

## **DIRECT LOSSES ON MISSISSIPPI SALTWATER RECREATIONAL FISHING LICENSES SOLD TO FISHERMEN**

### **ABSTRACT**

- This presentation shows the direct losses on the number of Mississippi saltwater recreational fishing licenses sold to fishermen. It covers licenses sold to recreational crab, shrimp, and oyster fishermen. Recreational fishing licenses are sold to residents and non-residents.
- Trend analysis of data from 2000 to 2023 shows that the number of licenses sold to saltwater recreational fishing mostly declined after major disaster events such as Hurricane Katrina in 2005, the Deepwater Horizon oil spill in 2010, and Bonnet Carre Spillway openings in 2011 and 2019.
- These disasters severely impacted the number of shrimp and oyster recreational fishermen and have not recovered to pre-disaster levels.

### **KEYWORDS**

- Saltwater recreational fishing licenses, Mississippi recreational fishermen.

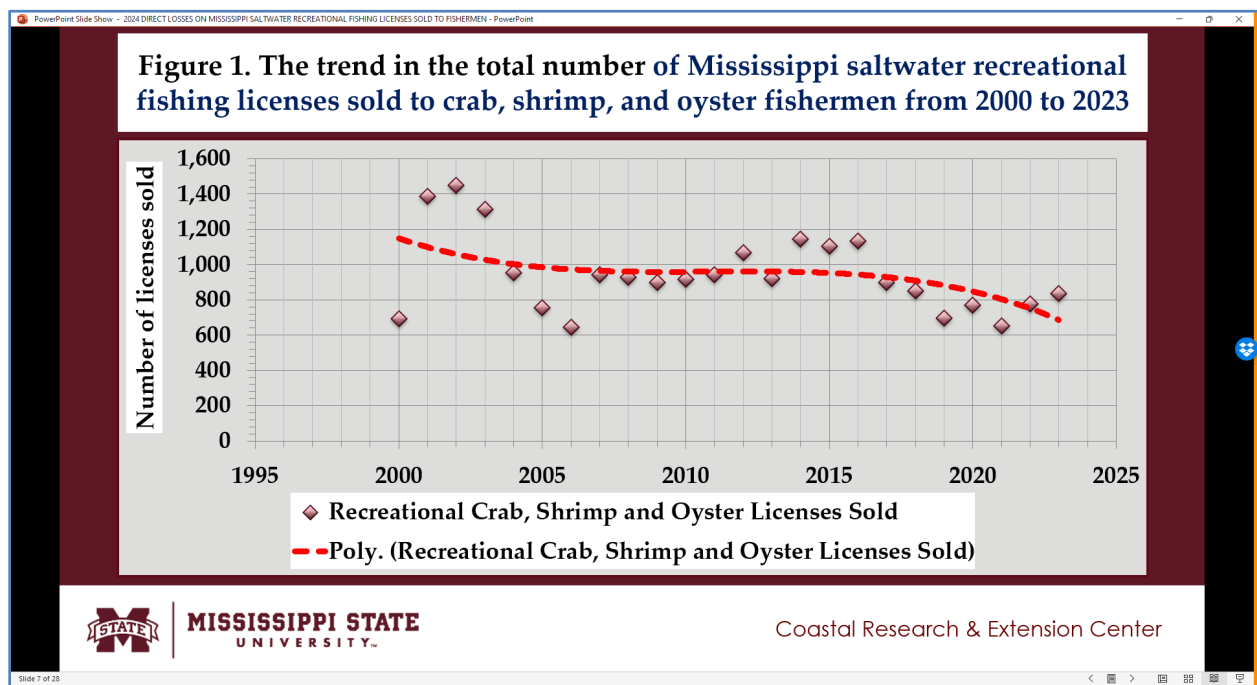
### **METHODS**

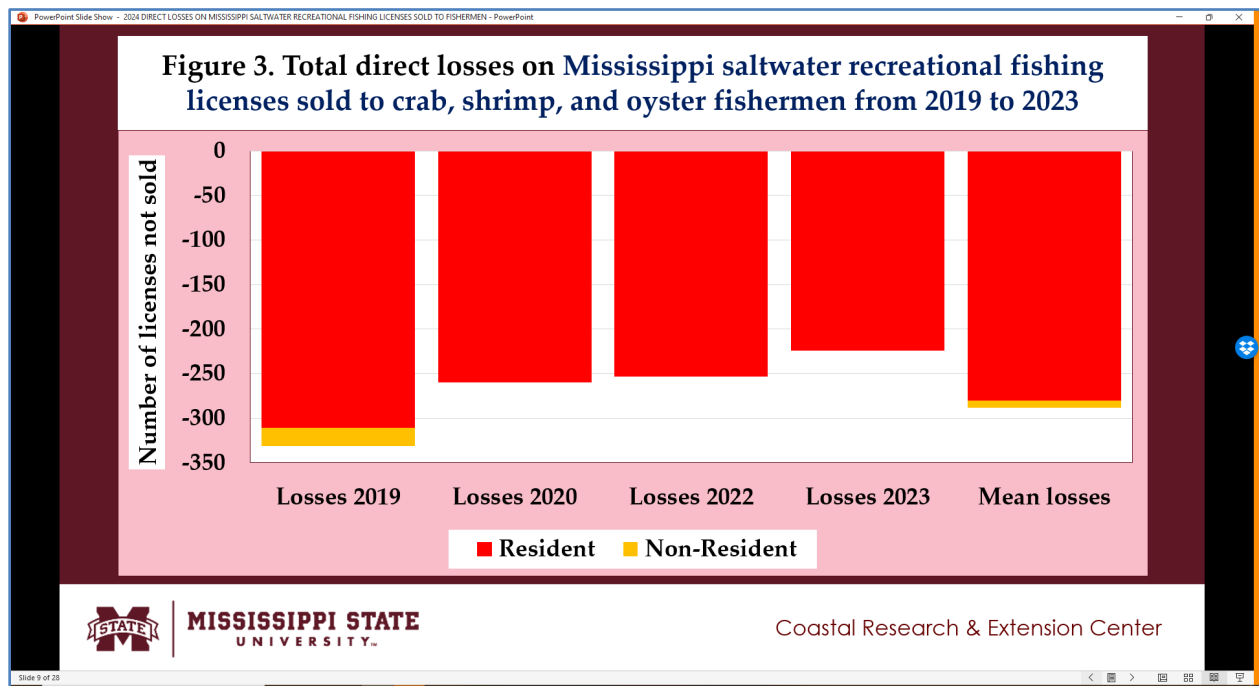
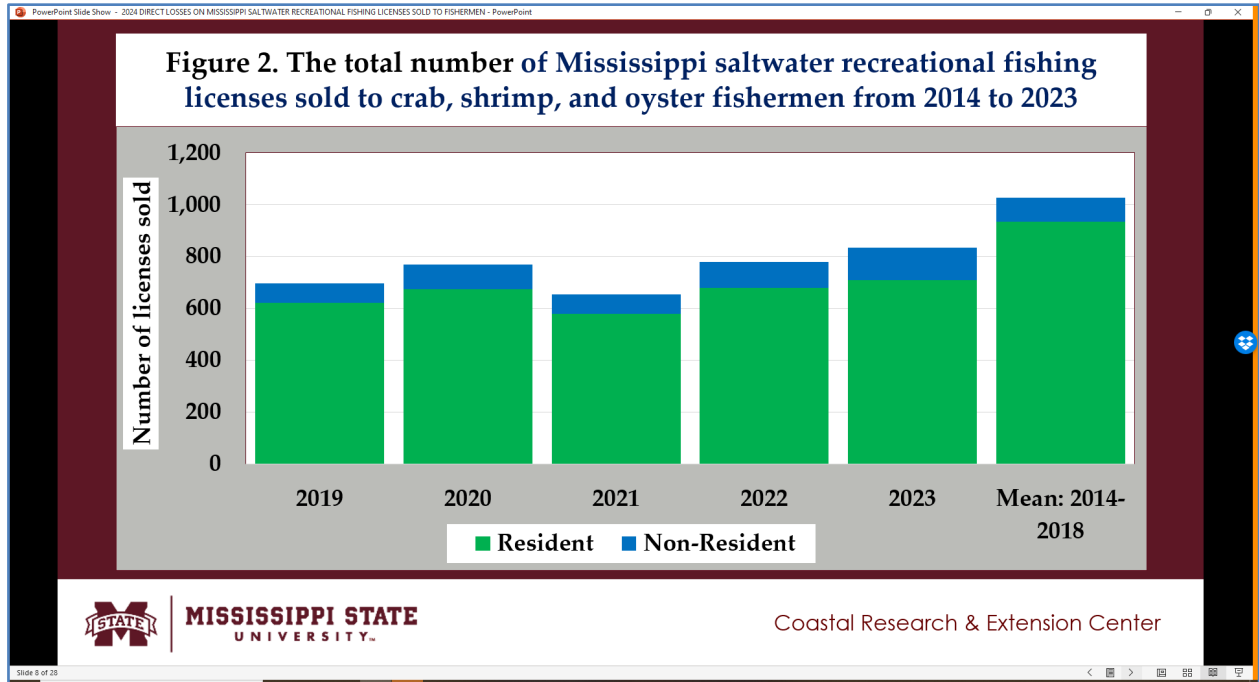
- Direct loss was estimated using the Mean-Difference model. Direct loss occurs when current values are below the benchmark values.
- The annual data on fishing licenses were compiled from annual reports of the Mississippi Department of Marine Resources from 2000 to 2012 and requests for disclosure of public records from 2014 to 2023 to the Mississippi Department of Marine Resources.

- The benchmark values are the means for the selected benchmark period. The benchmark period selected started from 2014 to 2018. The benchmark period is suggested to be at least three years before the disaster.
- The direct losses computed are from 2019 to 2023 and expressed in number and percent of licenses loss.

## DIRECT LOSSES ON THE TOTAL NUMBER OF SALTWATER RECREATIONAL FISHING LICENSES SOLD

- The total number of saltwater recreational fishing licenses fell after the 2005 Hurricane Katrina, the 2019 Bonnet Carre Spillway disaster, and the COVID-19 global pandemic (Fig. 1).
- The total number of saltwater recreational fishing licenses from 2014 to 2018 averaged 1,027. About 933 were sold to resident fishermen, while 94 were sold to non-resident fishermen (Fig. 2).
- The total direct loss from 2019 to 2023 averaged 288 licenses, or 28%. Resident fishermen lost 280 licenses, or 30%, while non-resident fishermen lost eight licenses, or 9% (Fig. 3).

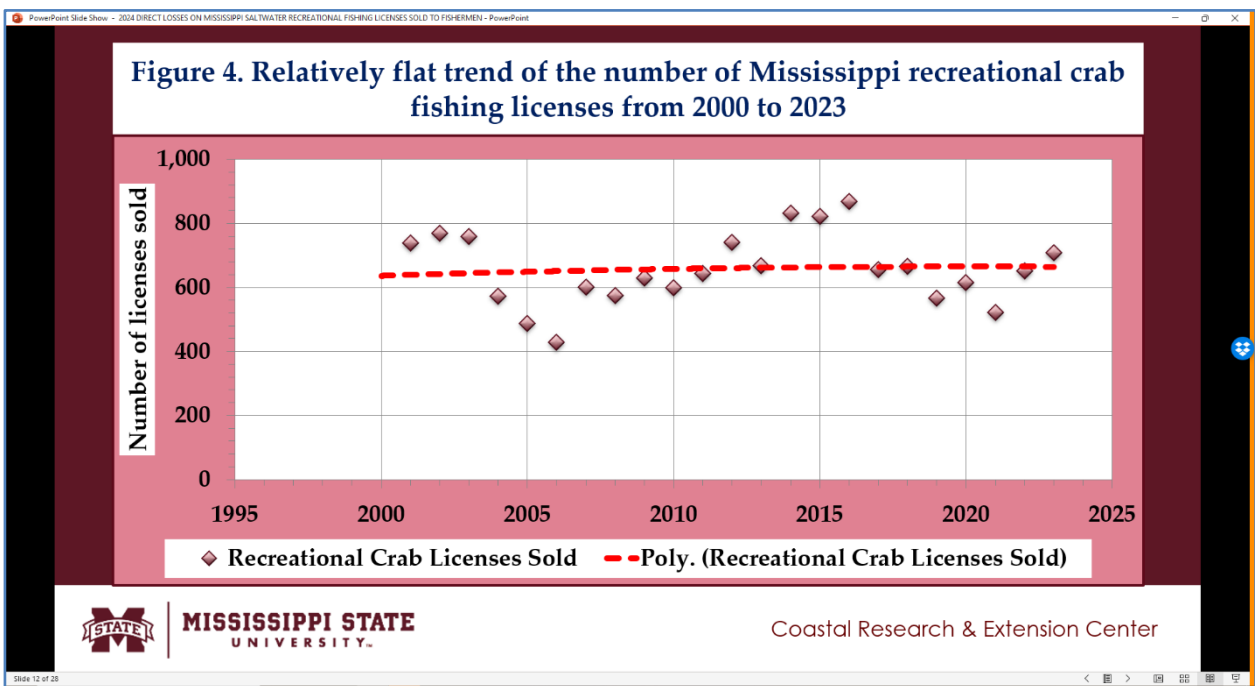


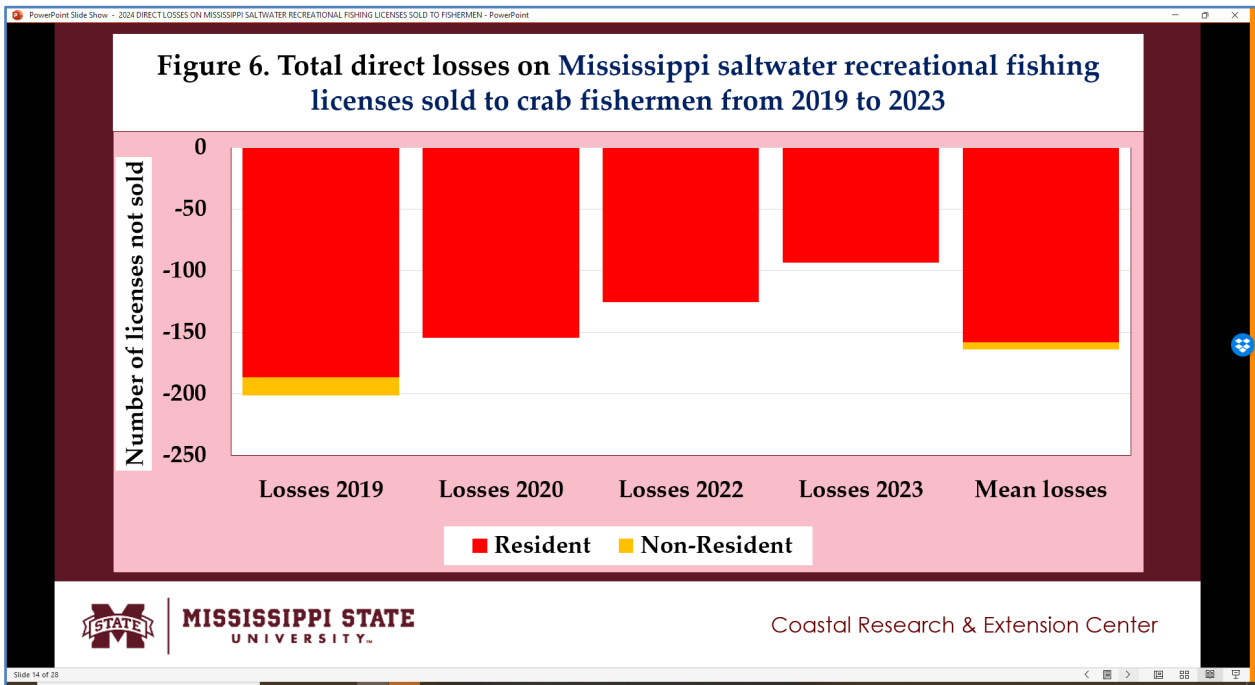
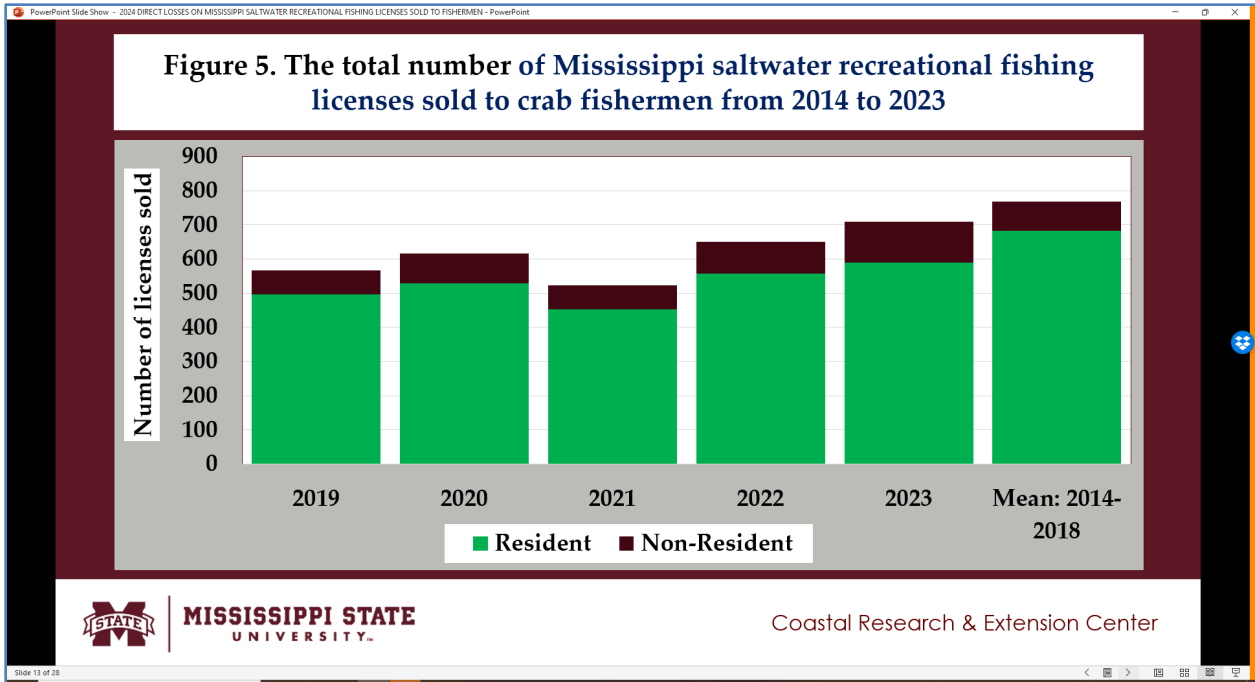


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## DIRECT LOSSES ON THE TOTAL NUMBER OF SALTWATER RECREATIONAL CRAB FISHING LICENSES SOLD

- The total number of saltwater recreational crab fishing licenses fell after the 2005 Hurricane Katrina, the 2019 Bonnet Carre Spillway disaster, and the COVID-19 global pandemic (Fig. 4).
- The total number of saltwater recreational crab fishing licenses from 2014 to 2018 averaged 769. About 683 were sold to resident fishermen, while 86 were sold to non-resident fishermen (Fig. 5).
- The total direct loss from 2019 to 2023 averaged 164 licenses, or 21%. Resident fishermen lost 158 licenses, or 23%, while non-resident fishermen lost six licenses, or 7% (Fig. 6).

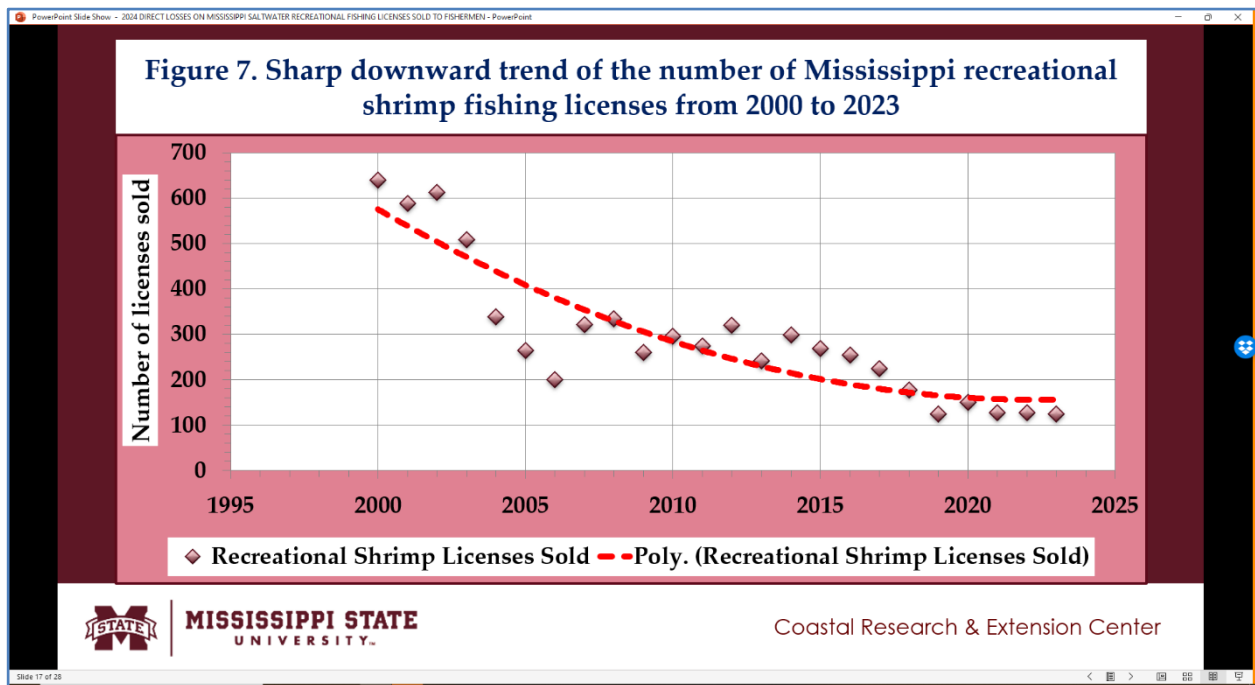


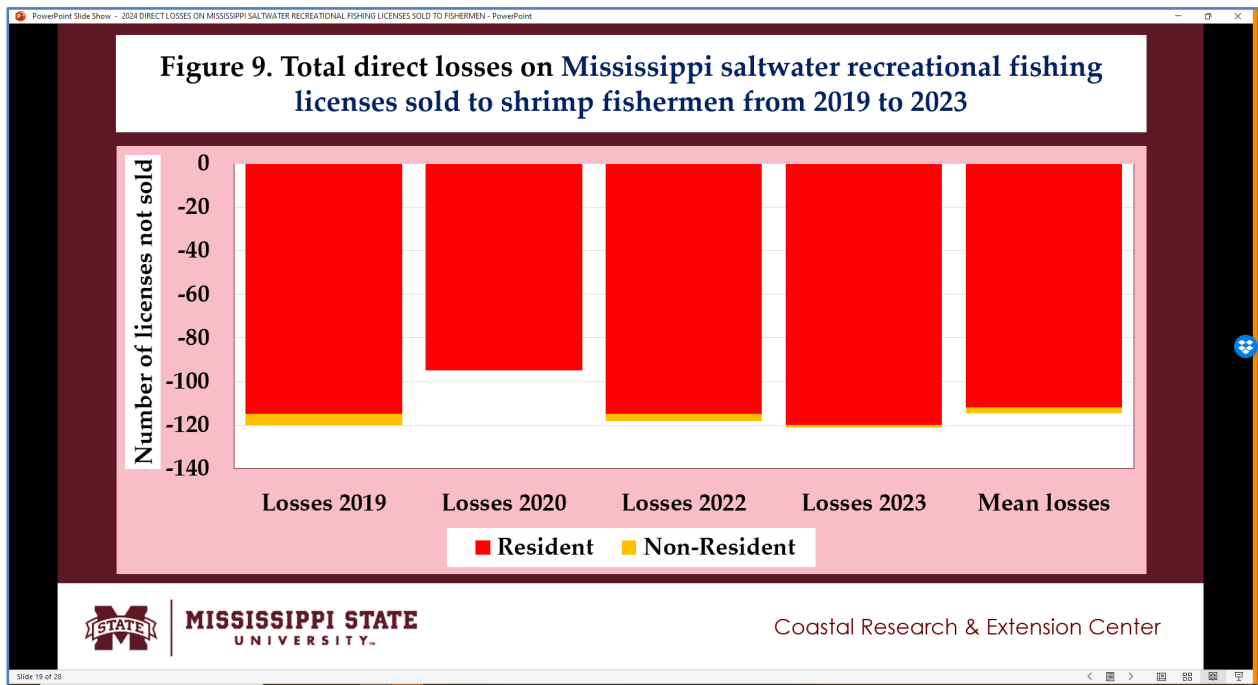
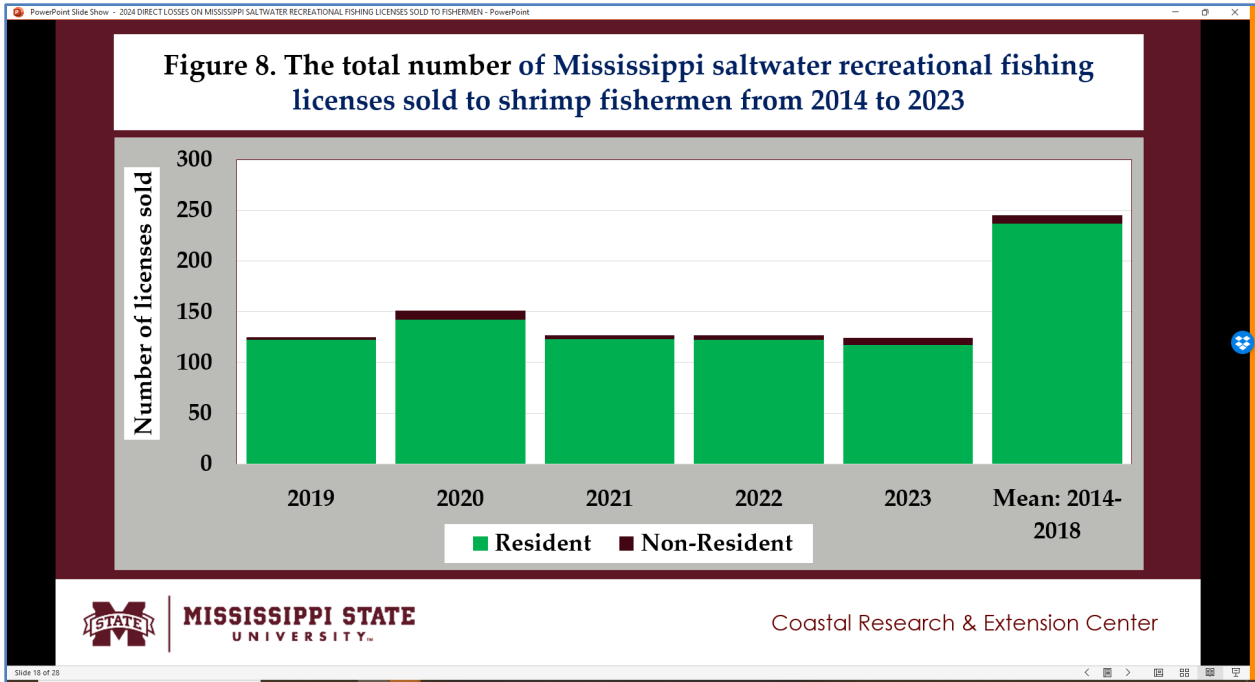


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## DIRECT LOSSES ON THE TOTAL NUMBER OF SALTWATER RECREATIONAL SHRIMP FISHING LICENSES SOLD

- The total number of saltwater recreational shrimp fishing licenses fell after the 2005 Hurricane Katrina, the 2019 Bonnet Carre Spillway disaster, and the COVID-19 global pandemic (Fig. 7).
- The total number of saltwater recreational shrimp fishing licenses from 2014 to 2018 averaged 245. About 237 were sold to resident fishermen, while eight were sold to non-resident fishermen (Fig. 8).
- The total direct loss from 2019 to 2023 averaged 115 licenses, or 47%. Resident fishermen lost 112 licenses, or 47%, while non-resident fishermen lost three licenses, or 34% (Fig. 9).

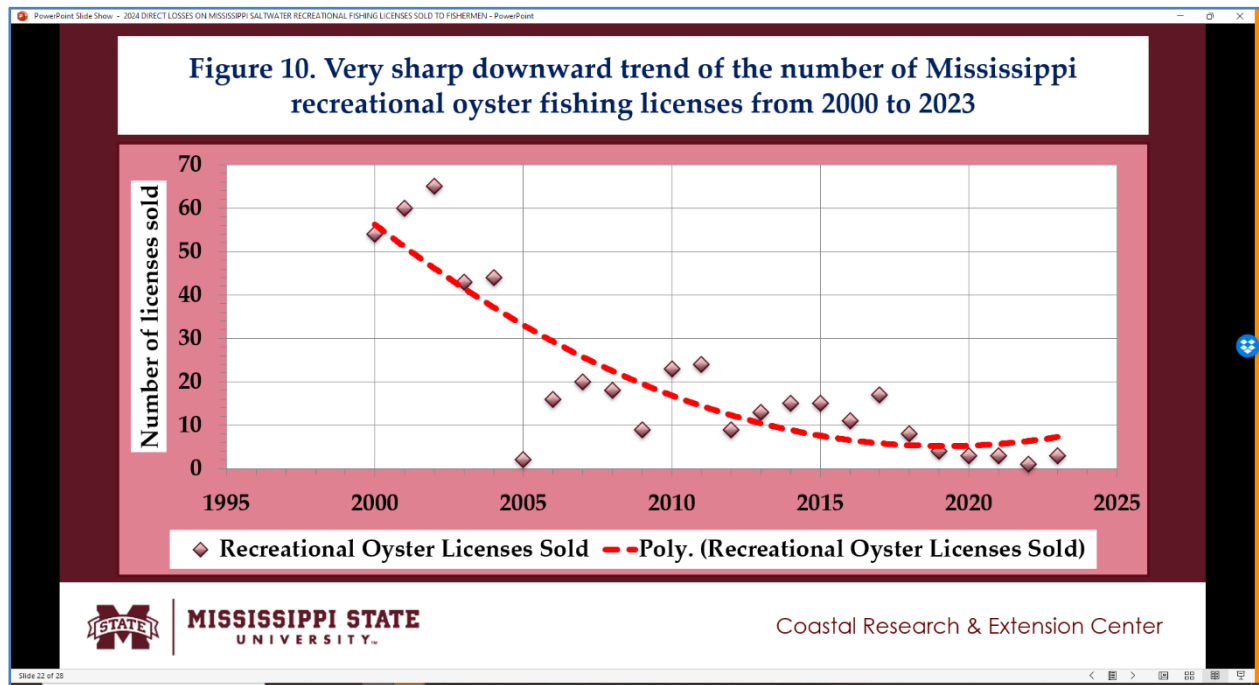




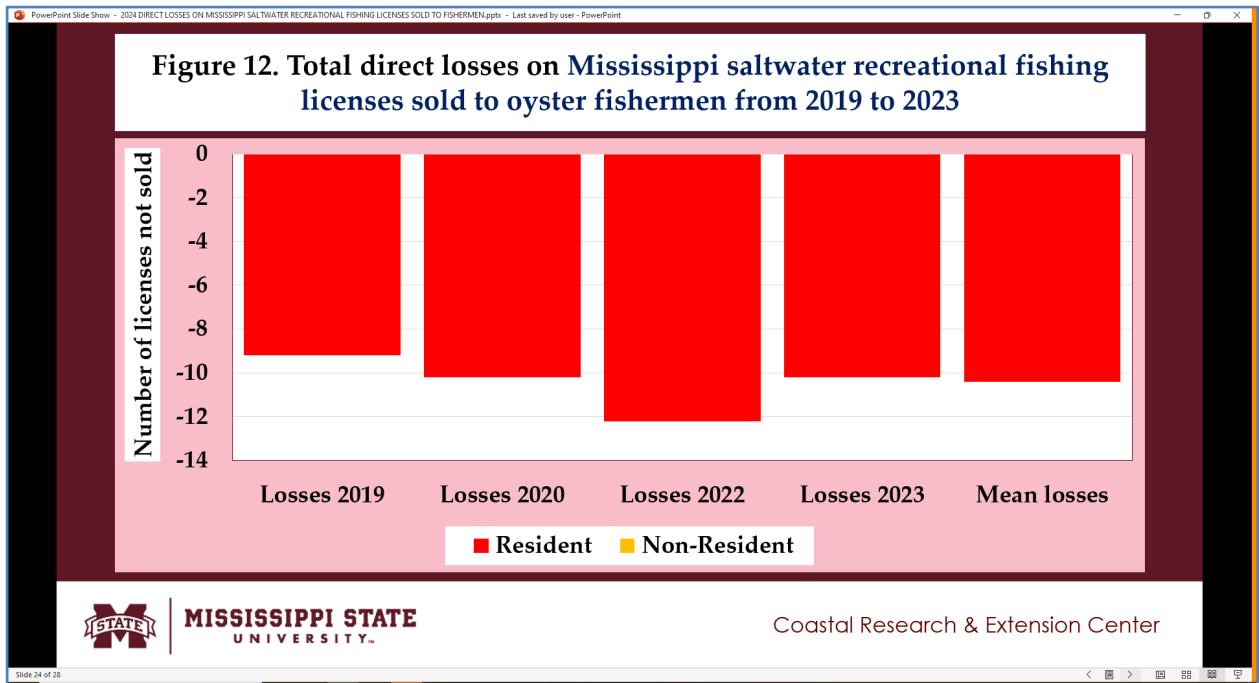
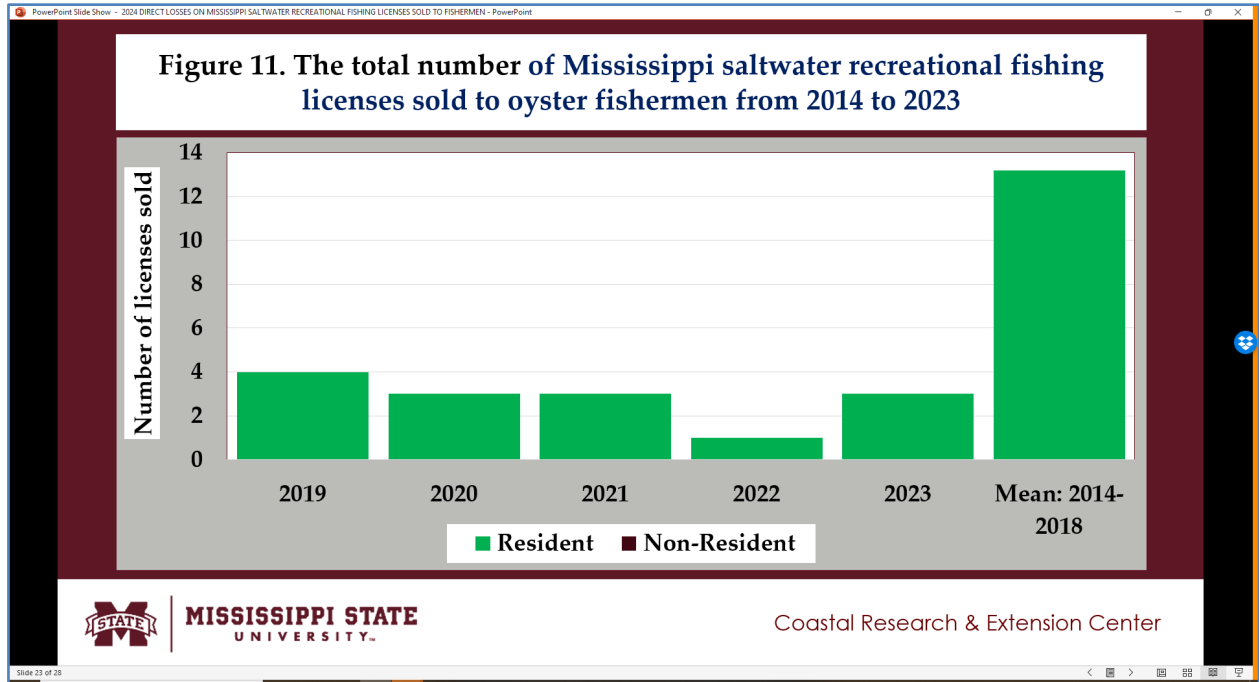
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## DIRECT LOSSES ON THE TOTAL NUMBER OF SALTWATER RECREATIONAL OYSTER FISHING LICENSES SOLD

- The total number of saltwater recreational oyster fishing licenses fell after the 2005 Hurricane Katrina, the 2011 and 2019 Bonnet Carre Spillway disaster, and the COVID-19 global pandemic (Fig. 10).
- The total number of saltwater recreational oyster fishing licenses from 2014 to 2018 averaged 13. About 13 were sold to resident fishermen, while none was sold to non-resident fishermen (Fig. 11).
- The total direct loss from 2019 to 2023 averaged 10 licenses, or 79%. Resident fishermen lost 13 licenses, or 79% (Fig. 12).







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## SUMMARY, LIMITATIONS, AND IMPLICATIONS

- Trend analysis of data from 2000 to 2023 shows that the number of licenses sold to saltwater recreational fishing mostly declined after major disaster events such as Hurricane Katrina in 2005, Bonnet Carre Spillway openings in 2011 and 2019, and the and the COVID-19 global pandemic.
- These disasters severely impacted the number of shrimp and oyster recreational fishermen and have not recovered to pre-disaster levels.
- Mean-difference analysis showed the direct losses in the number of licenses sold, averaging about 280 saltwater sport fishermen annually from 2019 to 2023, representing almost three out of ten fishermen.
- Fewer saltwater fishermen were harvesting crab, shrimps, and oyster for their own consumption. Each recreational fishing license not sold implies lesser purchases of fuel, food and drinks, fishing gear, bait, and other fishing-related expenditures.

## REFERENCES

- **Posadas, Benedict C. 2024. DIRECT LOSSES ON MISSISSIPPI SALTWATER RECREATIONAL FISHING LICENSES SOLD TO FISHERMEN.** Horticulture and Marine Economics Outreach. Mississippi State University, Coastal Research and Extension Center, Biloxi, Mississippi. (27 pp). <https://youtu.be/-L62BgfWpW4>.

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