Mississippi MarketMaker Newsletter

MISSISSIPPI STATE UNIVERSITY EXTENSION

Commercial Oyster Harvesting

In this issue, Dr. Posadas describes the long-term trends in the oyster industry in the U.S., the Gulf of Mexico, and Mississippi since 1929. Based on the oyster supply data published by NOAA Fisheries, he estimated the apparent per capita consumption since 1989. The share of imports to the total supply of oyster products had been increasing over time. The most valued imported oyster products were canned oysters, live and fresh farmed and wild oysters, and frozen farmed and wild oysters. The economic contributions of oyster harvesting in the Gulf of Mexico states show the importance of the industry to fishing households, businesses, and communities in the region. The livelihoods and way of life of the fishing households, businesses, and communities dependent on the oyster industry are threatened by the man-made disaster associated with the prolonged and twice opening of the Bonnet Carre spillway since Feb. 2019.

Dockside Values

The total dockside values of oysters harvested in the United States grew to more than $200 million during the past five years (Fig. 1). Most of these dockside values were created by the Eastern oyster (73%), followed by the Pacific oyster (26%), and a few Kumamoto oyster (1%).

The most widely harvested from the wild beds in the coastal areas in the Gulf of Mexico and the Eastern United States is the Eastern oyster. The Eastern oyster (*Crassostrea virginica*) is also known as American oyster, Atlantic oyster, American cupped oyster (NOAA Fisheries, 2019). The Gulf of Mexico states' Eastern oyster harvests contributed more than 40 percent of the total domestic dockside values of all oyster species landed in the U.S. since 2011 (Fig. 1).

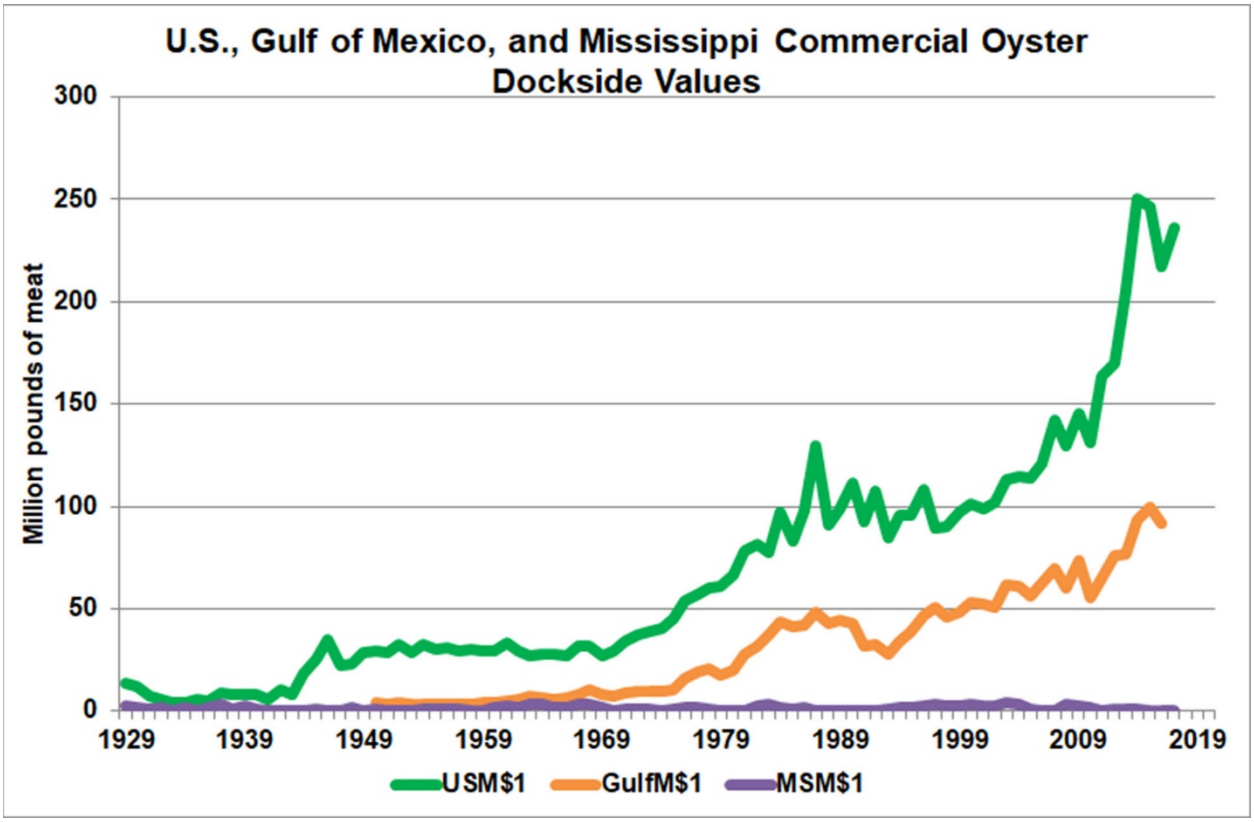

Figure 1. The primary vertical axis shows the yearly dockside values in dollars. Source of raw data: NOAA Fisheries. http://www.st.nmfs.noaa.gov/. Last visited: June 28, 2019. Legend: US$M1, Gulf$M1, MSM$1 – U.S., GoM, and MS dockside values (in $M).

The Texas Parks and Wildlife (2019) described the Eastern oyster as follows:

"*The eastern oyster feeds on plankton and algae. Spawning season is from late spring to early fall during warm weather. Females may release more than 100 million eggs during a season. Only about one percent of the fertilized eggs reach the next stage of maturity. Within hours of mixing with sperm, the fertilized eggs develop a shell and begin to move on their own. Oyster larvae, each about the size of a grain of pepper, use tiny, probing feet to find a suitable place to attach. Once settled, the foot excretes a cement-like glue. The oyster glues itself in place and spends the rest of its life there. Its lifespan varies, depending on freshwater inflow and predators.*"

References:

1. NOAA Fisheries. 2019. https://www.fisheries.noaa.gov/species/eastern-oyster.
2. Texas Parks and Wildlife. 2019. https://tpwd.texas.gov/huntwild/wild/species/easternoyster/.

Oyster Consumption

The per capita consumption of oysters (PCOC) in the U.S. is the average quantity of oyster products (in pounds of meat) consumed by each of the population in a given year. The PCOC is computed as follows:

PCOC = [beginning inventory + domestic landings + net imports – ending inventry] / civilian population, where net imports = imports – exports.

The per capita consumption of oysters in the U.S. continued to decline from about 0.25 pounds between 1990 and 2007 to less than 0.20 pounds after that period (Fig. 2). The falling landings of oysters over time could be associated with this continued decline in oyster consumption in the U.S.

Commercial Landings

The long-term commercial landings of oysters harvested from the U.S., Gulf of Mexico, and Mississippi since 1929 are shown in Fig. 3. The databases on commercial landings were compiled from the NOAA Fisheries website and printed annual reports. On average, about 33.9 million pounds of oysters were landed in the U.S. each year, valued at $212 million, during the past six years after the Deepwater Horizon oil spill.

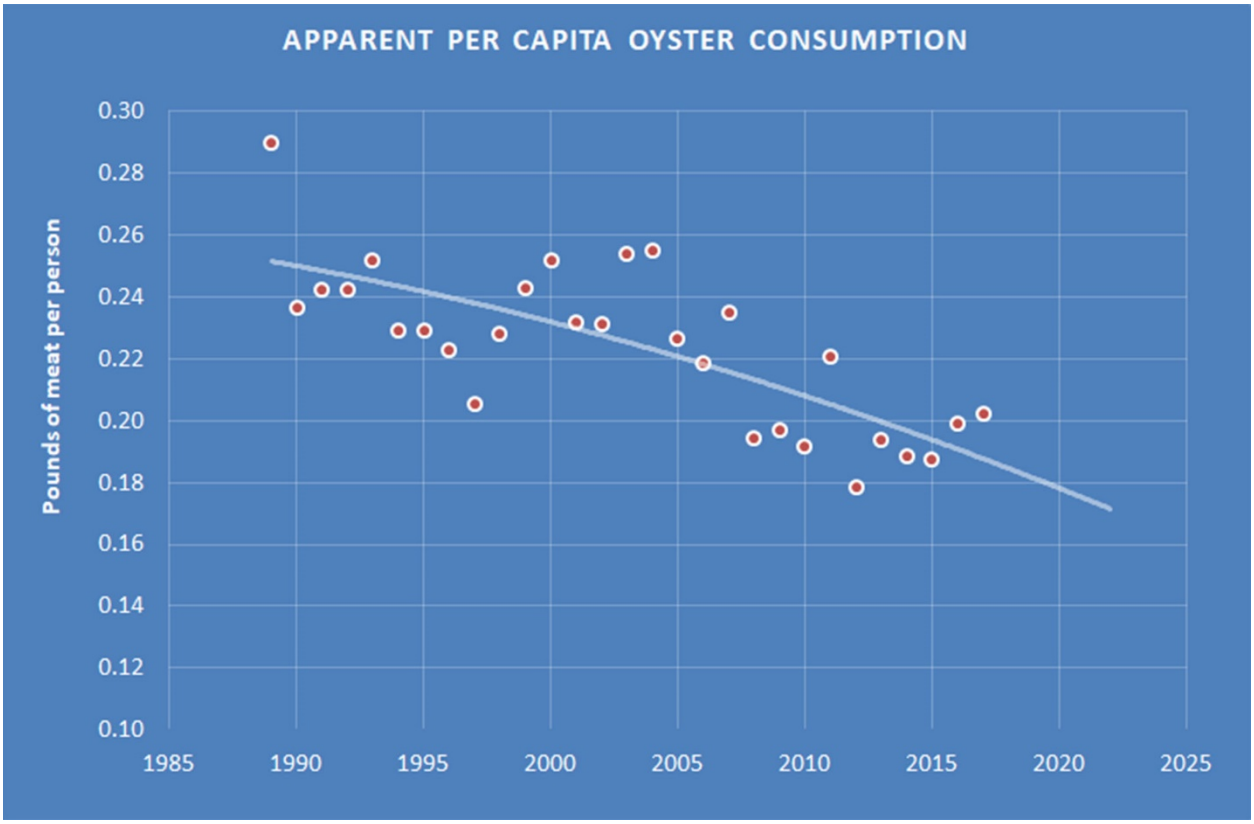

Figure 2. The primary vertical axis shows the annual per capita consumption in pounds of meat per person. Source of raw data: NOAA Fisheries. http://www.st.nmfs.noaa.gov/. Last visited: June 28, 2019.

Since 2011, the Gulf of Mexico states supplied most of the oysters harvested in the U.S. The domestic market share of the Gulf oysters averaged 53.7 percent from 2011 to 2016. Florida West Coast landed 4.9 percent of the domestic landings of oysters. Alabama harvested 0.4 percent. Mississippi produced 0.8 percent. Louisiana supplied 35.7 percent of the domestic oysters. Texas added 11.8 percent to the domestic harvests.

Different ex-vessel prices were observed among the three oyster species harvested in the U.S. The dockside prices (EVP) of Eastern oysters averaged about $6.30 per pound during the past six years. The EVP of Pacific oysters averaged $5.84 per pound, slightly lower than the Eastern oysters. The Kumamoto oysters, if available, were landed at higher dockside prices averaging $22.94 per pound.

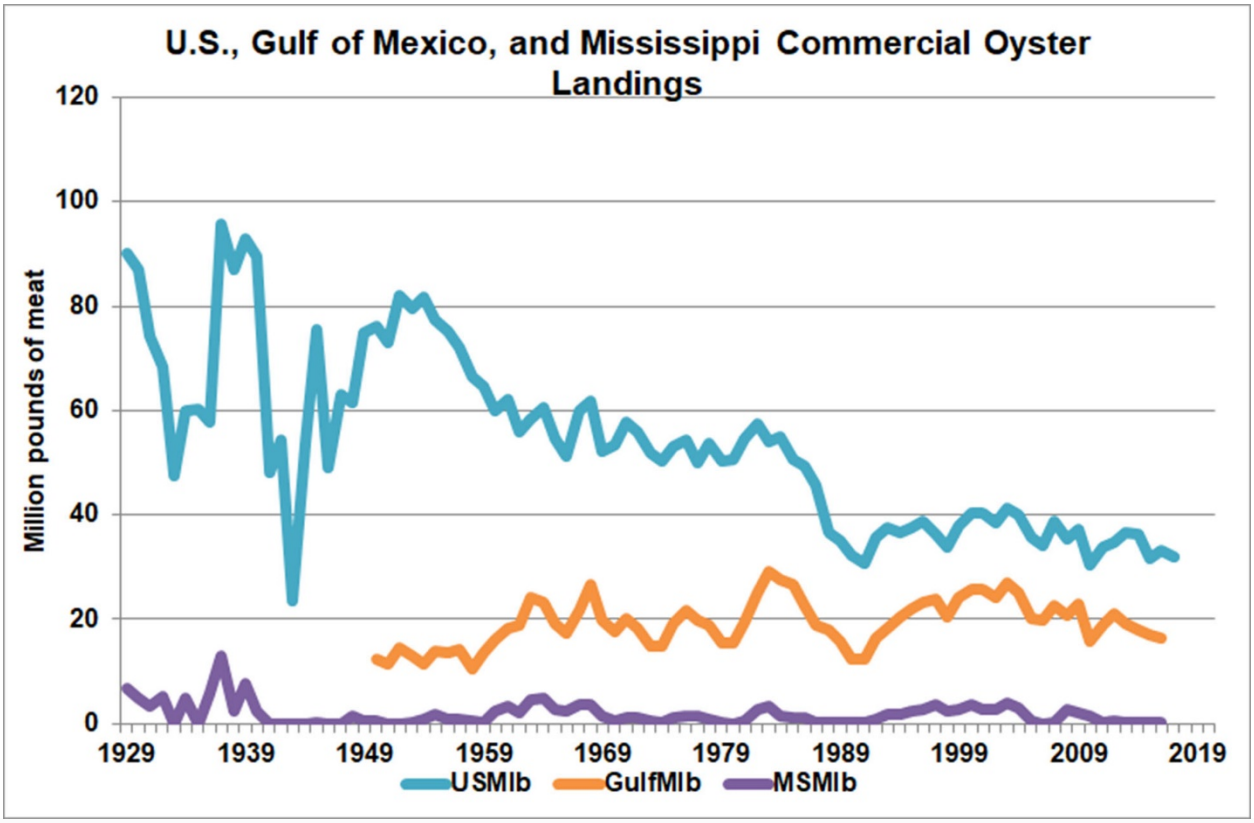

Figure 3. The primary vertical axis shows the yearly commercial landings in pounds of meat. Source of raw data: NOAA Fisheries. http://www.st.nmfs.noaa.gov/. Last visited: June 28, 2019. Legend: USMlb, GulfMlb, MSMlb – U.S., GoM, and MS landings (in M pounds).

Oyster Imports

Data from NOAA Fisheries showed that imported oyster products contributed to an increasing share of total oyster supply during the past six years, reaching 52 percent in 2016 (Fig. 4). The most valued imported oyster products consisted of canned oysters (Fig. 5). Live and fresh farmed and wild oysters were the next most preferred imports. Importers also favored frozen farmed and wild oysters.

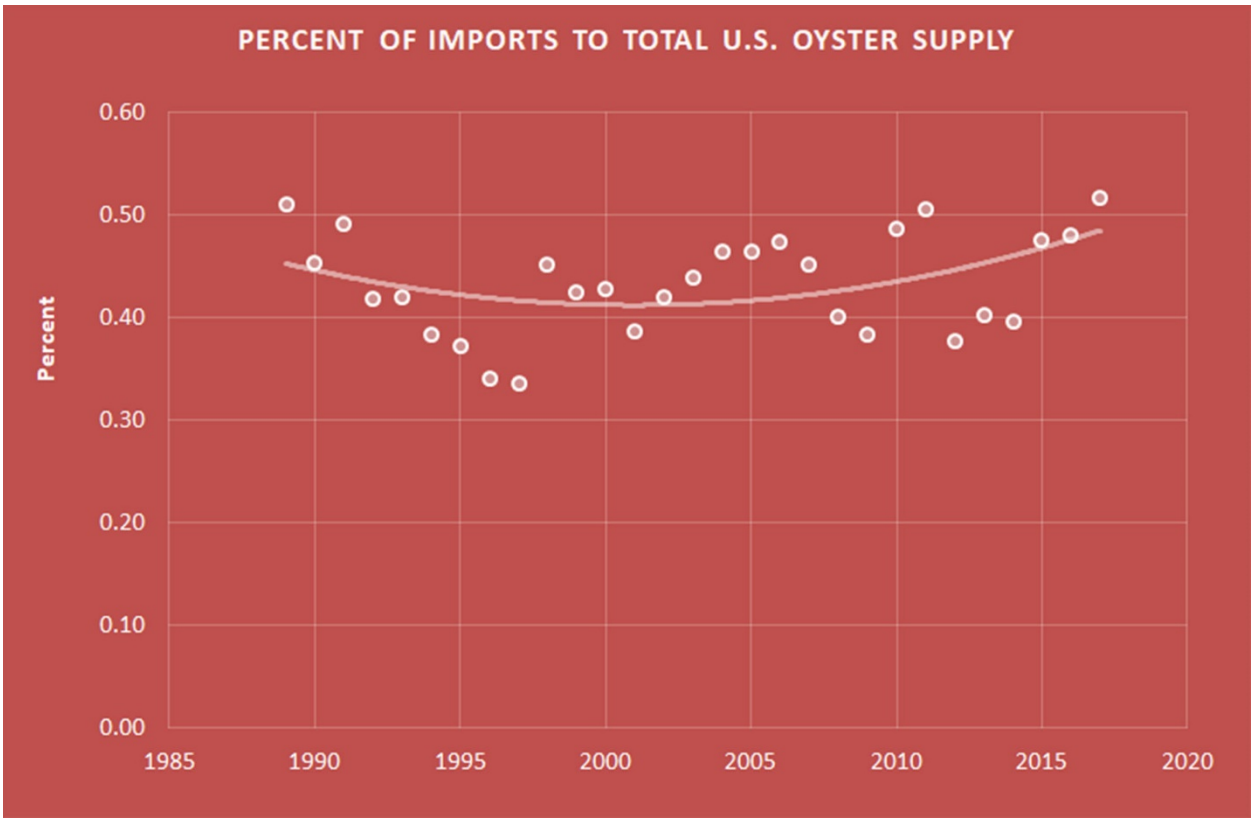

Figure 4. Source of raw data: NOAA Fisheries (2019).

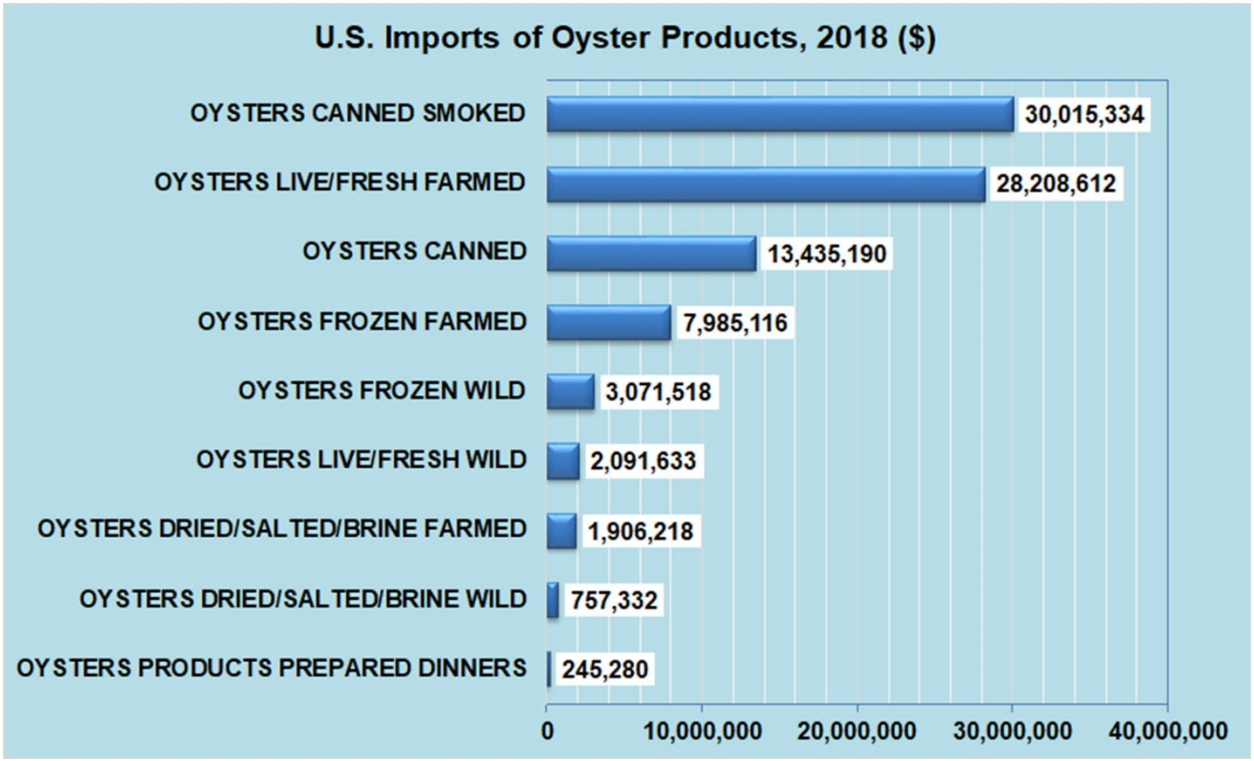

Figure 5. Source of raw data: NOAA Fisheries (2019).

MarketMaker Seafood Businesses

In 2016, the Gulf-wide commercial landings of oysters reached 16.3 million pounds with dockside values about $91.4 million. Oyster harvesting is regulated in the Gulf of Mexico states. Monthly landings data in 2014-16 showed that oysters are available year-round with peaks between Feb. and Apr. More than 12,000 businesses which catch, process, and sell seafood products are registered in MarketMaker nationwide. There are more than 200 businesses which promote their seafood products and services in Mississippi MarketMaker.

To search for seafood businesses in MarketMaker, perform the following procedures:

1. Go to https://ms.foodmarketmaker.com/main/mmsearch/
2. Click "search" and type "**Seafood**" in the product box.
3. You can sort the search results by relevance and name.
4. You can also limit online searches by state, and type of business.

Economic Contributions

The economic contribution that the commercial oyster harvesting makes region-wide is crucial information in making private investment decisions, formulating government policy, and developing research and extension programs for the industry. The economic contribution of oyster harvesting in the Gulf of Mexico states shows the importance of the industry to fishing households, businesses, and communities in the region.

The IMPLAN (http://implan.com/) software and the 2013 input-output data for the five Gulf States were used in creating the regional economic model of commercial fishing in the Gulf of Mexico in 2016. The economic analysis used sector 17 or commercial fishing of the 2013 IMPLAN input-output data.

The annual commercial dockside values of oysters in the Gulf of Mexico States in 2016 reached $91.4 million, which was about 9.4 percent higher than the average dockside values in the region since 2011. The total output contribution of commercial oyster fishing in 2016 reached $174.4 million (Fig. 6). This output of goods and services created by the commercial harvesting of oysters and related industries supported more than 2,400 jobs and generated labor income amounting to $62.5 million in the Gulf regional economy.

Commercial oyster harvesting generates annual tax revenues for the Gulf States and the U.S. federal government. It was estimated that more than $10.7 million would have been paid by

households and businesses in 2016 to the federal government as social insurance tax, tax on production and imports, corporate profit tax, and personal income tax. The Gulf States were anticipated to have collected taxes from households and businesses in 2016 amounting to more than $5.2 million in social insurance tax, tax on production and imports, corporate profits tax, and personal tax.

Economic contribution of commercial oyster harvesting in the Gulf of Mexico region				
Impact Type	**Employment (Jobs)**	**Labor Income ($M)**	**Total Value Added ($M)**	**Output ($M)**
Direct Effect	1,953	38.6	47.4	91.4
Indirect Effect	146	9.6	18.9	40.3
Induced Effect	302	14.3	26.0	42.6
Total Effect	**2,402**	**62.5**	**92.3**	**174.4**

Figure 6. The total economic contribution includes direct, indirect, and induced effects estimated by using 2016 annual landing values and 2013 IMPLAN data. The local purchases percentage was set at 100%. The number of jobs is rounded off.

Disaster Implications

The livelihoods and way of life of the fishing households, businesses, and communities dependent on the oyster industry are threatened by the man-made disaster associated with the prolonged and twice opening of the Bonnet Carre spillway since Feb. 2019. To save lives, properties and the way of life in New Orleans and surrounding communities, the Bonnet Carre spillway was opened to release flood water into Lake Pontchartrain and eventually into the Mississippi Sound. These massive volumes of freshwater are dumped into the fertile fishery grounds of the Mississippi Sound.

There are reports of pollutants and sediments that came with the large amounts of freshwater through the Mississippi River and its tributaries. Daily reports from Mar. to Jun. 2019 showed that salinity levels went below the critical levels for oysters to survive, and were almost zero for more than four months since opening. Subsequently, extreme devastation of the state oyster fishery resources was observed during sampling activities of the oyster growing areas.

During the Fourth of July weekend, the entire Mississippi Gulf Coast was closed to fishing and swimming due to the massive coast-wide freshwater harmful algal blooms. This man-made disaster is an externality that causes consumer and producer losses. Market forces cannot create a system of payments for the offended parties. The government needs to intervene and compensate for the losses suffered by consumers and producers. The effects of the disaster confronting the Mississippi Sound will linger for some time, and the economic hardships will further erode the quality of life of fishing households, businesses, and communities.

Suggested Citation:

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