Off-Bottom Oyster Aquaculture**

- 27 Active Off-Bottom harvesters for 2022
- 465 acres permitted in the MDMR Commercial Aquaculture Park with 54 Acres privately leased
- ~ 5.3 million oyster seed currently deployed by harvesters
- Commercial operations harvested approx. 905,378 oysters since April 2019 to August 2022. This is equal to ~3,292 total sacks.
- Off-Bottom Oyster Aquaculture training classes began in June of 2022
- MDMR has had 84 class participants since 2019

- **Sanitary Surveys**

- Annual evaluation of all environmental factors that affect the water quality of shellfish growing waters

- **Investigation of Source Points**

- Assess and address high levels of fecal coliforms present in areas of the MS Sound



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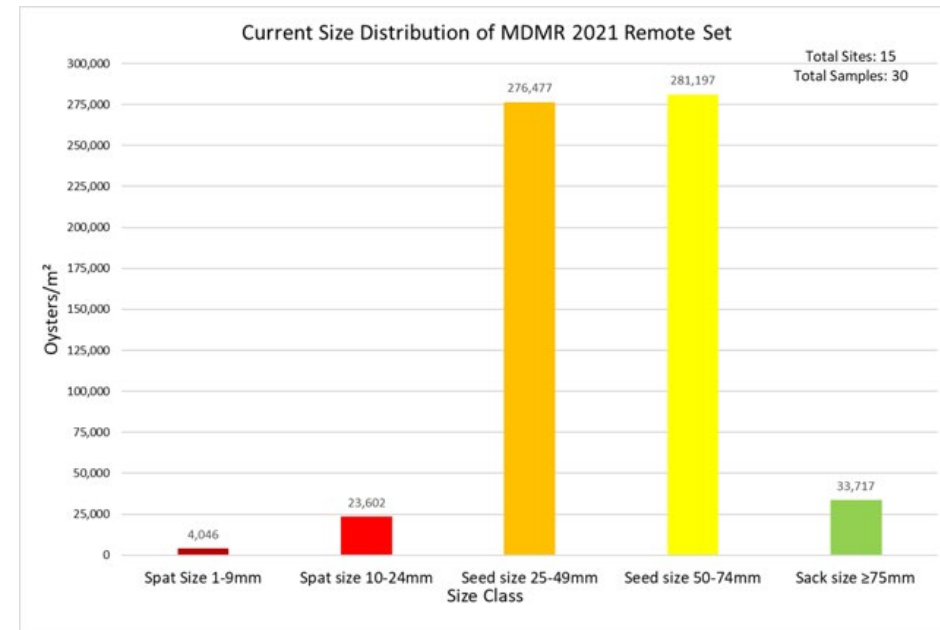
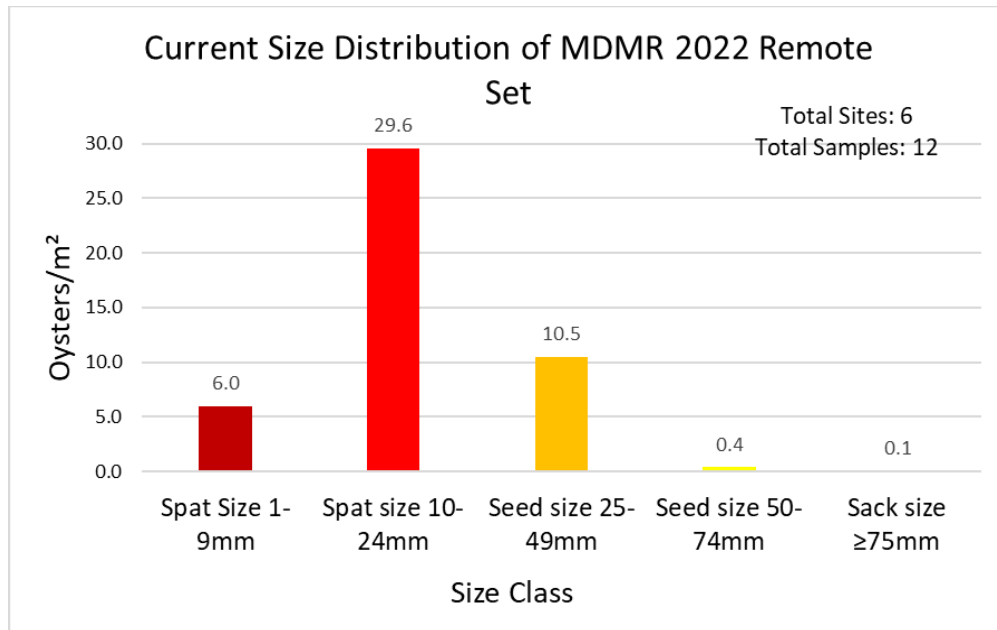
# Current Activities

- **Water Quality Analysis**
  - 410 samples analyzed for fecal coliform for FDA Compliance
- **Harmful Algal Bloom Analysis**
  - 180 seawater samples have been collected at 15 locations for cell identification
- **Remote Oyster Setting Facility Project - Phase I**
  - **Phase I**
    - Project proposes to deploy 2.5 billion eyed larvae annually to assist with rebuilding oyster reefs faster than could be achieved naturally
    - Assess the overall feasibility
    - Determine infrastructure layout
    - Determine operational and maintenance costs
    - To Date (2022) MDMR has Deployed 23,997,905 oyster spat on shell oysters
    - Cost per oyster - \$0.005 (half a cent)



# MDMR REMOTE SET 2021 AND 2022

- Cubic Yards Deployed: 117.6
- Total Acreage Planted: 5
- Total Spat on Material Deployed: 23,997,905
- Oysters Per Cubic Yard Deployed: 204,063
- Average Size of Oyster Deployed: 4.05mm
- Cost per oyster - \$0.005 (half a cent)



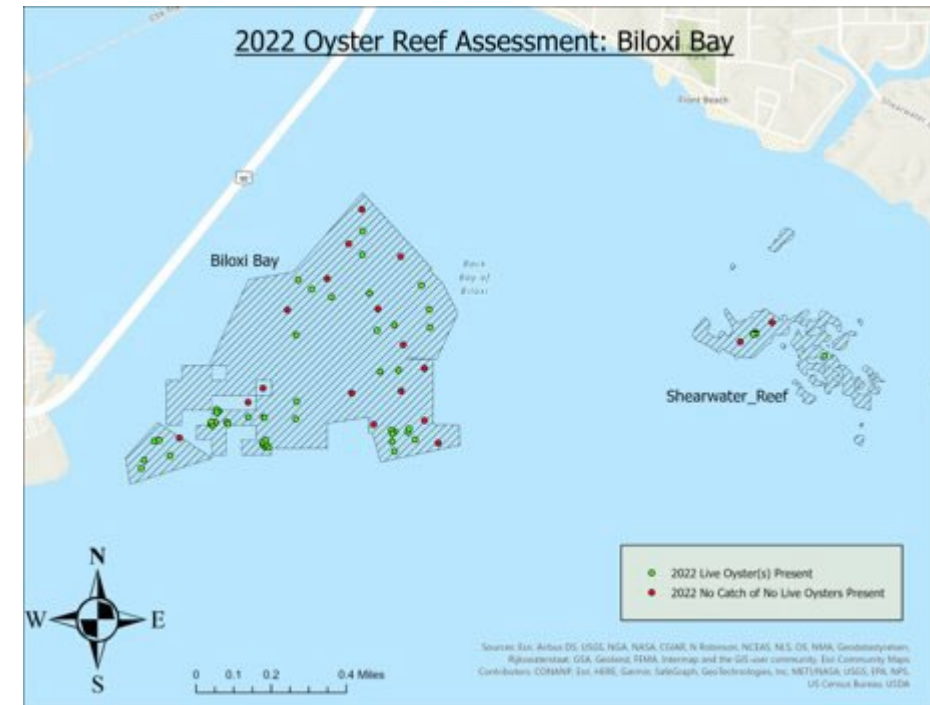
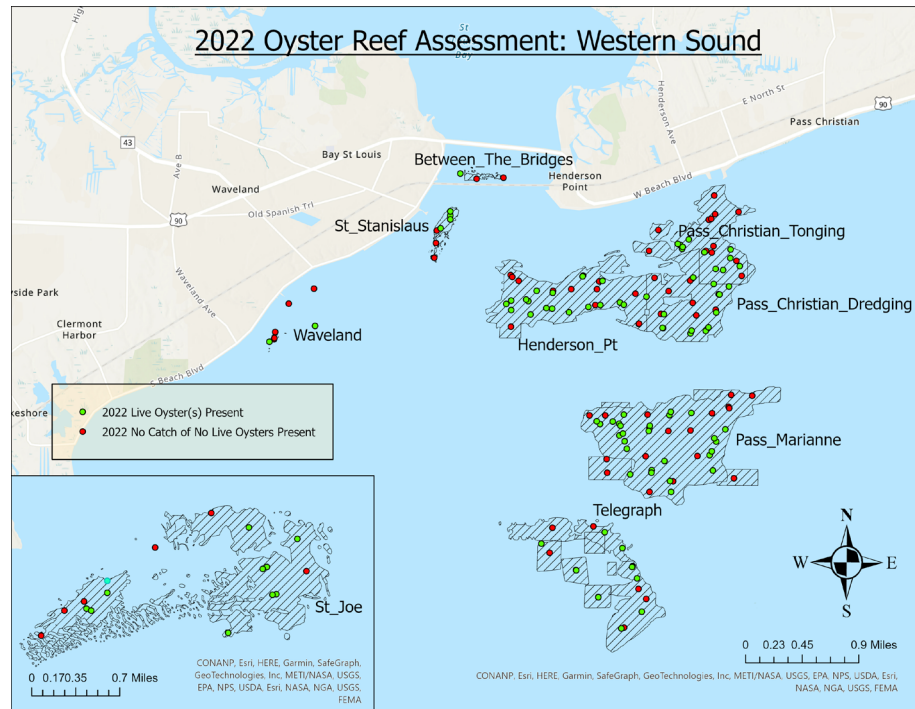
# Reef Activity and Assessment

- **Reef Cultivation**

- Cultivation occurred April - May of 2022
- R/V Conservationist performed the work.
  - ArcGIS and QuickCapture Technology were used to monitor/verify cultivation tracks.
- Cultivated approx. 160 acres in the Western Sound

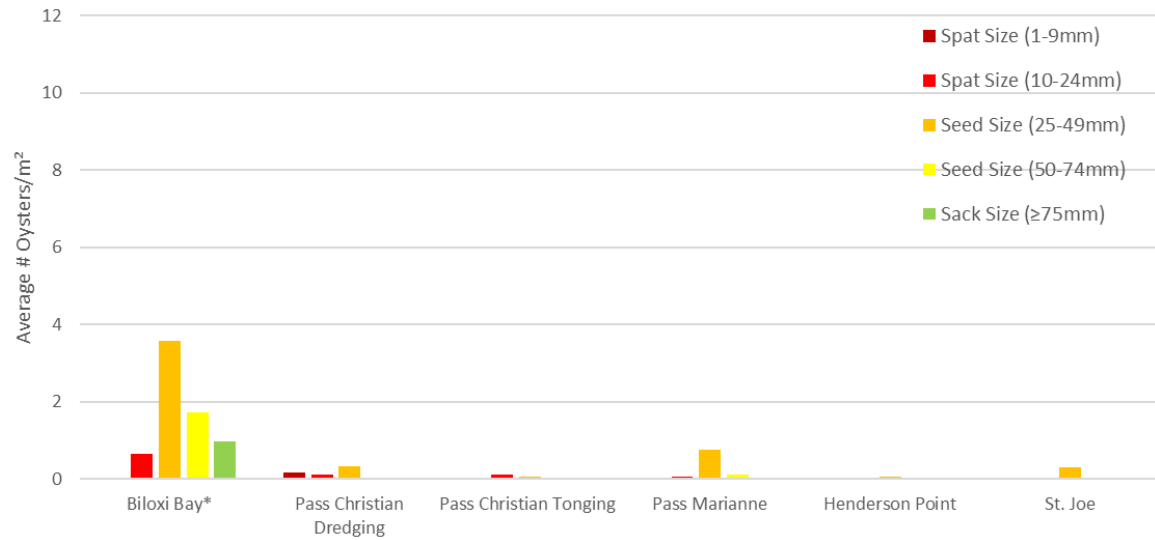
- **Reef Assessments**

- Completed 70 one-minute dredge tows
- Completed 203 square meter samples site with 406 total samples

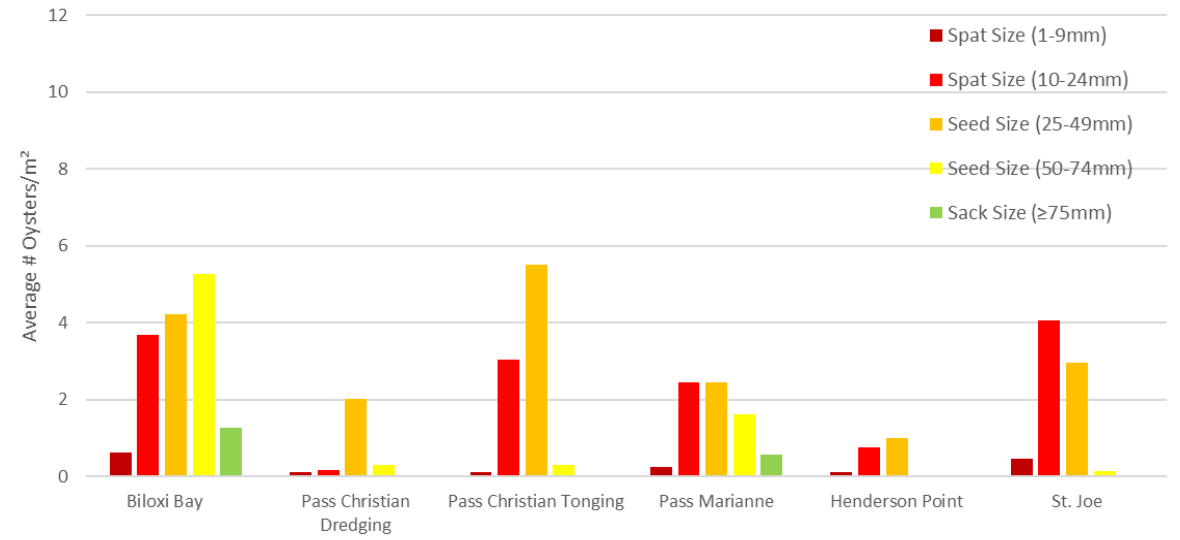


# REEF ASSESSMENT RESULTS: SIZE CLASS DISTRIBUTION BY MAJOR REEF COMPLEXES

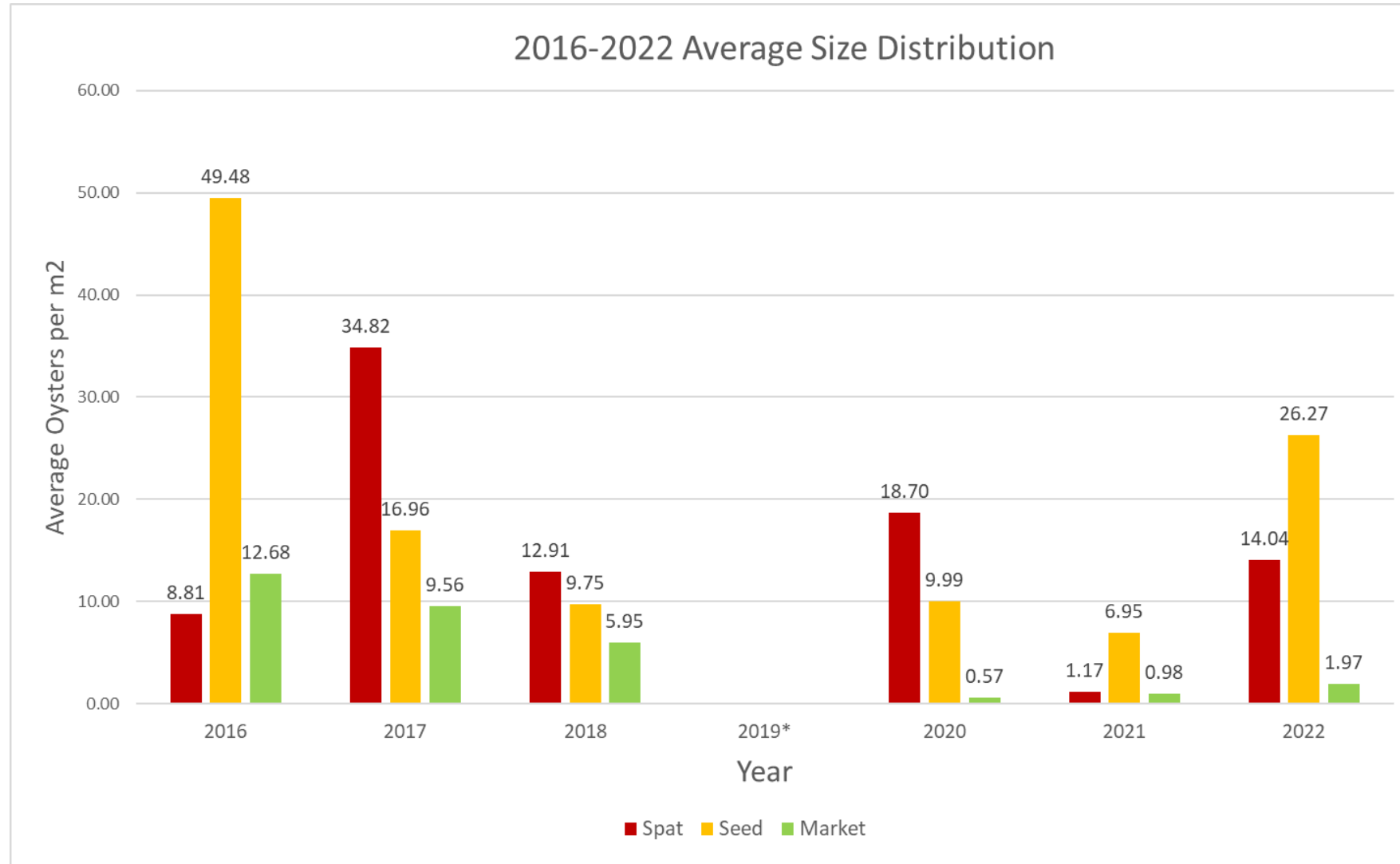
2021 Square Meter Oyster Size Distribution by Reef



2022 Square Meter Oyster Size Distribution by Reef



# REEF ASSESSMENT RESULTS: SIZE CLASS DISTRIBUTION OVER TIME



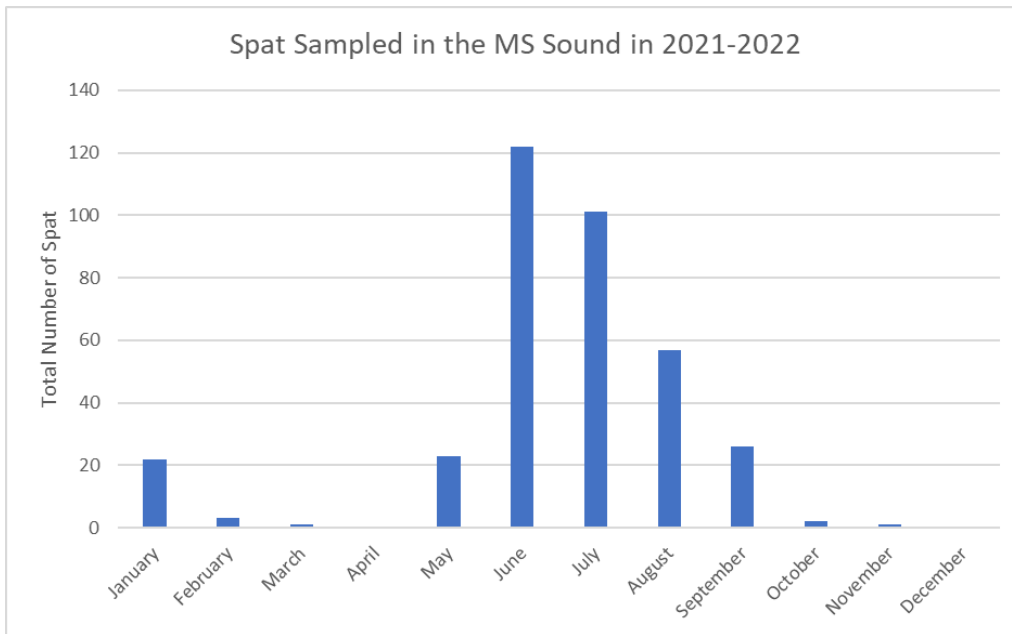


## REEF ASSESSMENT RESULTS: OYSTER SACK ESTIMATE FOR 2022

Reef	2022 Est. Sack Total	2021 Est. Sack Total	2020 Est. Sack Total	2022 Comments and Resource Status
Pass Marianne*	6,233	0	0	Recovering (limited resource)
Biloxi Bay Cultch Plants*	4,254	3,227	117	Recovering (limited resource)
Pass Tonging*	219	0	0	Recovering (limited resource)
Henderson Point*	143	0	0	Recovering (limited resource)
Pass Dredging*	0	0	1,372	No Resource
Telegraph	0	0	0	No Resource
St. Joe*	0	204	0	No Resource
St. Stanislaus	0	0	0	No Resource
Waveland	0	0	0	No Resource
<b>TOTAL SACKS AVAILABLE</b>	<b>10,849</b>	<b>3,431</b>	<b>1,489</b>	<b>CLOSURE CONTINUATION RECOMMENDED</b>
<b>*Total Sacks at 30% Harvest from Approved Areas ONLY =</b>				<b>3,255</b>

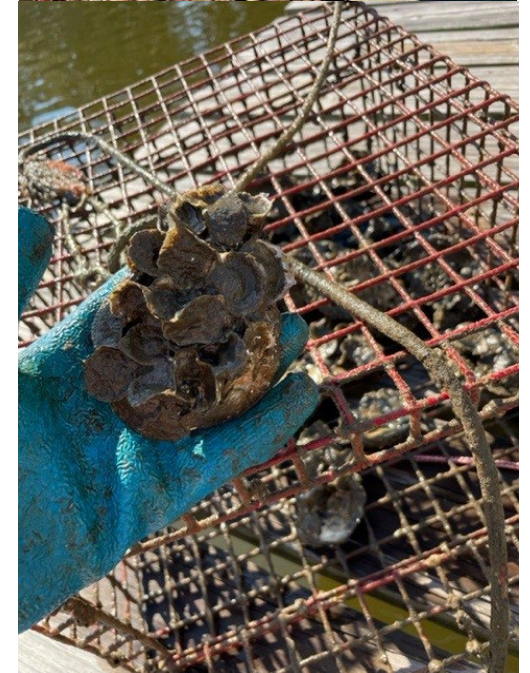
# Oyster Recruitment and Settlement Patterns

- To identify peak seasons and locations for oyster spat settlement in the Mississippi sound to improve effectiveness of oyster restoration
- Sample 9 sites monthly located on historic and active oyster reefs across the Sound



# Future Projects

- **Testing New Aquaculture Bag Systems**
  - Continuously looking for new alternative way to grow oysters in aquaculture
  - Currently monitoring oyster growth in hanging grow bags on a long line
- **Oyster Gardening Program**
  - 43 active participants
  - Program began in August 2022
  - Projected deployment in December 2022



# QUESTIONS



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# BILOXI BAY: ASSESSMENT AND REMOTE SET OYSTER RESULTS

- Reef Footprint: 227 acres
- Population and size classes are increasing annually since 2019
- Recommendations:
  - Continue remote setting in strategic locations to increase spat settlement and brood stock development.
  - Cultivate and monitor for reef development.

