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INTRODUCTION

Host to 40 percent of the nation’s coastal wetlands, Louisiana is endowed with numerous estuaries and shallow bays that support the nation’s most productive shrimp fishery. Louisiana historically leads all other states in shrimp landings. Shrimp is also Louisiana’s most valuable commercial seafood. Activities in this fishery, including harvesting, processing, and wholesaling, have been key to local economies and the character of many coastal communities. Management of the state’s shrimp resources affects many people and requires group participation from many individuals, agencies, and businesses. Reliable information is needed by all these groups to help them make sound and well-informed decisions.

Individuals, companies, and other interested groups require information for providing comment on agency regulations and management policies, and for making appropriate and profitable investment and business decisions. Resource management and enforcement agencies rely on information for guiding the seasonal management decisions affecting the fishery and in developing insightful long-term shrimp management plans.

The information presented in this booklet has been compiled from several sources to best illustrate many aspects of the shrimp fishery in past years. The material is presented in charts and graphs to give the reader a quick and easy reference for trends occurring in the shrimp fishery. A brief narrative is provided at the beginning of each of the following sections: (1) shrimp species, (2) shrimping seasons in inshore and offshore waters, (3) shrimp size, (4) shrimping effort, (5) participation in the commercial shrimp fishery, (6) recreational shrimping, and (7) shrimp supply and processing.

Most charts and graphs are based on data collected by the National Marine Fisheries Service. Charts dealing with shrimp licensing and boat information were compiled from records of the Louisiana Department of Wildlife and Fisheries. Various beginning years for the data were used on the charts depending upon data quality and comparability. While some earlier information may have been available, its accuracy and relevance to more recent data may have been questionable. For instance, data collection or licensing methods could have changed from a previous period, and compiling a chart from all available information could, in such cases, be misleading.

Many of the charts refer to pounds landed or caught, dollar amounts of landings or catch, shrimp price per pound, and value of processed products. Unless otherwise noted, all poundage information is given on a heads-off basis. Charts referring to the deflated value (ex-vessel) of production have been adjusted for changes in price caused by inflation. (Additional price increases occurring because of inflation were removed and equated to the purchasing power of the dollar in 1980. Hence, charts illustrating the deflated value or price of production indicate what the shrimp product would be worth in 1980.) Finally, both landings and catch are referred to in some charts. Landings refer to the location where shrimp are unloaded, while catch refers to the location where the shrimp are harvested.

![Graph](image)

**Louisiana and Gulf: Shrimp Landings**

*(Heads-Off), 1976-89*

**NOTE:** Louisiana landings are not included in the shaded areas representing landings for the Gulf region, but appear separately in the solid areas.
Louisiana Shrimp Landings as a Percentage of Total Gulf Landings, 1976-89

Year

Louisiana Shrimp Value as a Percentage of Total Gulf Value, 1976-89

Year
Two primary shrimp species, brown shrimp (*Penaeus aztecus*) and white shrimp (*Penaeus setiferus*), are harvested off Louisiana. Other shrimp species such as seabobs, pink shrimp, and rock shrimp are also caught but in much smaller quantities. Generally, these shrimp spawn in offshore waters of the Gulf of Mexico. Once hatched, the young migrate inward with the help of currents to inhabit coastal estuaries. Brown shrimp begin their migration into the estuaries during late winter; once there, they feed and grow until early summer. As the brown shrimp begin their trip back to the Gulf spawning grounds, they are available for harvest while still relatively small and in inshore waters.

White shrimp follow a similar pattern in the Gulf, but don’t reach the estuaries until early summer. There, they feed and grow through mid-fall. When water temperature begins to decrease, white shrimp begin their migration to the Gulf and become available to the fishery. During the spring, as water temperature begins to increase, some juvenile shrimp reenter the estuaries where they grow into subadults and are available to the fishery during the spring and early summer. Inshore waters are open to white shrimp harvesting late summer through early winter. The following charts contain data of total Louisiana landings and the value of brown, white, and other shrimp species, regardless of how far off the coast the shrimp were caught.
SHRIMP SIZE

The following charts present the size distribution of Louisiana brown and white shrimp landed between 1976 and 1989. The sizes indicated in the charts refer to the number of headless shrimp needed to make one pound. As indicated, about 70 to 80 percent of Louisiana's brown shrimp landings consist of relatively small shrimp, requiring 68 or more shrimp to each pound. By contrast, white shrimp tend to be larger, with substantially more shrimp in the less-than-30-shrimp-per-pound category. The larger average size of the white shrimp is one key to its higher average price.
SHRIMPING SEASONS IN INSHORE AND OFFSHORE WATERS

The Wildlife and Fisheries Commission currently manages the state's shrimp fishery by scheduling three seasons, two inshore and one offshore. The boundary between state inshore and state offshore waters is called the shrimp line, which is a legally defined boundary generally following the shoreline along the barrier islands. State offshore waters extend from the shrimp line out to three miles, with some exceptions. The waters beyond three miles are federal offshore waters and the state has no jurisdiction over management or enforcement.

Shrimping seasons are determined by the annual life cycles and growth rates for the two primary species, brown and white shrimp. Brown shrimp feed and grow in the estuaries and shallow bays from late winter until early summer when they begin the migration back to their spawning grounds in the Gulf. During this time, the waters along the shoreline are open for spring shrimping. The guideline for opening the brown shrimp season is when 50 percent of the shrimp in inshore waters are 100 count (whole shrimp per pound) or larger.

White shrimp feed and grow in the estuaries and shallow bays from early summer until mid-fall. Inshore waters open for the white shrimp season once the shrimp have had time to grow. Historically, this season takes place from the third Monday in August until December 21. However, recent legislation has granted the Louisiana Department of Wildlife and Fisheries increased flexibility in setting opening and closing dates.

Many fishermen, particularly full-timers, continue their shrimping activities beyond the inshore spring and fall seasons by shrimping in offshore waters, especially during periods of inshore closure or when the inshore catch is low. At present, there are no seasonal restrictions on shrimping time spent in federal waters off Louisiana, although state offshore waters are usually closed for a short time between January and April.

During the period between 1976 and 1989, five-year averages indicate that 38 percent to 41 percent of all shrimp landed in Louisiana were harvested from inshore waters, 40 percent to 44 percent landed were taken from state offshore waters, and 16 percent to 20 percent from federal offshore waters. The quantity of shrimp caught in federal waters off Louisiana is significantly greater than the amount actually landed at in-state ports, probably because many nonresident shrimpers harvest shrimp from federal waters off the Louisiana coast.

Shrimp that have had time to grow while migrating to distant waters are larger and return a higher price than smaller inshore shrimp. Shrimp landed from federal offshore waters, for example, accounted for 16 percent to 20 percent of total state landings between 1977 and 1989, but returned 27 percent to 32 percent of the total landings value.

After removing the effects of inflation by evaluating all prices in 1980 dollars, the deflated price per pound for all shrimp landings has been decreasing. The five-year average price per pound for shrimp from state offshore waters dropped nearly 30 percent, followed by a 25 percent drop in price for federal offshore landings, and a 16 percent price decrease paid for inshore shrimp.

### Percentage of Total Value of Louisiana Shrimp Landings From Inshore and Offshore Waters

<table>
<thead>
<tr>
<th>Year</th>
<th>Inshore</th>
<th>Offshore State</th>
<th>Offshore Federal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976-80 Average</td>
<td>42.2%</td>
<td>25.7%</td>
<td>32.1%</td>
</tr>
<tr>
<td>1981-85 Average</td>
<td>40.5%</td>
<td>30.4%</td>
<td>26.6%</td>
</tr>
<tr>
<td>1986-89 Average</td>
<td>41.7%</td>
<td>31.7%</td>
<td></td>
</tr>
</tbody>
</table>

[Graph showing percentage values]
Current Price Per Pound (Heads-Off) of Shrimp Landed From Inshore and Offshore Waters

Deflated Price Per Pound (Heads-Off) of Shrimp Landed From Inshore and Offshore Waters
Percentage of Shrimp Landed From Louisiana Inshore and Offshore Waters

- **1976-80 average**
  - Inshore: 20.3%
  - Offshore state: 38.5%
  - Offshore federal: 41.2%

- **1981-85 average**
  - Inshore: 17.9%
  - Offshore state: 40.9%
  - Offshore federal: 41.4%

- **1986-89 average**
  - Inshore: 15.4%
  - Offshore state: 43.7%
  - Offshore federal: 39.9%

Louisiana Catch and Landings of Shrimp (Heads-Off) From Inshore Waters, 1977-89

- Total catch
- Total landings

Value of Louisiana Shrimp Catch and Landings From Inshore Waters, 1977-89

- Total catch
- Total landings

Year | Pounds (Millions) | Dollars (Millions)
---|-------------------|-------------------
1977 |                  |                   
1978 |                  |                   
1979 |                  |                   
1980 |                  |                   
1981 |                  |                   
1982 |                  |                   
1983 |                  |                   
1984 |                  |                   
1985 |                  |                   
1986 |                  |                   
1987 |                  |                   
1988 |                  |                   
1989 |                  |                   

10
SHRIMPING EFFORT

Shrimping effort can be measured in several ways: the total number of shrimping trips taken by the fleet; the average length of the trips; or a combination of the two—total 24-hour days spent shrimping. Recent data indicate that the total number of shrimping trips that produced landings taken between 1981 and 1989 dropped to a low of 136,000 in 1989, just two years after peaking at 220,000 trips in 1987. Prior to the low in 1989, effort was well above the long-run averages for three consecutive years beginning in 1986, when total trips escalated 45 percent over 1985 trips to 208,000. Almost 160,000 inshore trips were taken in 1986. By 1987, total in-state trips were up another 5 percent, which was a record year for trips taken to state offshore waters (53,000) and federal offshore waters (9,000). By 1988, total offshore trips decreased nearly 41 percent while inshore trips were up, almost to 1986 levels, producing a total of 195,000 trips for the year. In 1989, inshore trips were down almost 40 percent, followed by a 20 percent drop in federal offshore trips. Trips to state offshore waters, however, were up nearly 13 percent.

The average length of trips in Louisiana inshore and offshore waters, expressed in the actual amount of trawling time, varies between years. In general, there seems to be a movement toward longer trips in inshore waters, while no discernible trend is evident in the offshore fishery.

The data on number of trips and trip length can be used to estimate the total number of 24-hour shrimping days spent in Louisiana’s inshore and offshore waters. Days shrimped in inshore waters have generally increased because of an increase in trips and trip length during the 1981-1988 period, dropping back to the 1985 level in 1989. The trend in offshore trips has been a little more erratic but, like inshore trips, increased substantially in 1987 and 1988, declining to the 1985 level in 1989.
Total Brown and White Shrimp Trips Taken in Louisiana's Inshore and Offshore Waters, 1981-89

Number of Inshore and Offshore Shrimp Trips Taken Off Louisiana, 1981-98

Percentage of Inshore and Offshore Trips Taken off Louisiana

1981-83 average

1984-86 average

1987-89 average
Average Length of Trips (Hours) Taken in Louisiana's Inshore and Offshore Waters, 1981-89

Total Days Shrimped in Louisiana's Inshore and Offshore Waters, 1981-89

Landings (Heads-Off) Per Inshore Trip, 1981-89
Landings (Heads-Off) Per Inshore and Offshore Trip, 1981-89

Current Value of Landings Per Inshore and Offshore Trip, 1981-89

Deflated Value of Landings (Heads-Off) Per Inshore Trip, 1981-89
Deflated Value of Landings (Heads-Off) Per Trip from Offshore State and Offshore Federal Waters, 1981-89

Deflated Value of Landings (Heads-Off) Per Inshore and Offshore Trip, 1981-89
PARTICIPATION IN THE COMMERCIAL SHRIMP FISHERY

In Louisiana, anyone intending to (1) catch more than 100 pounds of shrimp per boat a day, (2) use a trawl larger than the size allowed for recreational use, (3) use a butterfly net, or (4) sell any portion of his shrimp catch is considered a commercial shrimp fisherman and must purchase a commercial license. Currently, the commercial fishery license is made up of three segments: (1) a commercial fisherman's license, (2) a gear license, and (3) a vessel license. Generally, the number of residents applying for commercial shrimp licenses has been increasing, though a pronounced decline occurred in 1988 and 1989. Most of the increase took place before 1982, but growth has been marginal, and some of the growth may reflect changes in licensing requirements, especially after 1986. Overall, the peak of 20,150 residential commercial license holders in 1987 represents an increase of almost 50 percent above the 13,783 recorded in 1977. The number of in-state boats participating in the shrimp fishery between 1986 and 1988 has been fairly stable, fluctuating between 17,500 and 18,000, dropping to approximately 15,700 by 1989.

The inshore-based and seasonal nature of Louisiana's shrimp fishery provides ample opportunities for shrimpers to harvest other species from state waters. Between 79 percent and 83 percent of all shrimpers hold only a shrimping license, but recently there has been a slight trend toward greater diversification to other commercial fisheries. On the average, 14 percent to 17 percent of shrimpers hold commercial licenses for either shellfish (crabs or oysters) or finfish, and less than 5 percent of the remaining shrimpers hold licenses for both shellfish and finfish.
Commercial Shrimp Licenses Issued in Combination With Shellfish and Finfish Licenses

Size Distribution of Resident Commercial Shrimp Boats, 1986-89

Distribution of Boat Sizes Used in the Louisiana Commercial Shrimp Fishery
RECREATIONAL SHRIMPING

Recreational shrimping is a popular activity in Louisiana. The number of shrimp licenses issued each year varied significantly during the period from 1976 to 1989, largely in response to changes in license requirements. Currently, sport shrimpers may not sell their catch, must use trawls 16 feet or shorter, and may not catch more than 100 pounds (heads-on) per boat per day.

![Recreational Shrimp Trawl Licenses Issued to Louisiana Residents, 1976-89](image)

SHRIMP SUPPLY AND PROCESSING

Per-capita consumption of shrimp increased from 1.5 pounds in 1976 to 2.4 pounds by 1989. Total U.S. landings have not kept pace with increased demand, and shrimp suppliers and processors are becoming more dependent on imported shrimp to meet processing and consumer needs. Although demand is up significantly, the number of shrimp processing plants in the Gulf region and Louisiana is down slightly, leaving fewer plants to process more shrimp. In addition to increased average volume of shrimp processed per plant, Louisiana plants have shifted their emphasis away from canning shrimp to producing larger quantities of peeled shrimp.

![Total U.S. Shrimp Supply (Heads-Off), 1976-89](image)