

Direct Losses to Commercial Shrimp Harvesting

In this issue, Dr. Posadas describes the direct losses to the Mississippi shrimp industry in Mississippi due to a recent man-made disaster. This issue is an update of [Mississippi MarketMaker Newsletter](#), Vol. 7, Nos. 8, 11, 16. The economic contributions of the shrimp harvesting industry show the importance of the industry to fishing households, businesses, and communities. The fishing households, businesses, and communities dependent on the shrimp industry are threatened by the lingering impacts of the man-made disaster associated with the prolonged and twice opening of the Bonnet Carre spillway since February to April and May to July 2019.

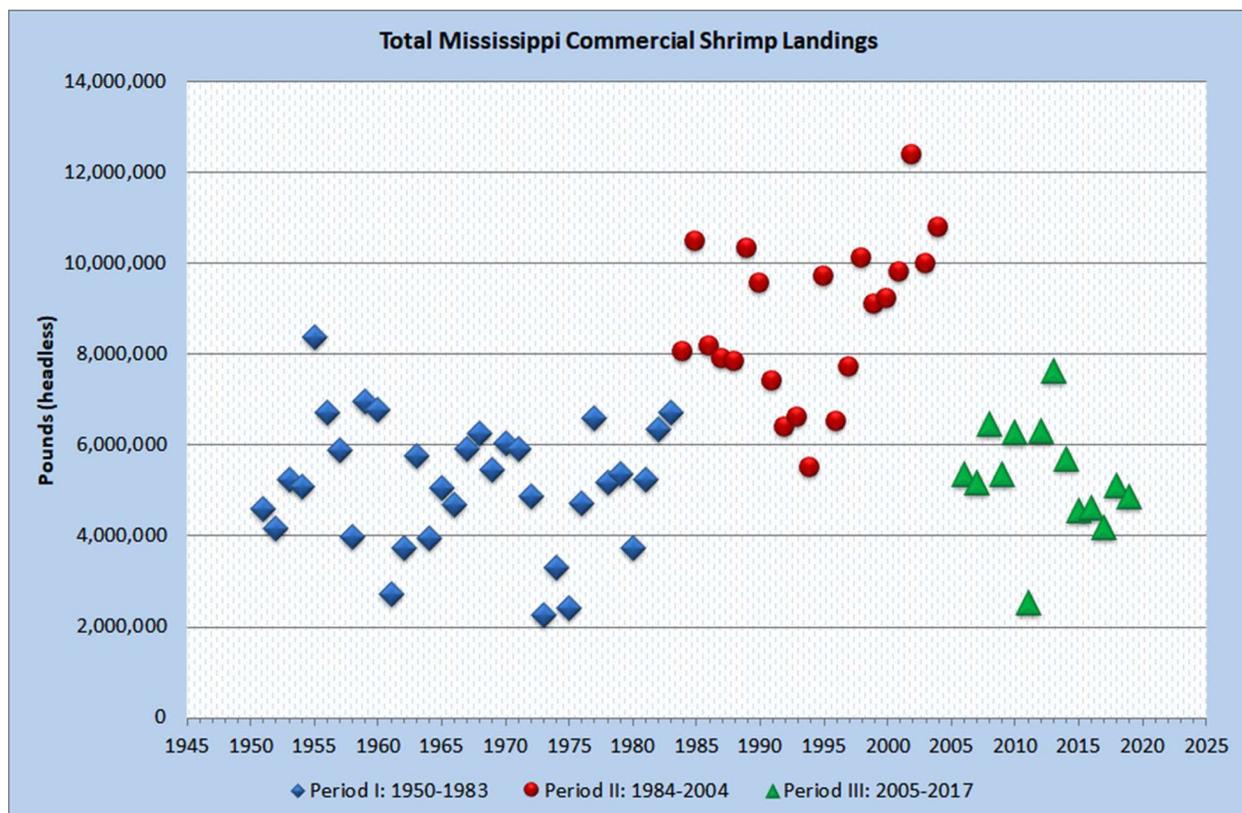


Figure 1. The vertical axis shows the yearly commercial landings in million pounds. Source of raw data: NOAA Fisheries. <http://www.st.nmfs.noaa.gov/>.

Commercial Landings

The long-term commercial landings and dockside values of shrimp landed in Mississippi since 1950 are shown in Fig. 1 and 2. The databases on commercial landings were compiled from the NOAA Fisheries websites. There will be further research and discussions on the different periods that the state commercial shrimp fishery underwent since 1950. On average, however, about 5.3 million pounds of shrimp (headless) were landed in the state each year during the past eight years after the Deepwater Horizon oil spill. This 8-year period will serve as our initial benchmark period in the analysis.

The two major shrimp species landed in Mississippi were brown and white shrimp. The total dockside values of shrimp landed in Mississippi averaged about \$17.8 million per year since after the Deepwater Horizon oil spill.

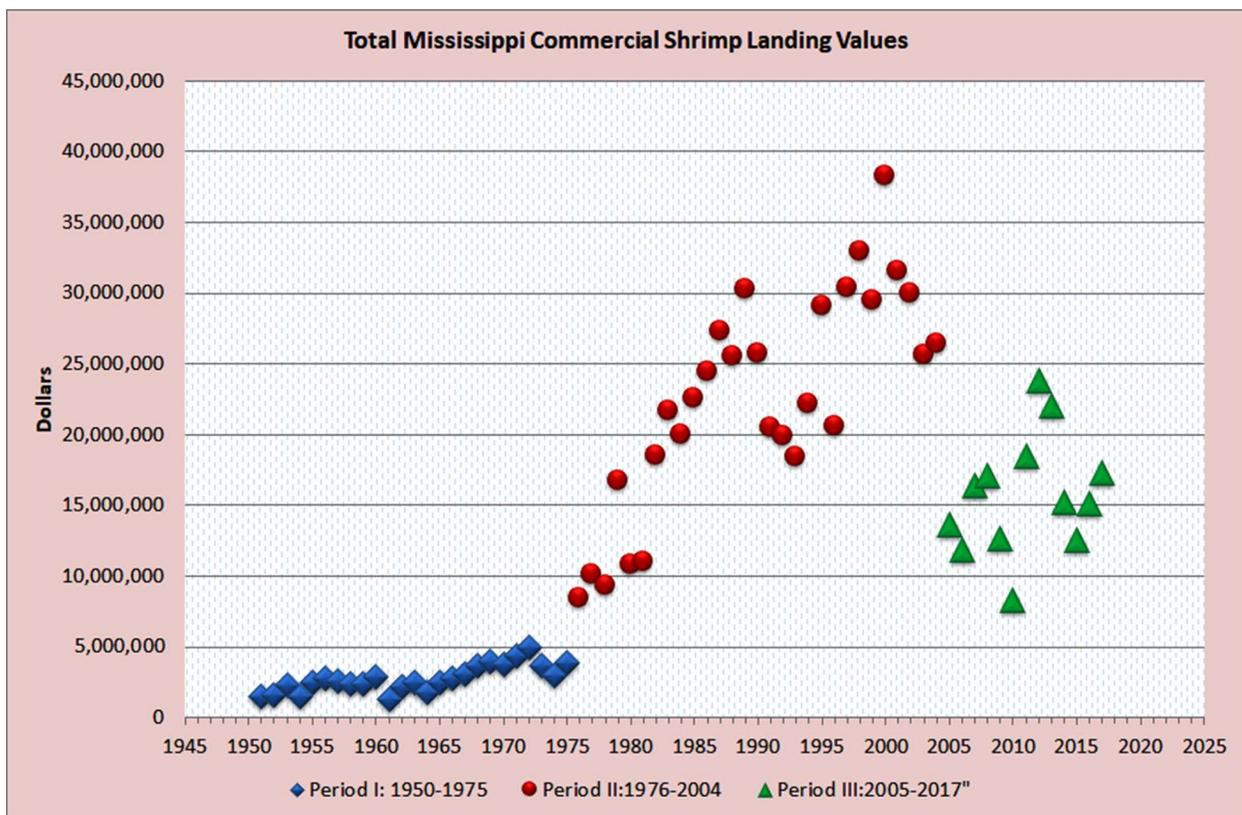


Figure 2. The vertical axis shows the annual dockside values in dollars. Source of raw data: NOAA Fisheries. <http://www.st.nmfs.noaa.gov/>.

MarketMaker Seafood Businesses

In 2017, the Mississippi total commercial landings of shrimp reached 4.9 million pounds (headless) with dockside values about \$17.3 million. The Mississippi Department of Marine Resources regulates shrimp harvesting in state waters.

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 contribution of commercial shrimp harvesting in Mississippi				
Impact Type	Employment (Jobs)	Labor Income (\$M)	Total Value Added (\$M)	Output (\$M)
Direct Effect	428	9.3	17.1	17.3
Indirect Effect	1	0.1	0.1	0.2
Induced Effect	51	1.8	3.5	6.4
Total Effect	480	11.1	20.7	23.9

Figure 3. The total economic contribution includes direct, indirect, and induced effects estimated by using 2017 annual landing values and 2017 IMPLAN data. The local purchases percentage was set at 100%. The number of jobs is rounded off.

Economic Contributions

The economic contribution that commercial shrimp harvesting makes state-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 shrimp harvesting in the state shows the importance of the industry to fishing households, businesses, and communities in Mississippi.

The IMPLAN (<http://implan.com/>) software and the 2017 input-output data for Mississippi were used in creating the regional economic model of commercial fishing in the state in 2017. The economic analysis used sector 17 or commercial fishing of the 2017 IMPLAN input-output data.

The annual commercial dockside values of shrimp in the state in 2017 reached \$17.3 million, which was about three percent lower than the average dockside values in the region since 2011. IMPLAN results show that the total output contribution of commercial shrimp fishing in 2017 reached \$23.9 million (Fig.3). This output of goods and services created by the commercial harvesting of shrimp and related industries supported about 480 jobs and generated labor income amounting to \$11.1 million in the state economy.

Commercial shrimp harvesting generates annual tax revenues for the state and the U.S. federal government. It was estimated that more than \$1.9 million would have been paid by households and businesses in 2017 to the federal government as social insurance tax, tax on production and imports, corporate profit tax, and personal income tax. The state anticipated having collected taxes from households and businesses in 2017 amounting to more than \$3.4 million in social insurance tax, tax on production and imports, corporate profits tax, and personal tax.

Disaster Implications

The livelihoods and way of life of the fishing households, businesses, and communities dependent on the shrimp industry are threatened by lingering effects of the man-made disaster associated with the prolonged and twice opening of the Bonnet Carre spillway since February to April and May to July 2019. To save lives, properties and the way of life in New Orleans and surrounding communities, the Bonnet Carre spillway was opened to release floodwater into Lake Pontchartrain and eventually into the Mississippi Sound.

The massive volumes of freshwater which were dumped into the fertile fishery grounds of the Mississippi Sound brought with them harmful freshwater algae which bloomed all over the coast. Beaches were closed, and advisories were in place until Labor Day weekend and maybe beyond.

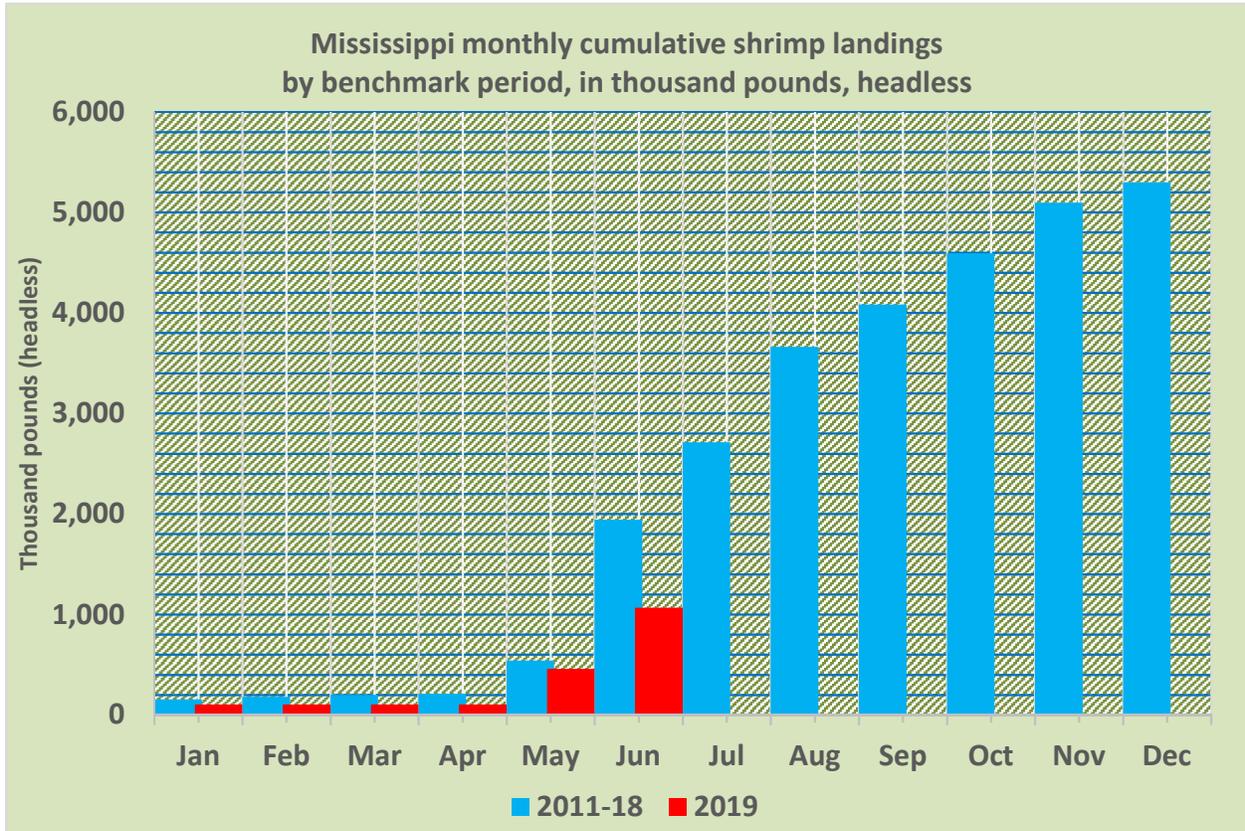


Figure 4. The vertical axis shows cumulative monthly commercial shrimp landings. Source of raw data: NOAA Fisheries.

<https://www.fisheries.noaa.gov/national/sustainable-fisheries/fishery-market-news>.

Legend: 2011-18 – average monthly cumulative landings from 2011 to 2018; and 2019 – cumulative monthly landings in 2019 ending in June.

The commercial shrimp fishery impacts consist of losses of wild shrimp harvests by commercial Mississippi shrimpers due to the prolonged freshwater intrusion. Recent monthly NOAA Fisheries data showed substantial reductions in Mississippi commercial shrimp landings (Fig. 4). Using 2011-18 as benchmark period, the cumulative monthly shrimp landings from January to June was 1.944 million pounds (headless).

The direct losses are equal to the the expected shrimp landings at time t less the actual shrimp landings at time t. As of June 2019, the cumulative direct losses are the foregone shimp landings between March and June 2019 equivalent to about 800,000 pounds (headless). Estimates of the direct losses will be updated as shrimp landings data in succeeding months are released by the NOAA Fisheries.

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.

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