

Commercial Red Drum Fishing

Red drum are the largest member of the family *Sciaenidae* (drums and croakers) and are often called “redfish,” “spottail,” or “channel bass”^{1,2,3}. The name “drum” refers to the ability of male red drum (and males of other drum species) to produce a drumming sound by contracting muscles alongside the swim bladder³. Red drum inhabit western Atlantic waters from Massachusetts south to northern Mexico, including the Gulf of Mexico¹. They can be found in low-salinity coastal waters and estuaries, as well as high-salinity offshore waters².



Figure 1. Red drum (*Sciaenops ocellatus*). Source: Mississippi Saltwater Fish. Mississippi Department of Marine Resources, Biloxi, Mississippi. Illustration by Joe Jewell.

Red drum form spawning aggregations and spawn in high salinity, high current areas from mid-August to mid-October². Males stake out the spawning areas and prepare to spawn every night during the season, whereas females only arrive precisely when they are about to spawn (every few days)². Males make their drumming sound during courtship⁴. The spawning potential of red drum is staggering; an average female produces 20 to 40 million eggs per spawning season². Females are mature by age six; males, by age five².

Red drum are typically copper-colored with a white belly, though the color of each individual fish varies based on the water it inhabits². Red drum have an iconic ocellated (“eye-like”) spot at the base of the tail fin; occasionally, more than one spot exists². Red drum lack the chin whiskers or “barbels” often

possessed by other members of the drum/croaker family³. Red drum commonly reach lengths of 40 inches¹. The maximum reported length, weight, and age for red drum are 61 inches, 99 pounds, and 50 years, respectively¹. Red drum are aggressive and opportunistic feeders and consume crustaceans, mollusks, and fishes such as sea robins, lizardfish, menhaden, spot, croaker, and flounder^{1,2}.

The food value of red drum is good, with smaller fish considered to be better tasting compared to larger fish². Red drum are utilized fresh and frozen and can be pan-fried, broiled, or baked¹. Gulf of Mexico red drum were commercially important until the late 1980s³. During the 1980s, increased fishing effort (particularly through the use of purse seines) along with increased popularity of the dish “blackened redfish” led to a drastic increase in harvest and an “overfished” stock status⁵.

Therefore, since 1987, the recreational and commercial harvest of red drum has been prohibited in federal waters^{5,6,7,8}. Commercial harvest is also prohibited in Florida, Alabama, Louisiana, and Texas waters^{9,10,11,12}. Mississippi is the only Gulf State that allows red drum to be harvested commercially¹³. Although the Gulf of Mexico red drum stock appears to be recovering from overfishing, the status of the stock has been difficult to assess because it is considered a “data-limited species”¹⁴.

Despite the federal moratorium and limited commercial harvest in state waters, red drum are still widely sought in state waters by recreational fishermen⁴. On the northern Gulf coast, red drum are considered part of the “big three” of sportfish, along with red drum and flounder; anglers who catch all three species in one trip dub the victory a “grand slam”⁴. Red drum are a candidate for aquaculture because they are popular food fish, they are relatively hardy, and they adapt well to aquaculture conditions¹⁵.

References:

1. <http://www.fishbase.org/Summary/SpeciesSummary.php?ID=1191&AT=red+drum>
2. <https://www.seagrantfish.lsu.edu/biological/drum/reddrum.htm>
3. <https://www.seagrantfish.lsu.edu/resources/factsheets/redfish.htm>
4. <http://gcrf.usm.edu/public/fish/red.drum.php>
5. <https://search.proquest.com/docview/1459235055?pq-origsite=gscholar>
6. <http://gulfcouncil.org/wp-content/uploads/commercial-regulations.pdf>
7. <http://gulfcouncil.org/wp-content/uploads/recreational-regulations.pdf>
8. <http://archive.gulfcouncil.org/Beta//GMFMCWeb/downloads/REDDRUM%20Amend-01%20Final%201987-05.pdf>
9. <https://myfwc.com/fishing/saltwater/recreational/red-drum/>
10. <https://www.aces.edu/blog/topics/coastal-programs/red-drum-in-alabama/>
11. <http://www.wlf.louisiana.gov/fishing/commercial-saltwater-size-and-take-limits>
12. https://tpwd.texas.gov/publications/pwdpubs/media/pwd_bk_v3400_0074.pdf
13. <http://www.dmr.ms.gov/index.php/commercial-fishing/commercial-catch-limits>
14. http://sedarweb.org/docs/sar/SEDAR_49_SAR_report.pdf
15. <https://thefishsite.com/articles/cultured-aquatic-species-red-drum>

Recipe for Cajun Blackened Redfish



Figure 2. This recipe is courtesy of <https://www.allrecipes.com/>. For ingredients and cooking instructions, please visit <https://www.allrecipes.com/recipe/21215/cajun-blackened-redfish/>. Last visited: March 1, 2019.

Commercial Landings

The long-term commercial landings of red drum harvested from the Gulf of Mexico Region are shown in Fig. 3-4. The commercial landings databases are compiled from the National Marine Fisheries Service website. On average, about 45,000 pounds of red drum were landed each year during the past six years after the Deepwater Horizon oil spill valued at 103,000 annually.

Up to 1988, the Gulf of Mexico states provided most of the domestic market for red drum. The domestic market share of the Gulf red drum fishery went down since then. After the oil spill, the Gulf supplied about 30 percent of the domestic red drum market (Fig. 5). All of the Gulf supply was landed in Mississippi since then (Fig. 7).

There is clearly a huge shortage of supply of wild-caught red drum to satisfy local demand. As cited in an earlier MS-MM Newsletter issue, “most red drum which are currently available in the local market is farmed, primarily from Texas, or imported from Latin America.”

In 2016, North Carolina landed 56 percent of the domestic landings of red drum. Mississippi landed 43 percent. Virginia and Maryland landed less than one percent each (Fig. 6).

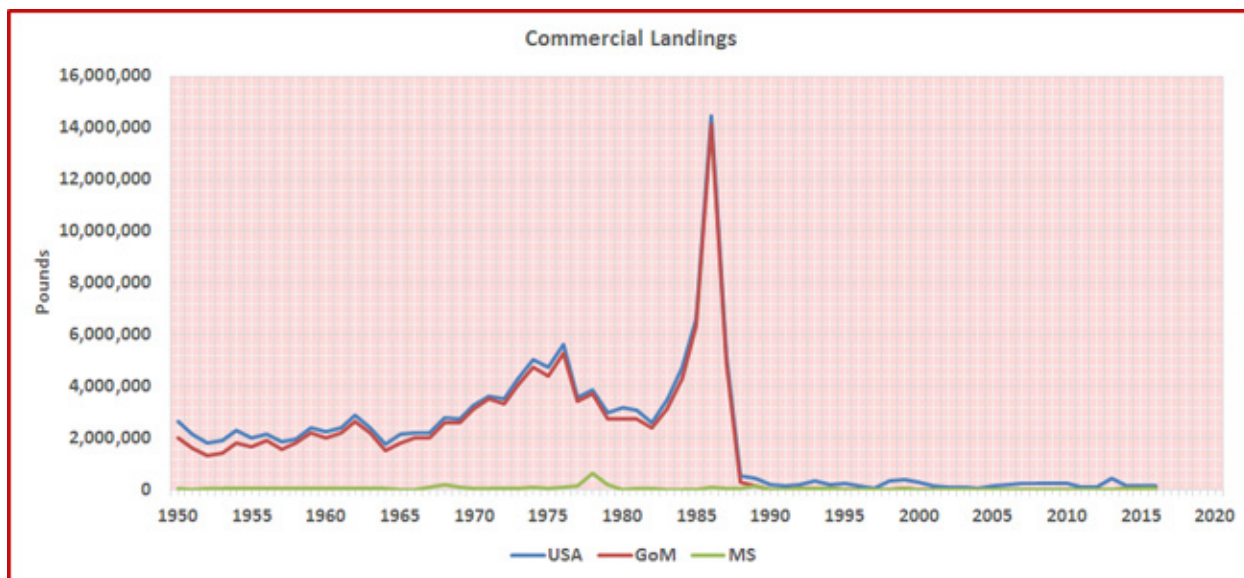


Figure 3. Commercial landings of red drum in the United States, Gulf of Mexico region, and Mississippi. The primary vertical axis shows the yearly commercial landings in pounds. Source of raw data: NOAA Fisheries. <http://www.st.nmfs.noaa.gov/>. Last visited: March 1, 2019.

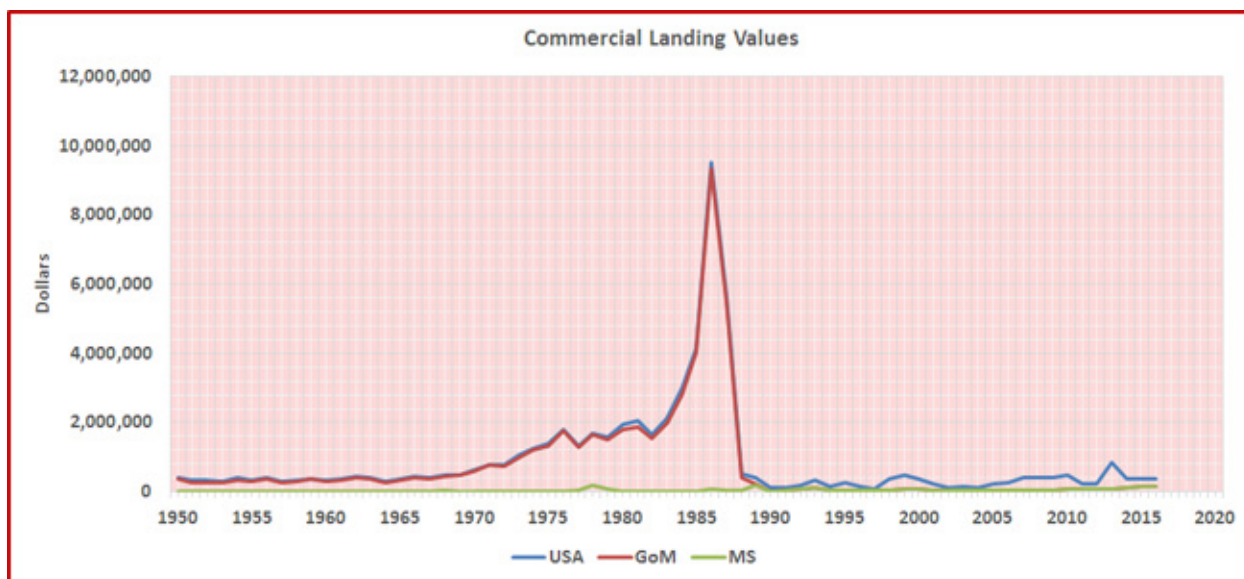


Figure 4. Commercial landing values of red drum in the United States, Gulf of Mexico region, and Mississippi. The primary vertical axis shows the yearly commercial dockside in dollars. Source of raw data: NOAA Fisheries. <http://www.st.nmfs.noaa.gov/>. Last visited: March 1, 2019.

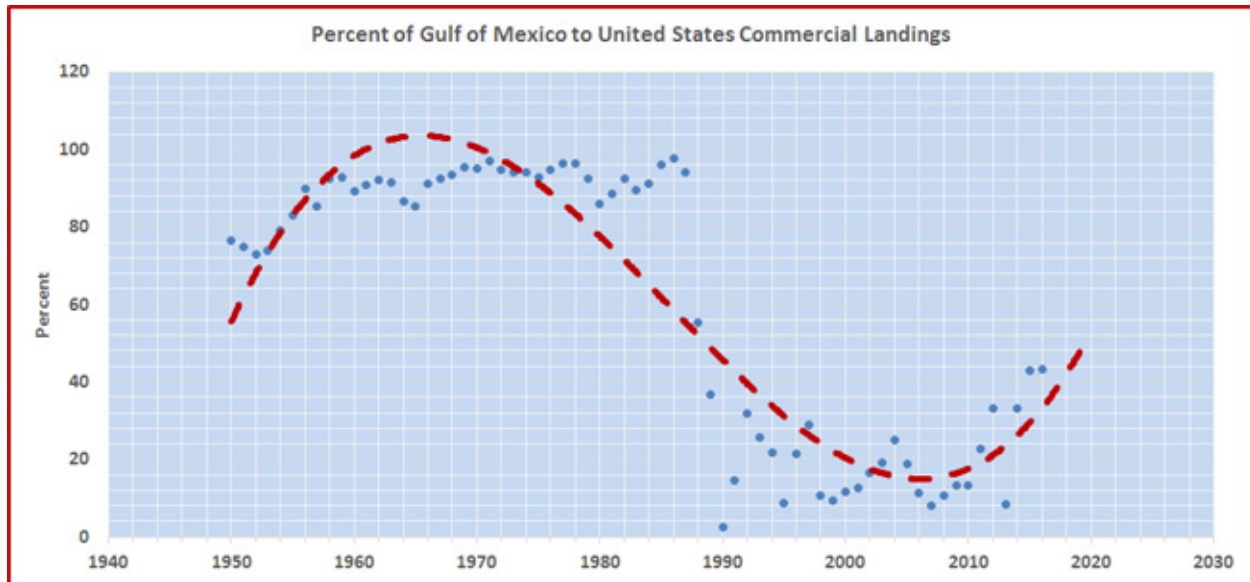


Figure 5. The vertical axis shows the percent of the Gulf of Mexico region to United States commercial landings of red drum. Source of raw data: NOAA Fisheries. <http://www.st.nmfs.noaa.gov/>. Last visited: March 1, 2019.

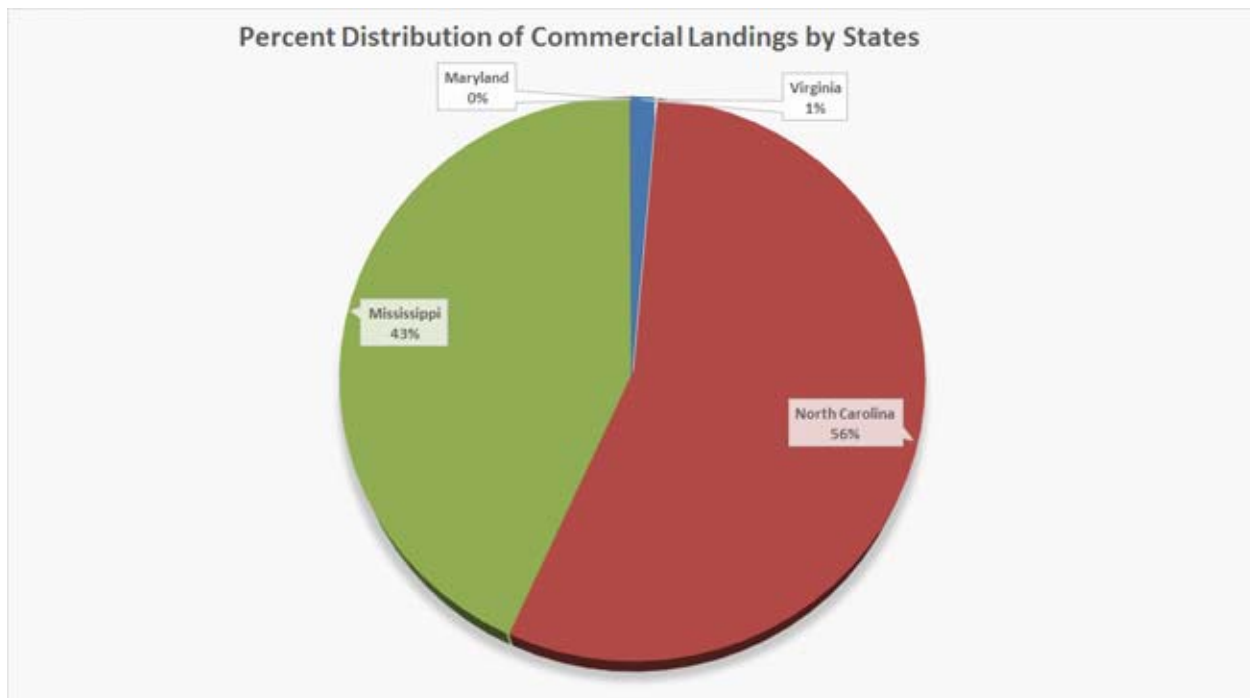


Figure 6. The pie chart shows the 2016 percent distribution of commercial landings by producing states. Source of raw data: NOAA Fisheries. <http://www.st.nmfs.noaa.gov/>. Last visited: March 1, 2019.

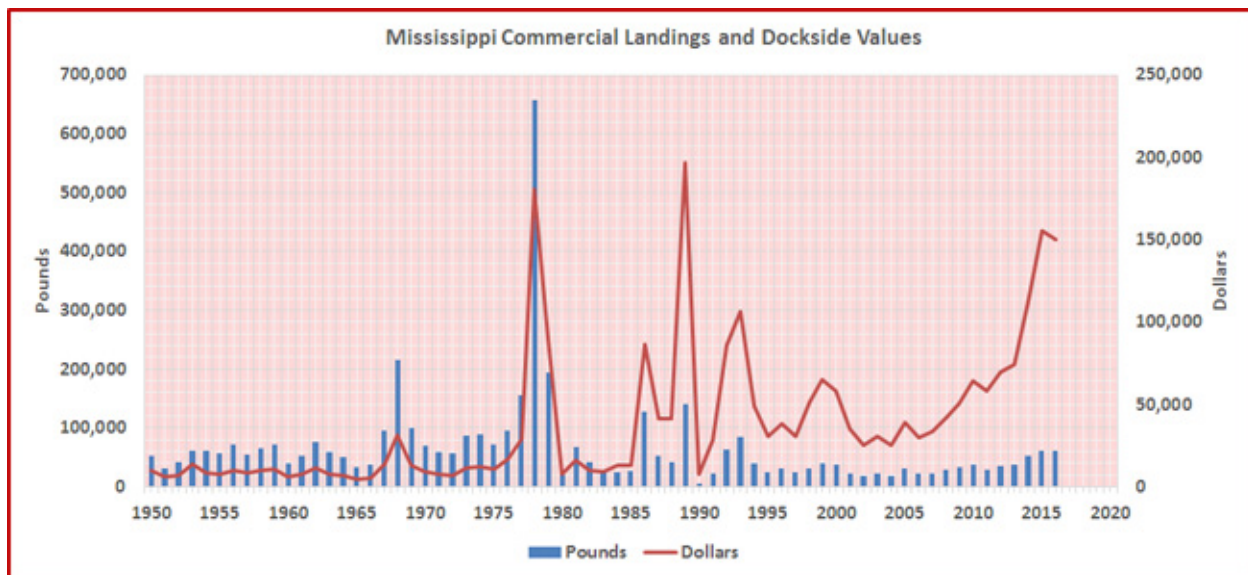


Figure 7. Commercial landings and landing values of red drum in Mississippi. The primary vertical axis shows the yearly commercial landings in pounds. The secondary vertical axis shows the annual commercial dockside values in dollars. Source of raw data: NOAA Fisheries. <http://www.st.nmfs.noaa.gov/>. Last visited: March 1, 2019.

The dockside prices (EVP) of red drum in Mississippi and the entire Gulf of Mexico states averaged about \$2.26 per pound during the past six years (Fig. 8). The ex-vessel prices were deflated by the consumer price index (2016=100). The average EVP of red drum in the entire United States averaged slightly lower at \$2.23 per pound during the past six years after the oil spill.

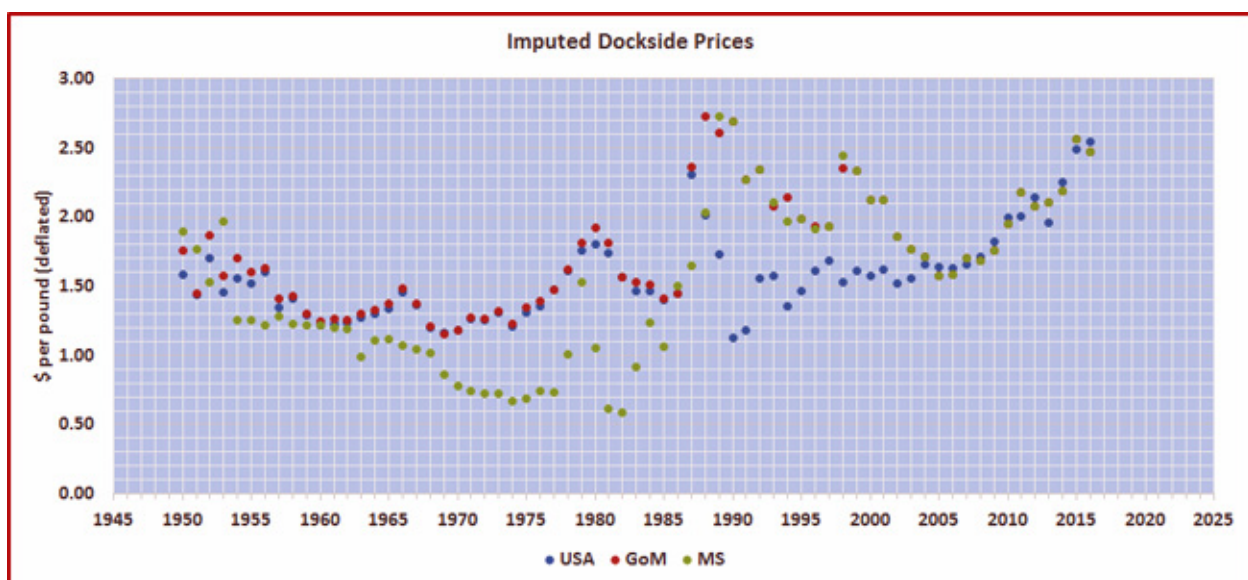


Figure 8. The vertical axis shows the average yearly dockside prices in dollars per pound deflated by the consumer price index. Source of raw data: NOAA Fisheries. <http://www.st.nmfs.noaa.gov/>. Last visited: March 1, 2019.

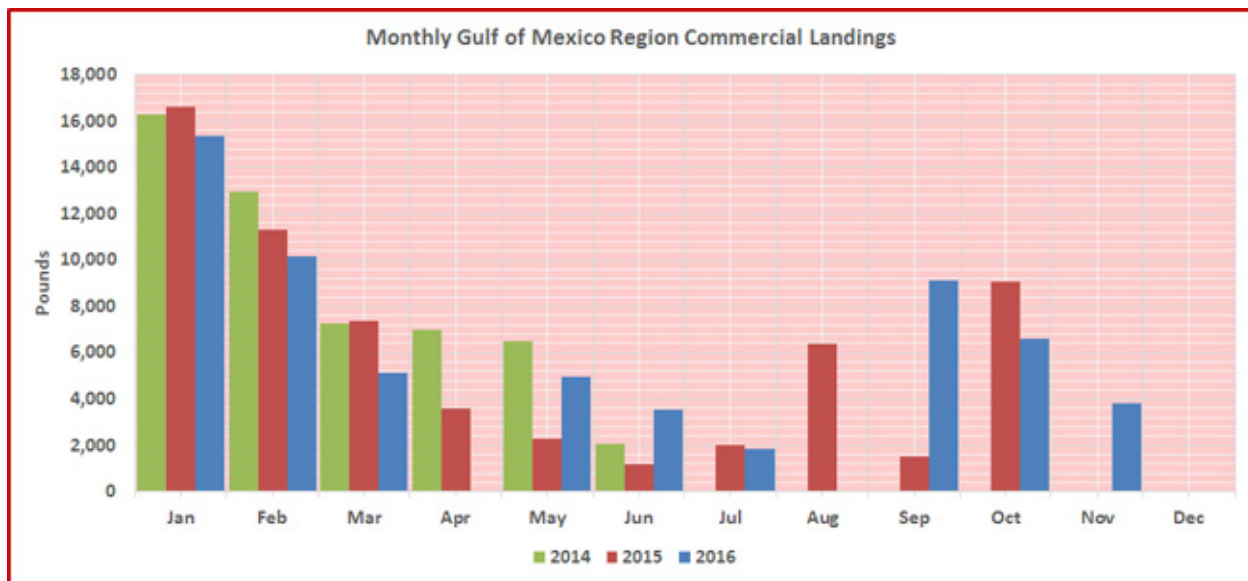


Figure 9. The vertical axis shows the monthly commercial landings of red drum in pounds in 2014-2016. Source of raw data: NOAA Fisheries. <http://www.st.nmfs.noaa.gov/>. Last visited: December 20, 2018.

MarketMaker Seafood Businesses

In 2016, the Gulf-wide commercial landings of red drum reached 60,511 pounds with dockside values about \$149,809. Red drum are harvested from January to October with peaks between January and March (Fig. 9). 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 red drum fishing makes region-wide is crucial information in making private investment decisions, formulating government policy, and developing research and extension programs for the industry. 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 red drum in the Gulf of Mexico states in 2016 reached \$149,800, which was 45% more than the average dockside values in the region since 2011. The total

output contribution of commercial Red drum fishing in 2016 reached \$285,000 (Fig. 10). This output of goods and service created by the red drum commercial fishing and related industries supported four jobs and generated labor income amounting to \$103,000 in the Gulf regional economy.

Economic contribution of commercial red fish fishing in the Gulf of Mexico region				
Impact Type	Employment (Jobs)	Labor Income (\$M)	Total Value Added (\$M)	Output (\$M)
Direct Effect	3	0.0632	0.0776	0.1498
Indirect Effect	0	0.0158	0.0309	0.0661
Induced Effect	0	0.0235	0.0427	0.0699
Total Effect	4	0.1025	0.1512	0.2858

Figure 10. 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.

The red drum commercial fishing industry generates annual tax revenues for the Gulf States and the U.S. federal government. It was projected that more than \$17,000 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 \$8,500 in social insurance tax, tax on production and imports, corporate profits tax, and personal tax.

Suggested citation:

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<http://extension.msstate.edu/newsletters/mississippi-marketmaker>.