Louisiana Commercial Shrimp Fishermen: Trends in Fishing Efforts, Landings and Landing Revenue, Impact of Hurricanes and Monitoring of Recovery

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Executive Summary

This report uses the trip ticket data collected by the Marine Fisheries division of the Louisiana's Department of Wildlife and Fisheries (LDWF) to examine the structure and socioeconomic characteristics of the fisherman side of the Louisiana's shrimp fishery and to monitor the recovery of this fishery in the aftermath of hurricanes Katrina and Rita in 2005 and Gustav and Ike in 2008.

The trip ticket program (TTP) was established by the Louisiana Legislature in 1991 as a system to collect commercial landings and associated information by trip for individual fisheries. The TTP however was not implemented until 1999 due to lack of available funding. At the onset, the TTP was set to accomplish two objectives: (1) to provide fishery scientists with gear and area specific catch information that will improve the accuracy of stock assessments and (2) to provide fishery managers information on the impact of environmental changes and catastrophic events on the fishery.

Participants in the trip ticket program include holders of wholesale dealers and retail dealers as well as fresh products licenses. These participants provide the commercial landings and the associated information supplied to them by commercial fishermen at times of first seafood sales or purchases. Participants' records in the trip ticket are protected under Louisiana confidentiality statutes. In addition, summary report on them is disclosed only if the number of individuals involved is greater than three.

The information provided in this report addresses the objectives of the TTP. However, similar information, although not as detailed as those presented in this report, may be available in the publications or websites of the National Marine Fisheries Service (NMFS). The structural

and the socioeconomic variables considered by this report follow the information available (as of October 1, 2010) in the trip ticket data from 2000 through 2009. The report covers participation and activities as well as performance measures in the shrimp fishery including white shrimp, brown shrimp, seabob shrimp and pink shrimp species. Little information is provided in the report on other shrimp species, which are uncommonly harvested in Louisiana such as blood shrimp, rock shrimp, river shrimp and royal red because of scanty and discontinuous information or for confidentiality reasons (e.g., when the number of participants are less than four). Specifically, information on other shrimp species is provided only when aggregation is possible.

The report is divided into four chapters. Chapter 1 consists of report on the fisherman's participation or efforts in the commercial shrimp fishery. Participation and activities includes the numbers of fishermen, fishing vessels and fishing trips as well as the length of fishing trips and type of gear used by the fishermen to harvest shrimp. The performance of the shrimp fishery in terms of the volume (in pounds), average dockside price and dockside value of shrimp landed or sold at the Louisiana docks (first point of sales) as well as the condition of the shrimp at landing, the unit of measure, and size or size count of shrimp, are contained in Chapter 2. Chapter 3 combines the previous two chapters to generate landings, average dockside price (where possible) and dockside value measures per fishing effort, while Chapter 4 discusses the impacts of hurricanes Katrina and Rita as well as Gustav and Ike on the shrimp fishery and its recovery in the aftermath of these hurricanes.

Summary findings from this report are grouped into the following categories: participation and activities, dockside performance, performance per effort and hurricane impacts associated with the Louisiana shrimp fishery.

I. Participation and Activities in Louisiana Shrimp Fishery (2000 – 2009)

1. The number of fishermen who landed or sold at least a pound of shrimp at Louisiana docks (shrimp fishermen) declined by approximately 58.1 percent from 6,936 in 2001 to 2,904 in 2008.

2. The majority of fishermen (approximately 90.1 percent) who landed or sold shrimp in a given year during the period between 2000 and 2009 held a residential commercial fisherman license.

3. The top three parishes where most of the shrimp fishermen resided in were Terrebonne (ranging from 1,605 fishers in 2001 to 675 in 2008), Jefferson (from 995 fishers in 2001 to 477 in 2008) and Lafourche parishes (from 953 fishers in 2001 to 322 in 2008).

4. The total number of fishing trips associated with at least a pound of shrimp landings declined from 204.4 thousand trips in 2000 to approximately a third (70.8 thousand trips) in 2008. The average number of trips per shrimp fisherman fluctuated between 21 trips (2005) and 30 trips (2000) during this period (2000-2009).

5. The total length of fishing trips taken by all fishermen who landed or sold shrimp declined from approximately 13.0 million hours (541,816 days) in 2000 to less than a half (5.8 million hours or 242,417 days) in 2008. Relatedly, the average length of fishing trips fluctuated around 81.4 hours (approximately 3⅓ days).

6. The number of fishing vessels, which reportedly landed at least a pound of shrimp at Louisiana docks, totaled 11,592 in 2000 but by 2008, it has fallen to 2,919. On average, 72.6 percent of these fishing vessels was registered in Louisiana and 25.5 percent was documented with the U.S. Coast Guard. The remainder of the vessels, approximately 2.0 percent, was registered in states other than Louisiana.

7. Of the annual average of 2,673 fishing vessels (66.4 percent) whose license types were specified since 2002, approximately 93.6 percent was licensed to individuals who resided in Louisiana. Terrebonne (with 673 vessels) and Jefferson (496 vessels) topped other parishes in the number of fishing vessels owned by individual who resided in them. Next is Lafourche (409 vessels), followed by Plaquemines parish (395). Of the annual average of 2,957 fishing vessels (61.2 percent) whose length were specified, approximately two-fifth (39.4 percent) were between 31 to 50 feet, followed by 25 to 30 feet (17.5 percent) and 51 feet or over (15.7 percent). The rest were below 25 feet.

8. Most of the fishermen who landed or sold shrimp used skimmer nets (between 6,340 fishermen in 2001 and 3,167 fishermen in 2008) to harvest their shrimp, followed by shrimp otter trawl (between 5,057 fishermen in 2000 and 1,349 fishermen in 20008). A small number of fishermen (an annual average of 520 fishermen) used butterfly nets.

II. Dockside Performance of Louisiana Shrimp Fishery (2000 – 2009)

1. The largest volume of shrimp landed or sold by fishermen at Louisiana docks (147.4 million pounds) occurred in 2000, while the smallest volume (95.4 million pounds) occurred in 2008. On average, white shrimp constituted the major portion of the total landings, followed by brown shrimp, while small quantity of pink and seabob shrimp were occasionally landed in Louisiana.

2. The actual (nominal) price per pound of shrimp fluctuated between an average of $1.85 in 2000 and $1.13 in 2006. Average prices of pink and white shrimps were higher than the total average price, while the prices of brown shrimp and seabob were lower than the total average price.

3. The total value of shrimp landed or sold at the Louisiana docks dropped sharply from $260.3 million in 2000 to $195.9 million in 2002. Since then, it has stood at approximately $137.9 million annually, with white shrimp constituting about two-third of this amount and brown shrimp constituting almost one-third.

4. The top three parishes with the average annual volume of shrimp landed or sold by fishermen who resided in them are Terrebonne (26.2 million pounds), Jefferson (22.6 million pounds) and Plaquemines (16.5 million pounds).

5. Jefferson, with the average annual values of shrimp landed or sold by fishermen who resided there ($28.9 million), topped all other parishes, followed by Terrebonne ($28.0 million), and then by fishermen who resided outside of Louisiana ($19.6 million).

6. Five states accounted for 98.9 percent of shrimp landed in Louisiana by non-resident fishermen and 97.4 percent of the shrimp values. The largest annual amount of shrimp (5.6 million pounds), which is worth $9.4 million accrued to fishermen from Mississippi, followed by Texas with 3.2 million pounds ($5.7 million worth) and Florida with 1.4 million pounds of shrimp ($2.4 million). Others are Alabama's resident fishermen who landed 0.9 million pounds or $1.7 million worth of shrimp and California's resident fishermen with 0.1 million pounds or $0.2 million worth of shrimp.

7. Between 57.4 percent (2002) and 69.5 percent (2007) of total shrimp volume landed in Louisiana was from Louisiana territorial waters. Barataria and Terrebonne Basins led in the volume and values of shrimp harvested from their waters, followed by Lake Pontchartrain basin. The average annual volumes of shrimp landed from these basins (with their actual values) were approximately 29.5 million pounds ($32.9 million), 27.2 million pounds ($28.3 million), and 7.5 million pounds ($9.4 million), respectively.

For most of the years, the average prices of shrimp harvested from all basins were below $1.50 per pound except in certain years for Lake Pontchartrain Basin (2007-2009) or Mermentau River Basin (2005-2009). From 2005 and 2009, the average price per pound of shrimp from the Mermentau River Basin average approximately $2.03. However, the average price of shrimp from the Lake Pontchartrain Basin rose from $1.67 per pound in 2007 to $3.76 per pound in 2009.

8. Over 97.0 percent of the total average volume of shrimp (42.5 million pounds) harvested from the National Marine Fishery Service Grids (NMFS Grids) was harvested annually from Grids 13 to 17. Precisely, the largest amount was harvested from Grid 15 (annual average of 13.6 million pounds), followed by Grid 14 (annual average of 11.4 million pounds) and then Grid 13 (annual average of 11.0 million pounds). There was no clear distinction among average prices of shrimp across NMFS grids. The total annual average values for the top three grids were $22.8 million (Grid 15), $19.2 million (Grid 14) and $16.2 million (Grid 13).

9. Very small shrimp, small shrimp and medium shrimp categories constituted the majority of annual shrimp landed in Louisiana (approximately 81.7 percent). The annual average volume was 37.6 million pounds for medium-size shrimp, 32.6 million pounds for very small shrimp, and 28.2 million pounds for small shrimp. With a consistent increase from 9.3 million pounds (2001) to 22.5 million pounds in 2009, large shrimp is gradually catching up with medium size shrimp or below. Average prices increase with size of shrimp. The annual average prices were approximately $3.09 per pound for very large shrimp, $2.35 for large shrimp and $1.50 or below for other shrimp size categories. The largest average annual value was from medium shrimp ($55.4 million), followed by large shrimp ($35.2) and small shrimp ($29.7 million).

10. The majority of the shrimp landed (88.2 percent) or their worth (73.9 percent) was whole or heads on shrimp but headed or heads off shrimp commanded the highest actual prices of between $1.98 (2006) and $3.55 (2000). Because of its large volume, heads on shrimp also commanded the highest values (over $100.0 million yearly), which were four times as large as the values of heads off shrimp.

11. Almost all (approximately 100.0 percent) of the shrimp landed and sold in Louisiana was measured in pounds.

III. Dockside Performance per Effort in Louisiana Shrimp Fishery (2000 – 2009)

1. The volume of shrimp landed per fisherman followed an upward trend since 2001 from 18,444 pounds reaching its largest level of 40,305 pounds (2006) with white shrimp contributing the largest portion (from 11,194 pounds in 2001 to 30,872 pounds in 2006). Average volume of brown shrimp landed per fisherman was relatively flat but fluctuated between 10,651 pounds (2001) and 17,659 pounds (2006).

2. Of the minimum average dockside values of landed shrimp per fisherman ($25,276) in 2002, white shrimp constituted approximately 70.2 percent. Likewise, white shrimp constituted approximately 92.0 percent of the total worth of shrimp ($48,527) per fisherman for 2008.

3. The average shrimp landings per fisherman trip rose consistently from 721 pounds in 2000 to approximately 1,538 pounds in 2006. However, actual average dockside value of shrimp per fisherman trip was lowest in 2003 ($1,084) and largest in 2008 ($1,991).

4. In the period between 2000 and 2009, the smallest average volume of shrimp landed per hour of fisherman trip (9.8 pounds) occurred in 2002, while the largest (19.0 pounds) occurred in 2006. Also, the smallest actual average value per hour of fisherman trip ($12.84) was recorded in 2002, while the largest ($24.22) was recorded in 2008.

5. The smallest average volume of shrimp landed per fishing vessel (12,717 pounds) occurred in 2000, while the largest (41,172 pounds) occurred in 2006. However, the average dockside values of shrimp landed per fishing vessel was smallest in 2001 ($21,891) and largest in 2008 ($48,277).

6. The pounds of shrimp landed per foot of fishing vessel averaged between 2.3 million in 2008 and 3.9 million in 2000. The dockside value of shrimp landed per foot of vessel declined by 53.6 percent from $6.8 million in 2000 to $3.2 million in 2009.

7. Fishing vessels between 31 to 50 feet landed the largest pounds of shrimp, ranging between 26.4 million in 2002 to 41.3 million in 2006, followed by vessels over 65 feet long, which harvested between 9.9 million pounds of shrimp in 2009 and 26.8 million pounds in 2006. These two categories of vessels competed in terms of contributions to shrimp values, with an average of $35.3 million and $34.0 million, respectively, during the 2000-2009 period.

8. Interestingly, there was a sharp decline in the volume of shrimp reportedly landed by boats over 50 feet in the recent years (2007 to 2009), while smaller boats have landed an increasing amount of shrimp. These changes in shrimp landings might be due to reduction in fishing trips or length of trips because of increasing fuel prices, leading to low dockside values.

9. Although, most of the fishermen used skimmer nets to harvest their shrimp, 57.6 percent was annually harvested using shrimp otter trawl. The rest was caught by skimmer net (39.3 percent) and butterfly nets (3.0 percent). Of the annual average of $155.9 million worth of shrimp landed, approximately two-third ($102.5 million) was associated with shrimp otter trawl and almost a third ($49.5 million) with skimmer nets.

10. Of the total volume of shrimp harvested from the waters of Louisiana basins, skimmer nets accounted for 57.1 percent, followed by shrimp otter trawls with 39.2 percent. In federal grids, shrimp otter trawls were the single most important fishing gear, responsible for approximately 91.3 percent of the total pounds of shrimp caught from their waters.

IV. Hurricane Impacts on and Recovery of the Louisiana Shrimp Fishery (2004 – 2009)

Examining the findings in this report shows that five lows occurred in Louisiana shrimp fishery within the period between 2000 and 2009. Three of these troughs are attributable to the disproportionate devastation suffered by the fishery from hurricanes Lili in 2002, Katrina and Rita in 2005 and Gustav and Ike in 2008. Lili was a category 1 hurricane, Katrina and Rita were of category 3 each, while Gustav and Ike were of categories 2 and 1, respectively. The following are the highlights of the impacts of these hurricanes on Louisiana's shrimp industry:

1. The numbers of fishermen and vessel owners who landed or sold shrimp, regardless of where they lived, the type of gear they used and hurricanes occurrences (especially in 2005 and 2008), generally suffered consistent decline from 2000 to 2008. In the aftermath of hurricane Lili (2002), approximately 19.4 percent of 6,936 fishermen who landed shrimp in 2001 was no longer participating a year after. After Katrina and Rita in 2005, a 16.9 percent reduction occurred in the number of shrimpers from 4,646 in 2004 to 3,861 in 2005, while after Gustav/Ike (2008), a reduction of 8.8 percent from 3,305 in 2007 to 2,904 in 2008. However, a slight upward trend occurred between 2008 and 2009, which might be attributed to a return of fishermen into the shrimp fishery.

2. Upward trends occurred since 2006 for the numbers of shrimp fishermen and shrimp vessel owners who resided in St. Tammany, Orleans and Calcasieu parishes. These trends might be indicative of possible relocation of some existing fishermen to these parishes, perhaps, because of hurricane Katrina.

3. The total number of seafood dealers who purchased shrimp reached its low both in 2005 (with a decline of 2.5 percent from 511 reporting dealers in 2004) and in 2008 (with a decline of 1.6 percent from 2007 level). This might be attributed to damages suffered by some dealers from hurricanes Katrina/Rita (2005) and Gustav/Ike (2008).

4. The consistent fall in fisherman-dealer ratio was interrupted by a small upward turn in 2005, which might be attributed to the fall in the number of dealers due to Katrina or Rita.

5. The total number of fishing trips and average number of fishing trips per fishermen associated with shrimp landings fell in 2005 by 23.4 percent (from 119,044 trips in 2004) and by 8.8 percent (from 4,630 trips in 2004), respectively due to Katrina/Rita. Due to Gustav and Ike, the decrease in total and average numbers of fishing trips

associated with shrimp landings in 2008 were 17,421 trips (19.8 percent) and 2 trips (8.7 percent), respectively, when compared to 2007. When compared to the previous years, the average length per fisherman trip rose by 16.7 hours (24.0 percent) in 2002, declined by 1.5 hours (1.9 percent) in 2008 but remained relatively unaffected in 2005.

6. The volume of shrimp landed in Louisiana fell distinctly to its low in 2002, 2005 and 2008. However, only the fall in 2005 (31.6 million pounds) could be completely attributed to Katrina or Rita. The fall in shrimp landings in 2002 (20.7 million pounds) and 2008 (18.5 million pounds) might be partly attributed to hurricanes Lili and Gustav/Ike, respectively and partly to non-hurricane forces because these storms only extended the decline that has already existed a year before.

7. The share of total decline in the volume of shrimp landed in the aftermath of Katrina and Rita was largest for fishermen who resided in Plaquemines parish (33.3 percent), followed by those who resided in Jefferson (20.9 percent) and then the fishermen who resided out-of-state (12.9 percent). Terrebonne residents (with 39.7 percent) incurred the largest share of total loss in shrimp volume in the aftermath of hurricane Lili, followed by Lafourche (17.4 percent) and Jefferson (15.4 percent). Of the total loss of shrimp landings due to Gustav and Ike, 25.7 percent accrued to fishermen who lived in Plaquemines, followed by Jefferson (19.1 percent) and out-of-state residents (14.4 percent).

8. Approximately 62.5 percent of the total decrease in the volume of shrimp between 2004 and 2005 due to Katrina or Rita was associated with the share of shrimp harvested from the Louisiana river basins. The rest was associated with the federal waters. The basins, which experienced most declines in the volume of shrimp landed from their water bodies in 2005 were Barataria (9.3 million pounds), Lake Pontchartrain (6.4 million pounds) and Terrebonne (2.5 million pounds). The two major federal grids which constituted the remaining 37.5 percent were Grid 13 (with 5.9 million pounds) and Grid 14 (with 4.6 million pounds). Of the total decline of 23.7 million pounds of shrimp from LDWF basins due to hurricane Lili (2002), Terrebonne and Barataria accounted for approximately 78.3 percent. Shrimp landings, however, rose by 3.1 million pounds for the grids. Also about 73.1 percent of the loss of 18.5 million pounds in shrimp landings due to Gustav and Ike (2008) accrued to the LDWF basins with 79.6 percent in-turn affecting Barataria Basin alone.

9. The average total real prices of shrimp (in 2005 dollar) per pound rose by $0.10 during Katrina/Rita (2005) and by $0.31 during Gustav/Ike (2008) but fell by $0.25 during hurricane Lili (2002). The largest increase ($0.58) in the dockside average real price per pound occurred for the shrimp harvested from Mermentau River Basin, which jumped from $1.60 in 2004 to fluctuate around $2.00 since 2005 (due mainly to hurricane Rita effect). Also, the dockside average real price of a pound of shrimp harvested from Lake Pontchartrain jumped in 2008 by $1.27 from $1.58 in 2007

(hurricane Gustav effect). The effect of hurricanes on the average prices of shrimp per pound from other basins and grids were relatively smaller.

10. Except for 2009, the relatively flat pattern of the total dockside values of shrimp (in 2005 dollar) was interrupted slightly when it declined to its 10 year low of $133.4 million in 2005. This was an indication of the detrimental effect of hurricane Katrina or Rita.

11. The largest decline in the real value of shrimp in 2002 were by fishermen who resided in Terrebonne parish ($18.0 million), followed by Lafourche ($10.7 million) and Jefferson ($10.2 million). Also, the largest decline in the value of shrimp landed in 2005 ($7.1 million) accrued to fishermen who resided in Plaquemines parish, followed by individuals who resided outside Louisiana ($4.9 million). However, the decrease in shrimp value during Gustav and Ike was relatively small with the largest occurring with fishermen resident in Terrebonne parish ($3.0 million).

12. The decrease from the basins constituted approximately 80.5 percent of total decrease of $61.8 million in shrimp real values (in 2005 dollar) in 2002. The majority of the decline (85.3 percent) in dockside value from the basins was associated with shrimp harvest from Terrebonne, Barataria and Lake Pontchartrain Basins. In 2005, the declines in shrimp values were $4.2 million for Terrebonne, $2.3 million for Barataria and $1.1 million for Mississippi River Basins. In 2008, the losses were $9.3 million for Barataria and $2.2 million for Terrebonne Basins. For the NMFS grids, almost all grids experienced a fall in the values of shrimp harvested from them during 2002 with the largest decrease of approximately $3.4 million occurring for Grid 16. A decline of $5.6 million and $5.3 million in shrimp values accrued to Grid 13 and 14 in 2005, respectively, while only Grid 13 had a major decrease of about $3.1 million in shrimp value in 2008.

13. Terrebonne Basin, with approximately $5.5 million, experienced the largest increase in the real dockside value of shrimp harvested from its waters in 2005. In 2008, the increase in real dockside value of shrimp harvested from the Lake Pontchartrain Basin was the largest (i.e., $4.5 million), followed by Mississippi River Basin with $1.3 million. Grid 15 had major increases in the values of shrimp harvested from its waters in 2005 ($3.9 million) and 2008 ($1.8 million).

14. Recovery of the shrimp fishery in terms of landings began in a year after individual hurricanes. The recovery continued for two years (2003-2004) after Lili and for a year after Katrina and Rita as well as Gustav and Ike. The number of shrimp fishermen declined from 2002 to 2009 regardless of hurricane occurrences. Incessant repeat of interruptions from hurricanes and other minor storms have constituted the major obstruction slowing down the recovery of the shrimp fishery after a hurricane disaster.

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Chapter 1 - Participation and Activities in the Shrimp Industry

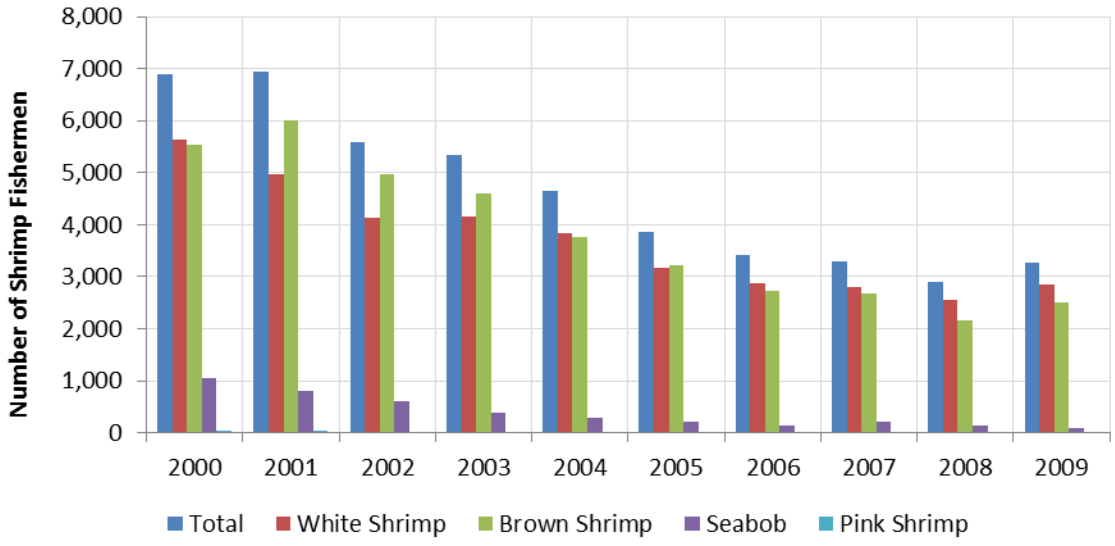
This chapter provides information on participation and activities of commercial fishermen who were reported to have landed or sold at least a pound of shrimp to a wholesale/retail dealer in Louisiana. The information provided includes the number of fishermen with the species of shrimp they landed and sold, parish of residence as well as number of fishing vessels that reportedly landed shrimp, the resident status and parish of residence of the vessel owners, etc. The impact of hurricanes Lili in 2002, Katrina/Rita in 2005 and Gustav/Ike in 2008 are also discussed.

When possible, information is disaggregated into major shrimp species such as white shrimp, brown shrimp, seabob and pink shrimp. Other shrimp species (blood shrimp, rock shrimp, river shrimp and royal red) are not included in this chapter for scanty and discontinuous information, for confidentiality reasons (e.g., when number of participants is less than four) and for the impossibility of information aggregation.

1.1 Shrimp Fishermen and Dealers

The number of fishermen who reported landings or sold at least a pound of shrimp or a shrimp species in the trip ticket program declined rapidly from 2000 through 2009 (Figure 1.1). This number may include fishermen who did not target shrimp directly but caught it as bycatch shrimp when fishing for non-shrimp species. On average, approximately 82.7 percent (80.2 percent) of shrimp fishermen landed brown (white) shrimp species between 2000 and 2009, while only 8.6 percent and 0.5 percent landed seabob and pink shrimp, respectively.

In addition, the total number of shrimp fishermen declined by 58.1 percent from 6,936 in 2001 to 2,904 in 2008. Similar downward trend occurred for the number of fishermen who



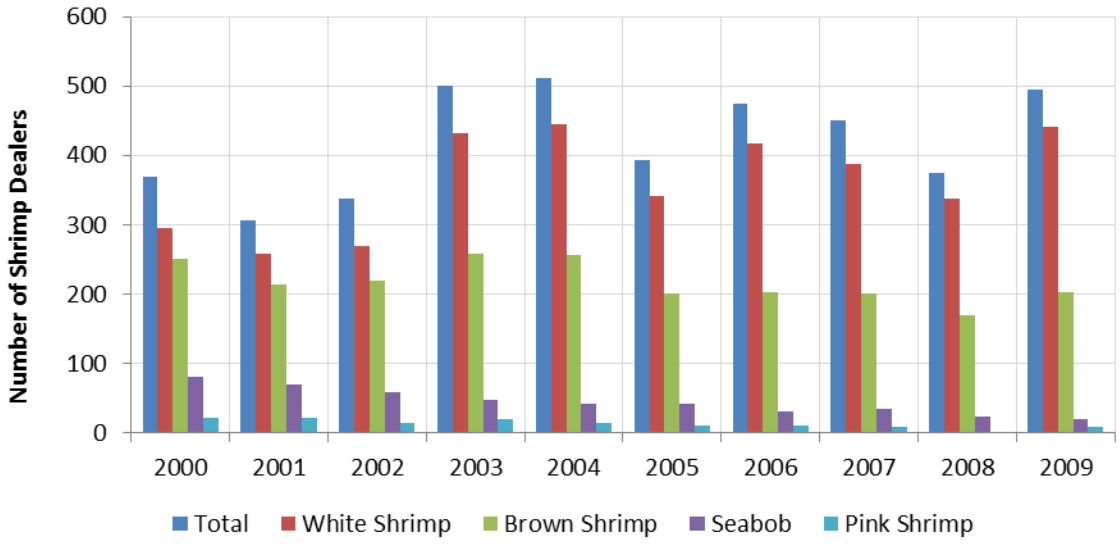
Source: Appendix Table A.1.

Figure 1.1 Number of Fishermen Who Landed and Sold Shrimp by Species, 2000 – 2009

landed or sold brown shrimp (between 6,007 and 2,151) for the same period, while the range was narrower, between 4,974 and 2,554, for those who landed white shrimp. Participation in seabob shrimp harvest started with 1,063 fishermen in 2000 but by 2009, only 93 fishermen reported that they landed or sold this species. The number of fishermen who engaged in pink shrimp fishing from 2000 through 2009 was relatively flat with an annual average of 21 fishermen.

Prior to 2005, more fishermen harvested brown shrimp than white shrimp. This phenomenon appeared to have been reversed since then. Major turning points in the declining trend in the number of fishermen, irrespective of shrimp species they harvested or sold, occurred during 2009 when the number increased modestly.

Figure 1.2 shows that the number of dealers who purchased at least a pound of shrimp between 2000 and 2009. The total number of dealers rose rapidly from 306 dealers in 2001 to



Source: Appendix Table A.2.

Figure 1.2 Number of Dealers Who Purchased Shrimp by Species, 2000 – 2009

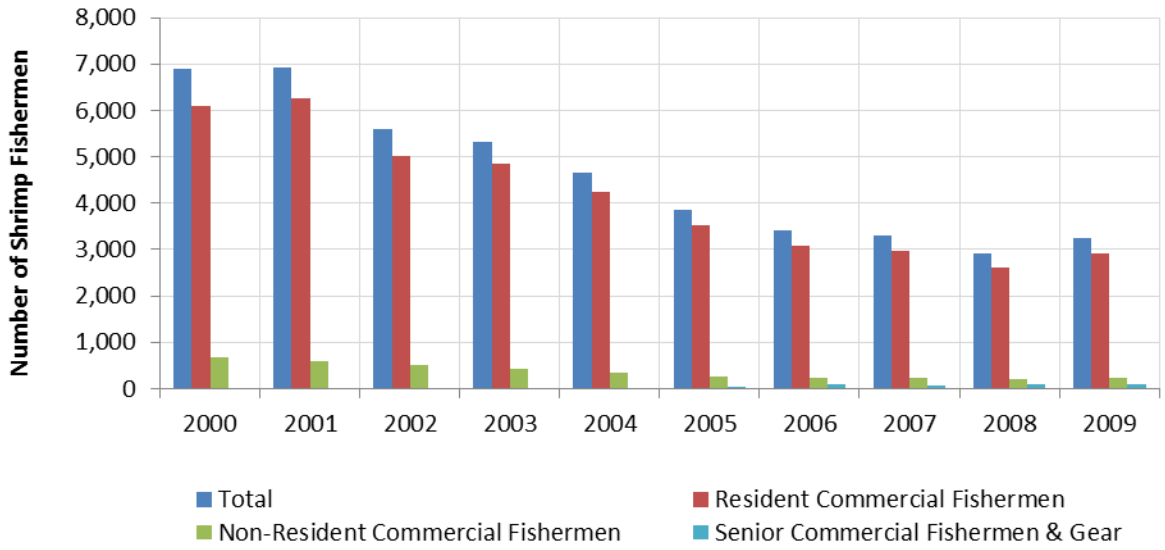
501 dealers in 2003. This number rose slightly to 511 dealers in 2004 until it fell to 394 dealers in 2005. A moderate change in the number of dealers was recorded for a couple of years prior to 2008 during when it reached a six-year low and then rose again in 2009 to approach its level prior to 2005. Interestingly, the majority of the dealers (average of 86.1 percent) purchased white shrimp throughout the 2000-2009 period, while the portion of dealers who purchased brown shrimp averaged 51.6 percent. For the same period, the portion of shrimp dealers who bought seabob and pink shrimp averaged 10.7 percent and 3.1 percent, respectively.

Readers should be cautious in combining the information in this section to compute fisherman-dealer ratios for the shrimp fishery for such ratios will be misleading. An important reason for this caveat is that individuals who held a fresh product dealer license double up as both fishermen and seafood dealers who sell their catches directly to the public. Also, the

number of fishermen who harvested and the number of dealers who bought shrimp might have included non-active participants in the shrimp fishery.

1.1.1 Number of Shrimp Fishermen by Type of Fishing License

The types of commercial fishing license held by oyster fishermen from 2000 through 2009 are shown in Figure 1.3. The majority (90.1 percent) of fishermen who landed or sold shrimp in a given year held a residential commercial fisherman license, followed by fishermen who held a non-resident commercial license with 8.1 percent. The remaining oyster fishermen held senior commercial fishermen and gear licenses, a type of commercial fishing license that was first made available in 2005. In general, a declining trend in the numbers of fishermen has occurred since 2000, except for 2001 and 2009 when a slight increase in the number of fishermen occurred.



Source: Appendix Table A.3. Note: Alien commercial fishermen license was discontinued after 2000 and it was combined with non-resident commercial fisherman license. Also 2005 was the first year for the senior commercial fishermen and gear license.

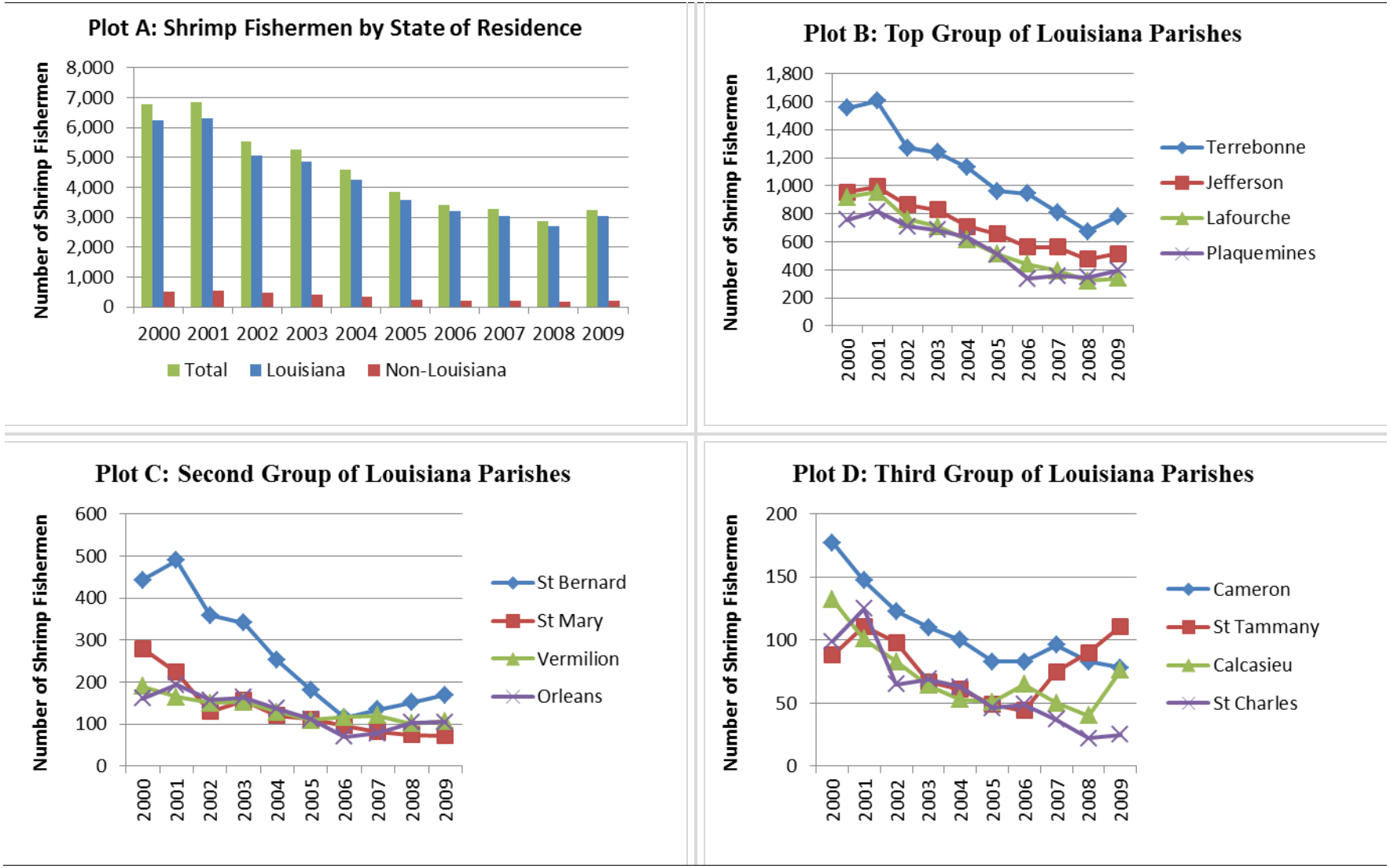
Figure 1.3 Number of Shrimp Fishermen by Type of Fishing License, 2000 – 2009

1.1.2 Place of Residence of Shrimp Fishermen

The number of fishermen who landed and sold shrimp from 2000 through 2009 by state and major Louisiana's parish of residence is shown in Figure 1.4 (Plots A to D). On average, over nine-tenths (92.6 percent or 4,231 people) of shrimp fishermen lived in Louisiana (Plot A). The number of shrimp fishermen who resided in Louisiana ranged from 2,702 individuals in 2008 to 6,307 individuals in 2001. The number of shrimpers lived in other states but landed and sold shrimp in Louisiana fluctuated between 182 fishermen in 2008 and 548 individuals in 2001. See Chapter 2 (section 2.4.1) for information on shrimp landings and values reported on individuals who resided in non-Louisiana states.

Plots B to D shows that most of the fishermen who landed or sold shrimp in a given year within the 2000-2009 period resided in Terrebonne parish (between 1,605 fishermen in 2001 and 675fishermen in 2008), followed by fishermen who resided in Jefferson parish (995 in 2001 and 477 in 2008). Next is Lafourche parish with 953 shrimp fishermen in 2001 and 322 shrimp fishermen in 2008, followed by Plaquemines parish where 816 fishermen resided in 2001 and 335 resided in 2005. The number of shrimp fishermen who lived in St. Bernard fluctuated between 116 fishermen in 2006 and in 489 fishermen in 2001.

Many of the parishes show upward trends in the second half of the 2000-2009 period, with St. Tammany, Orleans, Jefferson Davis and Livingston showing the strongest increase since 2005. With a general decline in the number of fishermen who landed or sold shrimp in Louisiana from 2000 through 2009 (Figure 1.1), the previous findings might be an indication of fishers relocation mainly to St. Tammany and Orleans parishes since 2006, a year after hurricanes Katrina and Rita landed in Louisiana. Calcasieu parish appears to be a transitory place where fishermen relocated to after hurricanes Katrina/Rita in 2005 and Gustav/Ike in 2008



Source: Appendix Table A.4. See Appendix Tables A.5 to A.7 and Appendix Figures A.1 to A.3 for number of fishermen by major shrimp species and place of residence.

Figure 1.4 Number of Shrimp Fishermen by Place of Residence, 2000 – 2009

as the increases in the numbers of fishermen who resided there during both periods lasted only a year.

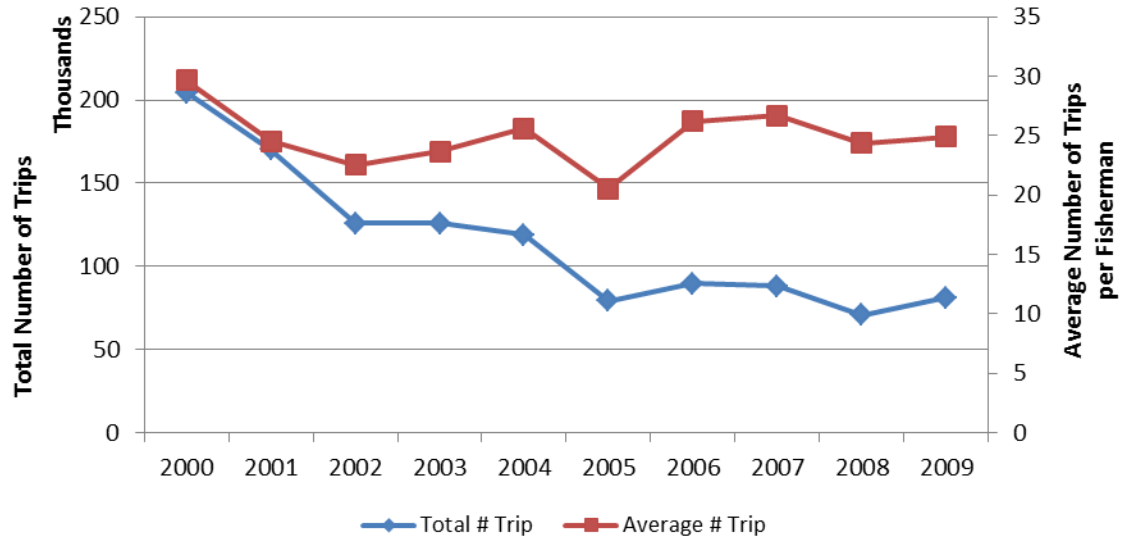
When the parishes of residence were distributed by shrimp species, similar patterns in the number of fishermen were found except for seabob shrimp (See Appendix Figures A.1 to A.3). For seabob, Plaquemines displaced Jefferson and Lafourche parishes to be in second place (after Terrebonne parish) with an average of 24 fishermen who resided there since 2003. Information on pink shrimp fishermen by parish is omitted having failed the confidentially test.

1.2 Shrimp Fishing Trips

Shrimp fishing trips include all fishing trips associated with the sale of at least a species of shrimp on a trip ticket irrespective of whether shrimp was the original target or not for the fishermen. Number of trips is determined using the length of time a trip takes from and to a starting point (e.g., a dock). The number and the length of fishing trips associated with shrimp landings from 2000 through 2009 are shown in Figures 1.5 and 1.6.

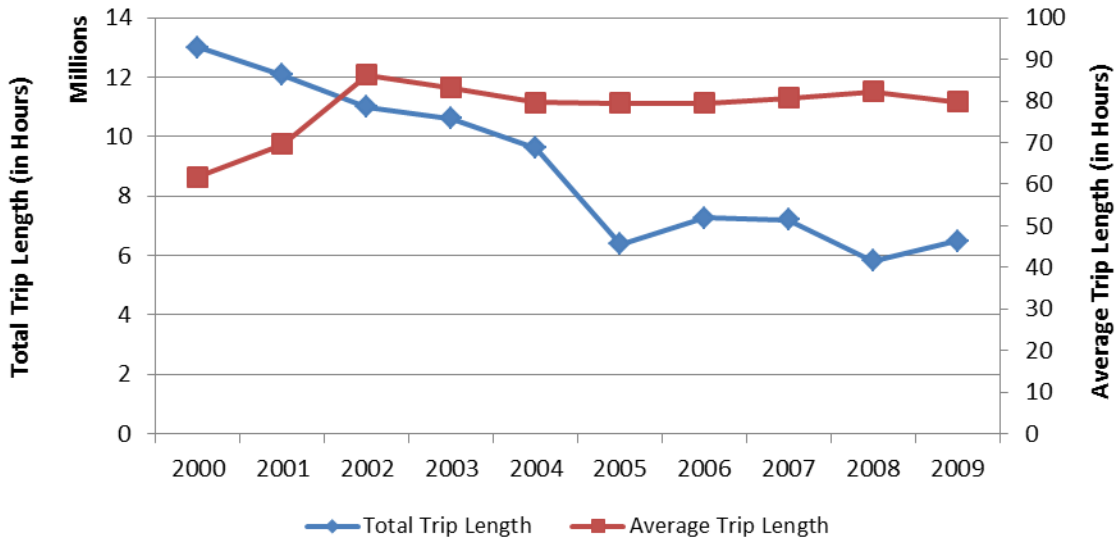
Figure 1.5 shows the yearly total number of trips and the average numbers of trips per fishermen per year, which were associated with shrimp fishing between 2000 and 2009. During this period, the total number of shrimp fishing trips per year declined from 204.4 thousands trips in 2000 to 70.8 thousands trips in 2008 and the average number of trips per fisherman per year fluctuated between 21 trips in 2005 and 30 trips in 2000.

Figure 1.6 shows the total and average length (in hours) of trips associated with shrimp fishing (i.e., from when the fishermen left the dock, boat launch, etc. to when he/she arrived at the same starting point) reported on the trip ticket in the period between 2000 and 2009. The total length of trips in hours per year declined from approximately 13.0 million hours (or 541,816 days) in 2000 to less than a half (5.8 million hours or 242,417 days) in 2008. The



Source: Appendix Table A.8.

Figure 1.5 Total and Average Numbers of Shrimp Fishing Trips, 2000 – 2009



Source: Appendix Table A.8.

Figure 1.6 Total and Average Lengths of Shrimp Fishing Trips, 2000 – 2009

average length of shrimp fishing trips fluctuated between 62 hours in 2000 and 86 hours in 2002 averaging 78 hours (approximately 3¼ days) per trip during 2000 to 2009.

1.3 Shrimp Fishing Vessels

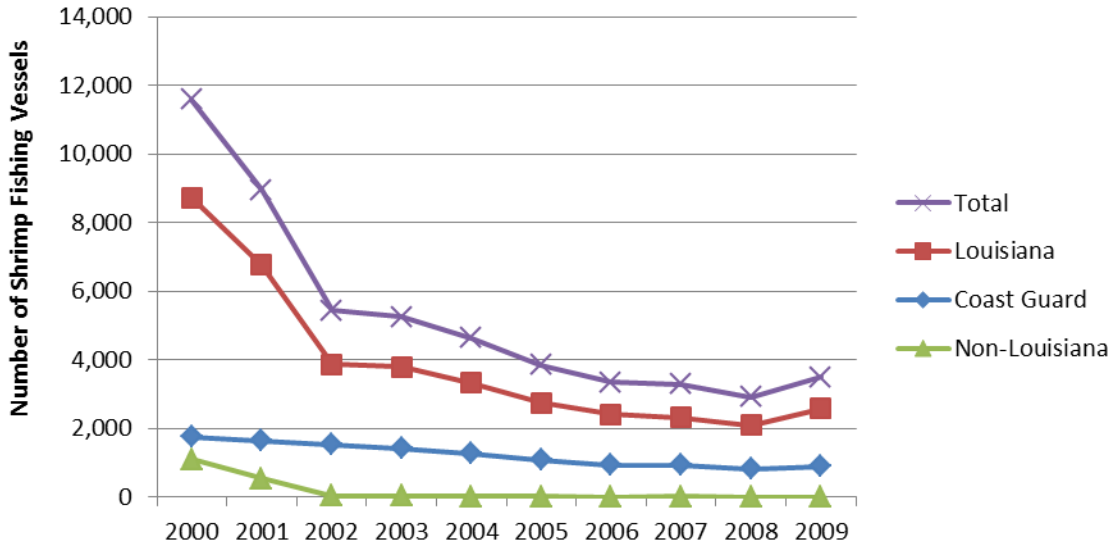
This section contains summary information on fishing vessels, which reportedly landed at least a species of shrimp from 2000 through 2009. This information, facilitated by the available vessel registration or documentation numbers, includes the number of vessels, type of registration, residence status and parish of residence of vessel owners and the length (size) categories of the vessels. Note that shrimp might not have been the target for the fishing trip.

1.3.1 Shrimp Vessels by Type of Registration

Fishing vessels can be registered with a state or documented with the U.S. Coast Guard. Hence, the fishing vessels which landed shrimp of any quantity (hereafter shrimp vessels) were categorized according to these types of registration: state registered or Coast Guard documented. Figure 1.7 shows that the majority (72.6 percent) of the total shrimp vessels were registered in Louisiana from 2000 through 2009, followed by those documented with the U.S. Coast Guard (25.5 percent). A very few number of shrimp vessels (mostly less than 36 vessels) were registered in non-Louisiana states.

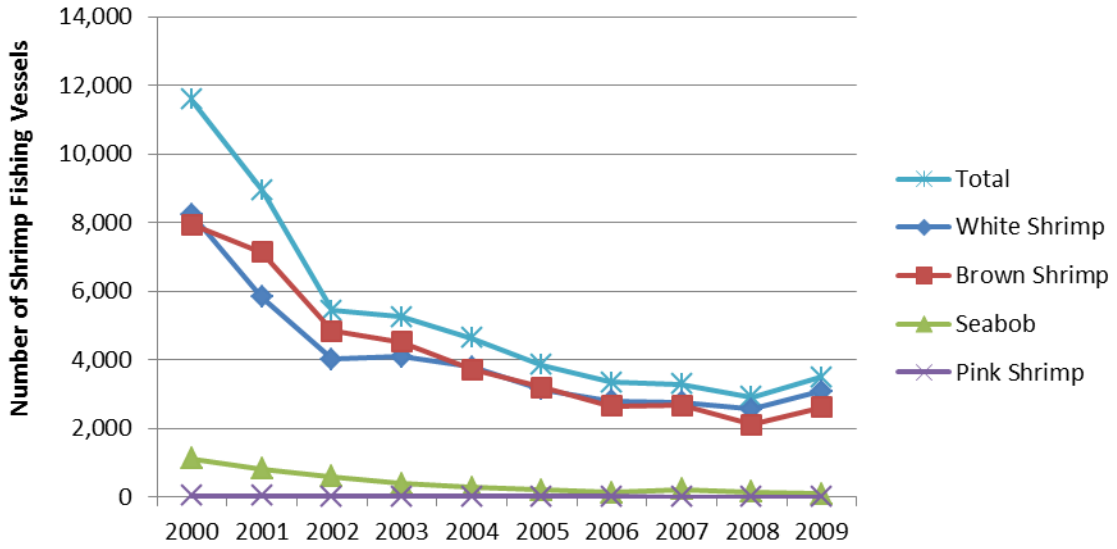
1.3.2 Shrimp Vessels by Shrimp Species

The total number of fishing vessels and the species of shrimp they reportedly landed in the period between 2000 and 2009 are shown in Figure 1.8. The total number of shrimp fishing vessels fell sharply by more than half from 11,592 vessels in 2000 to 5,441 vessels in 2002. Since then, the number of shrimp vessels has continued to fall moderately reaching its low in 2008 with approximately 2,919 vessels before increasing to 3,497 in 2009. It is interesting to



Source: Appendix Table A.9.

Figure 1.7 Number of Shrimp Fishing Vessels by Type of Registration, 2000 – 2009



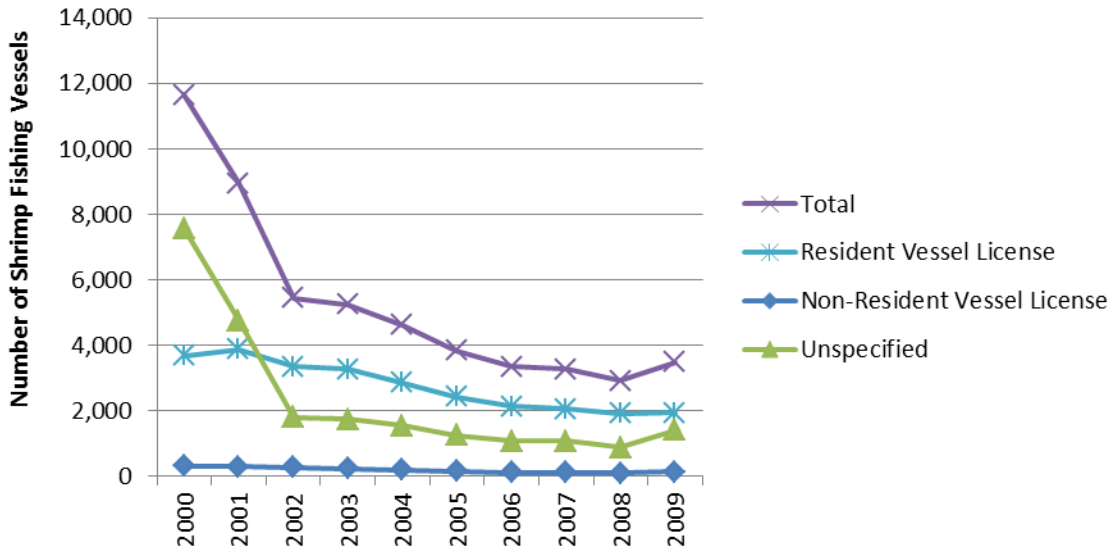
Source: Appendix Table A.10.

Figure 1.8 Number of Shrimp Fishing Vessels by Species of Shrimp Landed, 2000 – 2009

note that in 2001, 2002 and 2005, more brown shrimp was harvested by a larger number of boats, while in other years, a larger number of boats harvested white shrimp than brown shrimp.

1.3.3 Residence Status and Parish of Residence of Shrimp Vessel Owners

Residence status of owners of fishing vessels, which landed shrimp in Louisiana, was determined by the type of commercial vessel license that they purchased during 2000-2009 period. The number of fishing vessels whose license types were specified or recorded in the trip ticket in 2000 and 2001 were very small (less than a half). However, this number rose since 2002 to an annual average of 2,673 vessels (66.4 percent). Figure 1.9 shows that over 93.6 percent of the 2,673 vessels (between 3,884 in 2001 and 1,923 in 2008) were owned by individuals who resided in Louisiana.



Source: Appendix Table A.11. Shrimp vessels whose license type was specified between 2002 and 2009 averaged 66.4 percent.

Figure 1.9 Number of Shrimp Vessels by Owner's Residence Status, 2000 – 2009

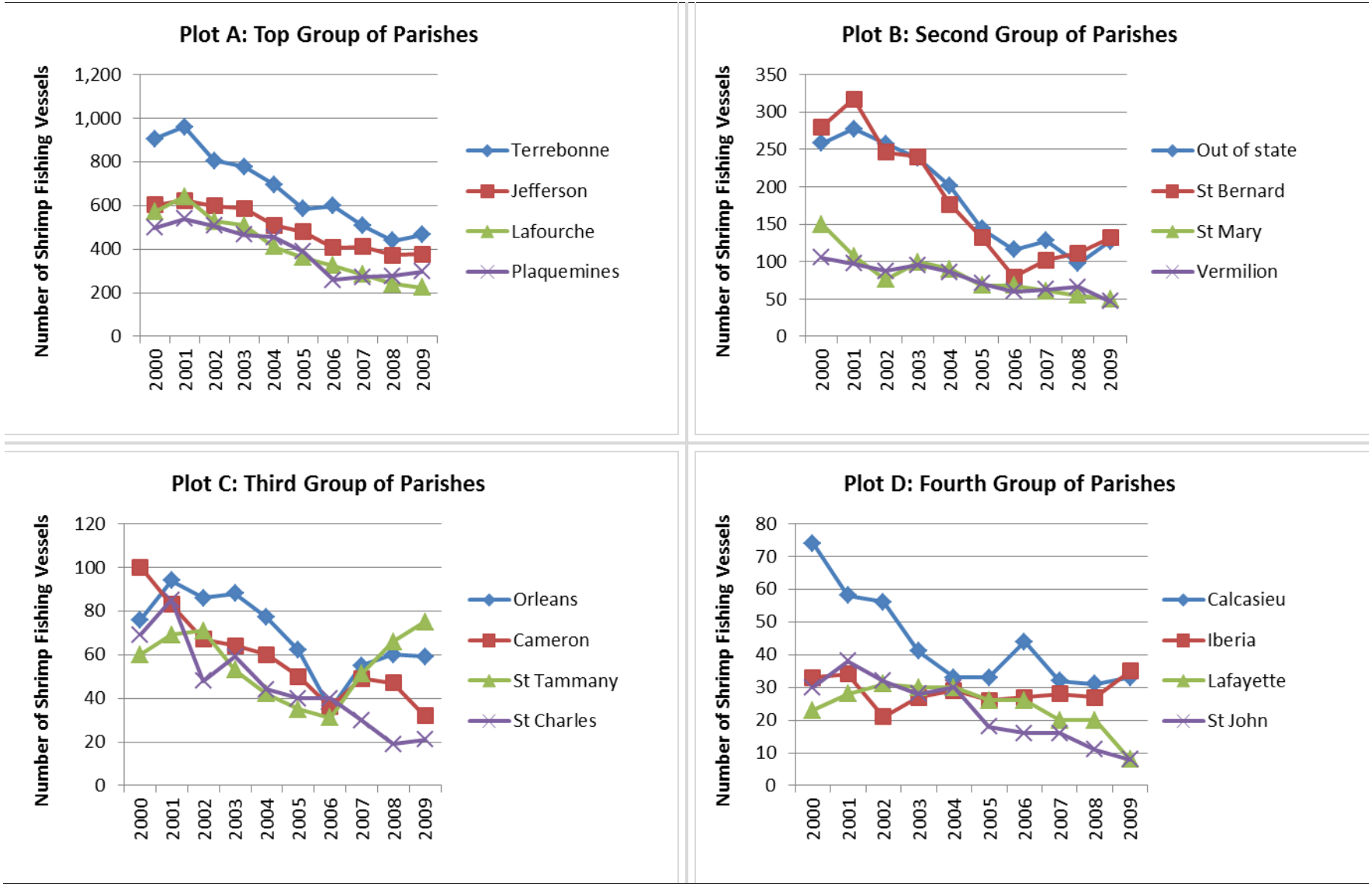
Figure 1.10, Plots A to D shows the number of fishing vessels, which landed shrimp in Louisiana from 2000 through 2009 by their owners' parishes of residence. The number of shrimp fishing vessels generally followed a downward trend since 2000 except for St. Bernard, Orleans, and St. Tammany parishes whose residents individuals have increased since 2006.

Specifically, Plot A indicated that Terrebonne (with number of vessels ranging from 959 in 2001 to 438 in in 2008) and Jefferson (between 622 vessels in 2001 and 371 vessels in 2008) clearly topped the list of parishes where most of the vessel owners resided. Next parishes of vessel owners, with the average number of vessel between 2000 and 2009, are Lafourche (409 vessels), Plaquemines (395 vessels), out of the State of Louisiana (184 vessels) and St. Bernard (182 vessels) parishes. See Chapter 2 (section 2.4.1) for information on shrimp landings and values reported on individuals who resided out of the State of Louisiana.

The number of vessels rose sharply in Orleans (though leveling off) and St. Tammany parishes between 2006 and 2009, a sign that might indicate a recovery or relocation of vessel owners mainly to these southeast Louisiana's parishes after hurricane Katrina of 2005 that affected that area. This observation is similar to the findings in Figure 1.4, indicating that most of the shrimp fishermen might be fishing with their own vessels with which they relocated.

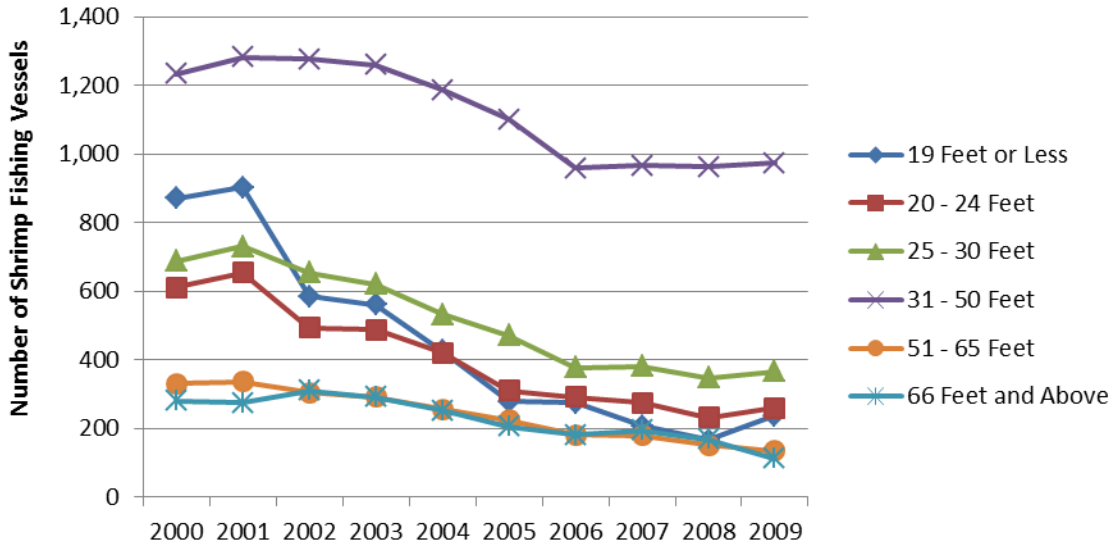
1.3.4 Length of Shrimp Vessels

Fishing vessels, which landed shrimp from 2000 to 2009, were group into six size categories based on the foot length of the vessels. These categories are "19 feet or less," "20-24 feet," "25-30 feet", "31-50 feet", "51-65 feet" and "66 feet or over." Figure 1.11 shows the number of shrimp vessels based on an annual average of 2,957 vessels (61.2 percent) whose lengths were available especially for 2001-2009 period. Most of these vessels (between 1,281 in 2001 and 958 in 2006) fell between 31 and 50 feet, followed by vessels 30 feet or below, which



Source: Appendix Table A.12.

Figure 1.10 Number of Shrimp Vessels by Owner's Place of Residence, 2000 – 2009



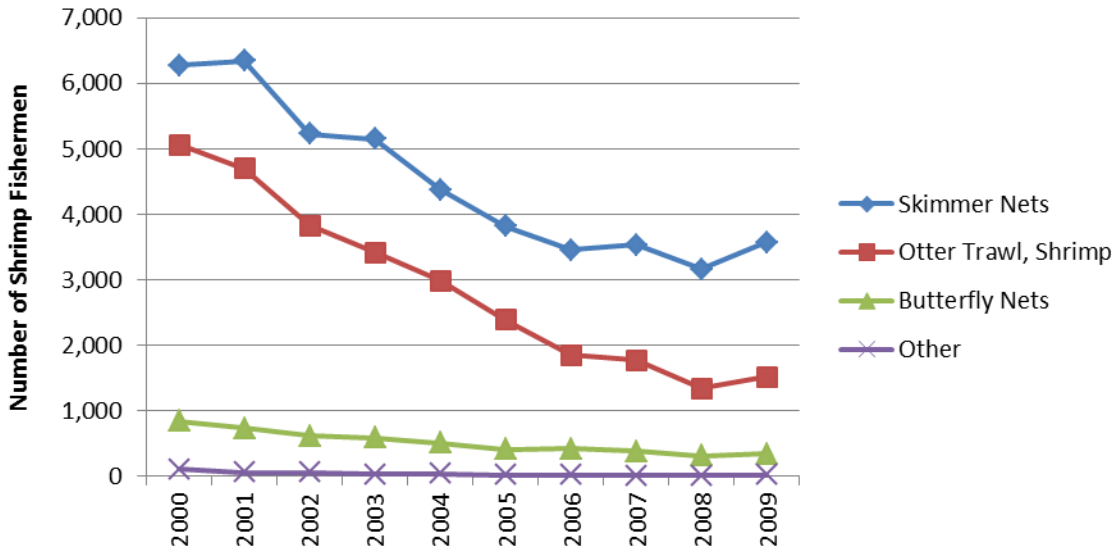
Source: Appendix Table A.13. Note that vessel length was reported for an annual average of 72.3 percent of fishing vessels.

Figure 1.11 Number of Shrimp Vessels by Vessel Length Category, 2000 – 2009

averaged 762 vessels in 2001 and 249 vessels in 2008. Vessels of length 51 feet or over constituted about 15.7 percent of vessels whose lengths were reported annually. Others are vessels of length 19 feet or less (14.1 percent) and 20 to 24 feet (13.3 percent).

1.4 Shrimp Fishing Gear

The number of fishermen with the types of gear they used to harvest shrimp from 2000 through 2009 are shown in Figure 1.12. Skimmer nets were the most popular shrimp gear with the largest number of fishermen (ranging from 6,340 in 2001 to 3,167 in 2008) who reportedly used them. Next was shrimp otter trawl, which was used by a maximum of 5,057 fishermen in 2000 and a minimum of 1,349 fishermen in 2008. The number of fishermen who used butterfly nets was disappearing gradually from a high of 849 fishermen in 2000 to a low of only 320



Source: Appendix Table A.14.

Figure 1.12 Number of Fishermen by Shrimp Fishing Gear, 2000 – 2009

fishermen in 2008. Other fishing gear, which harvested shrimp, perhaps accidentally, included cast nets, crab pots and traps, etc. Only hurricane Gustav/Ike in 2008 appears to have caused a marked positive change in the number of fishermen who used the major shrimp gear.

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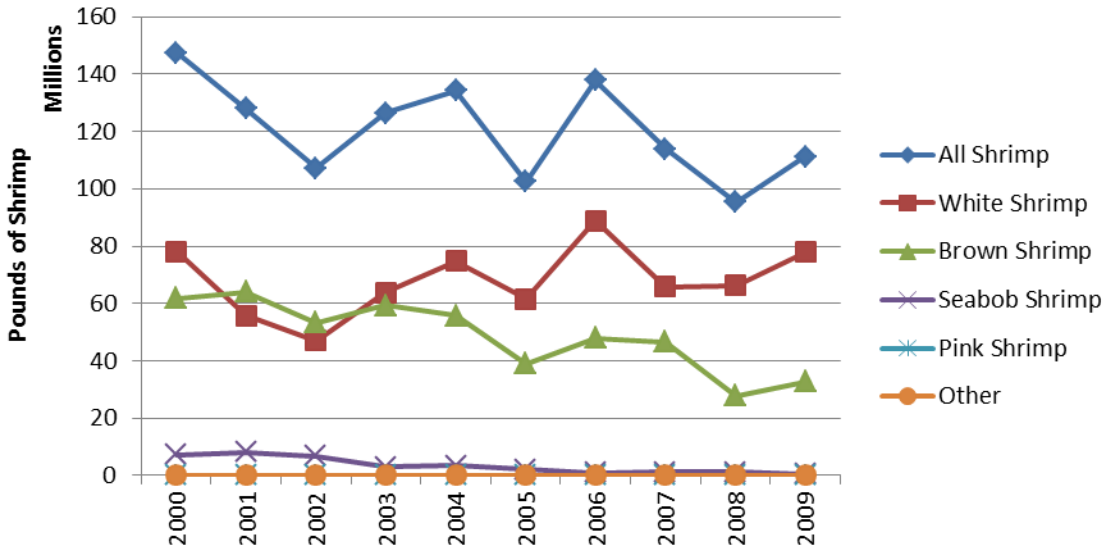
Chapter 2 - Shrimp Landings, Prices and Values

This chapter reports information on the volume of shrimp landed in Louisiana as well as their dockside prices and values. Shrimp are landed at the dock whole or heads on, headed or heads off or may be landed in pieces or chunks. During the analysis, headed or heads off shrimp and shrimp landed in pieces or chunks were converted to the whole or heads on shrimp. Hence, the pounds, prices and values of shrimp presented in this chapter are based on the whole or heads on shrimp.

Dockside prices and values are measured in both nominal (actual) and real terms. The real prices (real values) are derived by adjusting the nominal prices (nominal values), using the GDP deflator, which is measured in 2005 dollar. When necessary, actual and real prices as well as actual and real values of shrimp landed or sold are jointly reported. Otherwise, they are included in the Appendix section. Also, information is disaggregated into major shrimp species such as white shrimp, brown shrimp, seabob and pink shrimp, while other shrimp species (blood shrimp, rock shrimp, river shrimp and royal red) are presented in aggregates.

2.1 Shrimp Landings by Species

The volume of shrimp landed or sold at Louisiana docks within 2000-2009 period is shown in Figure 2.1. The total pounds of shrimp landed ranged between 147.4 million in 2000 and 95.4 million in 2008. With values ranging from approximately 47.0 million pounds (2002) and 88.9 million pounds (2006), white shrimp constituted the major portion of the total landings for most part of the 2000-2009 period. Next is brown shrimp whose largest landings (64.0 million pounds) was recorded in 2001 and its lowest (27.8 million pounds) in 2008. Landings



Source: Appendix Table B.1. "Other" includes blood shrimp, rock shrimp, river shrimp and royal red shrimp.

Figure 2.1 Shrimp Landings by Species, 2000 – 2009

for seabob shrimp, pink shrimp and other shrimp are disappearing, ranging from a total of 502.8 thousand pounds in 2009 to approximately 8.3 million pounds in 2001.

There were three major troughs in the trend depicted by the total shrimp landings from 2000 through 2009. These troughs occurred at 2002, 2005 and 2008, which correspond to the years when major hurricanes landed in Louisiana. When variations among shrimp species are considered, white shrimp landings appeared to have been affected more by hurricanes Katrina or Rita in 2005, while brown shrimp appeared to have been affected more by hurricanes Gustav and Ike in 2008.

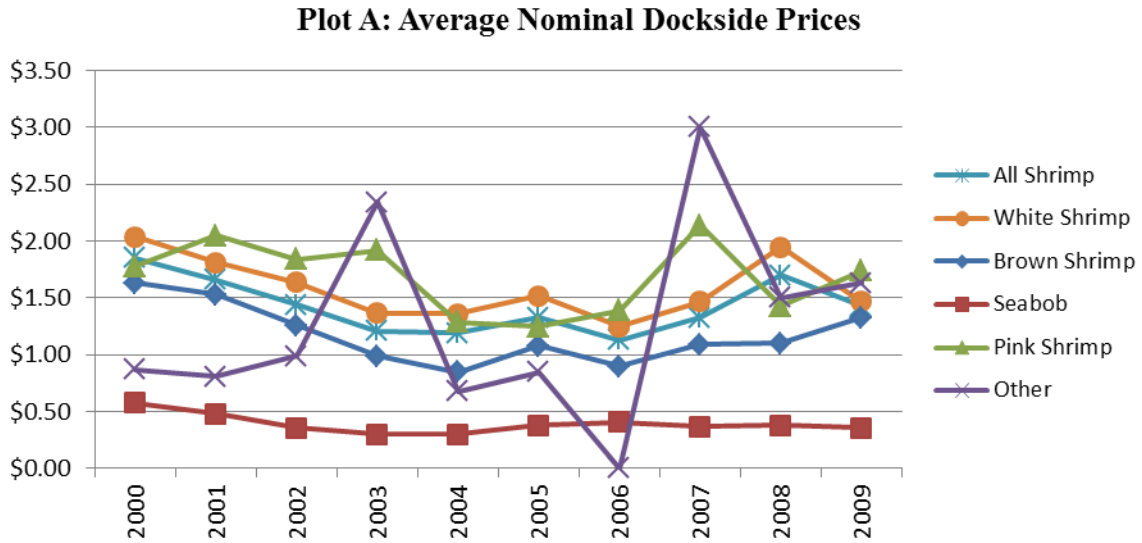
2.2 Average Dockside Prices of Shrimp by Species

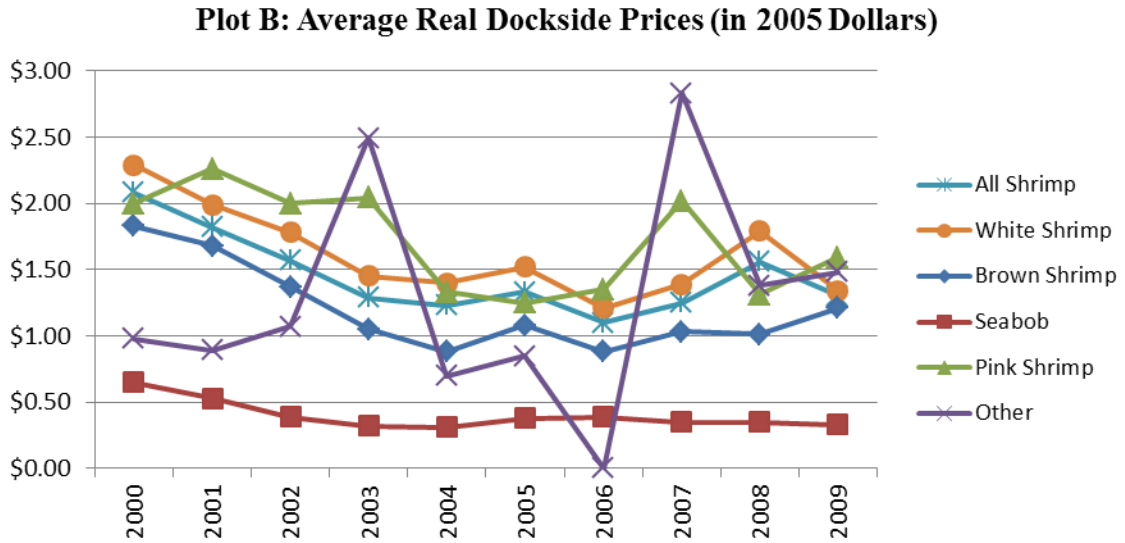
The average nominal dockside prices and the average real dockside prices (prices measured in 2005 dollar using GDP deflator) per pound of shrimp by species from 2000 through 2009 are presented in Plots A and B of Figure 2.2, respectively. The average nominal prices are the prices actually paid by the seafood dealers to the fishermen at the docks while the average real prices are the averages of nominal prices in 2005 dollar.

Although both plots appear to have similar patterns, they are typically used under different scenarios. Plot A would be appropriate when comparing prices across shrimp species for a given year, while plot B would be appropriate for comparisons of prices between two or more years for a given shrimp species.

Consider plot A of Figure 2.2. The average total nominal price per pound of shrimp for all species from 2000 to 2009 was $1.43 per year or fluctuated between $1.85 in 2000 and $1.13 in 2006. Pink shrimp did not only command the highest average nominal prices in six of ten years between 2000 and 2009, reaching approximately $2.14 per pound in 2007 but also exceeded the average total nominal prices for most of the 2000-2009 period. Next are the average nominal prices of white shrimp, which were above the average total nominal prices for individual years and reached its recent high of $1.95 in 2008. The nominal prices of brown shrimp followed the same patterns as white shrimp's but were below the average total nominal prices at every point throughout the 2000-2009 period. Brown shrimp's nominal prices are, however, catching up gradually with its white shrimp's prices, reaching a recent high of $1.33 in 2009. With an annual average of $0.39 per pound, seabob had the lowest nominal prices.

Except for pink shrimp, Plot B shows consistent declines in the trends of the average real prices for individual shrimp species and for the average total real prices of all species until 2004





Source: Appendix Table B.2. "Other" includes blood shrimp, rock shrimp, river shrimp and royal red shrimp.

Figure 2.2 Average Dockside Prices of Shrimp by Species, 2000 – 2009

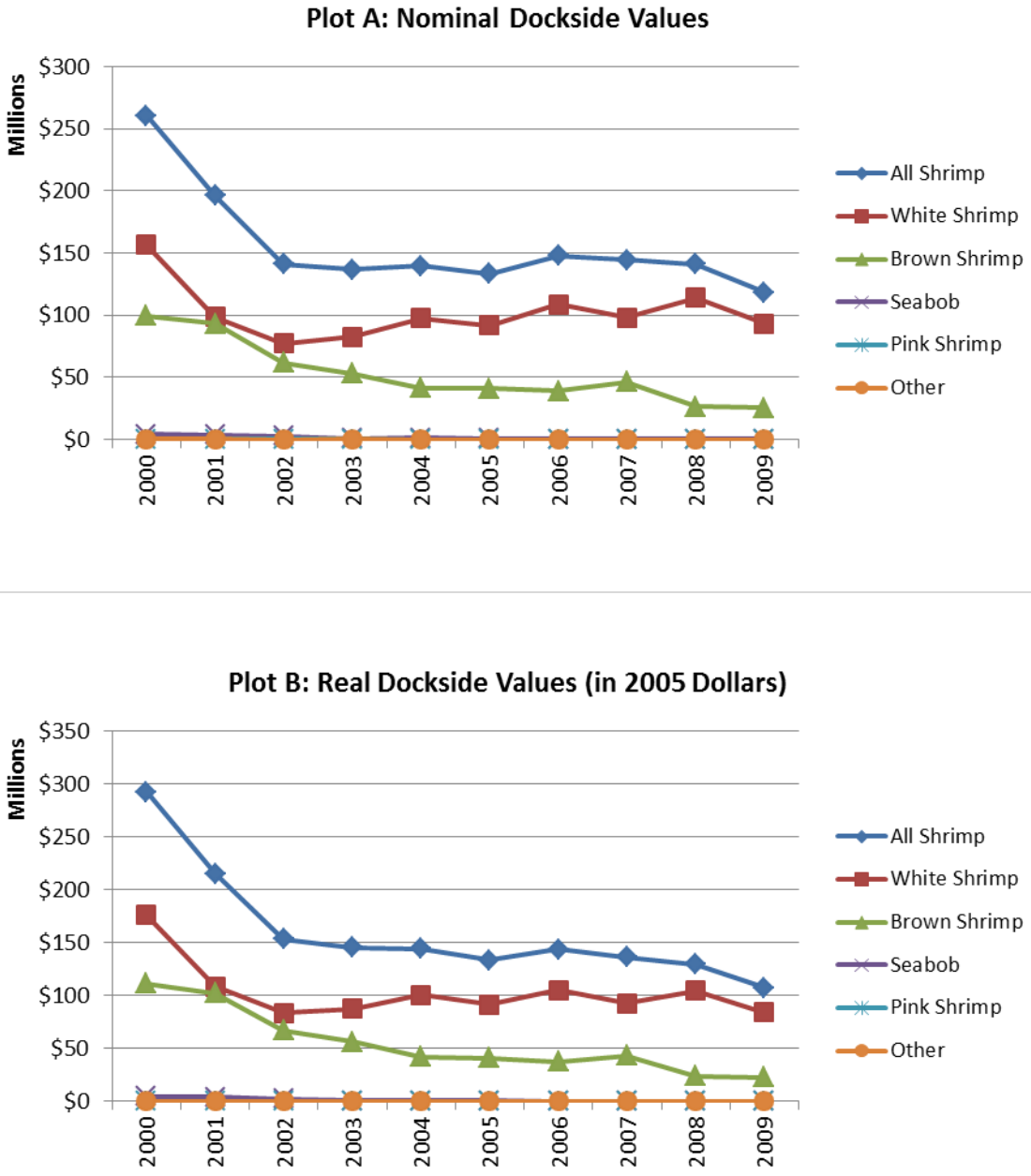
after which they exhibited upward but fluctuating trends. For example, except for 2005 when hurricane Katrina/Rita landed and 2008 when hurricane Gustav/Ike landed, the average real prices per pound of white shrimp ($1.31) and brown shrimp ($1.04) for 2005-2009 periods were below their levels at the pre-2004 eras ($1.88 and $1.48, respectively). Were it not for 2007, the trend would have been similar for pink shrimp ($1.38) for the same period when compared to the pre-2004 eras ($2.08). For seabob, the average real prices averaged about $0.40 per pound from 2000 through 2009. In general, the average prices of shrimp increased during hurricane years (2005 and 2008).

2.3 Dockside Values of Shrimp by Species

The nominal (actual) values and the real values (nominal values adjusted for inflation using GDP deflator) of shrimp landed or sold at the Louisiana docks from 2000 through 2009 are shown in Plots A and B of Figure 2.3, respectively. Plot A would be appropriate when comparing values across shrimp species for a given year, while plot B would be appropriate when comparing values between two or more years for a given shrimp species.

Plot A shows that the total value of shrimp sold in Louisiana in 2000 was approximately $260.3 million but fell rapidly to $141.2 million in 2002. Since then, average shrimp value was approximately $137.4 million per year from 2003 through 2009. White shrimp values fluctuated around $100.0 million per year, constituting the majority (two-third) of total values of shrimp during the 2001-2009 period. Brown shrimp contributed approximately a third of the total values of shrimp during the period, ranging from $61.6 million in 2002 to $25.4 million in 2009. The total contribution of seabob, pink shrimp and other shrimp values was less than 2.0 percent per year, ranging from $4.2 million in 2000 to only $205.1 thousand in 2009.

When compared to its level of $292.5 million in 2000, Plot B shows that the total real



Source: Appendix Table B.3. "Other" includes blood shrimp, rock shrimp, river shrimp and royal red shrimp.

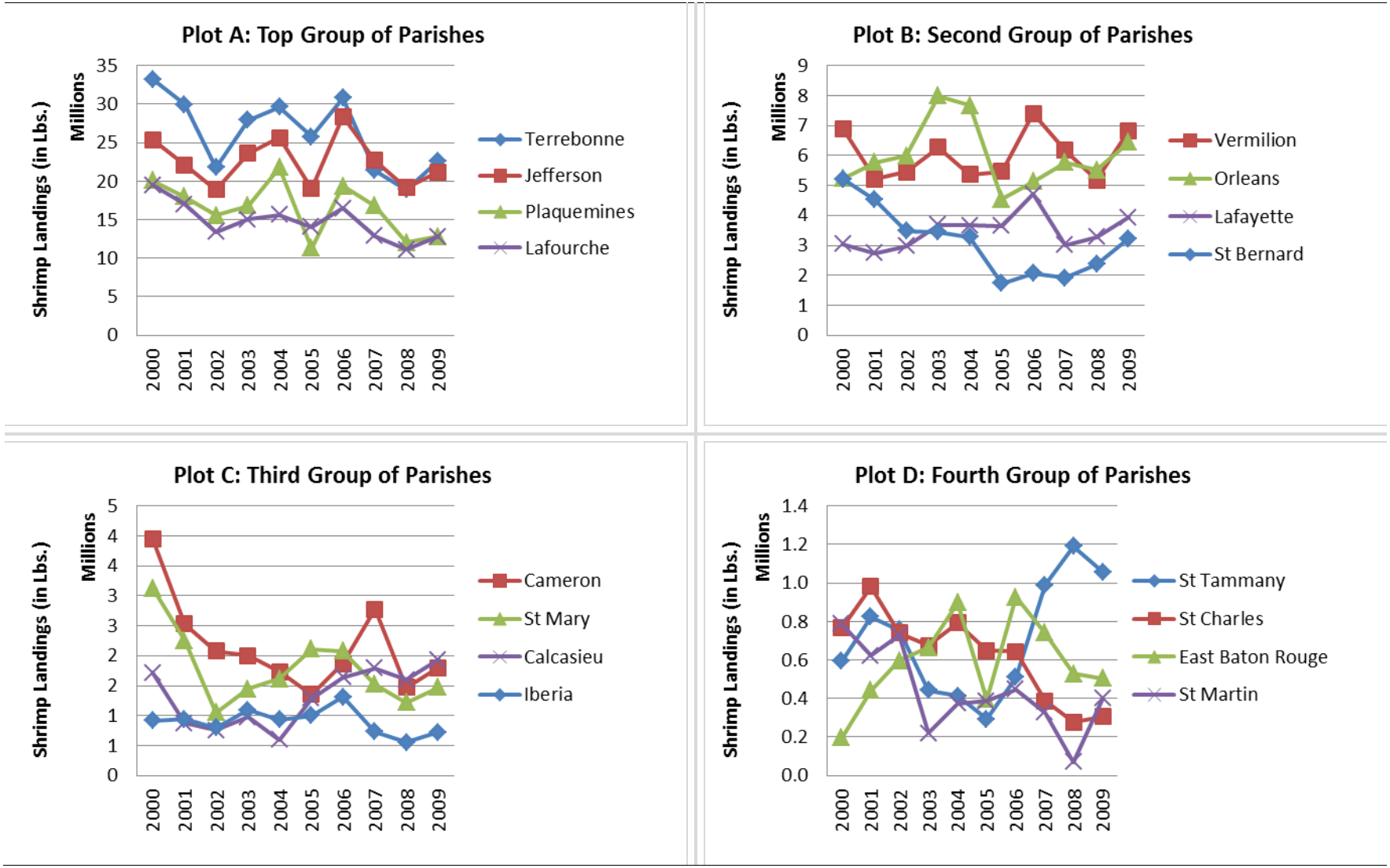
Figure 2.3 Dockside Values of Shrimp by Species, 2000 – 2009

value of shrimp actually declined by approximately 63.2 percent, reaching $107.7 million in 2009. The declines in the trends for the real values of white and brown shrimp for the 2000-2009 period were approximately 52.0 percent (from $176.1 million to $84.5 million) and 79.3 percent (from $111.7 million to $23.1 million), respectively, indicating that the fall in the value of brown shrimp contributed more to the fall in the total value of shrimp. The real values of seabob (between $4.5 and $0.2 million) and pink shrimp (between $0.09 and $0.02 million) from 2000 through 2009 indicate that landing or sales of both species are disappearing in Louisiana.

2.4 Landings and Dockside Values of Shrimp by Fisherman's Parish of Residence

In Figure 2.4, Plots A to D shows the shrimp landings by major parish of residence of fishermen from 2000 through 2009. In order of magnitudes, Plot A shows that Terrebonne, Jefferson and Plaquemines were the top parishes where fishermen who landed or sold shrimp resided. Their average annual shrimp landings from 2000 through 2009 amounted to 26.2 million, 22.6 million and 16.5 million pounds, respectively. These parishes were followed by fishermen who resided in Lafourche parish with annual shrimp landings of 14.8 million pounds. Others are Vermilion and Orleans parishes whose fishermen landed an approximately equal amount of shrimp annually (i.e., 6.0 million pounds).

Additional parishes, with the average volume of shrimp landed by their residents between 2000 and 2009, are Lafayette (3.5 million pounds), St. Bernard (3.1 million pounds), Cameron (2.2 million pounds), and St. Mary parishes (1.8 million pounds). Apart from Calcasieu whose fishermen landed about 1.3 million pounds of shrimp annually, all other parishes recorded an amount of shrimp landings less than a million pound.



Source: Appendix Table B.4.

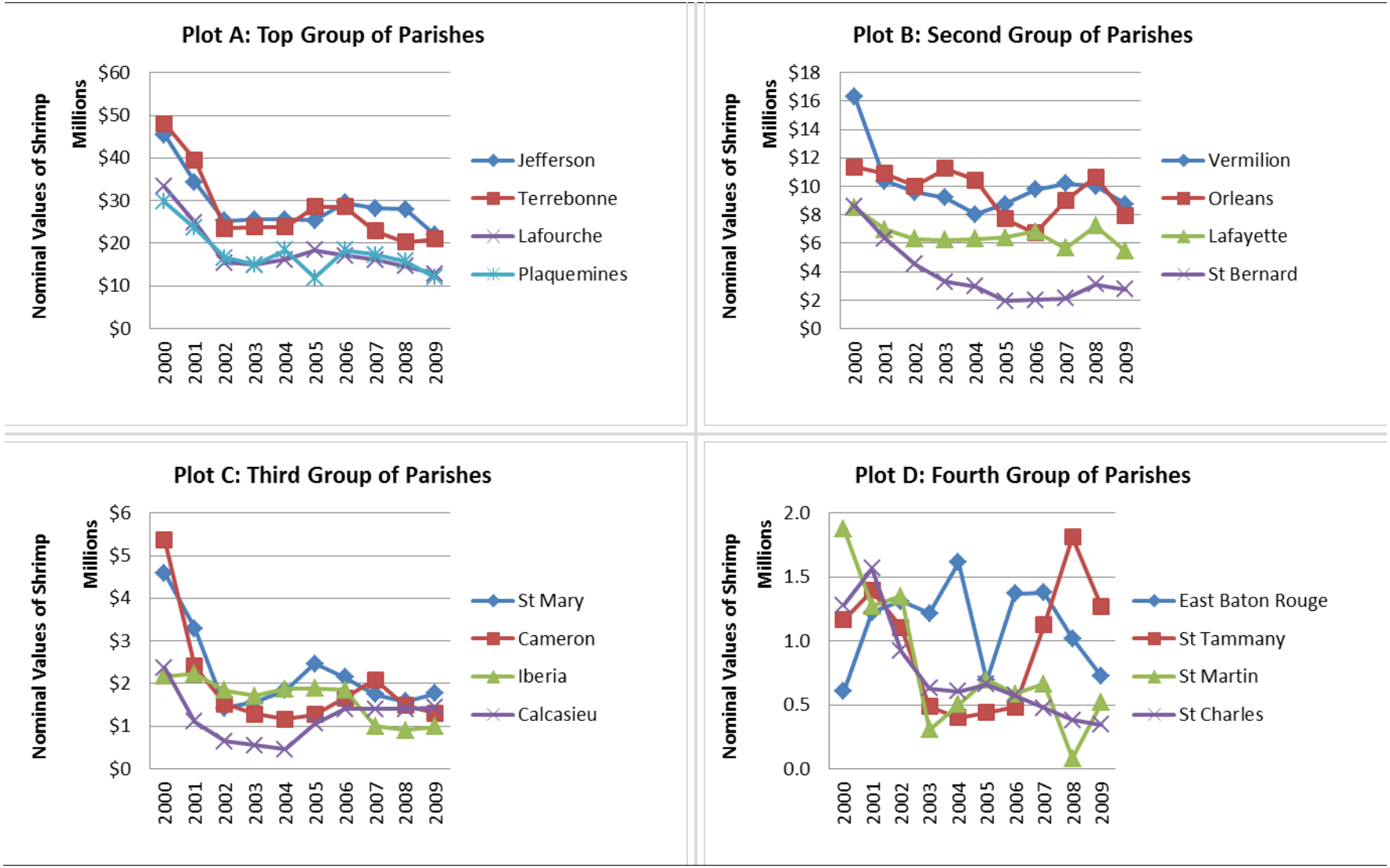
Figure 2.4 Shrimp Landings by Fisherman's Parish of Residence, 2000 – 2009

Figure 2.5 shows the nominal values of shrimp landed and sold by fishermen at Louisiana docks from 2000 through 2009 by their parish of residence. Similar to Figure 2.4, it contains four plots (Plots A to D). The order of parishes by the magnitude of shrimp sales in Plot A is different than that of shrimp landings (Figure 2.4). This difference might be attributed to possible different shrimp conditions, shrimp sizes and prices at points of sales as well as proximity to market or buyers.

Specifically, Jefferson (with approximately $28.9 million) slightly displaced Terrebonne (with $28.0 million) from its top position in terms of the annual average dockside values of shrimp sold by the fishermen who resided in them. With annual average shrimp sales of $17.9 million, Plaquemines made the fourth position among the parishes where fishermen resided, followed by Vermilion, Orleans and Lafayette parishes with annual sales of $10.1 million, $9.6 million and $6.6 million, respectively.

Plots B to D shows increased sales of shrimp in parishes like St. Bernard (42.9 percent), Calcasieu (36.2 percent) and St. Tammany (189.0 percent) between 2005, when hurricanes Katrina and Rita devastated Louisiana, and 2009.

The numbers or presented information in Figure 2.4 and 2.5 are particularly interesting for they show parishes whose shrimp landings and sales increased consistently while other parishes' were declining. For example, the amount of shrimp landed by fishermen in Calcasieu parish increased from 596.9 million pounds in 2004 (a year before hurricanes Katrina and Rita) to 1.9 million pounds in 2009, an increase of approximately 224.5 percent. Other parishes which have experienced an increase in the volume of shrimp landed are St. Bernard, and St. Tammany. The relatively smaller volumes of shrimp landed by fishermen who resided in these parishes might be indicative of a shift in border parishes like Calcasieu, St. Bernard, and St. Tammany.



Source: Appendix Table B.5. See Appendix Figure B.1 for the real dockside values of shrimp by fisherman's parish of residence.

Figure 2.5 Nominal Dockside Values of Shrimp by Fisherman's Parish of Residence, 2000 – 2009

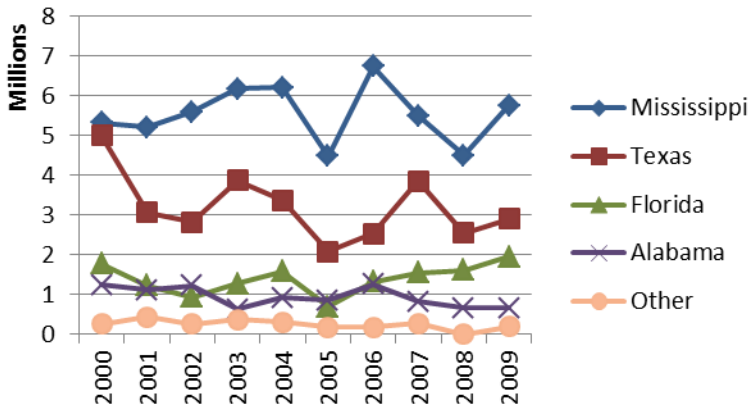
2.4.1 Landings and Dockside Values of Shrimp by Non-Resident Fishermen

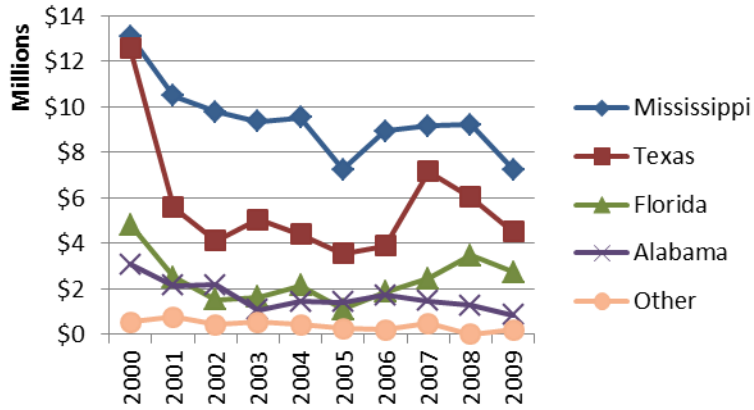
Shrimp fishermen who resided outside of Louisiana landed an average of 11.3 million pounds or $20.1 million in real dockside value of shrimp annually from 2000 to 2009 (Appendix Tables B.7 to B.9). Figure 2.6 shows the shrimp landings (Plot A), the nominal dockside values (Plot B) and real dockside values (Plot C) of shrimp sold at Louisiana docks by non-resident fishermen by their state of residence throughout the 2000-2009 period. The largest amounts of shrimp landings and sales are by fishermen who resided in Mississippi. On average, these fishermen landed approximately 5.6 million pounds of shrimp, worth $9.6 million annually. Next is Texas, whose resident fishermen landed an average of 3.2 million pounds ($5.8 million worth) of shrimp, followed by Florida (with 1.4 million pounds or $2.5 million) and Alabama (with 0.9 million pounds or $1.7 million). These four Gulf of Mexico states accounted for 97.8 percent of total volume or 98.0 percent of total nominal dockside values of shrimps landed in Louisiana by non-resident fishermen.

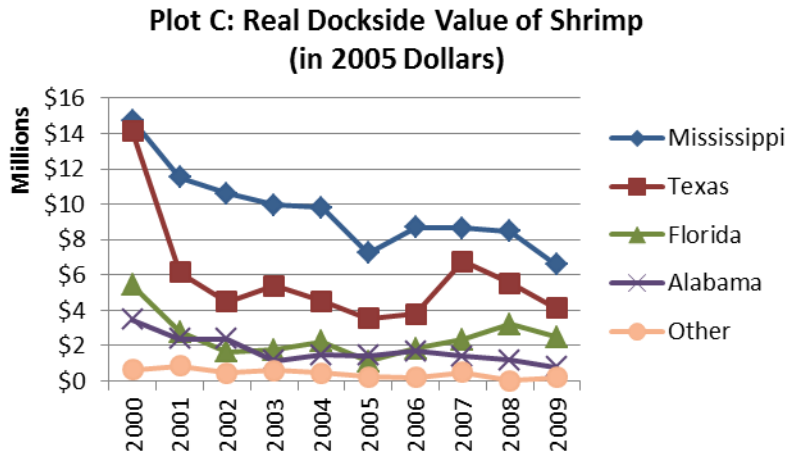
2.5 Shrimp Landings, Dockside Prices and Values by LDWF Trip Ticket Basin and NMFS Grid

State waters (including inland waters and waters stretching from the shore to 3 nautical miles into the Gulf of Mexico) in Louisiana are divided into 12 River Basins for fisheries management. Individual basins are made up of designated and named fishing areas, which can be located or recognized using any devices that read longitude and latitude coordinates (See Appendix Figure D.1).

Likewise, federal waters of the Gulf of Mexico (between 3 to 200 nautical miles outside of Louisiana waters) are divided by the National Marine Fisheries Service (NMFS) into 22 Grids with five of them (Grids 13 to 17) bordering the south of Louisiana. The map of the NMFS grids







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Source: Appendix Tables B.7, B.8 and B.9. "Other" includes 18 non-Gulf of Mexico States like California, Colorado, Georgia, etc.

Figure 2.6 Landings and Dockside Values of Shrimp Sold by Non- Louisiana Residents, 2000 – 2009

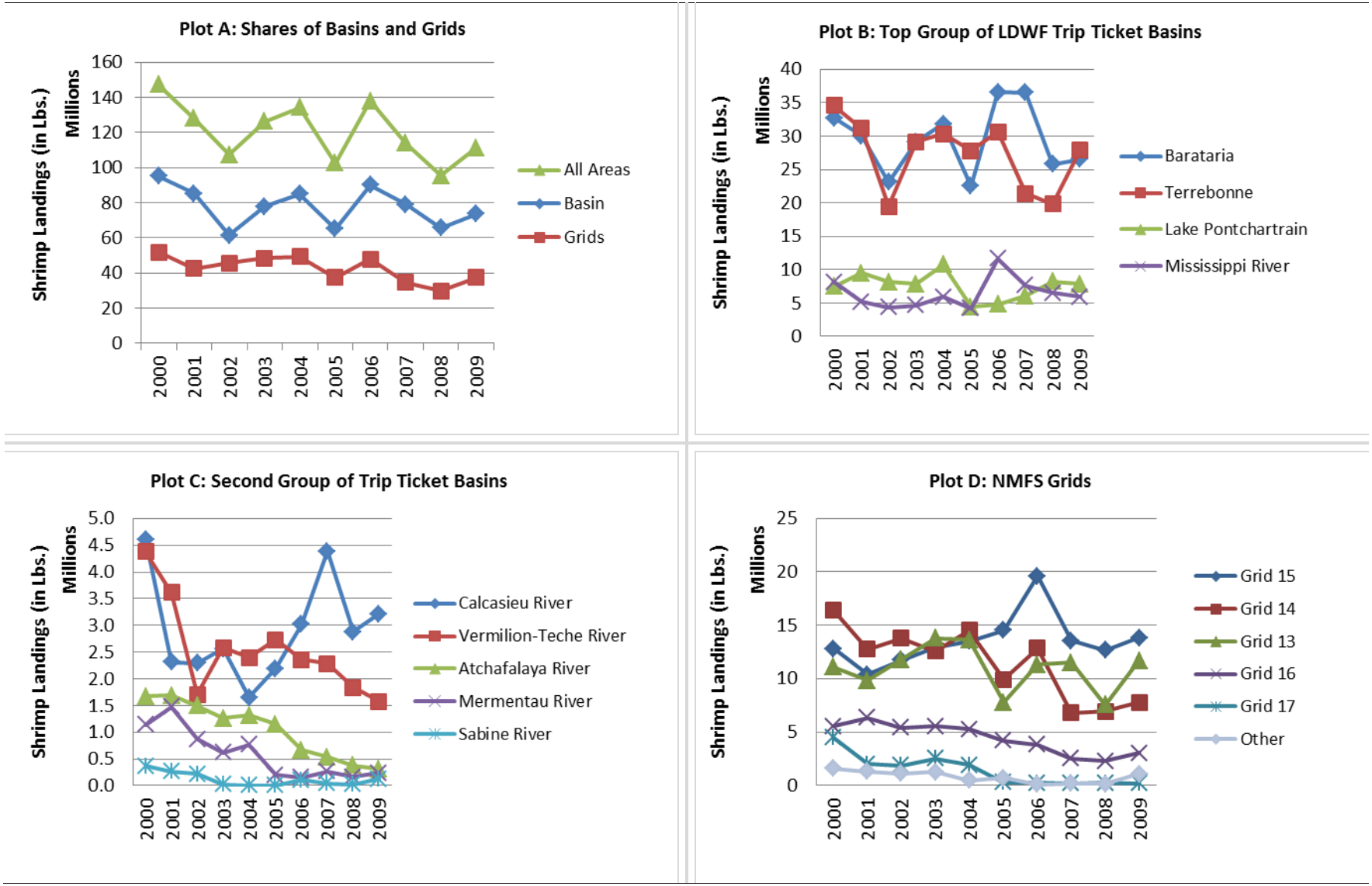
is shown in Appendix Figure D.2. For each fishing trip a fisherman takes, the individual is statutorily required to state only one area where the majority of the seafood was harvested. In the next section, shrimp landings, average prices and values by trip ticket basin and NMFS grids are presented.

2.5.1 Shrimp Landings by LDWF Trip Ticket Basin and NMFS Grid

The volumes of shrimp harvested from the Louisiana river basins and the federal grids are shown in Figure 2.7, Plots A to D. Plot A shows that during the period between 2000 and 2009, the percent of total shrimp landings from the basin waters ranged from a minimum share of 57.4 percent in 2002 to a maximum share of 69.5 percent in 2007. The minimum pounds of shrimp harvested between 2000 and 2009 occurred in 2002 (61.6 million pounds) and the maximum pounds harvested was 95.5 million in 2000.

Plots B and C (Figure 2.7) present the trends in shrimp landings by LDWF trip ticket basin and NMFS Grid areas, respectively. Prior to 2006, Barataria and Terrebonne Basins alternated as the top basin areas in terms of the amount of shrimp harvested from the Louisiana's territorial waters. The shrimp harvest from Barataria Basin ranged between 22.5 million pounds in 2005 to 32.7 million pounds in 2000, compared to Terrebonne Basin, which ranged from 19.4 million pounds (2002) and 34.6 million pounds (2000). However, since 2006, Barataria Basin has maintained a clear lead over Terrebonne and other basins with an average of 36.6 million pounds (2006-2007) and 25.8 million pounds (2008) of harvested shrimp.

At a distant third was Lake Pontchartrain Basin with an annual average of approximately 7.5 million pounds, followed closely by the Mississippi River Basin with an annual average of 6.4 million pounds of shrimp harvested during the 2000-2009 period. Shrimp harvest from Calcasieu, Vermilion-Teche and Atchafalaya River Basins averaged 2.9 million, 2.6 million and



Source: Appendix Table B.10. "Other" includes all other NMFS grids. "Other" includes all other grids.

Figure 2.7 Landings of Shrimp by LDWF Trip Ticket Basin and NMFS Grid, 2000 – 2009

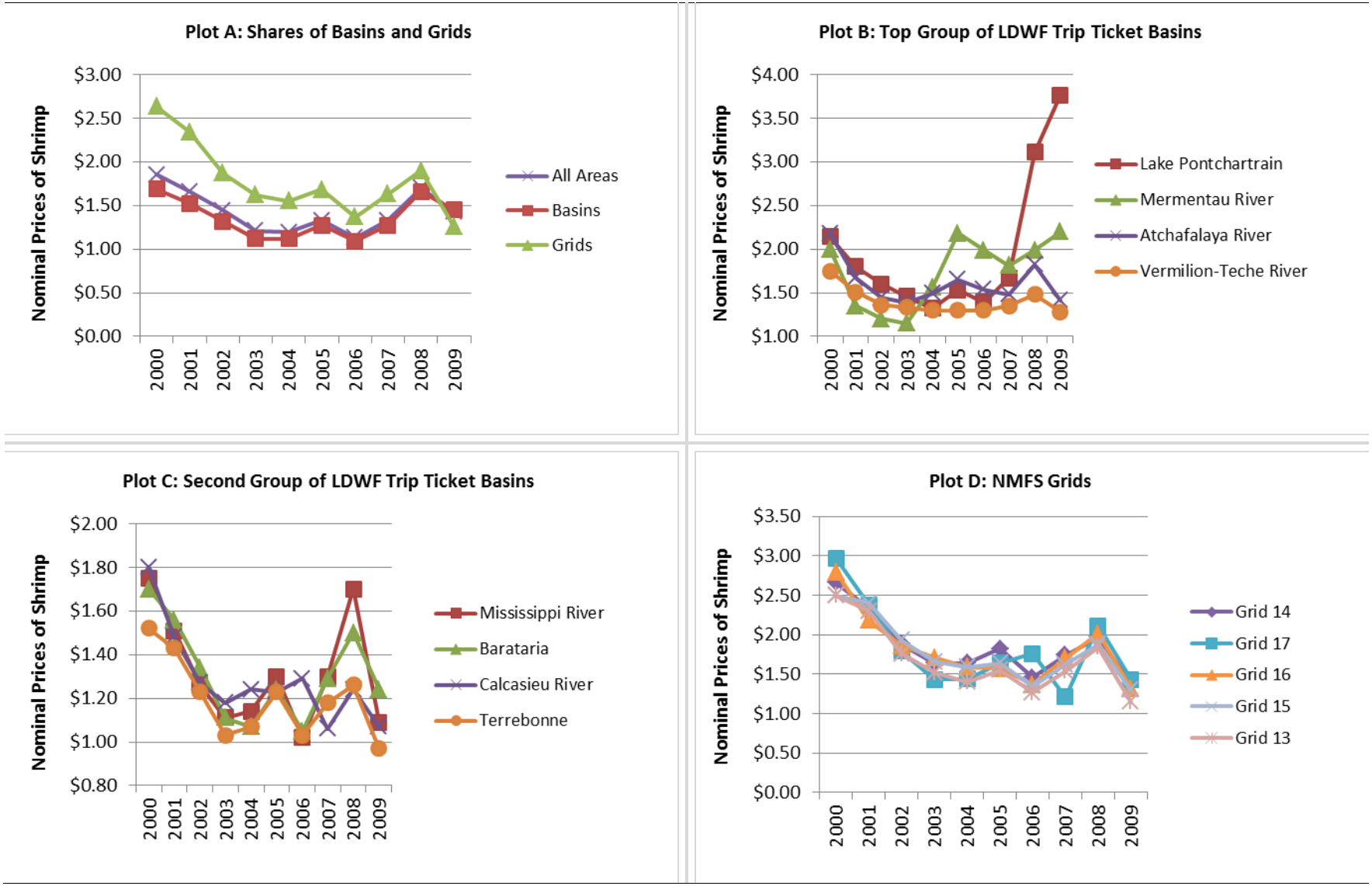
1.0 million pounds, while less than 0.8 million pounds of shrimp were harvested from all other basins with virtually little or no shrimp harvests reported from the inland basins of Red River, Pearl River and Ouachita River.

In Plot C (Figure 2.7), over 97.0 percent of average annual volume of shrimp landed (about 42.5 million pounds) was reported to be harvested from NMFS Grids 13, 14, 15, 16 and 17. Precisely, Grids 15, 14 and 13 topped all grids for the 2000-2009 period in the amounts of shrimp (with annual averages of 13.6 million, 11.4 million and 11.0 million pounds, respectively) harvested from their waters, followed by Grids 16 and then 17, where annual averages of 4.4 million and 1.4 million pounds of shrimp were reported to be harvested, respectively. Less than 0.8 million pounds of shrimp was reported to be harvested annually from the remaining NMFS grids (i.e., those outside of Louisiana border).

2.5.2 Average Dockside Prices of Shrimp by LDWF Trip Ticket Basin and NMFS Grid

The average nominal dockside prices of shrimp received by fishermen by reported harvest areas on the trip tickets are shown in Figure 2.8, Plots A to D. Plot A compares the basin-wide (state waters) and grid-wide (federal waters) average nominal dockside prices of shrimp. Except for 2009, shrimp reportedly harvested from NMFS grids had the highest average nominal price per pound, with an average margin of $0.44 over the basin-wide average price.

In Plots B and C, the nominal dockside prices per pound of shrimp harvested from the Pearl and Red River Basins were removed for inconsistent information, while in Plot D, information are shown only for grids consisting of the majority (over 97.0 percent) of total amounts of shrimp harvested from federal waters as discussed in section 2.5.1. Plot B shows that the average nominal prices per pound of shrimp, which was harvested from Lake Pontchartrain Basin rose steeply between 2007 ($1.67) and 2009 ($3.76), followed by those harvested from the



Source: Appendix Table B.11. See Appendix Figure B.2 for average real dockside prices of shrimp by basin and grid.

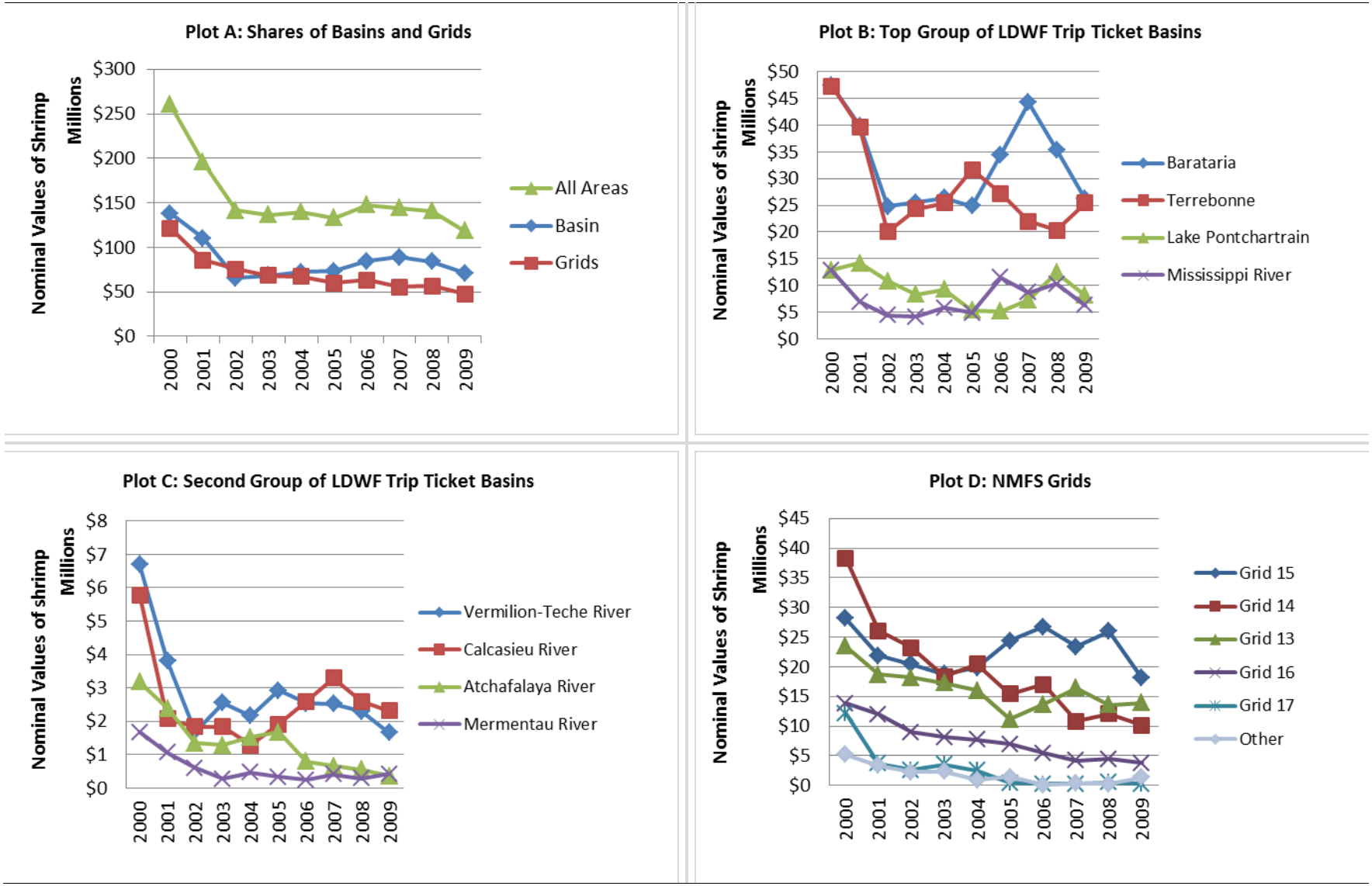
Figure 2.8 Average Nominal Dockside Prices of Shrimp by LDWF Trip Ticket Basin and NMFS Grid, 2000 – 2009

Mermentau River Basin, which averaged $2.03 between 2005 and 2009. Next are the annual average nominal prices of shrimp harvested from the Atchafalaya River Basin, which have fluctuated around $1.50 per pound. Shrimp prices have remained perpetually below $1.50 per pound for all other basins. On average, the nominal prices of shrimp caught from the five major grids of the federal waters (Plot B) have fluctuated between $1.68 and $1.85 per pound with NMFS Grid 17 showing a different pattern, perhaps more variation, than other grids.

2.5.3 Dockside Values of Shrimp by LDWF Trip Ticket Basin and NMFS Grid

Figure 2.9 shows the total dockside nominal values of shrimp caught in Louisiana and federal waters (Plot A) as well as the values of reported shrimp harvest in individual LDWF trip ticket basins (Plots B and C) and individual NMFS grids (Plot D) from 2000 through 2009.

Except for 2002 and 2003, the total nominal dockside value of shrimp harvested from Louisiana territorial waters was higher than from federal waters, contributing an average of 55.1 percent of the total nominal values of shrimp landed at Louisiana docks (Plot A). Plots B and C indicate that between 2000 and 2004, Barataria and Terrebonne competed with each other for the top position in the values of shrimp harvested from basins areas. However, since 2005, the total values of shrimp associated with both basins moved in opposite directions with Barataria Basin taking a clear lead. Specifically, Barataria and Terrebonne Basins have individually maintained a yearly minimum of $20.0 million worth of shrimp harvested from them. This is followed by Lake Pontchartrain and Mississippi River Basins with annual average shrimp values of $9.4 million and $7.6 million, respectively. The nominal dockside values of shrimp harvested from Vermilion-Teche, Calcasieu and Atchafalaya Basins were individually less than $3.0 million for most recent years, while the total value of shrimp harvested from all other individual basins have been less than $0.6 million in recent years.



Source: Appendix Table B.13. See Appendix Figure B.3 for real dockside values of shrimp by basin and grid. "Other" includes all other grids.

Figure 2.9 Nominal Dockside Values of Shrimp by LDWF Trip Ticket Basin and NMFS Grid, 2000 – 2009

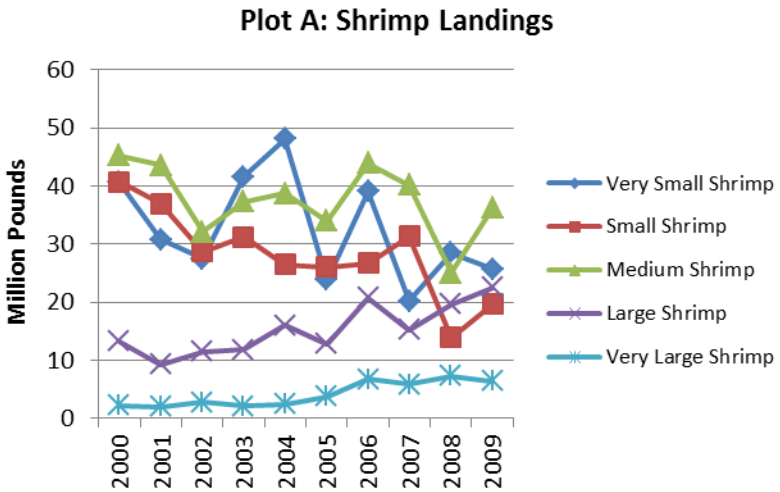
The total 10-year annual average values of shrimp caught from Grids 15, 14, and 13 were $22.8 million, $19.2 million, and $16.2 million, respectively (Plot D). At different points during 2000 to 2009, the top three grids (Grids 13, 14 and 15) alternated one another in the magnitude of the values of shrimp harvested from their waters, but since 2005, Grid 15 has ranked first in terms of the total shrimp harvest value.

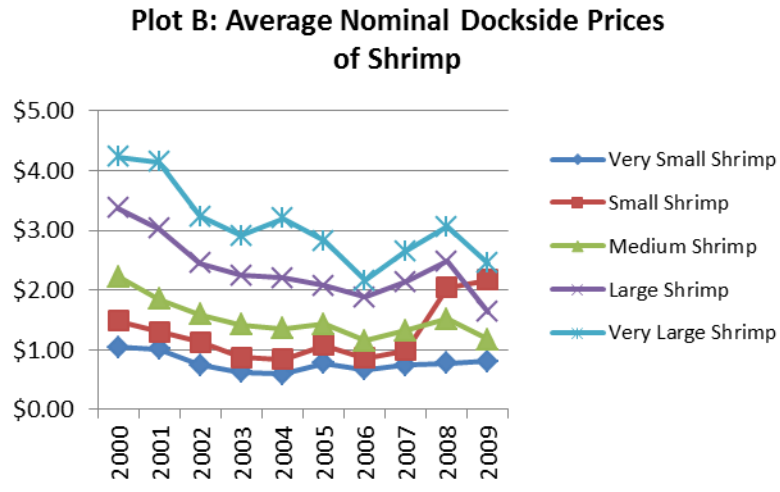
2.6 Landings, Dockside Prices and Dockside Values of Shrimp by Size

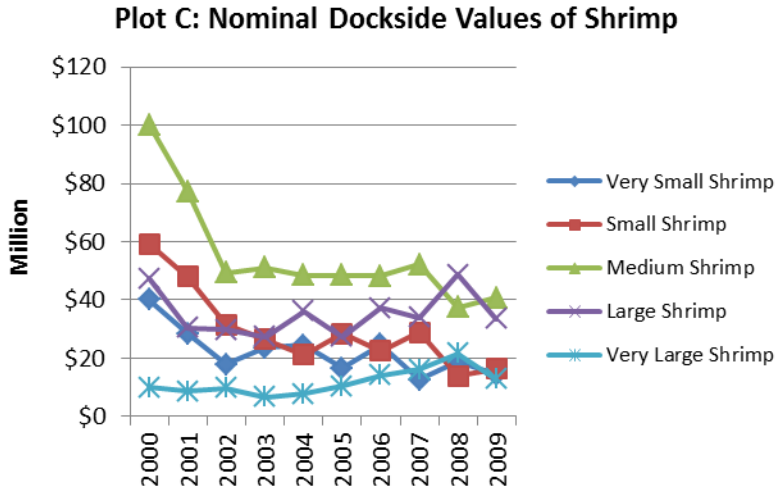
Shrimp sizes or counts are determined based on the number of individual shrimps contained in a pound. In this report, the very large shrimp category consists of 15 individual shrimps or less in a pound of shrimp, while the large shrimp category contains between 16 and 25 individual shrimps per pound. Other categories are medium shrimp (26-50 shrimps per pound), small shrimp (51-75 shrimps per pound), and very small shrimp (over 75 shrimps per pound).

The category labeled "other" includes shrimps that have not been sized or could not be organized in a manner to fit within the defined size categories. The unspecified category consists of the shrimp whose sizes were not reported on the trip ticket forms. However, both mixed and unspecified categories constitute a very small portion of the total shrimp landings. Figure 2.10 shows the volumes, average nominal dockside prices and nominal dockside values of shrimp landed at Louisiana docks by size category.

Figure 2.10, Plot A shows that medium-size shrimp dominated shrimp landings except for 2003, 2004 and 2008, when very small shrimp size category dominated in terms of the number of shrimp reported on the trip tickets. The average pounds of shrimp landed from 2000 to 2009 in the medium, very small and small size categories were 37.6 million, 32.6 million and 28.2 million pounds, respectively. Small shrimp landings has traditionally ranked third, however







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Source: Appendix Tables B.15, B.16 and B.18. See Appendix Figures B.4 and B.5 for the average real dockside prices and real dockside values of shrimp by size category.

Figure 2.10 Shrimp Landings, Average Nominal Dockside Prices and Nominal Dockside Values by Size Category, 2000 – 2009

the consistent increase in larger shrimp landings from about 9.3 million pounds in 2001 to 22.5 million pounds in 2009, caught up and surpassed the pounds of landings of smaller shrimps in 2008. The landings of very large shrimp also increased since 2004 by an average of 3.0 percent per year.

Figure 2.10, Plot B presents the average nominal dockside price received by shrimp size categories from 2000 through 2009. The nominal (actual) prices of shrimp have declined consistently for most years since 2000 irrespective of size categories. This plot, however, shows that the bigger the size of shrimp, the higher the price of shrimp. Very large shrimp category commanded the highest price of more than $2.50 per pound for most of the years (an average of $3.09), followed by large shrimp category, which ranged between $2.00 and $2.50 for most of the years (an average of $2.35). Examining the nature of the prices for the mixed and the unspecified categories, it appears they are both made up of a combination of some large and very large shrimp (Appendix Table B.25). Other sizes of shrimp sold for lower prices per pound ($1.50 or below).

Figure 2.10, Plot C shows the nominal values of shrimp by size categories. The largest nominal values of shrimp (between $40.7 – 100.3 million) landed or sold during the 2000-2009 period came from medium-size shrimp except for 2008 when it reached the minimum of $37.4 million. Next is the large size category whose nominal values ranged from $27.3 million in 2005 to $48.7 million in 2008, followed by both the small and very small shrimp categories. Values of shrimp associated with very large size increased consistently from $6.6 million (2003) to $12.9 million (2008). On average, the largest annual value of shrimp was from medium shrimp ($55.4 million), followed by large shrimp ($35.2) and small shrimp ($29.7 million) categories. The values of shrimps of other size categories (mixed and unspecified) were individually less than a

million dollar for most part of the period (Appendix Table B.27).

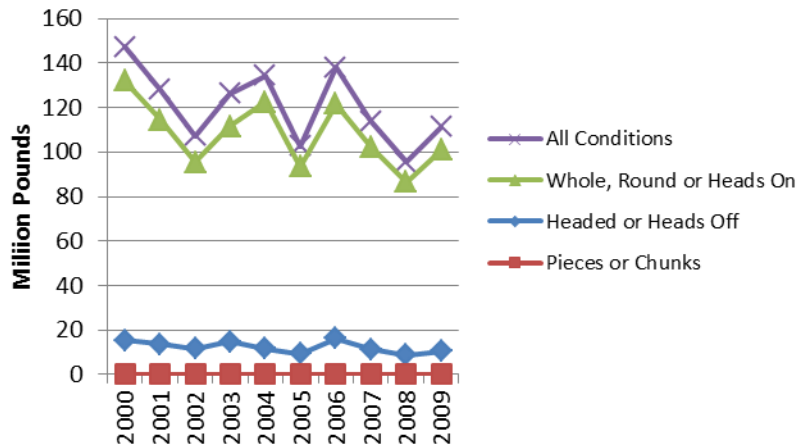
Variations in shrimp values appear to have been influenced by the variations in shrimp landings rather than the average prices. However, during the hurricane years of 2005 (Katrina and Rita) and 2008 (Gustav and Ike), average prices of shrimp were high, while the amounts of shrimp landings were low.

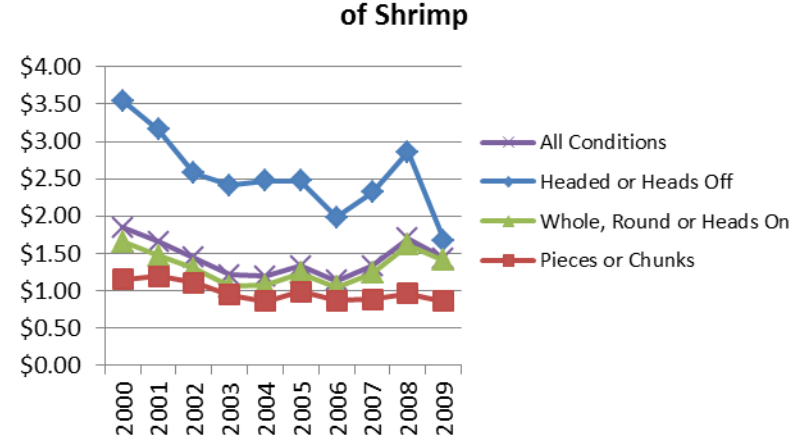
2.7 Landings, Prices and Values of Shrimp by Landing Condition

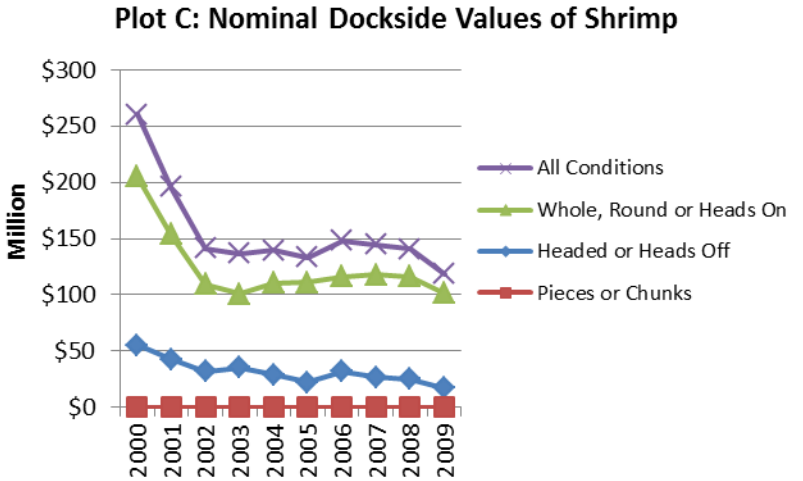
This section describes shrimp landings and dockside values by conditions in which it was landed at the Louisiana docks. Depending on the seafood type, landing condition is generally describes as whole (round or heads on), gutted, headed (or heads off), tailed, pieces (or chunks), live or dead bait as well as a combination of two or more landing conditions. The volume, average nominal dockside price and nominal dockside value of shrimp by the condition in which they were landed at the Louisiana docks between 2000 and 2009 are shown in Figure 2.11.

Figure 2.11 (Plot A) shows the pounds of shrimp landed at the Louisiana docks by landing condition between the period 2000 and 2009. The majority of the shrimp (average of 89.7 percent) was landed whole or heads on in each year in the 2000-2009 period, followed by headed or heads off shrimp (average of 10.2 percent). The remaining portion, made up of shrimp landed in pieces or chunks, could be bait shrimp.

The average nominal dockside prices of shrimp by the condition in which they were landed at the Louisiana docks from 2000 through 2009 are shown in Figure 2.11 (Plot B). Shrimp landed headed (or heads off) commanded the highest nominal dockside price, ranging between $1.98 in 2006 and $3.55 in 2000 but averaged $2.55 per year. The annual nominal dockside prices of shrimp landed whole (heads on) and in pieces or chunks averaged $1.31 or below for the 2000-2009 period.







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Source: Appendix Tables B.20, B.21 and B.22. See Appendix Figures B.6 and B.7 for the real dockside prices and values of shrimp by landing condition, respectively.

Figure 2.11 Shrimp Landings, Average Nominal Dockside Prices and Dockside Values by Landing Condition, 2000 – 2009

Figure 2.11 (Plot C) shows the nominal dockside values of shrimp landed at the Louisiana docks by the condition in which they were landed in the period between 2000 and 2009. The annual nominal dockside value for whole or heads on shrimp was four times as large as those for headed or heads off shrimp. This can be attributed to the large amount of landed whole shrimp. Specifically, an average of 79.7 percent ($124.3 million) of the total nominal value of shrimp was associated with whole or heads on shrimp from 2000 to 2009. Following whole shrimp was headed or heads off shrimp landings, which averaged $31.6 million (20.3 percent) per year.

2.8 Landing and Dockside Values of Shrimp by Landing Unit

This section describes shrimp landings and values by units in which shrimp was landed at the Louisiana docks. Depending on the seafood type, landing unit can be in pounds, sacks, barrels, bushels, dozens, individuals (or by the head), tons or thousands of standard fish (used for menhaden). The pounds, nominal dockside value and real dockside value (in 2005 dollar) of shrimp landed at the Louisiana docks by landing unit in the period between 2000 and 2009 are shown in Table 2.1. Approximately 99.9 percent of annual shrimp landed in Louisiana were measured in pounds. Also, about 99.4 percent of shrimp values can be attributed to landings, which were measured in pounds.

Table 2.1 Landings and Dockside Values of Shrimp by Landing Unit

Landing Unit	Landings of Shrimp (in Pounds)										
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Dozens	-	6	-	5	-	-	251	-	-	65	82
Individuals	10,847	9,802	14,356	17,812	18,117	11,033	12,079	24,954	21,241	30,383	17,062
Pounds	147,400,104	127,916,245	107,266,713	126,358,070	134,176,357	102,571,764	137,912,945	113,808,095	95,357,488	111,189,502	120,395,728
Total	**147,410,951**	**127,926,053**	**107,281,069**	**126,375,887**	**134,194,474**	**102,582,797**	**137,925,274**	**113,833,049**	**95,378,729**	**111,219,950**	**120,412,823**
	Nominal Dockside Values of Shrimp (in Dollar)										
Dozens	-	570	-	280	-	-	1,194	-	-	105	537
Individuals	89,417	85,012	104,258	137,028	151,457	96,986	176,162	297,743	519,389	709,359	236,681
Pounds	260,217,306	195,840,475	141,139,041	136,411,897	139,621,378	133,279,915	147,697,741	144,274,819	140,401,818	117,781,560	155,666,595
Total	**260,306,723**	**195,926,057**	**141,243,299**	**136,549,205**	**139,772,836**	**133,376,900**	**147,875,096**	**144,572,562**	**140,921,207**	**118,491,023**	**155,903,491**
	Real Dockside Values of Shrimp (in Dollar)										
Dozens	-	626	-	298	-	-	1,159	-	-	95	545
Individuals	100,469	93,420	113,324	145,774	156,142	96,986	171,031	280,890	476,504	644,872	227,941
Pounds	292,378,995	215,209,313	153,412,001	145,119,040	143,939,565	133,279,915	143,395,865	136,108,320	128,809,007	107,074,145	159,872,617
Total	**292,479,464**	**215,303,359**	**153,525,325**	**145,265,112**	**144,095,707**	**133,376,900**	**143,568,054**	**136,389,210**	**129,285,511**	**107,719,112**	**160,100,775**

Note: The landing units "Dozens" and "Individuals" could be associated with bait shrimp.

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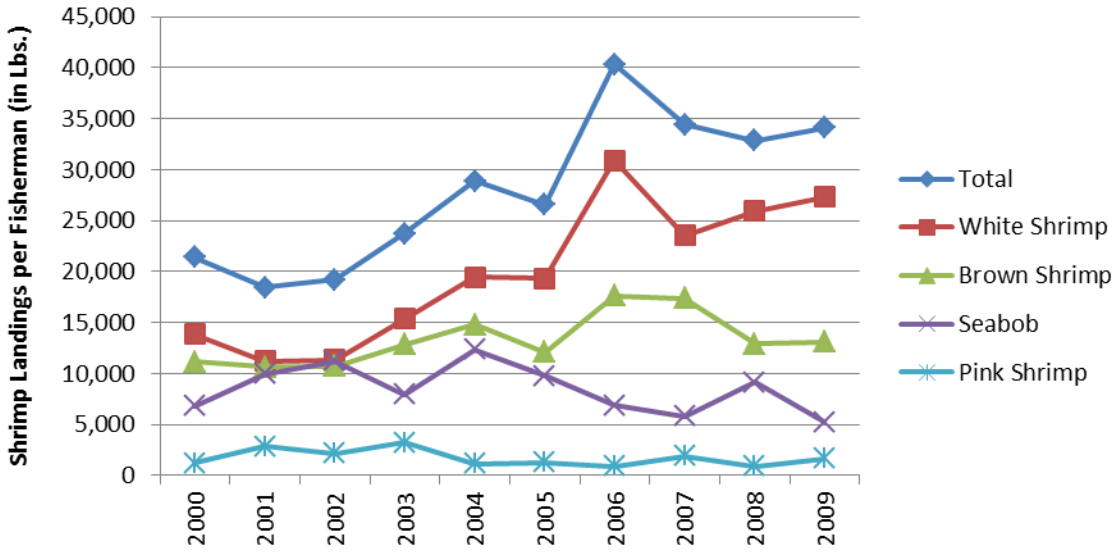
Chapter 3 - Shrimp Landings and Dockside Values per Effort

This chapter presents information on shrimp landings per unit of effort and values of shrimp per unit of effort from 2000 through 2009. The measures of efforts considered are the number of fishermen, number and hours of fishing trips as well as the number of fishing vessels. Values of shrimp were presented both in nominal (actual) and real (in 2005 dollars) terms. The real values of shrimp were derived by expressing the nominal values using the GDP deflator.

3.1 Landings and Dockside Values of Shrimp per Fisherman

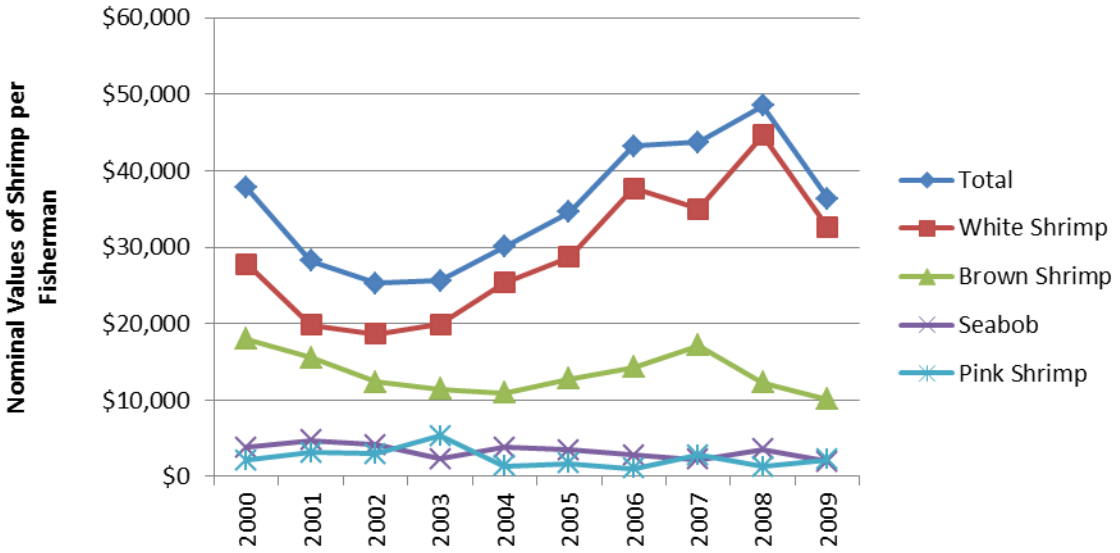
Figure 3.1 presents the average shrimp landings per fisherman during the 2000-2009 period. The total volume of shrimp rose from 18,444 pounds in 2001 to peak at 40,305 pounds (118.5 percent) in 2006. The largest portion of the total shrimp landed per fishermen was contributed by white shrimp, which increased from 11,194 pounds in 2001 to reach its highest level of 30,872 pounds (175.8 percent) in 2006. Brown shrimp landed per fisherman increased from 10,651 pounds in 2001 to 17,659 pounds (65.8 percent) in 2006. Seabob and pink shrimp landed annually per fisherman averaged 8,521 pounds and 1,730 pounds, respectively.

Figure 3.2 shows the average nominal dockside value of shrimp sold per fisherman from 2000 through 2009. The average nominal dockside value of shrimp sold per fisherman was lowest in 2002 ($25,276) and largest in 2008 ($48,527). White shrimp contributed the largest portion of these values, ranging from $18,634 (70.2 percent) in 2002 to $44,656 (92.0 percent) in 2008. The average nominal dockside values of brown shrimp per fisherman were below $18,000 throughout the 2000-2009 period, followed by seabob and pink shrimp landed or sold per fisherman, whose average nominal dockside values were individually below $5,000 for the same period.



Source: Appendix Table C.1.

Figure 3.1 Average Shrimp Landings per Fisherman by Species, 2000 – 2009



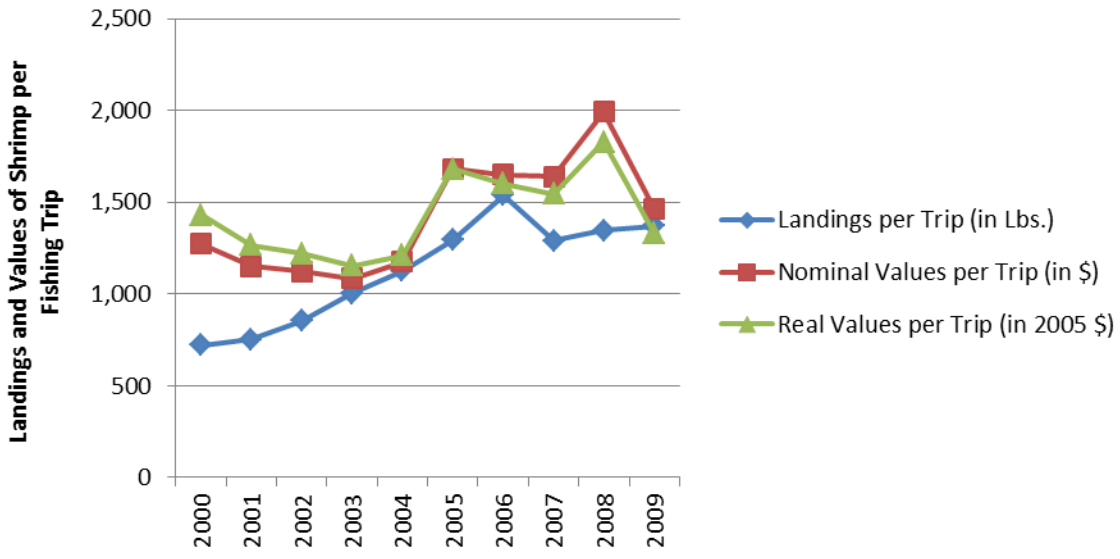
Source: Appendix Table C.2. See Appendix Figure C.1 for dockside real values of shrimp per fisherman.

Figure 3.2 Average Nominal Dockside Values of Shrimp Sold per Fisherman by Species, 2000 – 2009

3.2 Landings and Dockside Values of Shrimp per Fishing Trip

The average amounts of shrimp landed (in pounds) per fishing trip, average nominal dockside values per trip and average real dockside values (in 2005 dollar) per trip in the period between 2000 and 2009 are shown in Figure 3.3. The average amounts of shrimp landed per fishing trip increased from 721 pounds in 2000 to 1,538 pounds in 2006 after which a slight decline occurred and then started to increase.

The nominal dockside values of shrimp landed in Louisiana per fishing trip ranged from a low of $1,084 in 2003 to a high of $1,991 in 2008. Likewise, the real dockside values of shrimp per fishing trip ranged from a low of $1,153 in 2003 to a high of $1,827 in 2008. It is interesting to note that, in contrast to 2002, the dockside values per trip increased in 2005 and 2008 hurricane years. The twin peaks occurring in 2005 (Katrina/Rita year) and 2008 (Gustav/Ike year) might be attributed to a fewer number of fishermen who took more fishing trips during 2005 and 2008.

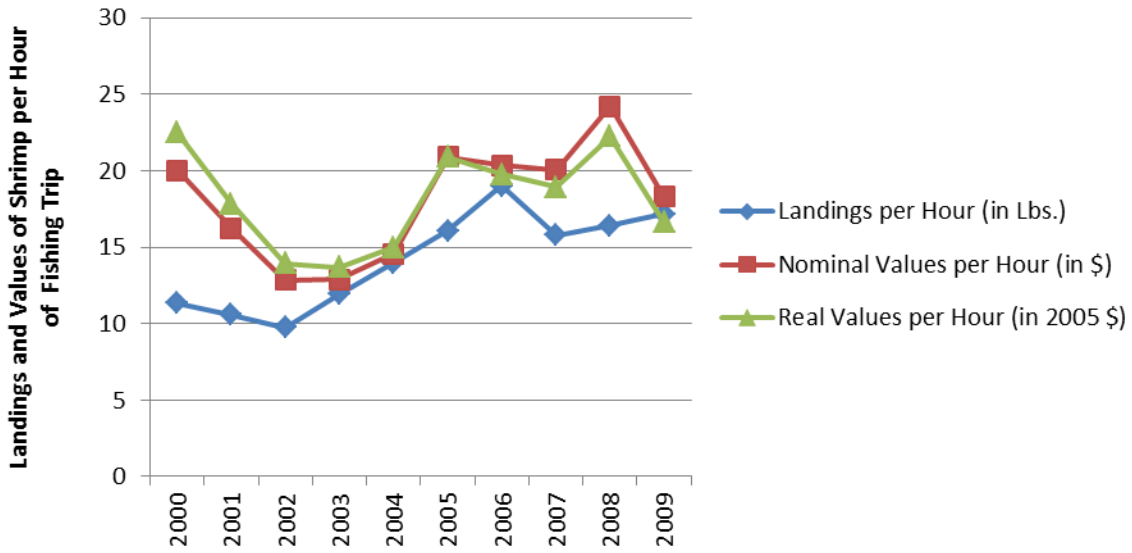


Source: Appendix Table C.4.

Figure 3.3 Average Landings and Dockside Values of Shrimp per Fishing Trip, 2000 – 2009

3.3 Landings and Dockside Values of Shrimp per Length of Fishing Trip

The landings and dockside values of shrimp landed by length (or hours) of fishing trips from 2000 through 2009 are shown in Figure 3.4. The average amount of shrimp a fisherman landed per hour ranged from a low of 9.8 pounds in 2002 to a high of 19.0 pounds in 2006, averaging 14.2 pounds during the 2000-2009 period. Also, the average nominal dockside values of shrimp landed per hour of fishing trip ranged from $12.84 in 2002 to $24.22 in 2008, averaging $18.03 per hour during the 2000-2009 period. Likewise, starting from its lowest ($13.96) in 2002, the average real values of shrimp landed per hour of fishing trip have increased to reach the highest ($22.22) in 2008. Hurricanes occurrences in 2005 and 2008 had similar positive effect as shown section 3.2. Specifically, shrimp dockside values per hour increased by an average of approximately 40.0 percent for 2005 and 20.0 percent for 2008 when compared to their previous years (2004 and 2007), respectively. Conversely, dockside values were very low in 2002, the hurricane Lili.



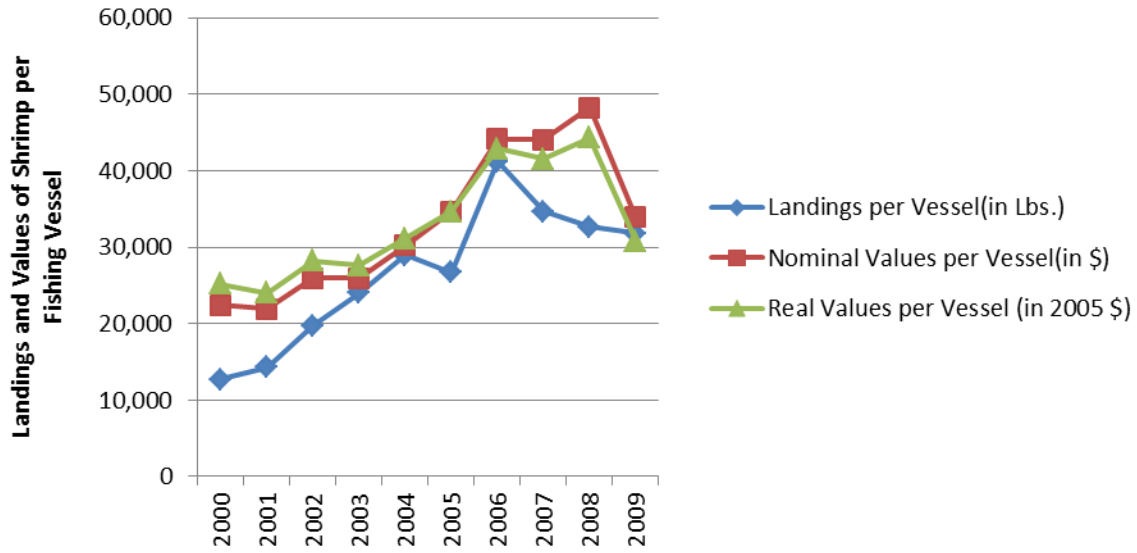
Source: Appendix Table C.5.

Figure 3.4 Average Landings and Dockside Values of Shrimp per Hour of Trip, 2000 – 2009

3.4 Landings and Dockside Values of Shrimp per Fishing Vessel

Figure 3.5 shows the average landings, the average nominal dockside values and the average real dockside values of shrimp landed per fishing vessel as reported on the trip tickets during 2000-2009 period. Like in the previous sections, the average amount of shrimp (in pounds) landed per fishing vessel has increased from 12,717 pounds in 2000 41,172 pounds in 2006. However, the average nominal values (real values) of shrimp landed per vessel have consistently increased from $22,456 ($25,231) in 2000 to $48,277 ($44,291) in 2008.

The fall in average shrimp landings per fishing vessel in 2005 might be attributed to hurricane Katrina and Rita, while its fall since 2006 might be attributed to factors other than hurricane occurrences. Regardless of the consistent fall in the pounds of shrimp landed per vessel since 2006, its nominal and real dockside values continued to rise until they peaked in 2008, the year Louisiana was hit by hurricanes Gustav and Ike.



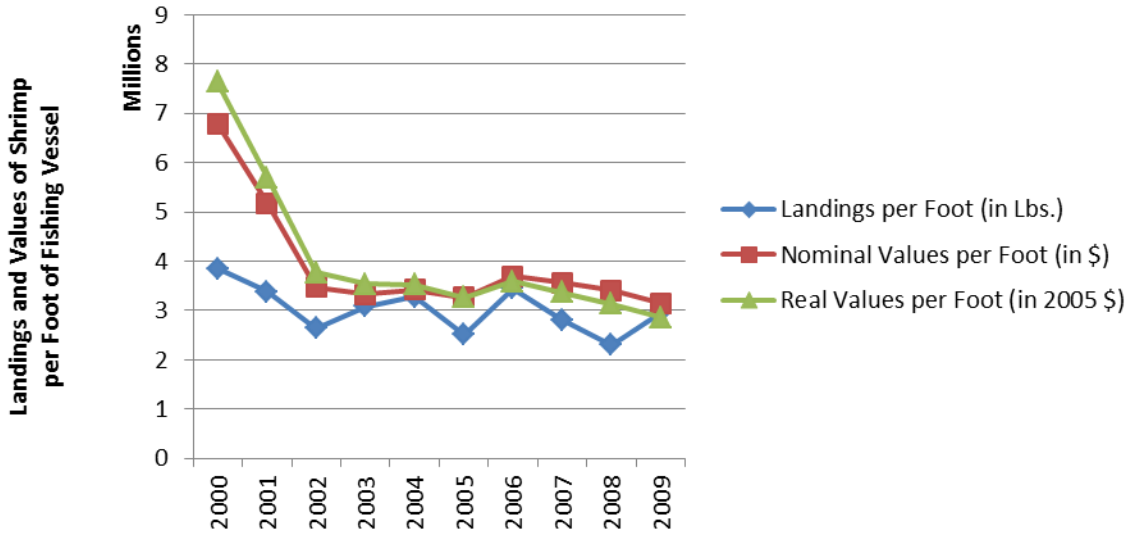
Source: Appendix Table C.6.

Figure 3.5 Average Landings and Dockside Values of Shrimp per Vessel, 2000 – 2009

3.5 Landings and Dockside Values of Shrimp per Length of Fishing Vessel

The average landings, the average nominal dockside values and the average real dockside values of shrimp landed per foot of fishing vessel as reported on the trip tickets during 2000-2009 period are shown in Figure 3.6. The average pounds of shrimp landed per foot of fishing vessel ranged from 2.3 million in 2008 to 3.9 million in 2000, averaging 3.0 million for the 2000-2009 period. The average nominal dockside value of shrimp landed per foot of vessel declined by 53.6 percent from a high of $6.8 million in 2000 to a low of $3.2 million in 2009. Similarly, the average real dockside value of shrimp landed per foot of vessel declined by 62.5 percent from a high of $7.6 million in 2000 to a low of $2.9 million in 2009.

The average shrimp landings per foot of fishing vessel was low in 2002, 2005 and 2008 hurricanes Lili, Katrina and Rita and Gustav and Ike years. The nominal and real dockside values per foot of vessel declined sharply by 48.9 percent ($3.3 million) and 50.6 percent ($3.8 million), respectively between 2000 and 2002 and have both remained relatively flat since then.



Source: Appendix Table C.7.

Figure 3.6 Average Landings and Dockside Values of Shrimp per Foot of Vessel, 2000 – 2009

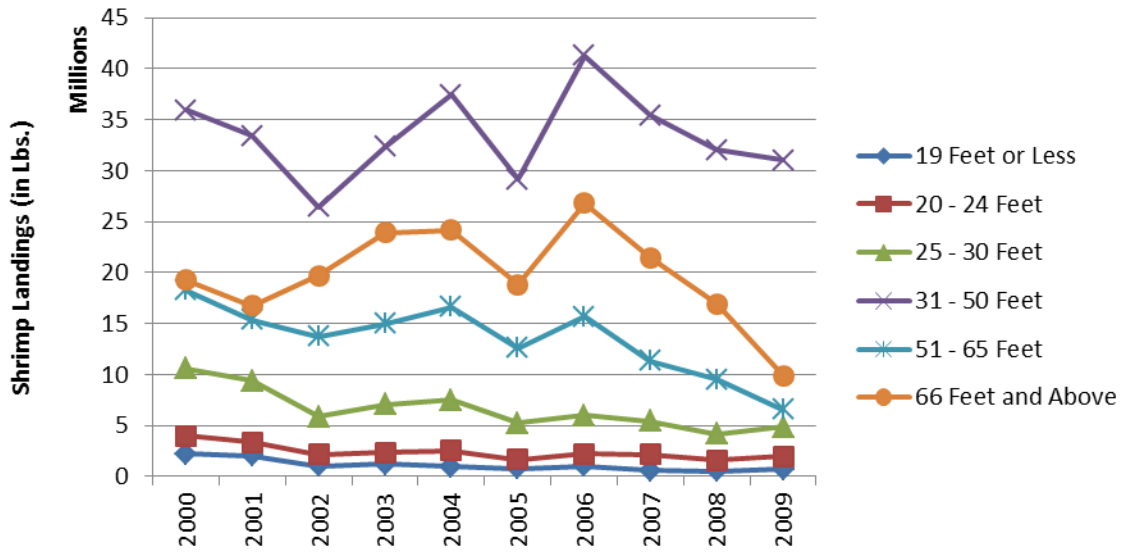
3.6 Landings and Dockside Values of Shrimp per Fishing Vessel Length Category

As indicated in section 1.3.4, length (in feet) was provided on the trip tickets for an average of 61.2 percent of the vessel that landed shrimp from 2000 through 2009. These vessels were grouped into six categories: “19 feet or less," “20-24 feet,” “25-30 feet”, “31-50 feet”, “51-65 feet” and “66 feet or over.” The pounds of shrimp and the nominal dockside values of shrimp landed in Louisiana between 2000 and 2009 by vessel size category are shown in Figures 3.7 and 3.8, respectively.

Figure 3.7 shows that majority of the fishing boats that landed shrimp in Louisiana from 2000 to 2009 were over 30 feet in length. Precisely, vessels between 31 to 50 feet landed the largest pounds of shrimp, ranging between 26.4 million in 2002 to 41.3 million in 2006 and averaging 33.4 million annually. Fishing vessels over 65 feet harvested between a low of 9.9 million pounds of shrimp in 2009 and a high of 26.8 million pounds in 2006, averaging 19.8 million per year. The pounds of shrimp reportedly landed by vessels between 51 and 65 feet declined from a high of 18.3 million in 2000 to a low of 6.6 million in 2009.

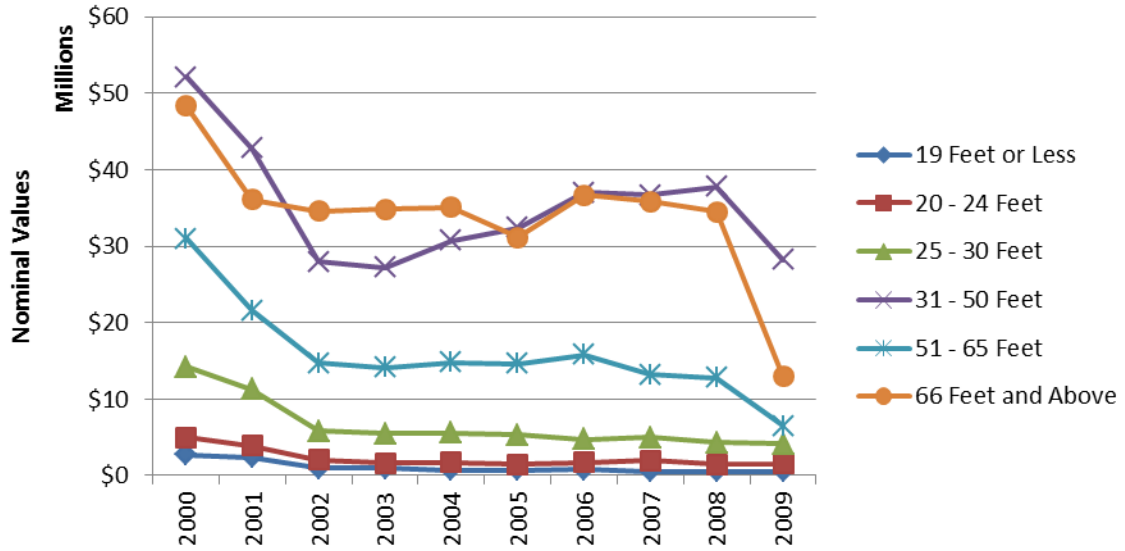
Figure 3.8 shows that fishing vessels of lengths 31-50 feet and 65 feet and over competed in terms of contributions to shrimp values, with an average of $35.3 million and $34.0 million, respectively during the 2000-2009 period. Contributions by vessels with lengths between 51 to 65 feet averaged $15.9 million for the same period.

Interestingly, there was a sharp decline in the volume of shrimp reportedly landed by boats over 50 feet in the recent years (2007 to 2009), while smaller boats have landed an increasing amount of shrimp. These changes in shrimp landings might be due to reduction in fishing trips or length of trips because of increasing fuel prices, leading to low dockside values.



Source: Appendix Table C.8.

Figure 3.7 Shrimp Landings by Fishing Vessel Length Category, 2000 – 2009



Source: Appendix Table C.9. See Appendix Figure C.2 for the real dockside values of shrimp by vessel length category.

Figure 3.8 Nominal Dockside Values of Shrimp by Fishing Vessel Length Category, 2000 – 2009

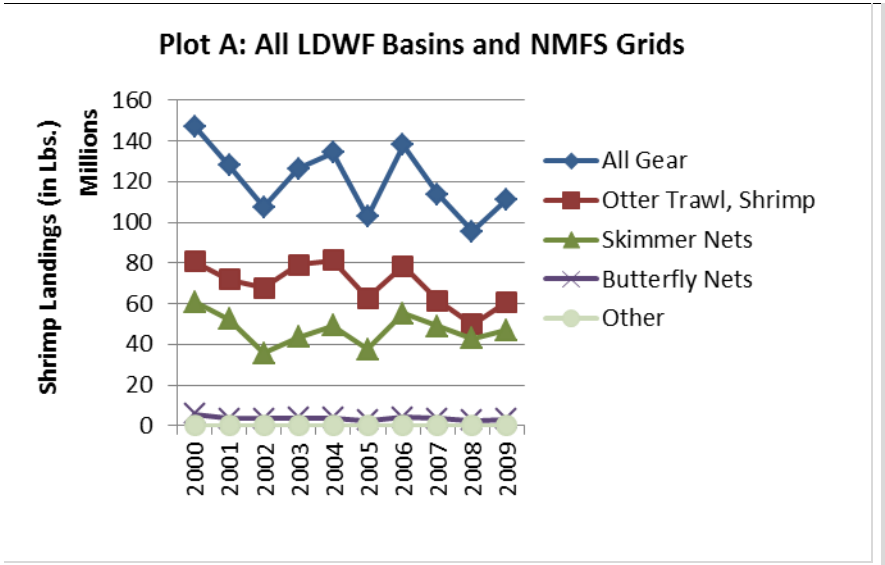
3.7 Landings and Dockside Values of Shrimp by Fishing Gear

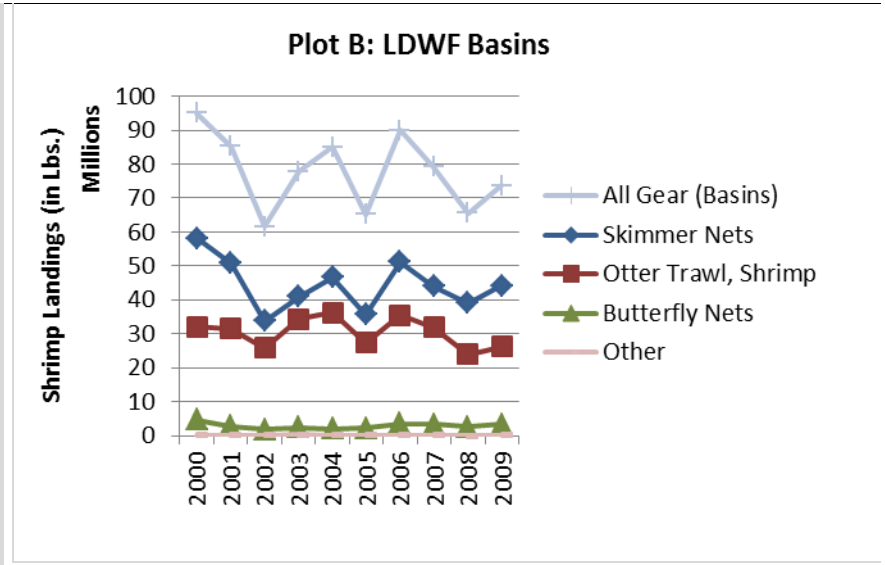
The landings and the dockside values of shrimp harvested throughout the 2000-2009 period were examined by the gear, which fishermen reportedly used to harvest them. Figure 3.9 (Plots A to C) shows the amount of shrimp harvested by gear and the gear type, which were common to the Louisiana basins and the federal grids.

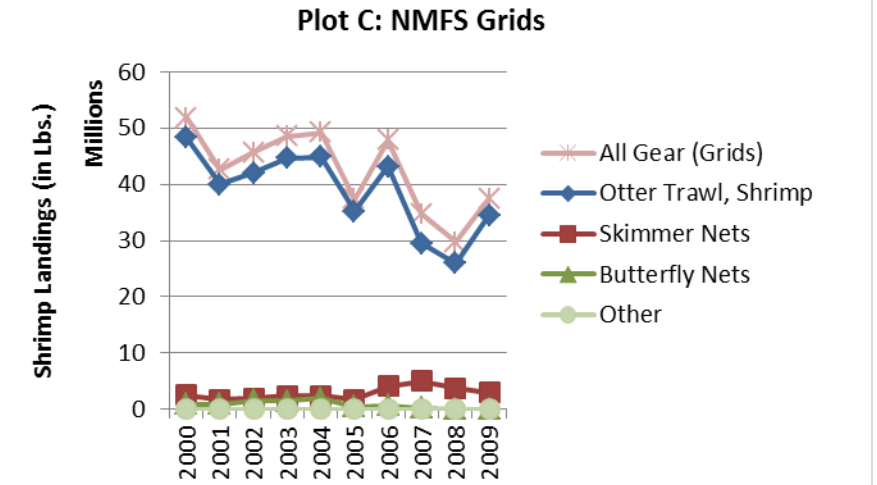
As shown in Plot A (Figure 3.9), more shrimp was harvested by trawls, followed by skimmer nets and butterfly nets during 2000-2009. For example, an average of 69.4 million pounds (57.6 percent) of shrimp was annually harvested by shrimp otter trawls, followed by skimmer nets with an average of 47.3 million pounds (39.3 percent). An average of 3.6 million pounds (3.0 percent) of shrimp was harvested per year using butterfly nets. All other gear including fish otter trawl, crab pots and traps, cast nets, etc., harvested the remaining 112.7 thousand pounds (less than 0.1 percent).

Plot B (Figure 3.9) shows that skimmer nets were the most important gear used by fishermen to harvest shrimp in the Louisiana basins, resulting in the harvest of 57.1 percent (44.4 million pounds) of the total shrimp basins' waters from 2000 through 2009. Following skimmer nets were otter trawls, which accounted for 39.2 percent (30.5 million pounds). In Plot C, otter trawls were dominantly used to harvest approximately 91.3 percent (38.8 million pounds) of the total volume of shrimp from the federal grids for the period 2000-2009.

It is interesting to note that the use of otter trawls, especially in federal waters (grids), has fallen drastically since 2000. Also, the use of trawls in Louisiana waters has declined since 2006. This fall could be attributed to factors such as the price of fuel or safety measures taken by fishermen during hurricane season since trawls are used to harvest shrimp in deeper waters.







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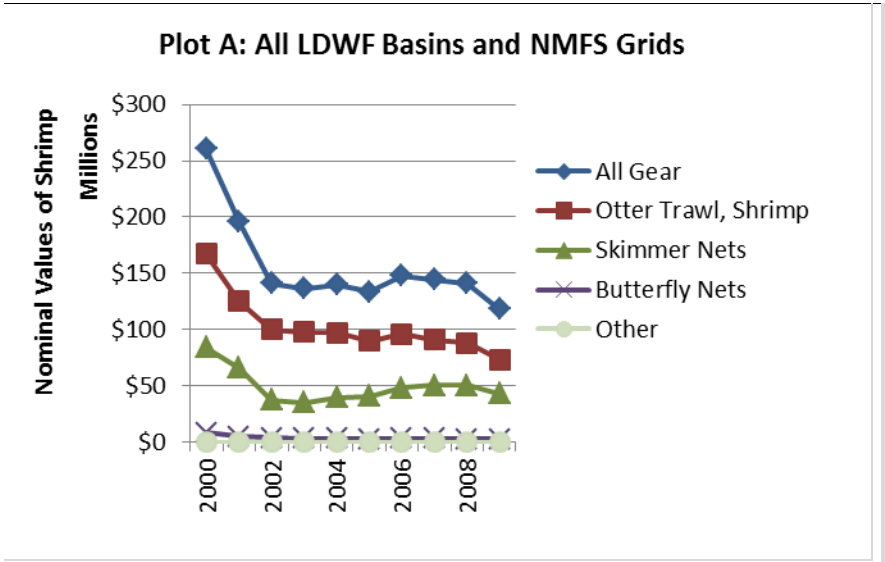
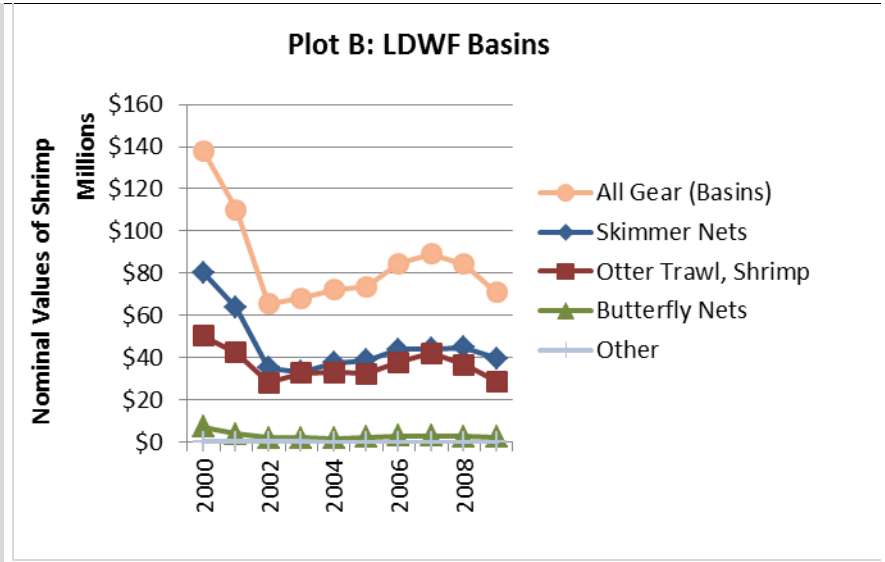
Source: Appendix Tables C.11, C.12 and C.13. "Other" includes all other fishing gear.

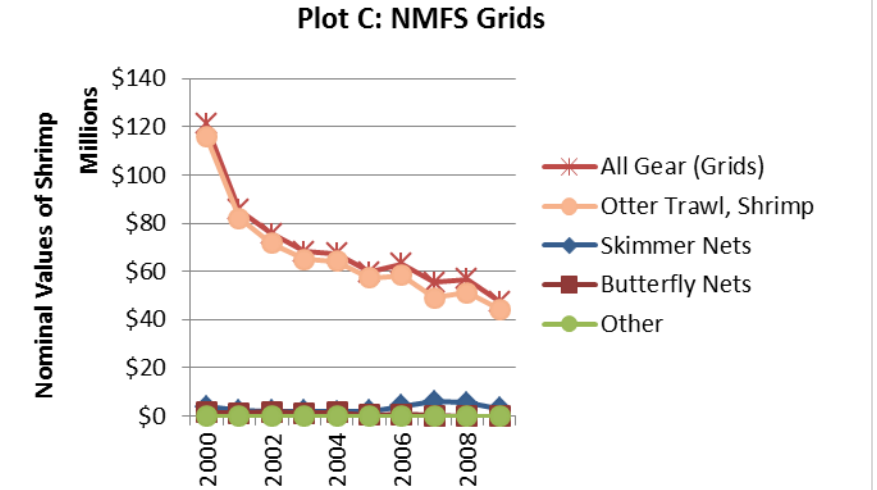
Figure 3.9 Shrimp Landings from LDWF Basins and NMFS Grids by Gear Type, 2000 – 2009

During the period between 2000 and 2009, the dockside value of shrimp landed in Louisiana ranged from a high of $260.3 million in 2000 and a minimum total of $118.5 million in 2009 (Figure 3.10, Plot A). In addition, a two-third ($102.5 million) of the annual average value ($155.9 million) was contributed by shrimp otter trawl, followed by skimmer nets, which contributed approximately one-third (average of $49.5 million). Butterfly nets, together with other gear, contributed only a very small portion (less than 4.0 million) of the total shrimp harvest.

Examining the fishing gear associated with the Louisiana basins (Figure 3.10, Plot B) shows that shrimp otter trawls was approaching skimmer nets in terms of the contributions of the nominal dockside values of shrimp. However, in Plot C, shrimp otter trawls were responsible for approximately 94.1 percent of the total nominal dockside values of shrimp caught from the federal grids.







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Source: Appendix Tables C.14, C.15 and C.16. See Appendix Figure C.3 for real dockside values of shrimp from basins and grids by gear type. "Other" includes all other fishing gear.

Figure 3.10 Nominal Dockside Values of Shrimp from LDWF Basins and NMFS Grids by Gear Type, 2000 – 2009

Chapter 4 - Hurricanes Impacts and Recovery in Shrimp Fishery

Examination of the information presented in Chapters 1 and 2 revealed that there were three periods when major lows in Louisiana's shrimp landings occurred. These periods can be associated with hurricanes Lili of 2002, Katrina and Rita of 2005 and hurricanes Gustav and Ike of 2008 (See Appendix Figures D.3 to D.6), which have impacted the shrimp fishery. Hence, Chapter 4 discusses the impacts of these hurricanes on participation and activities for the fishermen side of the shrimp fishery as well as their impacts on performance indicators including shrimp landings, average dockside prices and dockside values. The chapter also attempts to assess the recovery of the shrimp sector in the aftermath of these hurricanes.

The chapter is divided into four sections. Section 4.1 discusses the hurricanes impacts on participation and activities in the shrimp fishery by shrimp fishing trip and by parish of residence of fishermen as well as fishing vessel owners. Similar discussions on performance indicators are contained in Section 4.2. Section 4.3 considers the impacts of hurricanes on performance indicators per fisherman, while Section 4.4 briefly examines the recovery of shrimp fishery in the aftermath of the hurricanes.

4.1 Hurricanes Impacts on Participation and Activities

Based on the descriptions in Chapter 1 (sections 1.1 to 1.4), this section presents the changes in relevant measures of efforts in the shrimp fishery as a result of hurricanes Lili in 2002, Katrina and Rita in 2005 and Gustav and Ike in 2008. These changes become apparent considering the interruptions in the trend of participation indicators during the hurricane years such as the number of fishermen (Figures 1.1 and 1.5), number of dealers (Figure 1.2), number of fishing trips (Figures 1.6 and 1.7), number of fishing vessels (Figure 1.8), etc.

The number of fishermen who landed or sold at least a pound of shrimp between 2001 and 2002 declined by 1,348 (19.4 percent), perhaps, due to hurricane Lili (Figure 1.1). The parishes with the largest decrease in the number of resident fishermen were Terrebonne (333 fishermen), Lafourche (193), St. Bernard (130), Jefferson (129) and Plaquemines (107). The total number of fishing trips associated with shrimp landings decreased by 44,155 trips (26.0 percent) and the average number of fishing trips taken per fisherman decreased by 2 trips (8.1 percent), while the number of fishing vessels that landed at least a pound of shrimp fell by 3,509 vessels (39.2 percent). Only the number of dealers who purchased at least a pound of shrimp increased by 31 (below 0.01 percent) and the average length of fishing trips per fisherman who landed shrimp increased by 16.7 hours (24.0 percent).

Between 2004 and 2005 (Katrina and Rita), the number of shrimp fishermen declined by 785 (16.9 percent) and the parishes with the largest decreases in the number of shrimp fishermen affected were Terrebonne (168 fishermen), Plaquemines (122) and Lafourche (101). In addition, the total number of fishing trips, the average number of fishing trips per fisherman and the number of fishing vessels associated with shrimp landings decreased by 23.4 percent (39,777), 19.9 percent (5) and by 8.8 percent (785), respectively. The number of shrimp dealers also declined by 2.5 percent (117) and the average length (hours) of fishing trips per fisherman remained relatively unchanged by hurricanes Katrina and Rita.

The devastation to participation and activities in the shrimp fishery by Gustav and Ike was minimal compared to the previous hurricanes (Lili, Katrina or Rita). For example, Gustav and Ike in 2008 caused a 8.6 percent (401) decrease in the number of fishermen that reported landing of shrimp in Louisiana from the previous year. The reduction in participation of shrimp fishermen were distributed among Terrebonne (134), Jefferson (84) and Lafourche (70) parishes.

Parishes such as Orleans, St. Bernard and St. Tammany experienced increases of 25, 16 and 15 fishermen after Gustav and Ike. Interestingly, the consistent increase in the number of fishermen and fishing vessels owners in Orleans, St. Bernard and St. Tammany parishes since hurricanes Katrina and Rita might indicate the growing relocation of fishermen to these parishes.

Additional measures of participation in the shrimp fishery, which experienced declines between 2007 and 2008 due to Gustav and Ike were the number of shrimp dealers (1.6 percent or 76 shrimpers), the number of fishing trips (19.8 percent or 17,421 trips), average number of fishing trips per fisherman (8.7 percent or 2 trips), average length of a fishing trip per fisherman (1.9 percent or 1.5 hours) and the number of fishing vessels (11.1 percent or 365 vessels).

Prior to 2005 when hurricanes Katrina and Rita landed in Louisiana, findings show that more fishermen harvested brown shrimp than white shrimp. However, since 2005, the number of fishermen who landed white shrimp has grown, surpassing those who landed brown shrimp. Major turning points in the declining trend in the number of fishermen, irrespective of shrimp species they harvested or sold, occurred during or after the 2008 Gustav and Ike hurricanes when the numbers indicated a modest increase. For example, the number of fishermen who landed shrimp irrespective of the species they landed, increased by 355 in 2009. For white shrimp, the number increased by 296 and for brown shrimp, it increased by 356. In most cases, all measures showed an upward trend in their numbers in 2009, the last year of data for this study.

4.2 Hurricanes Impacts on Shrimp Landings, Dockside Prices and Values

This section discusses the impact of hurricanes Lili in 2002, Katrina and Rita in 2005 and Gustav and Ike in 2008 (See Appendix Figures D.3 to D.6) on the volume, average dockside prices (in 2005 dollar) and dockside values (in 2005 dollar) of shrimp landed in Louisiana, which

were presented in Chapter 2. In particular, the impacts on these measures by shrimp species, fisherman's parish of residence as well as LDWF basins and NMFS grids are emphasized.

4.2.1 Hurricanes Impacts by Shrimp Species

In 2005, the year hurricanes Katrina and Rita landed in Louisiana, shrimp landings decreased by 31.6 million pounds (23.6 percent) from its 2004 level of 134.2 million pounds (Figure 2.1). The percentage decrease in shrimp landings from Lili in 2002 and Gustav and Ike in 2008 was approximately 16.2 percent from the previous years. Precisely, the volume of shrimp declined from 127.9 million pounds in 2001 to 107.3 million pounds in 2002 due to Lili, while it declined from 113.8 million pound (2007) to 95.4 million pounds (2008) due to Gustav and Ike. Brown shrimp (white shrimp) accounted for approximately 51.2 percent (42.3 percent) of the total decline in shrimp landings due to Lili and 53.7 percent (42.0 percent) of the total decline due to Katrina and Rita. The total decrease in shrimp landings attributed to Gustav and Ike in 2008 (approx. 18.9 million pounds) was from brown shrimp. The volume of white shrimp landed in 2008 actually rose by about 0.4 million pounds compared to its level (65.9 million pounds) in 2007.

Conversely, average dockside prices of shrimp (in 2005 dollar) were higher during the hurricane years than the immediate years except for 2002 when average dockside prices continued their consistent declines (Figure 2.2, Plot B). Although Katrina and Rita had a greater impact on shrimp landings than Gustav and Ike, the price charged per pound at the dock was greater during Gustav and Ike because in Katrina and Rita, the local demand for shrimp was lower because of lost customers from relocation of residents. Precisely, the dockside average total price of shrimp during Gustav and Ike rose by $0.31 per pound from its level ($1.25) in 2007 and by only $0.10 per pound (from $1.23 in 2004) as a result of Katrina and Rita but fell

during Lili by $0.25 per pound (from $1.82 in 2001). The average dockside price of white shrimp rose by $0.40 per pound during Gustav and Ike and by $0.12 per pound during Katrina and Rita. The average dockside price of brown shrimp rose only by $0.20 per pound during Katrina and Rita period.

Prior to 2002, the dockside value of shrimp expressed in 2005 dollar was declining tremendously, reaching $61.8 million between 2001 and 2002 (Figure 2.3, Plot B). Approximately 57.6 percent ($35.6 million) of the decline in shrimp value was due to the fall in the dockside value of white shrimp, while 39.8 percent ($24.6 million) was due to decrease in the dockside value of brown shrimp. Attributing these huge declines singly to hurricane Lili might be misleading. Low dockside price, limited familiarity with the relatively new trip ticket program and increased regulations on fishing efforts to improve fishery management during this period might be the major culprits for the fall in dockside values of shrimp.

Since 2005, the effects of hurricanes occurrences on shrimp dockside values expressed in 2005 dollar appeared to be minimal compared to their effects on the volume and average prices of shrimp. However, a combination of factors such as higher average prices of shrimp, increase in white shrimp landings and decrease in brown shrimp landings, might have resulted in this minimal effect. Precisely, from 2004 to 2005 (Katrina and Rita), total real dockside value of shrimp fell by a net of $10.7 million, with 84.2 percent attributed to the decline in the value of white shrimp and 12.7 percent attributed to the decline in the value of brown shrimp. To Gustav and Ike (2008), however, could be attributed a $19.2 million decrease in the dockside value of brown shrimp and $12.2 million increase in the dockside value of white shrimp. Coupled with changes in the values of other shrimp species during 2008, the total decline in the dockside value of shrimp due to Gustav and Ike was $7.1 million.

4.2.2 Hurricanes Impacts by Fisherman's Parish of Residence

Of the 31.6 million pounds of the decline in shrimp landings from Katrina and Rita in 2005, approximately 99.0 percent was from fishermen who resided in seven residential areas (Figure 2.4). Top among these residential areas were Plaquemines parish whose resident fishermen landings declined by 10.5 million pounds (33.3 percent), followed by Jefferson parish with 6.6 million pounds (20.9 percent) and non-resident fishermen (outside Louisiana) whose landings fell by 4.1 million pounds (12.9 percent). Parishes, which suffered the substantial portion of the 20.6 million pounds decline in shrimp landings due to Lili in 2002 were Terrebonne (with 39.7 percent), Lafourche (17.4 percent) and Jefferson (15.4 percent). Of the 18.5 million pounds decline in shrimp landings attributed to Gustav and Ike (2008), 25.7 percent accrued to individual resident in Plaquemines, followed by Jefferson resident (19.1 percent) and non-resident (14.4 percent).

The changes in shrimp dockside values (in 2005 dollar) across parishes where fishermen resided appear to be insignificant except for 2001 and 2002 period (Appendix Figure B.1). During 2001-2002 period (hurricane Lili), fishermen who lived in Terrebonne parish experienced a decline in shrimp sales of approximately $18.0 million. Following Terrebonne parish in the decline of shrimp landings were Lafourche parish with $10.7 million and Jefferson parish with $10.2 million.

The largest decline of $7.1 million in the dockside values of shrimp between 2004 and 2005 due to Katrina and Rita occurred to the fishermen residing in Plaquemines parish, followed by non-resident fishermen with a loss in shrimp value of $4.9 million. However, between 2004 and 2005, the fishermen in Terrebonne parish witnessed an increase of approximately $4.0 million in shrimp values.

The largest decline of approximately $3.0 million in shrimp value/sales from 2007 by fishermen who resided in Terrebonne parish was attributed to Gustav and Ike (2008). Next were Plaquemines and Lafourche, with an average decline of $1.9 million and $1.8 million, respectively. Fishermen who resided in Orleans and Lafayette parishes experienced an average increase of $1.3 million in shrimp values due to Gustav and Ike.

4.2.3 Hurricanes Impacts by LDWF Basins and NMFS Grids

Between 2001 and 2002, the volume of shrimp landed from LDWF basins declined by 23.5 million pounds from hurricane Lili, with Terrebonne and Barataria Basins accounting for 49.7 percent and 29.3 percent, respectively of the decline (Figure 2.7). Vermilion-Teche River Basin accounted for about 8.1 percent, while Lake Pontchartrain Basin accounted for 5.6 percent of the total decline due to Lili. However, the volume of shrimp landed from the NMFS grids increased by a net of 3.1 million pounds.

In the Katrina/Rita period (2004-2005), 62.5 percent of the total decline in shrimp landing of 31.6 million pounds accrued to the LDWF basins. The share of Barataria from this decrease was 9.3 million pounds, followed by Lake Pontchartrain with 6.4 million pounds and Terrebonne with 2.5 million pounds. Grid 13 and 14 suffered a decline of 5.9 million and 4.6 million pounds, respectively.

When the volume of shrimp landed in 2008 (Gustav and Ike year) was compared to that of 2007, findings show that 13.5 million pounds (73.1 percent) of the total decline of 18.5 million pounds accrued to the LDWF basins. Of the decline in shrimp landing from the basins, approximately 79.5 percent (10.7 million pounds) was from Barataria Basin, followed by Lake Pontchartrain Basin with 2.2 million pounds (16.3 percent) and Terrebonne Basin with 1.6

million pounds (11.8 percent). Of the fall of 4.5 million pounds (26.9 percent) in shrimp landing from the federal grids, 79.8 percent was from Grid 13 and 18.4 percent was from Grid 15.

As shown in section 4.2.1, there were general increases in shrimp average dockside prices (in 2005 dollar) at Louisiana docks during the years that hurricanes Katrina/Rita (2005) and Gustav/Ike (2008) landed and a general decrease in the year hurricane Lili landed (2002). During the hurricane Lili period, the average dockside prices of shrimp harvested from all river basins decreased except for shrimp caught from the Sabine River Basin whose average price per pound increased by $0.31 from $1.01 in 2001 to $1.32 in 2002 (Appendix Figure B.3). The largest decrease ($0.29 per pound) in average dockside price occurred for shrimp caught from Mississippi River Basin, followed by Atchafalaya River Basin ($0.28) and Barataria River Basin ($0.26). For the major federal grids (i.e., Grids 13 to 17), the decrease in shrimp prices occurred mainly on shrimp harvested from Grid 17 ($0.67), Grid 13 ($0.62) and almost equally in Grid 15 ($0.54) and 14 ($0.52). The average dockside price of shrimp per pound from Grid 16 fell by $0.38.

Unlike hurricane Lili, Katrina and Rita in 2005 caused greater impact on the average dockside prices of shrimp harvested from the river basins than the grids. The largest price increase occurred for shrimp harvested from Mermentau River Basin ($0.58), followed by Lake Pontchartrain ($0.16) and by Barataria ($0.14). The largest price increase for shrimp harvested from the federal grids occurred for Grid 17 ($0.16), Grid 14 ($0.13) and Grid 13 ($0.10).

Gustav and Ike in 2008 caused an increase of $1.27 in the average price of shrimp harvested from Lake Pontchartrain Basin compared to its level of $1.58 in 2007. This price increase was the largest increase ever associated with hurricane occurrences in the recent history of shrimp fishery (2002-2009). Following Lake Pontchartrain Basin in increase in the average

prices of shrimp harvested were Mississippi River Basin ($0.33) and Atchafalaya River Basin ($0.28). The smallest increase of $0.04 per pound occurred from Terrebonne Basin. Similarly, among the major federal grids, the impact was largest on prices of shrimp harvested from Grid 18, Grid 17 and Grid 16, with increases of $0.86, $0.80 and $0.24, respectively. Grid 14 (with $0.15) and Grid 15 (with $0.20) had the smallest changes in shrimp dockside prices per pound.

Of the total decline in shrimp dockside values of $61.8 million (in 2005 dollar) from 2001 to 2002, substantial portion of which could be attributed to hurricane Lili, 80.5 percent ($49.8 million) accrued to shrimp harvest in the Louisiana basins (Appendix Figure B.4). The majority (85.3 percent) of the $49.8 million occurred in Terrebonne ($21.8 million), Barataria ($16.9 million), and Lake Pontchartrain ($3.8 million) Basins. The remainder ($12.0 million or 19.5 percent) was distributed across NMFS Grids with major ones being Grid 16 ($3.4 million), Grids 14 ($3.3 million), and Grid 15 ($1.8 million).

The lowest dockside values of shrimp harvested in Louisiana (i.e., $133.4 million) between 2000 and 2009 occurred in 2005. The declines of shrimp values in 2005 dollar between 2004 and 2005 (due to hurricane Katrina and Rita) totaled approximately $10.7 million. Lake Pontchartrain (with approximately $4.2 million), Barataria (approx. $2.3 million) and Mississippi River ($1.1 million) Basins as well as NMFS Grid 14 ($5.6 million), Grid 13 (approx. $5.3 million) and Grid 17 ($2.2 million) topped the list of fishing areas whose shrimp harvest were disrupted by these hurricanes. However, the effects of these storms appear to have been offset by higher prices for shrimp harvested from other basins. For example, dockside values of shrimp sourced from Terrebonne Basin and Grid 15 rose by about $5.5 million and $3.9 million, respectively, above their 2004 levels.

The fall in shrimp dockside values in 2005 dollar attributed to Gustav and Ike between 2007 and 2008 was approximately $9.3 million for Barataria, $2.2 million for Terrebonne and $3.1 million for Grid 13. However, values of shrimp from fishing areas such as Lake Pontchartrain Basin, Mississippi River Basin, Grid 15 and Grid 14 increased by $4.5 million, $1.3 million, $1.8 million and $0.9 million, respectively. Both losses and gains from Gustav and Ike resulted to a net decline of $7.1 million.

4.3 Hurricanes Impacts on Landings and Dockside Values of Shrimp per Effort

Only hurricanes Katrina and Rita in 2005 and Gustav and Ike in 2008 (See Appendix Figures D.4 to D.6) appear to have affected the average amount of shrimp landed per fishermen. Similar to section 4.2.1, the average volume of shrimp landed per fisherman declined from 28,884 pounds in 2004 to 26,569 pounds in 2005 (Figure 3.1). However, the huge jump in the average shrimp landings per fisherman in 2006 by approximately 51.7 percent from its 2005 level might indicate the recovery of shrimp fishery after Katrina/Rita period. In addition, the average volumes of shrimp landed per fishing trip (Figure 3.3), per hour (Figure 3.4) and per vessel (Figure 3.5) peaked in 2006 with increases of 18.8 percent, 18.3 percent and 54.3 percent, respectively from 1,294 pounds, 16.1 pounds and 26,680 pounds in 2005.

Since 2002 (hurricane Lili year) when the average dockside value of shrimp per fisherman was at its lowest level ($25,276), it has risen consistently to peak at $48,527 in 2008, the year hurricanes Gustav and Ike landed. During 2000-2009, the average values of shrimp landed per fishing trip, per hour and per vessel peaked in 2005 and 2008 with the largest jump occurring between 2004 and 2005. Between 2004 and 2005, the average nominal values of shrimp per fishing trip, per hour and per vessel increased by $508.50 (43.3 percent), $6.33 (43.5

percent) and $4,499.88 (14.9 percent), respectively. Similarly, the average nominal values of shrimp per fishing trip, per hour and per vessel increased by $351.93 (21.5 percent), $4.16 (20.7 percent) and $4,253.91 (9.7 percent), respectively, between 2007 and 2008. The higher values of shrimp per effort, which occurred during the years of hurricanes, can be attributed to higher shrimp prices caused by short supply of Louisiana shrimp during the periods.

4.4 Recovery of the Shrimp Fishery in the Aftermath of Hurricanes

Findings from this report show that the recovery process in terms of landings in the shrimp fishery usually began immediately after hurricane occurrences, approaching or exceeding its pre-hurricane level a year after. This statement is true for Lili of 2002 and Katrina and Rita of 2005. The recovery process appears slower in 2009 after Gustav and Ike of 2008. The length of the recovery is, however, dependent on the lags or intervals between hurricanes occurrences. For example, the recovery lasted two years (2003 to 2004) after Lili before it was interrupted by Katrina and Rita. The recovery of the shrimp fishery from the devastating effects of Katrina and Rita lasted till 2006, after which it fell (in 2007) even without a major disaster. This fall continued until 2008 the year Gustav and Ike landed in Louisiana.

Interestingly, dockside prices of shrimp were higher during the hurricane years except for Lili, resulting in a minimal damage to dockside values of shrimp. The declines in measures of efforts (participation and activities) in shrimp sector, such as the numbers of fishermen, fishing boats, fishing trips, etc., continued regardless of hurricane occurrences. In spite this, one can conclude that the recovery would have been phenomenal were it not for the incessant repeat of hurricane occurrences.

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Appendix A - Participation and Activities in the Shrimp Industry

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Table A.1 Number of Fishermen Who Landed Shrimp by Species, 2000 - 2009

	Number of Fishermen											
Species	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**	**Percent**
White Shrimp	5,638	4,974	4,136	4,151	3,841	3,183	2,881	2,801	2,554	2,850	3,701	80.2%
Brown Shrimp	5,527	6,007	4,969	4,611	3,769	3,221	2,719	2,681	2,151	2,507	3,816	82.7%
Seabob	1,063	810	602	385	282	217	138	216	142	93	395	8.6%
Pink Shrimp	40	36	28	27	22	19	18	10	-	10	21	0.5%
Total	**6,888**	**6,936**	**5,588**	**5,330**	**4,646**	**3,861**	**3,422**	**3,305**	**2,904**	**3,259**	**4,614**	100.0%

Note: The hyphen indicates that the entry was omitted for confidentiality reasons.

Table A.2 Number of Dealers Who Purchased Shrimp by Species, 2000 – 2009

	Number of Dealers											
Species	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**	**Percent**
White Shrimp	296	259	270	432	445	342	417	388	337	441	363	86.1%
Brown Shrimp	251	213	220	259	256	200	203	200	169	203	217	51.6%
Seabob	80	70	59	48	42	41	31	35	24	19	45	10.7%
Pink Shrimp	22	21	14	19	14	11	11	8	-	9	13	3.1%
Total	**370**	**306**	**337**	**501**	**511**	**394**	**474**	**450**	**374**	**494**	**421**	**100.0%**

Note: The hyphen indicates that the entry was omitted for confidentiality reasons.

Table A.3 Number of Fishermen Who Landed Shrimp by License Type, 2000 - 2009

	Number of Fishermen											
Type of License	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**	**Percent**
Resident Fishermen	6,099	6,263	5,024	4,857	4,246	3,527	3,090	2,961	2,602	2,902	4,157	90.1%
Non-Resident Fishermen	676	592	500	417	354	267	230	240	198	245	372	8.1%
Alien Fishermen	161	0	0	0	0	0	0	0	0	0	16	0.3%
Senior Fishermen & Gear	0	0	0	0	0	40	86	79	84	99	78	1.7%
Total	**6,888**	**6,936**	**5,588**	**5,330**	**4,646**	**3,861**	**3,422**	**3,305**	**2,904**	**3,259**	**4,614**	**100.0%**

Note: All license types are commercial fishing licenses.

Table A.4 Number of Fishermen Who Landed Shrimp by Place of Residence, 2000 - 2009

	Number of Fishermen										
Parish	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Terrebonne	1,554	1,605	1,272	1,238	1,131	963	944	809	675	783	1,097
Jefferson	955	995	866	828	709	656	563	561	477	517	713
Lafourche	918	953	760	710	612	511	442	392	322	338	596
Plaquemines	758	816	709	685	630	508	335	358	347	397	554
Out of state	525	548	464	404	340	249	212	226	182	221	337
St Bernard	443	489	359	341	252	182	116	135	151	170	264
St Mary	280	224	130	156	120	112	97	82	75	73	135
Vermilion	190	165	150	153	129	110	117	120	101	107	134
Orleans	161	194	157	163	137	112	70	79	104	105	128
Cameron	177	147	123	110	100	83	83	96	83	78	108
St Tammany	88	111	98	67	61	49	44	75	90	111	79
Calcasieu	132	101	83	64	53	51	65	50	40	76	72
St Charles	99	125	65	69	63	46	49	37	22	25	60
Iberia	74	49	34	35	36	34	37	40	37	41	42
Lafayette	50	45	45	45	46	38	40	35	30	34	41
St John	53	47	42	39	37	23	24	20	17	13	32

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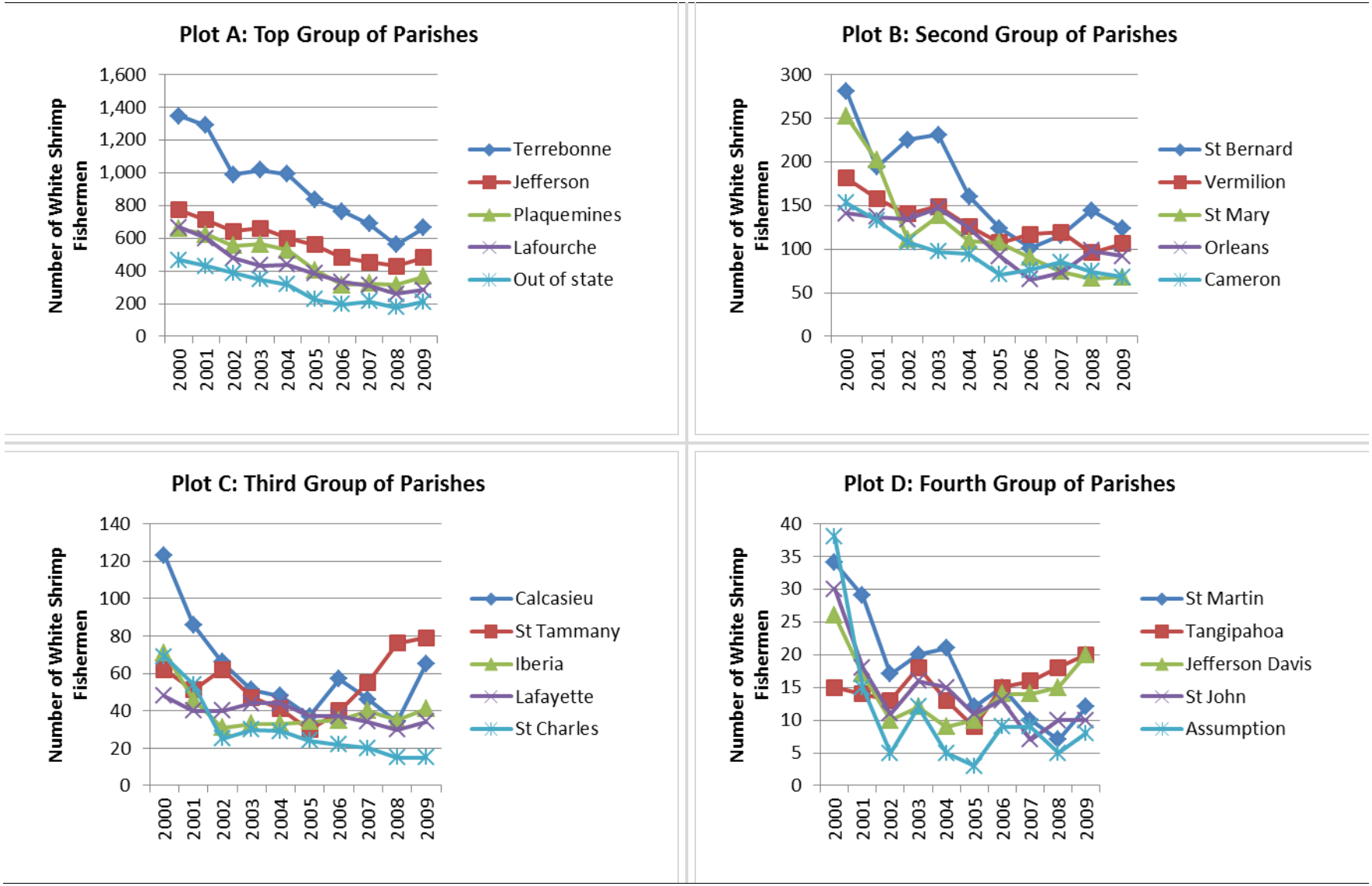
Table A.4 Number of Fishermen Who Landed Shrimp by Parish of Residence, 2000 – 2009 (Continued)

	Number of Fishermen										
Parish	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Tangipahoa	26	23	20	24	18	17	20	22	21	26	22
St Martin	38	30	18	21	24	12	16	14	7	14	19
Jefferson Davis	34	17	11	12	9	10	15	16	16	23	16
Livingston	17	25	14	14	13	7	11	18	22	14	16
Assumption	51	23	14	15	8	4	14	10	5	8	15
St James	10	18	15	16	17	8	16	14	9	7	13
East Baton Rouge	11	15	15	19	11	12	13	11	7	9	12
Ascension	21	20	13	11	5	-	9	6	-	4	9
Acadia	23	6	7	6	5	4	6	7	9	9	8
St Landry	18	12	10	5	5	4	-	5	6	5	7
Washington	8	4	-	-	-	4	4	6	4	9	5
Beauregard	10	6	-	-	-	-	6	6	4	5	5
Iberville	12	6	4	4	-	4	5	-	-	-	5
Other	39	36	20	17	22	16	30	27	17	21	25
Total	**6,775**	**6,855**	**5,524**	**5,274**	**4,600**	**3,834**	**3,406**	**3,280**	**2,884**	**3,246**	**4,568**

Note: The hyphens indicate that the values are less than four (4) and are therefore omitted for confidentiality reasons. Likewise, parishes having a total average that is less than 4 were also omitted.

Table A.5 Number of Fishermen Who Landed White Shrimp by Place of Residence, 2000 - 2009

	Number of White Shrimp Fishermen										
Parish	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Terrebonne	1,347	1,288	987	1,015	992	835	763	688	561	664	914
Jefferson	773	711	641	659	599	560	481	455	429	480	579
Plaquemines	658	624	554	562	528	404	314	322	314	365	465
Lafourche	666	598	478	432	440	385	332	311	259	285	419
Out of state	467	430	387	348	318	227	196	213	177	212	298
St Bernard	280	194	225	231	160	124	101	116	144	124	170
Vermilion	181	158	140	149	126	107	117	119	96	106	130
St Mary	252	202	111	138	109	107	90	74	66	68	122
Orleans	141	137	134	147	124	92	65	73	98	92	110
Cameron	153	133	108	97	94	71	76	85	74	68	96
Calcasieu	123	86	66	51	48	37	57	46	34	65	61
St Tammany	62	51	62	47	41	30	40	55	76	79	54
Iberia	71	46	31	33	33	34	35	40	35	41	40
Lafayette	48	40	40	44	44	37	37	34	30	34	39
St Charles	69	54	25	30	29	24	22	20	15	15	30
St Martin	34	29	17	20	21	12	15	10	7	12	18
Tangipahoa	15	14	13	18	13	9	15	16	18	20	15
Jefferson Davis	26	17	10	12	9	10	14	14	15	20	15
St John	30	18	11	16	15	11	13	7	10	10	14
Assumption	38	15	5	12	5	3	9	9	5	8	11
East Baton Rouge	9	9	11	13	8	7	10	10	7	8	9
Other	108	70	38	35	52	38	68	66	65	62	60

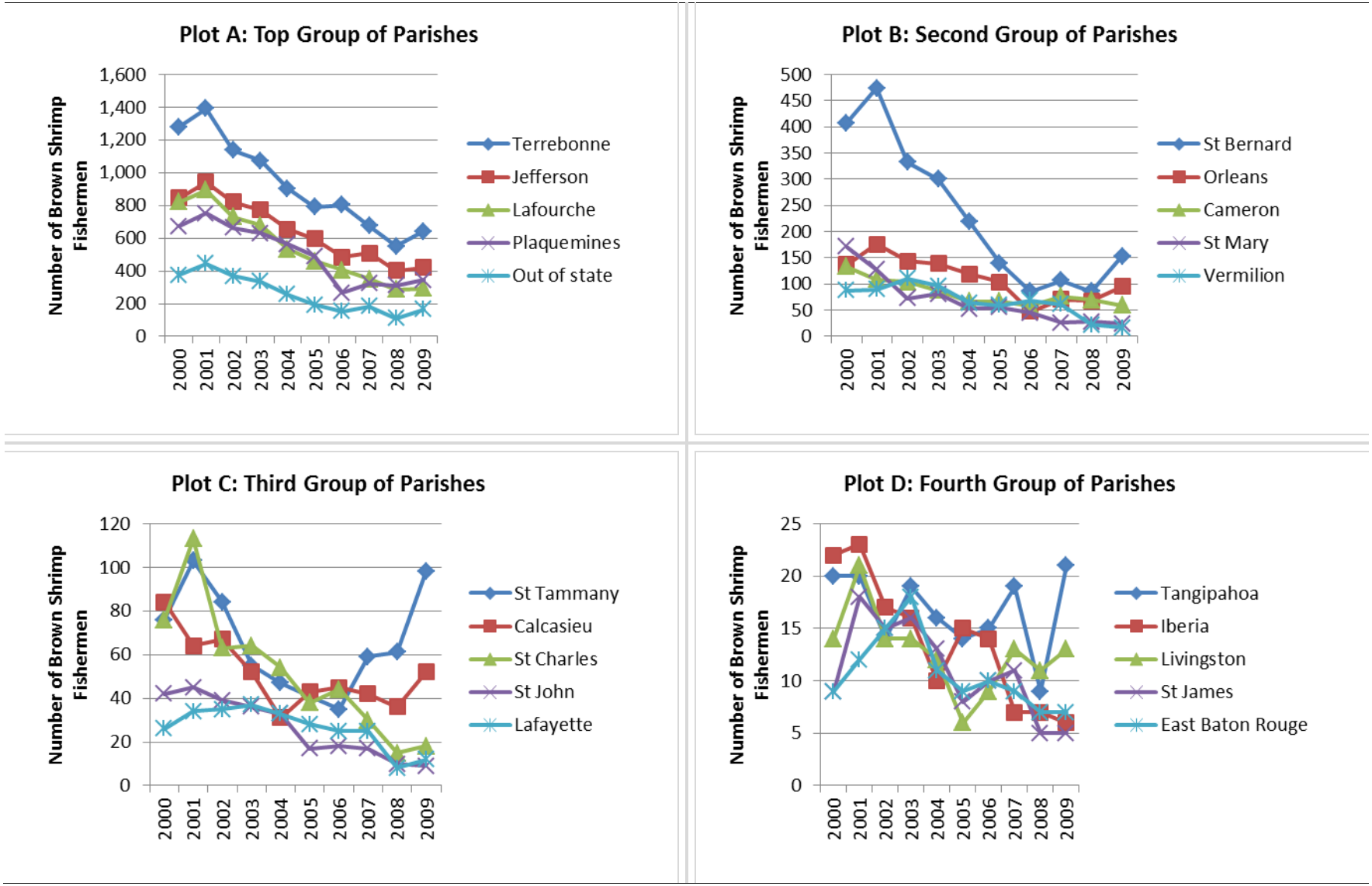


Source: Appendix Table A.5.

Figure A.1 Number of White Shrimp Fishermen by Place of Residence, 2000 – 2009

Table A.6 Number of Fishermen Who Landed Brown Shrimp by Place of Residence, 2000 - 2009

	Number of Brown Shrimp Fishermen										
Parish	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Terrebonne	1,278	1,390	1,138	1,074	903	791	804	676	552	642	925
Jefferson	846	942	822	771	655	595	484	507	402	419	644
Lafourche	822	894	731	679	533	459	405	350	288	292	545
Plaquemines	672	750	662	631	562	491	267	324	310	343	501
Out of state	375	444	369	335	255	193	152	184	111	164	258
St Bernard	407	474	332	300	220	140	86	107	86	153	231
Orleans	137	176	144	139	119	104	48	71	68	95	110
Cameron	133	109	104	88	67	67	59	76	70	59	83
St Mary	171	128	73	81	53	55	45	26	28	24	68
Vermilion	88	90	110	96	64	59	69	61	22	17	68
St Tammany	76	103	84	55	47	41	35	59	61	98	66
Calcasieu	84	64	67	52	31	43	45	42	36	52	52
St Charles	76	113	63	64	54	38	44	30	15	18	52
St John	42	45	39	36	33	17	18	17	10	9	27
Lafayette	26	34	35	37	33	28	25	25	8	12	26
Tangipahoa	20	20	14	19	16	14	15	19	9	21	17
Iberia	22	23	17	16	10	15	14	7	7	6	14
Livingston	14	21	14	14	12	6	9	13	11	13	13
St James	9	18	15	16	13	8	10	11	5	5	11
East Baton Rouge	9	12	15	18	11	9	10	9	7	7	11
Other	158	105	77	60	48	36	67	52	37	53	69

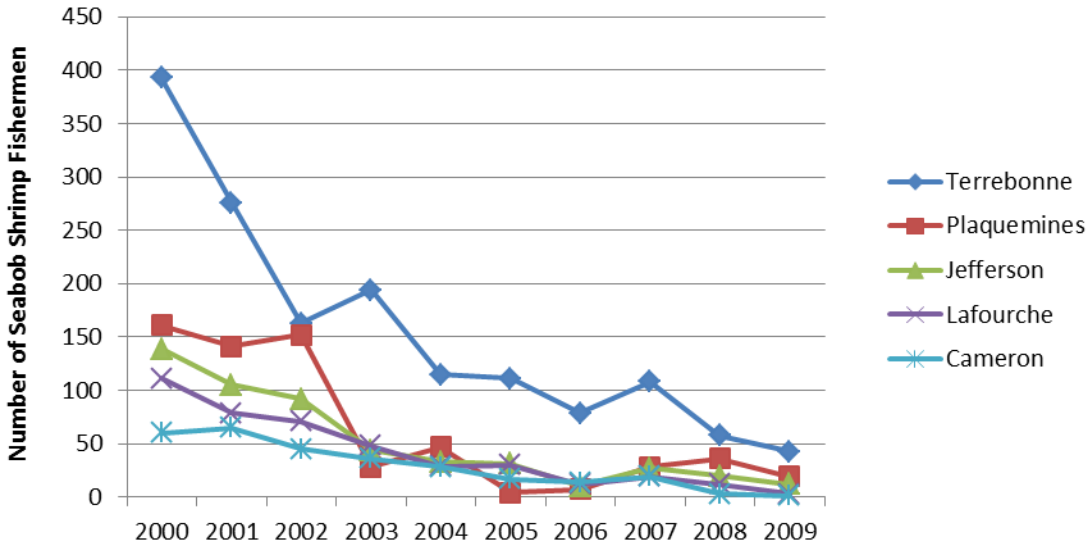


Source: Appendix Table A.6.

Figure A.2 Number of Brown Shrimp Fishermen by Place of Residence, 2000 – 2009

Table A.7 Number of Fishermen Who Landed Seabob Shrimp by Parish of Residence, 2000 - 2009

	Number of Seabob Shrimp Fishermen										
Parish	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Terrebonne	393	276	163	194	115	111	79	108	58	43	154
Plaquemines	161	141	152	28	47	4	7	28	36	19	62
Jefferson	139	105	92	44	33	31	10	27	20	12	51
Lafourche	111	79	71	48	29	30	12	19	12	3	41
Cameron	60	65	45	36	28	17	14	19	3	1	29
Other	184	138	77	33	30	23	15	14	13	15	54



Source: Appendix Table A.7.

Figure A.3 Number of Seabob Shrimp Fishermen by Parish of Residence, 2000 – 2009

Table A.8 Number and Length of Fishing Trips Associated with Shrimp Landings, 2000 - 2009

	Number of Trips										
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Total	204,400	170,004	125,849	126,025	119,044	79,267	89,694	88,193	70,772	81,129	115,438
Average	30	25	23	24	26	21	26	27	24	25	25
	Trip Length (in Hours)										
Total	13,003,582	12,072,929	10,999,916	10,604,480	9,609,010	6,388,976	7,259,850	7,207,052	5,818,012	6,482,726	8,944,653
Average	61.8	69.6	86.3	83.1	79.7	79.5	79.5	80.7	82.2	79.8	78.2

Table A.9 Number of Shrimp Fishing Vessels by Type of Registration, 2000 – 2009

	Number of Shrimp Fishing Vessels										
Registration Type	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
U.S. Coast Guard	1,755	1,640	1,533	1,424	1,271	1,082	931	943	820	901	1,230
Louisiana	8,732	6,772	3,874	3,802	3,331	2,744	2,409	2,323	2,089	2,585	3,866
Non-Louisiana States	1,105	538	34	35	28	19	10	18	10	11	181
Total	**11,592**	**8,950**	**5,441**	**5,261**	**4,630**	**3,845**	**3,350**	**3,284**	**2,919**	**3,497**	**5,277**

Table A.10 Number of Fishing Vessels by Species of Shrimp Landed, 2000 - 2009

	Number of Fishing Vessels										
Species	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
White Shrimp	8,242	5,830	4,027	4,091	3,802	3,139	2,803	2,758	2,556	3,094	4,034
Brown Shrimp	7,950	7,144	4,847	4,519	3,715	3,188	2,662	2,671	2,120	2,627	4,144
Seabob	1,115	824	606	391	285	216	137	226	148	98	405
Pink Shrimp	37	34	28	29	21	19	18	10	-	11	21
Total	**11,592**	**8,950**	**5,441**	**5,261**	**4,630**	**3,845**	**3,350**	**3,284**	**2,919**	**3,497**	**5,277**

Note: The hyphen indicates that the entry was omitted for confidentiality reasons.

Table A.11 Number of Shrimp Fishing Vessels by Type of Vessel License, 2000 – 2009

	Number of Shrimp Fishing Vessels										
Vessel License	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Resident Vessel License	3,694	3,884	3,350	3,270	2,868	2,434	2,138	2,071	1,923	1,945	2,758
Non-Resident Vessel License	320	294	275	240	207	158	126	134	106	141	200
Alien Vessel License	53	0	0	0	0	0	0	0	0	0	5
Unspecified	7,578	4,772	1,816	1,751	1,555	1,253	1,086	1,079	890	1,411	2,319
Total	**11,592**	**8,950**	**5,441**	**5,261**	**4,630**	**3,845**	**3,350**	**3,284**	**2,919**	**3,497**	**5,277**

Table A.12 Number of Shrimp Fishing Vessels by Owner's Parish of Residence, 2000 – 2009, 2000 – 2009

	Number of Shrimp Fishing Vessels										
Parish	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Terrebonne	905	959	804	778	696	584	597	507	438	466	673
Jefferson	603	622	598	586	508	479	406	411	371	376	496
Lafourche	571	641	528	509	410	361	325	284	239	224	409
Plaquemines	497	538	506	466	453	387	259	271	276	296	395
Out of state	258	277	257	238	201	144	116	128	97	127	184
St Bernard	280	317	246	240	176	132	79	102	111	132	182
St Mary	150	107	76	99	90	68	68	61	55	50	82
Vermilion	105	97	87	95	86	71	60	63	66	47	78
Orleans	76	94	86	88	77	62	35	55	60	59	69
Cameron	100	83	67	64	60	50	36	49	47	32	59
St Tammany	60	69	71	53	42	35	31	51	66	75	55
St Charles	69	85	48	59	44	40	40	30	19	21	46
Calcasieu	74	58	56	41	33	33	44	32	31	33	44
Iberia	33	34	21	27	29	26	27	28	27	35	29
Lafayette	23	28	31	30	30	26	26	20	20	8	24
St John	30	38	32	28	30	18	16	16	11	8	23
Tangipahoa	14	16	16	19	14	11	11	14	16	14	15

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Table A.12 Number of Shrimp Fishing Vessels by Owner's Parish of Residence, 2000 – 2009 (Continued)

	Number of Shrimp Fishing Vessels										
Parish	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Jefferson Davis	23	14	10	10	9	9	13	12	9	11	12
Livingston	11	16	9	8	12	6	8	12	16	10	11
St Martin	15	13	10	12	16	7	9	7	5	9	10
St James	8	12	12	12	14	7	10	7	7	6	10
Assumption	34	12	7	6	6	-	6	6	-	4	9
East Baton Rouge	8	6	10	13	8	8	7	5	-	5	7
Acadia	14	-	5	-	5	-	4	5	8	6	5
Ascension	9	11	8	8	5	-	-	-	-	-	5
St Landry	11	5	5	-	4	-	-	5	5	-	5
Washington	6	4	-	-	-	4	-	-	4	9	4
Other	27	19	16	13	15	15	23	18	17	20	18
Total	**4,014**	**4,178**	**3,625**	**3,510**	**3,075**	**2,592**	**2,264**	**2,205**	**2,029**	**2,086**	**2,958**

Note: The hyphens indicate that the values are less than four (4) and are therefore omitted for confidentiality reasons. Likewise, parishes having a total average that is less than 4 were also omitted.

Table A.13 Number of Shrimp Fishing Vessels by Vessel Length Category, 2000 – 2009

	Number of Shrimp Fishing Vessels										
Vessel Length	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
19 Feet or Less	871	902	585	560	426	278	274	207	166	238	451
20 - 24 Feet	611	654	494	488	420	311	291	275	232	259	404
25 - 30 Feet	688	730	654	620	533	471	378	381	348	366	517
31 - 50 Feet	1,234	1,281	1,277	1,260	1,187	1,101	958	967	962	974	1,120
51 - 65 Feet	330	336	304	291	256	224	181	179	151	135	239
66 Feet and Above	280	275	311	291	253	206	182	195	169	112	227
Unspecified	7,578	4,772	1,816	1,751	1,555	1,253	1,086	1,079	890	1,411	2,319
Total	**11,592**	**8,950**	**5,441**	**5,261**	**4,630**	**3,844**	**3,350**	**3,283**	**2,918**	**3,495**	**5,276**

Table A.14 Number of Shrimp Fishermen by Fishing Gear, 2000 – 2009

	Number of Shrimp Fishermen										
Gear Type	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Skimmer Nets	6,272	6,340	5,231	5,145	4,375	3,819	3,458	3,533	3,167	3,572	4,491
Otter Trawl, Shrimp	5,057	4,702	3,832	3,416	2,987	2,390	1,854	1,777	1,349	1,518	2,888
Butterfly Nets	849	743	620	587	512	412	421	389	320	345	520
Other	108	60	61	32	44	20	23	12	14	27	40

Note: Other gear includes cast nets, crab pots and traps, fish otter trawl, strike gill nets, etc.

Appendix B - Shrimp Landings, Dockside Prices and Values

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Table B.1 Shrimp Landings by Species, 2000 – 2009

	Landings of Shrimp (in Pounds)										
Species	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
White Shrimp	78,231,011	55,679,505	46,955,725	63,809,219	74,802,627	61,528,375	88,943,021	65,928,454	66,307,179	77,875,327	68,006,044
Brown Shrimp	61,697,646	63,978,402	53,409,003	59,371,005	55,876,378	38,904,324	48,016,146	46,627,996	27,771,441	32,841,767	48,849,411
Seabob	7,272,129	8,058,644	6,774,014	3,065,518	3,485,967	2,122,072	949,517	1,257,534	1,298,120	485,914	3,476,943
Pink Shrimp	47,746	102,352	60,432	88,035	25,157	24,286	16,591	18,946	1,850	16,852	40,225
Other	162,419	107,151	81,895	42,110	4,345	3,740	0	120	139	90	44,668
All Shrimp	**147,410,951**	**127,926,053**	**107,281,069**	**126,375,887**	**134,194,474**	**102,582,797**	**137,925,274**	**113,833,049**	**95,378,729**	**111,219,950**	**120,412,823**

Note: Other includes blood shrimp, rock shrimp, river shrimp and royal red shrimp.

Table B.2 Average Dockside Prices of Shrimp by Species, 2000 – 2009

	Average Nominal Prices of Shrimp (in $)										
Species	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
White Shrimp	2.04	1.81	1.64	1.37	1.36	1.52	1.25	1.47	1.95	1.47	1.59
Brown Shrimp	1.63	1.53	1.26	0.99	0.85	1.08	0.90	1.09	1.10	1.33	1.18
Seabob	0.58	0.48	0.36	0.30	0.30	0.38	0.41	0.37	0.38	0.36	0.39
Pink Shrimp	1.78	2.05	1.84	1.92	1.29	1.25	1.39	2.14	1.43	1.74	1.68
Other	0.87	0.81	0.99	2.34	0.68	0.85	-	3.00	1.50	1.63	1.41
All Shrimp	**1.85**	**1.66**	**1.44**	**1.21**	**1.19**	**1.33**	**1.13**	**1.33**	**1.70**	**1.43**	**1.43**

	Average Real Prices of Shrimp (in 2005 $)										
Species	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
White Shrimp	2.29	1.99	1.78	1.45	1.4	1.52	1.21	1.39	1.79	1.34	1.62
Brown Shrimp	1.83	1.68	1.37	1.05	0.88	1.08	0.88	1.03	1.01	1.21	1.20
Seabob	0.65	0.53	0.39	0.32	0.31	0.38	0.39	0.35	0.35	0.33	0.40
Pink Shrimp	2.00	2.26	2.00	2.04	1.33	1.25	1.35	2.02	1.31	1.59	1.72
Other	0.98	0.89	1.07	2.49	0.7	0.85	-	2.83	1.38	1.48	1.41
All Shrimp	**2.08**	**1.82**	**1.57**	**1.29**	**1.23**	**1.33**	**1.10**	**1.25**	**1.56**	**1.30**	**1.45**

Note: Other includes blood shrimp, rock shrimp, river shrimp and royal red shrimp. A hyphen indicates no landings.

Table B.3 Dockside Values of Shrimp by Species, 2000 – 2009

	Nominal Values of Shrimp (in $)										
Species	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
White Shrimp	156,679,625	98,626,127	77,071,140	82,470,386	97,503,351	91,499,467	108,577,833	98,035,893	114,050,192	92,917,071	101,743,109
Brown Shrimp	99,386,331	93,315,372	61,578,227	52,923,026	41,166,874	41,083,202	38,891,766	46,037,196	26,365,422	25,368,894	52,611,631
Seabob	4,029,839	3,813,014	2,476,757	900,620	1,068,149	759,155	386,561	470,906	502,719	183,025	1,459,075
Pink Shrimp	84,209	112,977	82,968	142,565	30,771	31,898	18,936	28,342	2,665	21,869	55,720
Other	126,718	58,566	34,207	112,608	3,690	3,179	-	225	209	165	37,730
All Shrimp	**260,306,723**	**195,926,057**	**141,243,299**	**136,549,205**	**139,772,836**	**133,376,900**	**147,875,096**	**144,572,562**	**140,921,207**	**118,491,023**	**155,903,491**
	Real Values of Shrimp (in 2005 Dollar)										
Species	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
White Shrimp	176,044,522	108,380,359	83,772,978	87,734,453	100,518,918	91,499,467	105,415,372	92,486,691	104,633,204	84,470,065	103,495,603
Brown Shrimp	111,670,035	102,544,365	66,932,855	56,301,091	42,440,076	41,083,202	37,758,996	43,431,317	24,188,461	23,062,631	54,941,303
Seabob	4,527,909	4,190,126	2,692,127	958,107	1,101,185	759,155	375,302	444,251	461,210	166,386	1,567,576
Pink Shrimp	94,617	124,151	90,183	151,665	31,723	31,898	18,384	26,738	2,445	19,881	59,169
Other	142,380	64,359	37,182	119,795	3,804	3,179	-	212	191	150	41,250
All Shrimp	**292,479,464**	**215,303,359**	**153,525,325**	**145,265,112**	**144,095,707**	**133,376,900**	**143,568,054**	**136,389,210**	**129,285,511**	**107,719,112**	**160,100,775**

Note: Other includes blood shrimp, rock shrimp, river shrimp and royal red shrimp. A hyphen indicates no landings.

Table B.4 Shrimp Landings by Fisherman's Parish of Residence, 2000 – 2009

Parish	Shrimp Landings (in Pounds)										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Terrebonne	33,257,799	29,930,358	21,781,411	27,921,438	29,630,991	25,793,831	30,834,076	21,394,112	18,880,068	22,609,489	26,203,357
Jefferson	25,405,980	22,106,557	18,918,770	23,625,691	25,630,359	19,031,108	28,417,452	22,682,949	19,156,012	21,170,743	22,614,562
Plaquemines	20,092,182	18,001,403	15,534,967	16,781,224	21,800,835	11,279,473	19,389,618	16,795,785	12,050,889	12,807,534	16,453,391
Lafourche	19,507,994	17,027,836	13,431,011	15,055,586	15,635,254	14,059,507	16,467,696	12,879,039	11,094,142	12,823,162	14,798,123
Out of state	13,626,440	11,081,063	10,858,915	12,326,631	12,387,833	8,294,420	12,047,566	11,993,853	9,334,800	11,484,885	11,343,641
Vermilion	6,893,627	5,211,488	5,452,854	6,271,549	5,358,823	5,467,770	7,396,686	6,171,625	5,186,950	6,834,704	6,024,608
Orleans	5,227,212	5,773,475	5,984,498	7,992,492	7,668,569	4,539,686	5,125,033	5,770,524	5,509,845	6,442,040	6,003,337
Lafayette	3,043,604	2,745,410	2,983,943	3,685,664	3,660,561	3,652,025	4,716,266	3,016,889	3,281,544	3,937,975	3,472,388
St Bernard	5,207,406	4,530,710	3,485,208	3,445,381	3,275,654	1,731,353	2,065,940	1,918,903	2,374,955	3,235,186	3,127,070
Cameron	3,955,992	2,527,603	2,076,496	2,001,518	1,735,962	1,355,347	1,870,079	2,778,246	1,467,560	1,797,733	2,156,654
St Mary	3,128,628	2,256,308	1,052,529	1,449,393	1,611,891	2,110,187	2,079,110	1,518,918	1,215,884	1,468,288	1,789,114
Calcasieu	1,716,618	874,484	759,836	977,901	596,902	1,289,729	1,639,444	1,793,712	1,598,627	1,937,155	1,318,441
Iberia	912,170	944,399	800,491	1,095,232	932,403	1,003,563	1,307,933	727,905	551,033	718,565	899,369
St Tammany	592,811	824,636	755,330	441,247	413,741	292,631	510,444	989,833	1,190,653	1,057,899	706,923
St Charles	767,423	981,594	741,599	675,216	793,862	649,048	643,735	387,375	276,174	305,911	622,194
East Baton Rouge	195,309	442,486	595,953	664,527	897,884	395,717	925,022	740,688	528,887	505,746	589,222
St Martin	786,334	622,504	727,692	218,433	374,312	386,223	448,155	328,065	70,593	400,752	436,306
Jefferson Davis	439,072	284,029	102,653	242,582	335,439	190,452	278,355	267,844	240,449	257,297	416,708
Tangipahoa	197,917	184,343	114,643	231,352	191,104	178,311	251,689	274,910	299,641	156,971	263,817
Concordia	158,737	185,436	101,229	155,178	188,280	88,476	89,952	161,440	118,989	121,924	208,088
West Baton Rouge	110,830	96,847	100,911	79,526	147,387	159,160	175,244	147,327	147,732	161,676	136,964

Continue on next page.

Table B.4 Shrimp Landings by Fisherman's Parish of Residence, 2000 – 2009 (Continued)

Parish	Shrimp Landings (in Pounds)										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Rapides	10,281	12,279	13,903	129,041	0	50,676	321,947	243,481	91,872	156,177	132,664
St John	161,661	167,407	89,432	112,298	115,310	62,605	57,477	45,027	61,767	57,651	102,966
Assumption	198,571	122,595	40,145	59,339	51,000	22,673	55,669	64,841	29,944	35,160	93,064
Livingston	67,935	81,219	20,557	16,908	38,433	7,723	49,113	107,703	110,439	64,482	67,994
Catahoula	89,367	73,395	56,329	81,299	103,671	59,352	85,295	0	0	0	56,451
Washington	40,236	16,637	7,521	8,162	8,383	20,829	39,929	42,730	50,515	287,402	54,871
St James	30,370	38,168	25,194	34,533	57,554	36,413	46,666	58,133	87,611	30,659	52,234
Avoyelles	31,726	5,536	867	239	49,826	76,249	211,798	49,599	275	18,167	44,530
Beauregard	74,175	20,148	10,371	2,812	2,306	6,797	36,829	80,881	25,820	20,762	44,428
Ascension	68,834	65,858	4,701	20,827	19,624	14,203	60,479	6,702	4,912	3,373	28,090
Acadia	71,532	22,491	9,911	11,072	22,233	18,435	22,045	23,035	13,641	32,851	26,951
Ouachita	16,035	14,579	11,768	12,887	10,593	9,556	17,101	15,165	38,710	54,441	24,725
St Landry	39,335	21,870	7,447	7,517	46,276	20,219	8,340	9,929	11,945	22,051	20,084
Iberville	40,540	13,880	12,031	24,096	16,241	12,235	18,373	8,695	1,045	6,100	19,493
Other	48,896	58,071	21,401	52,375	15,788	7,438	62,170	50,994	35,122	94,545	44,680
Unspecified	1,197,373	558,951	588,552	464,721	369,188	209,377	152,549	286,192	239,685	100,496	15,324
Total	**147,410,951**	**127,926,053**	**107,281,069**	**126,375,887**	**134,194,474**	**102,582,797**	**137,925,274**	**113,833,049**	**95,378,729**	**111,219,950**	**120,412,823**

Note: "Other" includes all other parishes in Louisiana.

Table B.5 Nominal Dockside Values of Shrimp by Fisherman's Parish of Residence, 2000 – 2009

	Nominal Dockside Values of Shrimp (in $)										
Parish	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Jefferson	45,438,743	34,324,761	25,287,891	25,593,062	25,634,975	25,351,793	29,494,215	28,166,546	27,955,010	21,989,741	28,923,674
Terrebonne	48,066,529	39,511,707	23,412,728	23,793,574	23,845,193	28,533,429	28,512,835	22,873,372	20,310,249	21,030,131	27,988,975
Out of state	34,125,759	21,540,284	18,035,647	17,693,646	17,951,161	13,590,963	16,683,084	20,783,213	20,060,868	15,587,878	19,605,250
Lafourche	33,274,008	24,943,569	15,391,964	14,939,987	16,104,686	18,424,624	17,122,242	16,104,216	14,601,019	12,798,435	18,370,475
Plaquemines	29,699,041	23,619,206	16,643,071	14,979,146	18,359,800	11,871,317	18,446,579	17,363,765	15,765,758	11,973,489	17,872,117
Vermilion	16,309,601	10,371,900	9,588,152	9,208,040	8,044,682	8,748,395	9,774,434	10,188,771	10,033,466	8,744,082	10,101,152
Orleans	11,374,130	10,923,371	10,021,339	11,266,627	10,460,069	7,723,211	6,733,102	8,976,198	10,649,479	7,947,997	9,607,552
Lafayette	8,497,247	6,987,487	6,284,042	6,234,281	6,297,975	6,412,669	6,816,967	5,644,855	7,222,688	5,431,851	6,583,006
St Bernard	8,606,407	6,317,560	4,520,591	3,293,143	2,959,872	1,921,911	2,004,710	2,115,457	3,103,818	2,745,569	3,758,904
St Mary	4,594,676	3,298,132	1,429,317	1,570,206	1,844,602	2,460,424	2,147,073	1,749,185	1,580,804	1,766,087	2,244,051
Cameron	5,378,591	2,406,085	1,522,011	1,286,646	1,165,207	1,268,293	1,660,793	2,088,926	1,485,954	1,307,692	1,957,020
Iberia	2,169,160	2,225,706	1,837,249	1,713,823	1,874,224	1,884,997	1,848,543	997,322	901,538	988,172	1,644,073
Calcasieu	2,367,086	1,105,280	646,144	544,689	451,437	1,054,718	1,400,817	1,402,165	1,400,167	1,436,266	1,180,877
East Baton Rouge	606,992	1,224,850	1,311,234	1,216,546	1,613,503	693,238	1,369,908	1,376,542	1,019,279	722,771	1,115,486
St Tammany	1,162,656	1,392,987	1,105,272	485,770	400,123	438,401	481,523	1,124,402	1,811,920	1,266,924	966,998
St Martin	1,878,295	1,272,738	1,348,434	305,032	501,963	696,947	584,156	665,335	81,880	519,334	785,411
St Charles	1,279,251	1,565,963	918,584	628,240	605,193	659,830	572,488	474,315	381,320	345,867	743,105
Jefferson Davis	621,572	291,667	107,819	237,103	280,971	263,386	355,615	354,759	400,116	330,770	324,378
Tangipahoa	297,629	270,431	115,715	198,788	146,714	213,265	223,818	302,018	438,456	168,185	237,502
West Baton Rouge	241,404	166,309	158,314	88,629	197,613	246,475	200,704	188,760	285,612	194,393	196,821
Rapides	18,628	31,977	44,946	184,055	0	119,500	499,907	415,566	189,486	237,802	174,187

Continue on next page.

Table B.5 Nominal Dockside Values of Shrimp by Fisherman's Parish of Residence, 2000 – 2009 (Continued)

Parish	Nominal Dockside Values of Shrimp (in $)										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Concordia	181,591	213,963	85,925	104,942	102,361	43,209	62,760	126,568	108,818	87,460	111,760
St John	180,211	178,743	70,630	79,584	78,221	66,796	46,445	35,995	74,630	55,568	86,682
Assumption	257,863	143,806	49,299	56,443	65,724	30,373	66,873	86,589	41,185	48,385	84,654
Livingston	86,164	108,693	23,398	12,423	26,298	14,331	60,618	129,285	169,583	73,662	70,446
Washington	52,348	27,177	11,341	15,263	12,898	27,374	49,210	42,768	62,944	263,731	56,505
St James	47,536	54,435	22,039	26,008	43,691	44,692	45,564	70,231	130,833	35,683	52,071
Avoyelles	43,596	4,991	822	143	34,845	90,209	170,343	43,174	220	45,042	43,339
Catahoula	100,453	82,868	44,805	55,329	54,412	28,058	59,430	0	0	0	42,536
Ascension	88,146	81,151	4,385	15,339	15,835	11,824	47,053	6,589	3,814	4,739	27,888
Acadia	95,226	24,039	8,167	8,139	14,641	20,118	17,587	19,899	14,021	31,766	25,360
Beauregard	102,156	22,810	8,223	1,195	1,598	3,522	19,489	53,296	18,577	18,340	24,921
Iberville	58,952	31,087	22,132	27,383	21,765	23,507	32,043	20,357	3,443	7,778	24,845
Ouachita	24,694	20,305	13,821	10,725	7,600	11,819	10,907	15,567	58,942	66,274	24,065
Evangeline	75,418	35,006	0	3,630	7,207	0	16,324	22,190	28,840	15,997	20,461
St Landry	44,895	27,717	8,172	6,637	22,368	9,099	18,214	13,978	23,164	23,058	19,730
Other	36,322	62,022	23,033	51,606	10,724	6,717	35,204	40,664	18,710	68,126	35,313
Unspecified	2,823,747	1,015,273	1,116,639	613,386	512,685	367,470	183,517	489,725	484,594	111,979	771,902
Total	**260,306,723**	**195,926,057**	**141,243,299**	**136,549,205**	**139,772,836**	**133,376,900**	**147,875,096**	**144,572,562**	**140,921,207**	**118,491,023**	**155,903,491**

Note: "Other" includes all other parishes in Louisiana.

Table B.6 Real Dockside Values of Shrimp by Fisherman's Parish of Residence, 2000 – 2009

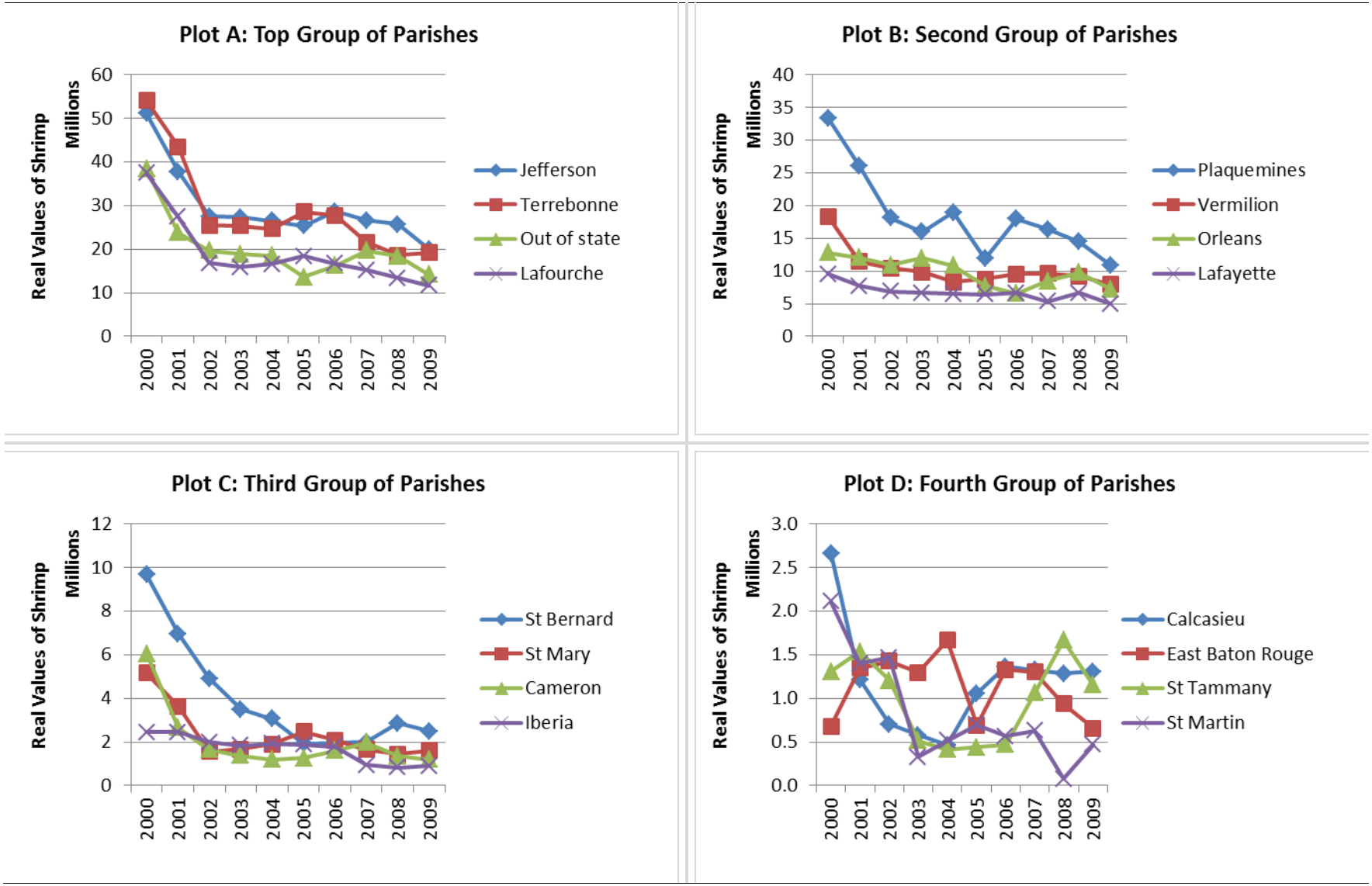
	Real Dockside Values of Shrimp (in 2005 Dollar)										
Parish	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Jefferson	51,054,768	37,719,518	27,486,838	27,226,662	26,427,809	25,351,793	28,635,161	26,572,213	25,646,798	19,990,673	29,611,223
Terrebonne	54,007,336	43,419,458	25,448,618	25,312,312	24,582,673	28,533,429	27,682,364	21,578,653	18,633,256	19,118,301	28,831,640
Out of state	38,343,550	23,670,642	19,603,964	18,823,027	18,506,352	13,590,963	16,197,169	19,606,805	18,404,466	14,170,799	20,091,774
Lafourche	37,386,525	27,410,515	16,730,396	15,893,603	16,602,769	18,424,624	16,623,536	15,192,656	13,395,430	11,634,941	18,929,500
Plaquemines	33,369,709	25,955,172	18,090,295	15,935,261	18,927,628	11,871,317	17,909,300	16,380,910	14,463,998	10,884,990	18,378,858
Vermilion	18,325,395	11,397,692	10,421,905	9,795,787	8,293,486	8,748,395	9,489,742	9,612,048	9,205,015	7,949,166	10,323,863
Orleans	12,779,921	12,003,705	10,892,760	11,985,773	10,783,576	7,723,211	6,536,992	8,468,112	9,770,164	7,225,452	9,816,967
Lafayette	9,547,468	7,678,557	6,830,481	6,632,214	6,492,758	6,412,669	6,618,414	5,325,335	6,626,319	4,938,047	6,710,226
St Bernard	9,670,120	6,942,373	4,913,686	3,503,344	3,051,414	1,921,911	1,946,321	1,995,714	2,847,540	2,495,971	3,928,839
St Mary	5,162,558	3,624,321	1,553,606	1,670,432	1,901,652	2,460,424	2,084,537	1,650,175	1,450,278	1,605,534	2,316,352
Cameron	6,043,361	2,644,049	1,654,360	1,368,772	1,201,245	1,268,293	1,612,420	1,970,685	1,363,260	1,188,811	2,031,526
Iberia	2,437,258	2,445,830	1,997,010	1,823,216	1,932,189	1,884,997	1,794,702	940,870	827,099	898,338	1,698,151
Calcasieu	2,659,647	1,214,593	702,331	579,456	465,399	1,054,718	1,360,017	1,322,797	1,284,557	1,305,696	1,194,921
East Baton Rouge	682,014	1,345,989	1,425,254	1,294,198	1,663,406	693,238	1,330,008	1,298,624	935,119	657,065	1,132,492
St Tammany	1,306,355	1,530,755	1,201,382	516,777	412,498	438,401	467,498	1,060,756	1,662,312	1,151,749	974,848
St Martin	2,110,444	1,398,613	1,465,690	324,503	517,488	696,947	567,142	627,675	75,119	472,121	825,574
St Charles	1,437,360	1,720,839	998,461	668,340	623,910	659,830	555,814	447,467	349,834	314,425	777,628
Jefferson Davis	698,396	320,513	117,195	252,238	289,661	263,386	345,257	334,678	367,079	300,700	328,910
Tangipahoa	334,415	297,177	125,777	211,477	151,251	213,265	217,299	284,922	402,253	152,896	239,073
West Baton Rouge	271,241	182,757	172,080	94,286	203,724	246,475	194,858	178,076	262,029	176,721	198,225
Rapides	20,931	35,139	48,854	195,803	0	119,500	485,347	392,043	173,841	216,184	168,764
Concordia	204,035	235,125	93,397	111,640	105,527	43,209	60,932	119,403	99,833	79,509	115,261
St John	202,484	196,421	76,772	84,664	80,641	66,796	45,093	33,958	68,468	50,516	90,581

Continue on next page.

Table B.6 Real Dockside Values of Shrimp by Fisherman's Parish of Residence, 2000 – 2009 (Continued)

	Real Dockside Values of Shrimp (in 2005 Dollar)										
Parish	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Assumption	289,734	158,029	53,586	60,045	67,757	30,373	64,925	81,688	37,784	43,986	88,791
Livingston	96,813	119,443	25,432	13,216	27,111	14,331	58,852	121,967	155,581	66,966	69,971
Catahoula	112,869	91,063	48,701	58,860	56,095	28,058	57,699	0	0	0	45,335
Washington	58,818	29,865	12,327	16,237	13,297	27,374	47,777	40,347	57,746	239,755	54,354
St James	53,411	59,819	23,955	27,668	45,042	44,692	44,237	66,255	120,030	32,439	51,755
Avoyelles	48,984	5,485	894	153	35,922	90,209	165,381	40,730	202	40,948	42,891
Ascension	99,041	89,177	4,766	16,318	16,325	11,824	45,683	6,216	3,499	4,308	29,716
Evangeline	84,739	38,468	0	3,862	7,430	0	15,849	20,934	26,458	14,543	21,228
Acadia	106,996	26,416	8,877	8,659	15,094	20,118	17,075	18,773	12,863	28,878	26,375
Iberville	66,238	34,162	24,057	29,131	22,438	23,507	31,110	19,204	3,159	7,071	26,008
Beauregard	114,783	25,066	8,938	1,271	1,647	3,522	18,922	50,279	17,043	16,672	25,814
Other	119,000	120,925	48,941	73,369	41,951	27,635	62,453	66,236	92,493	143,145	79,615
Unspecified	3,172,750	1,115,685	1,213,738	652,538	528,541	367,470	178,172	462,005	444,581	101,799	823,728
Total	**292,479,464**	**215,303,359**	**153,525,325**	**145,265,112**	**144,095,707**	**133,376,900**	**143,568,054**	**136,389,210**	**129,285,511**	**107,719,112**	**160,100,775**

Note: "Other" includes all other parishes in Louisiana.



Source: Appendix Table B.6. Real values are in 2005 dollar.

Figure B.1 Real Dockside Values of Shrimp by Fisherman's Parish of Residence, 2000 - 2009

Table B.7 Non-Resident's Shrimp Landings by State of Residence, 2000 – 2009

State	Shrimp Landings (in Pounds)										
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Mississippi	5,315,421	5,212,405	5,598,354	6,171,794	6,195,110	4,482,327	6,734,704	5,496,344	4,500,744	5,757,126	5,546,433
Texas	5,002,125	3,072,540	2,830,696	3,867,874	3,369,373	2,082,817	2,532,996	3,848,405	2,544,450	2,904,108	3,205,538
Florida	1,784,871	1,233,372	942,073	1,271,981	1,581,044	697,579	1,330,117	1,552,458	1,608,958	1,959,027	1,396,148
Alabama	1,254,072	1,114,272	1,226,126	635,809	931,619	853,130	1,259,301	820,377	665,379	669,388	942,947
Other	269,950	448,474	261,666	379,173	310,687	178,566	190,449	276,270	15,268	195,237	252,574
Total	**13,626,439**	**11,081,063**	**10,858,915**	**12,326,631**	**12,387,833**	**8,294,419**	**12,047,567**	**11,993,854**	**9,334,799**	**11,484,886**	**11,343,641**

Note: "Other" includes 18 non-Gulf of Mexico States like California, Colorado, Georgia, etc.

Table B.8 Nominal Dockside Values of Non-Resident's Shrimp Landings by State of Residence, 2000 – 2009

State	Nominal Dockside Values of Shrimp (in $)										
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Mississippi	13,111,512	10,494,910	9,778,606	9,362,366	9,523,123	7,248,449	8,933,017	9,166,359	9,220,382	7,244,503	9,408,323
Texas	12,560,020	5,590,680	4,112,020	5,049,449	4,398,660	3,556,055	3,905,439	7,157,774	6,050,049	4,527,192	5,690,734
Florida	4,817,331	2,530,052	1,525,676	1,654,273	2,153,847	1,102,910	1,885,051	2,466,983	3,488,687	2,750,331	2,437,514
Alabama	3,077,896	2,155,709	2,188,472	1,074,611	1,440,823	1,429,454	1,736,534	1,488,662	1,285,068	850,647	1,672,788
Other	559,000	768,935	430,874	552,947	434,707	254,093	223,043	503,436	16,682	215,205	395,892
Total	**34,125,759**	**21,540,286**	**18,035,648**	**17,693,646**	**17,951,160**	**13,590,961**	**16,683,084**	**20,783,214**	**20,060,868**	**15,587,878**	**19,605,250**

Note: "Other" includes 18 non-Gulf of Mexico States like California, Colorado, Georgia, etc.

Table B.9 Real Dockside Values of Non-Resident's Shrimp Landings by State of Residence, 2000 – 2009

	Real Dockside Values of Shrimp (in 2005 Dollar)										
State	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Mississippi	14,732,035	11,532,868	10,628,919	9,959,963	9,817,652	7,248,449	8,672,832	8,647,508	8,459,066	6,585,912	9,628,520
Texas	14,112,383	6,143,604	4,469,586	5,371,755	4,534,701	3,556,055	3,791,688	6,752,617	5,550,504	4,115,629	5,839,852
Florida	5,412,731	2,780,277	1,658,344	1,759,864	2,220,461	1,102,910	1,830,147	2,327,343	3,200,630	2,500,301	2,479,301
Alabama	3,458,310	2,368,911	2,378,774	1,143,204	1,485,385	1,429,454	1,685,955	1,404,398	1,178,961	773,316	1,730,667
Other	628,091	844,984	468,341	588,240	448,152	254,093	216,546	474,940	15,304	195,641	413,433
Total	**38,343,550**	**23,670,644**	**19,603,964**	**18,823,026**	**18,506,351**	**13,590,961**	**16,197,168**	**19,606,806**	**18,404,465**	**14,170,799**	**20,091,773**

Table B.10 Shrimp Landings by LDWF Trip Ticket Basin and NMFS Grid, 2000 – 2009

	Shrimp Landings (in Pounds)										
Basin	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Barataria	32,704,095	29,999,470	23,113,630	29,160,076	31,803,080	22,480,335	36,611,124	36,516,162	25,782,892	26,543,263	29,471,413
Terrebonne	34,602,878	31,113,357	19,430,169	29,159,469	30,362,011	27,837,006	30,623,159	21,418,358	19,820,649	27,975,940	27,234,300
Lake Pontchartrain	7,442,683	9,497,884	8,174,739	7,847,704	10,775,846	4,403,528	4,793,586	6,033,333	8,234,400	7,835,182	7,503,889
Mississippi River	8,165,963	5,146,939	4,335,747	4,616,680	5,887,711	4,203,846	11,659,893	7,630,509	6,508,671	5,903,001	6,405,896
Calcasieu River	4,606,102	2,312,526	2,290,497	2,566,164	1,649,779	2,192,072	3,017,576	4,389,067	2,882,733	3,217,976	2,912,449
Vermilion-Teche River	4,375,299	3,612,404	1,708,918	2,583,047	2,397,323	2,729,625	2,356,365	2,285,665	1,834,681	1,576,151	2,545,948
Atchafalaya River	1,673,758	1,690,833	1,490,501	1,257,153	1,317,094	1,152,426	669,366	532,811	374,677	309,008	1,046,763
Mermentau River	1,143,956	1,472,430	867,116	619,820	766,048	198,728	150,180	268,050	160,301	235,928	588,256
Sabine River	371,580	261,589	214,318	24,611	5,175	3,824	108,303	39,776	23,316	120,762	117,325
Red River	0	38,406	0	5,439	272	0	18,058	3,727	601	0	6,650
Pearl River	0	0	633	0	0	0	0	1,468	1,553	0	365
Basin Subtotal	**95,086,314**	**85,145,838**	**61,626,268**	**77,840,163**	**84,964,339**	**65,201,390**	**90,007,610**	**79,118,926**	**65,624,474**	**73,717,211**	**77,833,253**
Percent of Total	**64.5%**	**66.6%**	**57.4%**	**61.6%**	**63.3%**	**63.6%**	**65.3%**	**69.5%**	**68.8%**	**66.3%**	**64.7%**
Grids											
Grid 15	12,779,707	10,398,852	11,725,052	12,886,797	13,490,692	14,545,952	19,594,993	13,569,580	12,658,038	13,824,108	13,547,377
Grid 14	16,379,701	12,751,948	13,786,934	12,551,427	14,526,368	9,922,317	12,860,020	6,794,445	6,952,644	7,760,542	11,428,635
Grid 13	11,092,896	9,811,444	11,777,001	13,782,161	13,618,363	7,771,408	11,309,997	11,496,572	7,538,569	11,690,721	10,988,913
Grid 16	5,543,404	6,338,263	5,387,216	5,512,815	5,233,452	4,182,342	3,812,764	2,490,478	2,281,150	3,001,202	4,378,309
Grid 17	4,473,921	1,998,730	1,852,677	2,501,382	1,909,980	258,419	209,243	178,876	202,558	176,050	1,376,184
Grid 18	683,352	258,459	465,576	388,359	295,785	645,967	13,283	21,977	7,184	658,898	343,884

Continue on next page.

Table B.10 Shrimp Landings by LDWF Trip Ticket Basin and NMFS Grid, 2000 – 2009 (Continued)

	Shrimp Landings (in Pounds)										
Basin	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Grid 19	460,374	580,194	369,261	719,722	73,606	45,368	0	24,452	50,783	245,987	256,975
Grid 11	241,203	87,310	84,122	77,569	47,438	0	23,291	8,079	12,554	0	58,157
Grid 20	78,579	236,760	94,895	28,046	18,966	0	0	32,023	39,287	0	52,856
Grid 10	20,912	98,139	7,976	0	7,274	3,625	34,615	9,350	9,021	49,651	24,056
Grid 21	23,783	31,018	44,889	0	5,273	0	0	0	0	86,670	19,163
Grid 22	47,265	0	0	0	0	0	0	87,859	0	0	13,512
Grid 12	14,133	0	53,553	0	0	0	0	0	0	0	6,769
Grid 7	0	0	0	37,443	350	0	0	0	0	0	3,779
Grid 8	0	570	2,652	13,941	0	0	0	0	0	0	1,716
Grid 1	0	0	968	0	0	0	0	0	0	0	97
Grid Subtotal	**51,839,230**	**42,591,687**	**45,652,772**	**48,499,662**	**49,227,547**	**37,375,398**	**47,858,206**	**34,713,691**	**29,751,788**	**37,493,829**	**42,500,381**
Percent of Total	**35.2%**	**33.3%**	**42.6%**	**38.4%**	**36.7%**	**36.4%**	**34.7%**	**30.5%**	**31.2%**	**33.7%**	**35.3%**
Unspecified	420,605	186,905	1,973	35,989	3,045	6,008	58,969	35	2,466	8,798	72,479
Percent of Total	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Total	**147,346,151**	**127,924,430**	**107,281,014**	**126,375,813**	**134,194,929**	**102,582,797**	**137,924,784**	**113,832,651**	**95,378,729**	**111,219,839**	**120,406,114**

Table B.11 Average Nominal Dockside Prices of Shrimp by LDWF Trip Ticket Basin and NMFS Grid, 2000 – 2009

	Average Nominal Dockside Prices of Shrimp (in $)										
Basin	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Pearl River	-	-	0.47	-	-	-	-	7.60	8.77	-	5.61
Lake Pontchartrain	2.14	1.80	1.60	1.46	1.32	1.53	1.39	1.67	3.11	3.76	1.98
Mermentau River	2.00	1.35	1.20	1.15	1.56	2.18	1.99	1.81	1.99	2.20	1.74
Atchafalaya River	2.18	1.67	1.44	1.39	1.49	1.65	1.54	1.48	1.82	1.41	1.61
Vermilion-Teche River	1.75	1.51	1.36	1.33	1.30	1.30	1.30	1.35	1.48	1.28	1.40
Mississippi River	1.75	1.51	1.26	1.11	1.14	1.30	1.02	1.30	1.70	1.09	1.32
Barataria	1.70	1.56	1.34	1.11	1.07	1.24	1.05	1.29	1.50	1.24	1.31
Calcasieu River	1.80	1.48	1.27	1.18	1.24	1.23	1.29	1.06	1.24	1.07	1.29
Terrebonne	1.52	1.43	1.23	1.03	1.07	1.23	1.03	1.18	1.26	0.97	1.20
Sabine River	1.45	0.92	1.22	1.42	1.21	1.41	0.96	0.92	1.15	0.84	1.15
Red River	-	3.03	-	0.53	0.50	-	1.26	0.71	0.60	-	1.11
All Basins	**1.69**	**1.52**	**1.32**	**1.12**	**1.12**	**1.27**	**1.09**	**1.27**	**1.66**	**1.45**	**1.35**
Percent of All Fishing Areas	**91.4%**	**91.6%**	**91.7%**	**92.6%**	**94.1%**	**95.5%**	**96.5%**	**95.5%**	**97.6%**	**101.4%**	**94.8%**
Grids											
Grid 1	-	-	2.55	-	-	-	-	-	-	-	2.55
Grid 12	2.77	-	2.15	-	-	-	-	-	-	-	2.46
Grid 18	3.61	2.93	2.41	2.13	2.14	2.15	1.74	2.22	3.23	1.43	2.40
Grid 21	3.20	2.99	1.95	-	1.94	-	-	-	-	1.42	2.30
Grid 19	3.44	2.96	2.25	2.22	2.23	2.22	-	1.82	1.87	1.46	2.27
Grid 20	3.05	2.83	2.02	1.81	2.09	-	-	2.36	1.75	-	2.27

Continue on next page.

Table B.11 Average Nominal Dockside Prices of Shrimp by LDWF Trip Ticket Basin and NMFS Grid, 2000 – 2009 (Continued)

	Average Nominal Dockside Prices of Shrimp (in $)										
Basin	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Grid 22	3.17	-	-	-	-	-	-.	1.27	-	-	2.22
Grid 11	3.12	2.92	2.21	2.07	2.12	-	1.42	2.21	1.58	-	2.21
Grid 8	-	1.00	2.68	2.45	-	-	-	-	-	-	2.04
Grid 14	2.66	2.34	1.88	1.64	1.64	1.82	1.46	1.74	1.97	1.38	1.85
Grid 17	2.97	2.38	1.79	1.43	1.44	1.64	1.76	1.21	2.11	1.43	1.82
Grid 16	2.79	2.18	1.86	1.71	1.59	1.57	1.37	1.70	2.01	1.32	1.81
Grid 15	2.50	2.40	1.93	1.66	1.59	1.64	1.35	1.62	1.88	1.30	1.79
Grid 13	2.50	2.30	1.76	1.52	1.40	1.55	1.27	1.54	1.84	1.15	1.68
Grid 7	-	-	-	2.53	0.70	-	-	-	-	-	1.62
Grid 10	3.19	1.95	0.77	-	1.44	1.38	0.88	1.38	1.61	0.93	1.50
All Grids	**2.63**	**2.34**	**1.87**	**1.62**	**1.55**	**1.68**	**1.37**	**1.63**	**1.90**	**1.26**	**1.79**
Percent of All Fishing Areas	**142.2%**	**141.0%**	**129.9%**	**133.9%**	**130.3%**	**126.3%**	**121.2%**	**122.6%**	**111.8%**	**88.1%**	**124.7%**
Unspecified	2.34	1.85	1.29	1.27	1.23	1.34	1.52	1.03	1.23	1.44	1.45
Percent of All Fishing Sites	126.5%	111.4%	89.6%	105.0%	103.4%	100.8%	134.5%	77.4%	72.4%	100.7%	102.2%
All Fishing Areas	**1.85**	**1.66**	**1.44**	**1.21**	**1.19**	**1.33**	**1.13**	**1.33**	**1.70**	**1.43**	**1.43**

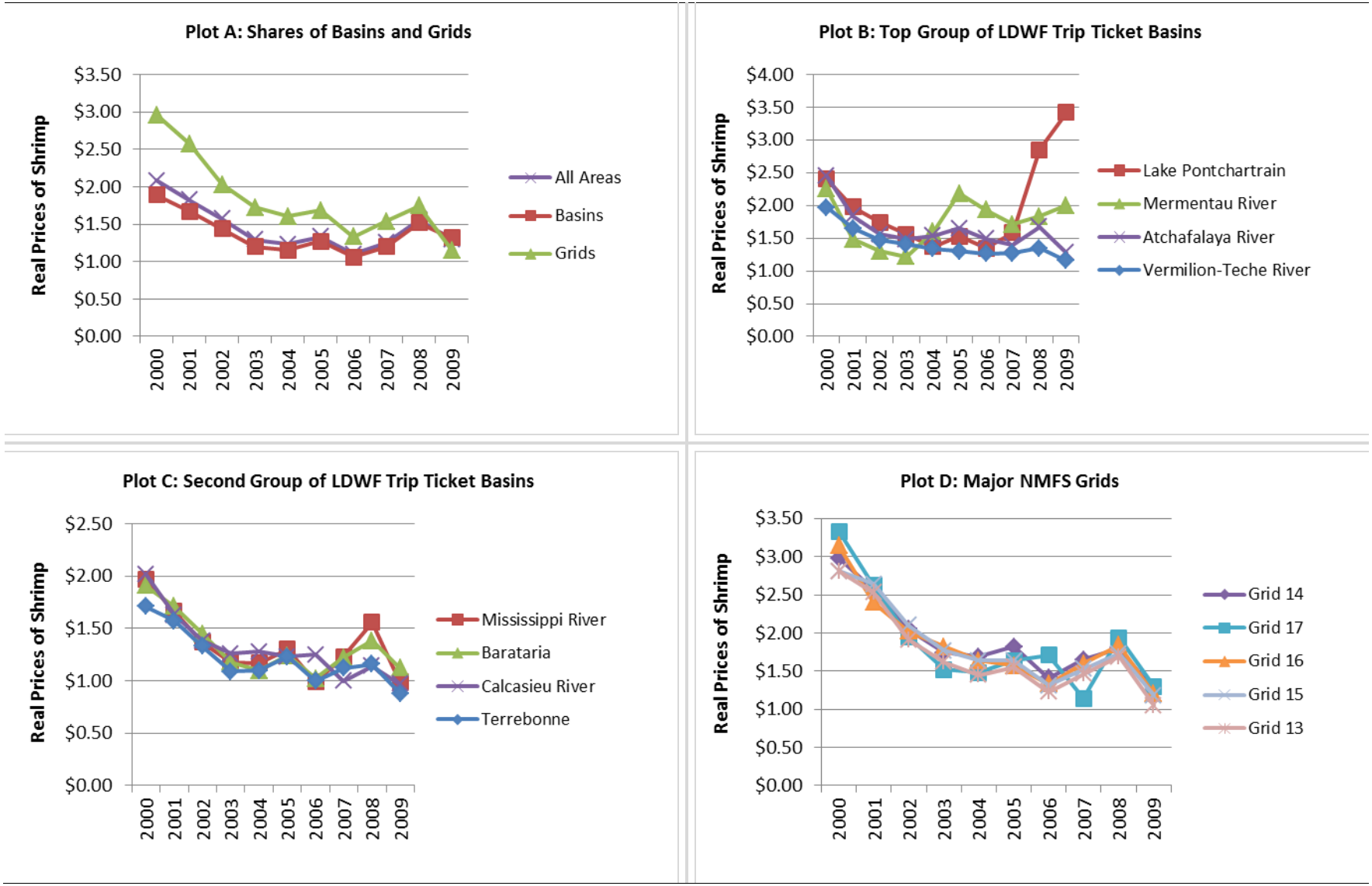
Table B.12 Average Real Dockside Prices of Shrimp by LDWF Trip Ticket Basin and NMFS Grid, 2000 – 2009

	Average Real Dockside Prices of Shrimp (in 2005 Dollar)										
Basin	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Pearl River	-	-	0.51	-	-	-	-	7.17	8.04	-	5.24
Lake Pontchartrain	2.40	1.98	1.74	1.56	1.37	1.53	1.35	1.58	2.85	3.42	1.98
Mermentau River	2.25	1.48	1.30	1.22	1.6	2.18	1.93	1.71	1.83	2.00	1.75
Atchafalaya River	2.45	1.84	1.56	1.48	1.54	1.65	1.49	1.39	1.67	1.28	1.64
Vermilion-Teche River	1.97	1.65	1.47	1.41	1.34	1.30	1.26	1.27	1.35	1.16	1.42
Mississippi River	1.97	1.66	1.37	1.18	1.17	1.30	0.99	1.23	1.56	0.99	1.34
Barataria	1.91	1.71	1.45	1.18	1.10	1.24	1.02	1.22	1.38	1.12	1.33
Calcasieu River	2.02	1.63	1.38	1.26	1.28	1.23	1.25	1.00	1.14	0.97	1.32
Terrebonne	1.71	1.57	1.33	1.09	1.10	1.23	1.00	1.12	1.16	0.88	1.22
Sabine River	1.63	1.01	1.32	1.51	1.25	1.41	0.93	0.86	1.05	0.77	1.17
Red River	-	3.33	-	0.57	0.52	-	1.23	0.67	0.55	-	1.15
All Basins	**1.89**	**1.67**	**1.44**	**1.20**	**1.15**	**1.27**	**1.06**	**1.20**	**1.52**	**1.32**	**1.37**
Percent of All Fishing Areas	**90.9%**	**91.8%**	**91.7%**	**93.0%**	**93.5%**	**95.5%**	**96.4%**	**96.0%**	**97.4%**	**101.5%**	**94.8%**
Grids											
Grid 1	-	-	2.77	-	-	-	-	-	-	-	2.77
Grid 12	3.11	-	2.34	-	-	-	-	-	-	-	2.73
Grid 21	3.60	3.28	2.12	-	2.00	-	-	-	-	1.29	2.46
Grid 18	4.06	3.21	2.62	2.27	2.20	2.15	1.69	2.10	2.96	1.30	2.46
Grid 20	3.42	3.11	2.20	1.93	2.16	-	-	2.23	1.61	-	2.38
Grid 22	3.56	-	-	-	-	-	-	1.20	-	-	2.38

Continue on next page.

Table B.12 Average Real Dockside Prices of Shrimp by LDWF Trip Ticket Basin and NMFS Grid, 2000 – 2009 (Continued)

	Average Real Dockside Prices of Shrimp (in 2005 Dollar)										
Basin	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Grid 19	3.86	3.25	2.45	2.36	2.29	2.22	-	1.72	1.72	1.33	2.36
Grid 11	3.51	3.21	2.40	2.20	2.19	-	1.38	2.08	1.44	-	2.30
Grid 8	-	1.10	2.91	2.60	-	-	-	-	-	-	2.20
Grid 14	2.98	2.57	2.05	1.74	1.69	1.82	1.41	1.65	1.80	1.25	1.90
Grid 17	3.33	2.62	1.95	1.52	1.48	1.64	1.71	1.14	1.94	1.30	1.86
Grid 16	3.14	2.40	2.02	1.82	1.64	1.57	1.33	1.60	1.84	1.20	1.86
Grid 15	2.81	2.64	2.10	1.77	1.64	1.64	1.31	1.53	1.73	1.18	1.84
Grid 13	2.81	2.53	1.91	1.62	1.45	1.55	1.23	1.46	1.69	1.05	1.73
Grid 7	-	-	-	2.69	0.72	-	-	-	-	-	1.71
Grid 10	3.58	2.14	0.83	-	1.49	1.38	0.86	1.31	1.48	0.84	1.55
All Grids	**2.96**	**2.57**	**2.03**	**1.72**	**1.60**	**1.68**	**1.33**	**1.54**	**1.74**	**1.15**	**1.83**
Percent of All Fishing Areas	**142.3%**	**141.2%**	**129.3%**	**133.3%**	**130.1%**	**126.3%**	**120.9%**	**123.2%**	**111.5%**	**88.5%**	**124.7%**
Unspecified	2.61	2.05	1.25	1.37	1.27	1.34	1.64	1.42	1.13	1.33	1.54
Percent of All Fishing Sites	**125.5%**	**112.6%**	**79.6%**	**106.2%**	**103.3%**	**100.8%**	**149.1%**	**113.6%**	**72.4%**	**102.3%**	**106.5%**
All Fishing Areas	**2.08**	**1.82**	**1.57**	**1.29**	**1.23**	**1.33**	**1.1**	**1.25**	**1.56**	**1.3**	**1.45**



Source: Appendix Table B.12. Real prices are in 2005 dollar.

Figure B.2 Average Real Dockside Prices of Shrimp by LDWF Trip Ticket Basin and NMFS Grid, 2000 – 2009

Table B.13 Nominal Dockside Values of Shrimp by LDWF Trip Ticket Basin and NMFS Grid, 2000 – 2009

	Nominal Dockside Values of Shrimp (in $)										
Basin	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Barataria	47,384,374	39,891,059	24,815,269	25,504,911	26,387,445	24,873,027	34,514,474	44,261,034	35,370,891	26,171,411	32,917,390
Terrebonne	47,355,363	39,601,033	20,010,399	24,315,175	25,404,989	31,662,057	27,196,133	22,043,401	20,302,284	25,470,904	28,336,174
Lake Pontchartrain	12,837,082	14,148,020	10,810,022	8,274,381	9,284,850	5,341,005	5,171,263	7,318,375	12,445,298	8,176,393	9,380,669
Mississippi River	12,761,290	6,928,006	4,370,784	4,087,544	5,767,329	4,896,978	11,511,538	8,682,648	10,287,394	6,294,758	7,558,827
Vermilion-Teche River	6,692,772	3,804,607	1,682,725	2,549,711	2,167,888	2,917,289	2,538,382	2,519,715	2,304,266	1,655,555	2,883,291
Calcasieu River	5,786,614	2,077,925	1,838,237	1,842,443	1,284,541	1,910,664	2,597,393	3,297,189	2,598,342	2,309,468	2,554,282
Atchafalaya River	3,172,434	2,383,547	1,343,679	1,284,885	1,525,013	1,677,480	798,951	660,832	557,604	362,942	1,376,737
Mermentau River	1,671,483	1,062,309	597,977	269,686	473,146	330,792	245,169	400,918	295,132	422,631	576,924
Sabine River	382,811	148,537	95,735	27,413	6,007	6,646	58,137	19,764	19,942	101,317	86,631
Red River	0	81,956	0	4,172	136	0	28,488	2,605	361	0	11,772
Pearl River	0	0	295	0	0	0	0	10,928	3,655	0	1,488
Basin Subtotal	**138,044,223**	**110,126,999**	**65,565,122**	**68,160,321**	**72,301,344**	**73,615,938**	**84,659,928**	**89,217,409**	**84,185,169**	**70,965,379**	**85,684,183**
Percent of Total	**53.0%**	**56.2%**	**46.4%**	**49.9%**	**51.7%**	**55.2%**	**57.3%**	**61.7%**	**59.7%**	**59.9%**	**55.1%**
Grids											
Grid 15	28,190,567	21,837,509	20,450,492	18,769,570	19,893,728	24,354,277	26,712,834	23,388,129	25,953,115	18,076,598	22,762,682
Grid 14	38,322,111	26,024,159	23,241,205	18,363,097	20,431,635	15,449,656	16,968,315	10,801,823	12,094,786	10,173,948	19,187,074
Grid 13	23,485,849	18,680,907	18,183,690	17,245,802	16,018,001	11,174,720	13,684,474	16,444,892	13,554,902	13,867,791	16,234,103
Grid 16	13,839,984	11,954,046	8,952,746	8,085,966	7,681,795	6,967,118	5,423,447	4,177,800	4,409,932	3,773,896	7,526,673
Grid 17	12,179,285	3,666,068	2,566,767	3,495,295	2,535,843	377,571	262,940	236,007	487,783	254,104	2,606,166
Grid 18	2,367,601	642,180	964,948	715,433	656,923	1,325,994	22,557	38,856	26,138	901,499	766,213

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Table B.13 Nominal Dockside Values of Shrimp by LDWF Trip Ticket Basin and NMFS Grid, 2000 – 2009 (Continued)

	Nominal Dockside Values of Shrimp (in $)										
Basin	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Grid 19	1,545,774	1,523,685	766,702	1,322,574	125,163	99,229	0	37,174	100,843	308,455	582,960
Grid 20	230,245	635,150	170,393	50,453	34,299	0	0	62,905	79,378	0	126,282
Grid 11	703,280	237,730	183,434	150,122	69,849	0	26,147	17,901	14,356	0	140,282
Grid 22	133,167	0	0	0	0	0	0	140,884	0	0	27,405
Grid 21	76,483	86,121	75,815	0	11,327	0	0	0	0	118,258	36,800
Grid 12	42,085	0	104,147	0	0	0	0	0	0	0	14,623
Grid 7	0	0	0	93,575	245	0	0	0	0	0	9,382
Grid 10	59,245	182,872	5,355	0	9,364	4,646	29,660	8,513	11,845	40,861	35,236
Grid 8	0	570	6,666	32,052	0	0	0	0	0	0	3,929
Grid 1	0	0	2,626	0	0	0	0	0	0	0	263
Grid Subtotal	**121,175,676**	**85,470,997**	**75,674,986**	**68,323,939**	**67,468,172**	**59,753,211**	**63,130,374**	**55,354,884**	**56,733,078**	**47,515,410**	**70,060,073**
Percent of Total	**46.6%**	**43.6%**	**53.6%**	**50.0%**	**48.3%**	**44.8%**	**42.7%**	**38.3%**	**40.3%**	**40.1%**	**44.8%**
Unspecified	1,086,824	328,060	3,193	64,945	3,318	7,752	84,792	271	2,964	10,236	159,236
Percent of Total	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%
Total	**260,306,723**	**195,926,057**	**141,243,299**	**136,549,205**	**139,772,836**	**133,376,900**	**147,875,096**	**144,572,562**	**140,921,207**	**118,491,023**	**155,903,491**

Table B.14 Real Dockside Values of Shrimp by LDWF Trip Ticket Basin and NMFS Grid, 2000 – 2009

	Real Dockside Values of Shrimp (in 2005 Dollar)										
Basin	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Barataria	53,240,870	43,836,328	26,973,118	27,132,884	27,203,552	24,873,027	33,509,198	41,755,692	32,450,359	23,792,192	33,476,722
Terrebonne	53,208,273	43,517,619	21,750,434	25,867,208	26,190,711	31,662,057	26,404,013	20,795,661	18,625,948	23,155,367	29,117,729
Lake Pontchartrain	14,423,687	15,547,275	11,750,024	8,802,533	9,572,010	5,341,005	5,020,644	6,904,128	11,417,705	7,433,085	9,621,210
Mississippi River	14,338,528	7,613,194	4,750,852	4,348,451	5,945,700	4,896,978	11,176,251	8,191,177	9,437,976	5,722,507	7,642,161
Vermilion-Teche River	7,519,969	4,180,887	1,829,048	2,712,458	2,234,936	2,917,289	2,464,449	2,377,090	2,114,005	1,505,050	2,985,518
Calcasieu River	6,501,814	2,283,434	1,998,084	1,960,046	1,324,269	1,910,664	2,521,741	3,110,555	2,383,800	2,099,516	2,609,392
Atchafalaya River	3,564,532	2,619,283	1,460,520	1,366,899	1,572,178	1,677,480	775,681	623,427	511,563	329,948	1,450,151
Mermentau River	1,878,071	1,167,372	649,975	286,899	487,780	330,792	238,028	378,224	270,763	384,210	607,211
Sabine River	430,125	163,228	104,059	29,163	6,193	6,646	56,444	18,645	18,296	92,106	92,491
Red River	0	90,061	0	4,438	140	0	27,658	2,457	331	0	12,509
Pearl River	0	0	321	0	0	0	0	10,309	3,353	0	1,398
Basin Subtotal	**155,105,869**	**121,018,681**	**71,266,435**	**72,510,979**	**74,537,469**	**73,615,938**	**82,194,107**	**84,167,365**	**77,234,099**	**64,513,981**	**87,616,492**
Percent of Total	**53.1%**	**56.2%**	**46.4%**	**49.9%**	**51.7%**	**55.2%**	**57.3%**	**61.7%**	**59.7%**	**59.9%**	**55.1%**
Grids											
Grid 15	31,674,794	23,997,262	22,228,795	19,967,628	20,508,998	24,354,277	25,934,790	22,064,273	23,810,197	16,433,271	23,097,429
Grid 14	43,058,552	28,597,976	25,262,180	19,535,209	21,063,542	15,449,656	16,474,092	10,190,399	11,096,134	9,249,043	19,997,678
Grid 13	26,388,595	20,528,469	19,764,880	18,346,598	16,513,403	11,174,720	13,285,898	15,514,049	12,435,690	12,607,083	16,655,939
Grid 16	15,550,544	13,136,314	9,731,245	8,602,092	7,919,376	6,967,118	5,265,483	3,941,320	4,045,809	3,430,814	7,859,012
Grid 17	13,684,590	4,028,646	2,789,964	3,718,398	2,614,271	377,571	255,282	222,648	447,507	231,004	2,836,988
Grid 18	2,660,226	705,693	1,048,857	761,099	677,240	1,325,994	21,900	36,656	23,979	819,544	808,119

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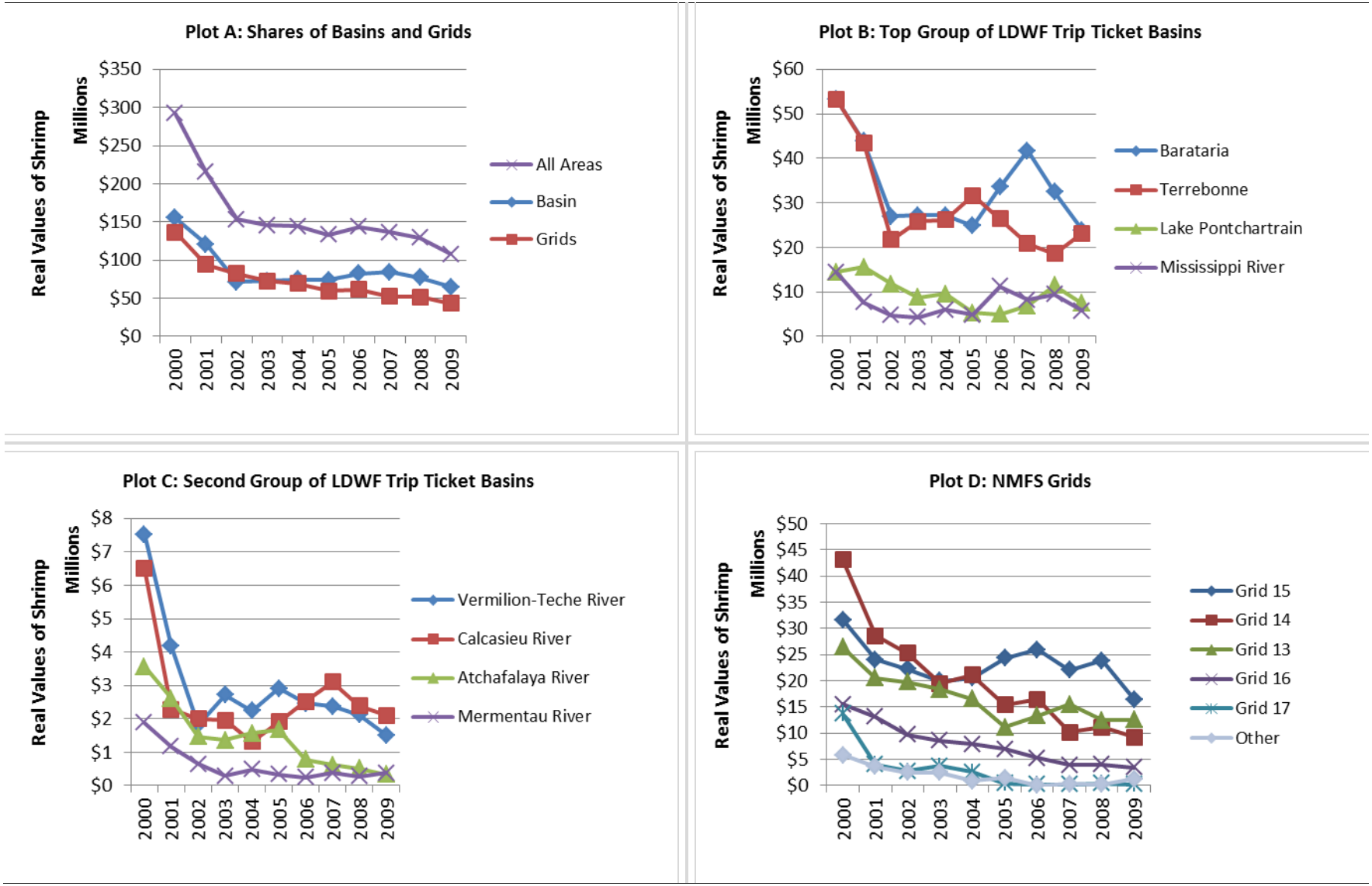
Table B.14 Real Dockside Values of Shrimp by LDWF Trip Ticket Basin and NMFS Grid, 2000 – 2009 (Continued)

	Real Dockside Values of Shrimp (in 2005 Dollar)										
Basin	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Grid 19	1,736,825	1,674,380	833,372	1,406,993	129,034	99,229	0	35,070	92,517	280,413	628,783
Grid 11	790,202	261,242	199,385	159,704	72,009	0	25,385	16,887	13,171	0	153,799
Grid 20	258,703	697,967	185,209	53,673	35,360	0	0	59,345	72,824	0	136,308
Grid 21	85,935	94,639	82,407	0	11,677	0	0	0	0	107,507	38,217
Grid 10	66,567	200,959	5,820	0	9,654	4,646	28,797	8,031	10,867	37,146	37,249
Grid 22	149,625	0	0	0	0	0	0	132,910	0	0	28,254
Grid 12	47,286	0	113,204	0	0	0	0	0	0	0	16,049
Grid 7	0	0	0	99,548	253	0	0	0	0	0	9,980
Grid 8	0	626	7,245	34,098	0	0	0	0	0	0	4,197
Grid 1	0	0	2,854	0	0	0	0	0	0	0	285
Grid Subtotal	**136,152,444**	**93,924,173**	**82,255,417**	**72,685,040**	**69,554,817**	**59,753,211**	**61,291,627**	**52,221,588**	**52,048,695**	**43,195,825**	**72,308,284**
Percent of Total	**46.6%**	**43.6%**	**53.6%**	**50.0%**	**48.3%**	**44.8%**	**42.7%**	**38.3%**	**40.3%**	**40.1%**	**44.8%**
Unspecified	1,061,126	357,804	3,321	69,031	3,421	7,752	81,815	50	2,719	9,184	159,622
Percent of Total	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%
Total	**292,319,439**	**215,300,657**	**153,525,175**	**145,265,053**	**144,095,707**	**133,376,900**	**143,567,547**	**136,389,003**	**129,285,511**	**107,718,991**	**160,084,398**



Source: Appendix Table B.14. "Other" includes all other grids. Real values are in 2005 dollar.

Figure B.3 Real Dockside Values of Shrimp by LDWF Trip Ticket Basin and NMFS Grid, 2000 – 2009

Table B.15 Shrimp Landings by Size Category, 2000 – 2009

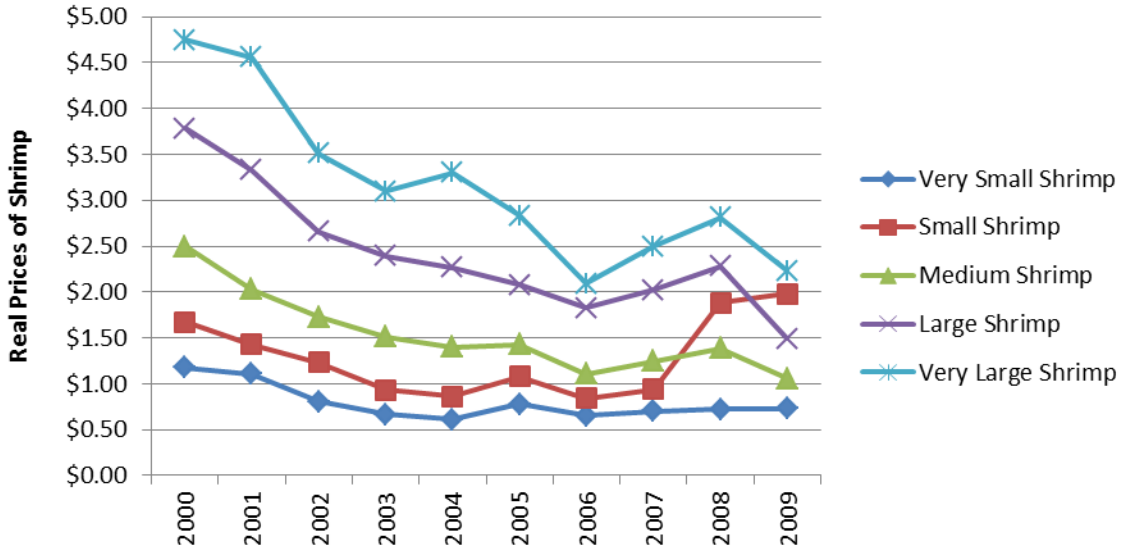
	Shrimp Landings (in Lbs.)										
Size Category	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Very Small Shrimp	40,613,991	30,784,717	27,436,375	41,581,712	48,081,351	23,889,123	39,044,836	20,241,330	28,529,140	25,687,271	32,588,985
Small Shrimp	40,691,630	36,923,027	28,649,220	31,193,531	26,510,444	26,060,029	26,681,116	31,345,536	13,894,742	19,682,216	28,163,149
Medium Shrimp	45,252,333	43,584,447	32,104,036	37,310,279	38,744,540	34,028,981	43,907,539	40,143,400	25,044,829	36,177,946	37,629,833
Large Shrimp	13,283,287	9,337,319	11,481,061	11,799,799	16,042,082	12,856,521	20,795,753	15,257,621	19,672,970	22,520,536	15,304,695
Very Large Shrimp	2,220,178	1,976,817	2,760,188	2,092,561	2,459,666	3,813,069	6,711,662	5,843,173	7,254,372	6,424,330	4,155,602
Others (Mixed)	4,256	138,237	342,875	296,843	262,422	534,981	249,982	258,505	149,684	275,238	251,302
Unspecified	5,345,421	5,181,505	4,507,314	2,101,162	2,094,426	1,400,093	534,386	743,483	832,990	452,413	2,319,319
Total	**147,411,096**	**127,926,069**	**107,281,069**	**126,375,887**	**134,194,929**	**102,582,797**	**137,925,274**	**113,833,049**	**95,378,729**	**111,219,950**	**120,412,885**

Table B.16 Average Nominal Dockside Prices of Shrimp by Size Category, 2000 – 2009

	Average Nominal Dockside Prices of Shrimp (in $)										
Size Category	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Very Small Shrimp	1.05	1.01	0.74	0.63	0.59	0.78	0.67	0.74	0.78	0.81	0.78
Small Shrimp	1.49	1.30	1.13	0.87	0.84	1.08	0.86	0.99	2.04	2.17	1.28
Medium Shrimp	2.23	1.85	1.59	1.42	1.36	1.43	1.15	1.32	1.52	1.17	1.50
Large Shrimp	3.37	3.03	2.45	2.25	2.20	2.08	1.88	2.14	2.48	1.64	2.35
Very Large Shrimp	4.23	4.15	3.23	2.91	3.20	2.83	2.16	2.65	3.06	2.45	3.09
Others (Mixed)	3.03	3.29	2.95	2.50	2.85	2.47	1.93	2.30	2.75	1.32	2.54
Unspecified	0.95	0.92	1.13	1.66	1.78	1.99	3.31	3.26	3.15	4.00	2.22
Total	**1.85**	**1.66**	**1.44**	**1.21**	**1.19**	**1.33**	**1.13**	**1.33**	**1.70**	**1.43**	**1.43**

Table B.17 Average Real Dockside Prices of Shrimp by Size Category, 2000 – 2009

	Average Real Dockside Prices of Shrimp (in 2005 Dollar)										
Size Category	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Very Small Shrimp	1.18	1.11	0.81	0.67	0.61	0.78	0.65	0.70	0.72	0.73	0.80
Small Shrimp	1.67	1.43	1.23	0.93	0.86	1.08	0.84	0.94	1.88	1.98	1.28
Medium Shrimp	2.50	2.03	1.73	1.51	1.40	1.43	1.11	1.25	1.39	1.06	1.54
Large Shrimp	3.78	3.33	2.66	2.39	2.27	2.08	1.83	2.02	2.28	1.49	2.41
Very Large Shrimp	4.75	4.56	3.51	3.10	3.30	2.83	2.09	2.50	2.81	2.23	3.17
Others (Mixed)	3.40	3.61	3.20	2.66	2.94	2.47	1.88	2.17	2.52	1.20	2.61
Unspecified	1.07	1.01	1.23	1.77	1.83	1.99	3.22	3.08	2.89	3.63	2.17
Total	**2.08**	**1.82**	**1.57**	**1.29**	**1.23**	**1.33**	**1.10**	**1.25**	**1.56**	**1.30**	**1.45**



Source: Appendix Table B.17. Real prices are in 2005 dollar.

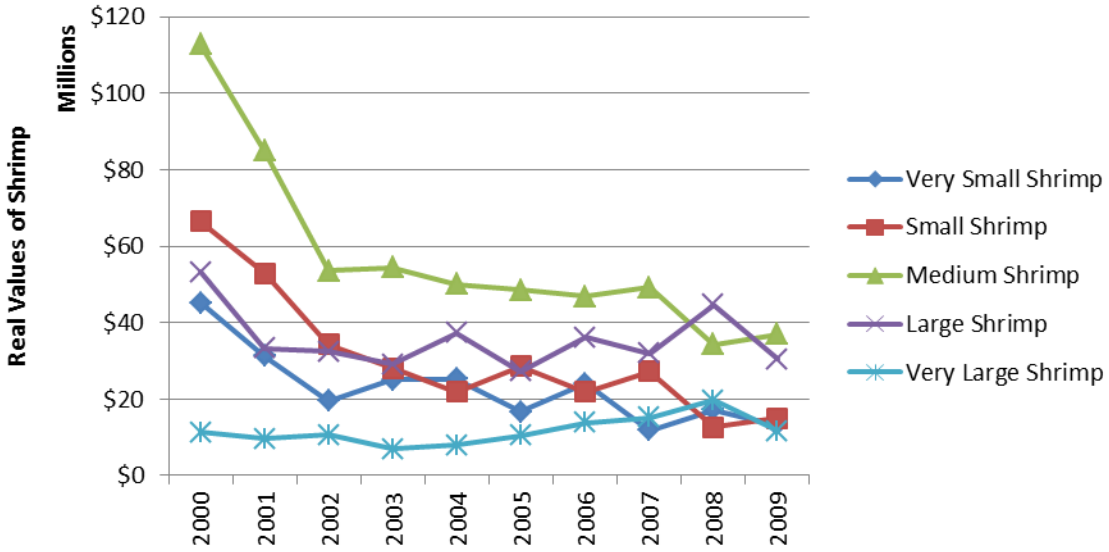
Figure B.4 Average Real Dockside Prices of Shrimp by Size Category, 2000 – 2009

Table B.18 Nominal Dockside Values of Shrimp by Size Category, 2000 – 2009

	Nominal Dockside Values of Shrimp (in $)										
Size Category	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Very Small Shrimp	40,200,740	28,502,918	17,984,597	23,493,578	24,537,332	16,595,190	24,808,960	12,519,813	18,752,638	14,413,349	22,180,912
Small Shrimp	59,231,782	48,082,839	31,576,735	26,401,601	21,205,276	28,507,531	22,446,504	28,916,887	13,817,310	16,421,368	29,660,783
Medium Shrimp	100,277,987	77,273,612	49,354,412	51,139,438	48,471,497	48,551,220	48,326,335	52,166,335	37,356,842	40,681,770	55,359,945
Large Shrimp	47,314,963	30,319,034	29,811,138	27,410,669	36,156,643	27,322,685	37,254,976	33,842,071	48,700,937	33,462,638	35,159,575
Very Large Shrimp	10,069,354	8,740,286	9,756,436	6,614,800	7,785,043	10,474,803	14,192,597	16,149,412	21,514,960	12,892,166	11,818,986
Others (Mixed)	16,850	458,410	1,011,433	753,590	741,743	1,336,166	503,694	628,417	431,190	418,243	629,974
Unspecified	3,195,337	2,548,991	1,748,547	735,530	875,588	589,304	342,030	349,628	347,330	201,488	1,093,377
Total	**260,307,013**	**195,926,089**	**141,243,299**	**136,549,205**	**139,773,122**	**133,376,900**	**147,875,096**	**144,572,562**	**140,921,207**	**118,491,023**	**155,903,552**

Table B.19 Real Dockside Values of Shrimp by Size Category, 2000 – 2009

	Real Dockside Values of Shrimp (in 2005 Dollar)										
Size Category	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Very Small Shrimp	45,169,371	31,321,888	19,548,475	24,993,168	25,296,218	16,595,190	24,086,369	11,811,145	17,204,255	13,103,045	22,912,912
Small Shrimp	66,552,564	52,838,285	34,322,538	28,086,809	21,861,110	28,507,531	21,792,722	27,280,082	12,676,431	14,928,517	30,884,659
Medium Shrimp	112,671,896	84,916,057	53,646,100	54,403,657	49,970,615	48,551,220	46,918,772	49,213,524	34,272,332	36,983,427	57,154,760
Large Shrimp	53,162,880	33,317,619	32,403,411	29,160,286	37,274,890	27,322,685	36,169,880	31,926,482	44,679,758	30,420,580	35,583,847
Very Large Shrimp	11,313,881	9,604,709	10,604,822	7,037,021	8,025,818	10,474,803	13,779,221	15,235,294	19,738,496	11,720,151	11,753,422
Others (Mixed)	18,932	503,748	1,099,384	801,691	764,683	1,336,166	489,024	592,846	395,587	380,221	638,228
Unspecified	3,590,267	2,801,089	1,900,595	782,479	902,668	589,304	332,068	329,838	318,651	183,171	1,173,013
Total	**292,479,790**	**215,303,394**	**153,525,325**	**145,265,112**	**144,096,002**	**133,376,900**	**143,568,054**	**136,389,210**	**129,285,511**	**107,719,112**	**160,100,841**



Source: Appendix Table B.19. Real values are in 2005 dollar.

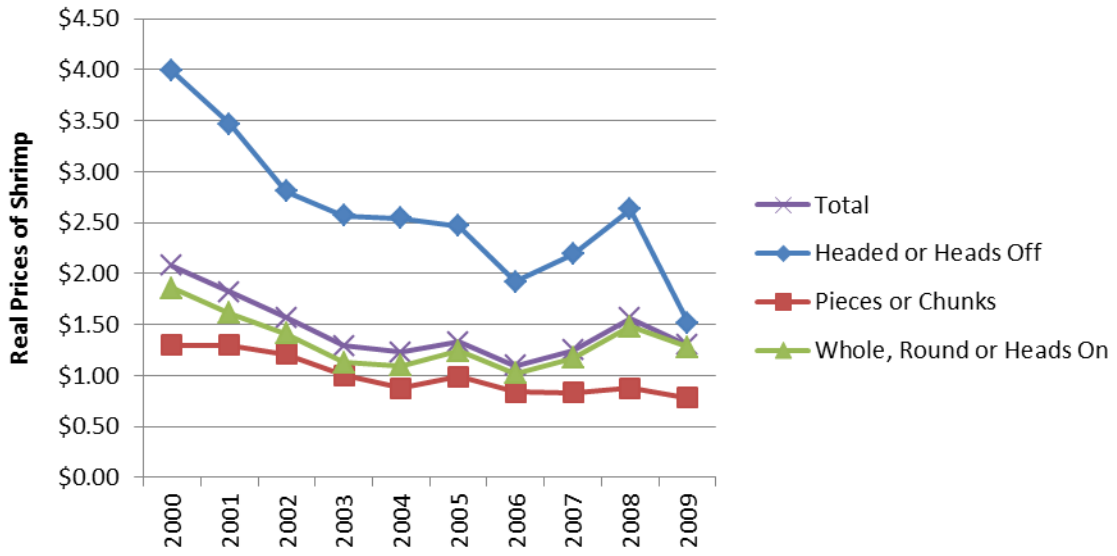
Figure B.5 Real Dockside Values of Shrimp by Size Category, 2000 – 2009

Table B.20 Shrimp Landings by Landing Condition, 2000 – 2009

	Landings of Shrimp (in Pounds)										
Landing Condition	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Headed or Heads Off	15,410,315	13,480,138	11,731,890	14,768,193	11,630,303	9,250,099	16,150,668	11,435,623	8,848,764	10,361,331	12,306,732
Pieces or Chunks	44,562	49,140	86,599	89,400	59,343	30,273	43,345	28,465	12,195	16,949	46,027
Whole, Round or Heads On	131,956,073	114,396,774	95,462,580	111,518,294	122,504,829	93,302,425	121,731,262	102,368,961	86,517,769	100,841,669	108,060,064
Total	**147,410,951**	**127,926,053**	**107,281,069**	**126,375,887**	**134,194,474**	**102,582,797**	**137,925,274**	**113,833,049**	**95,378,729**	**111,219,950**	**120,412,823**

Table B.21 Average Dockside Prices of Shrimp by Landing Condition, 2000 – 2009

	Average Nominal Dockside Prices of Shrimp (in $)										
Landing Condition	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Headed or Heads Off	3.55	3.16	2.58	2.41	2.47	2.47	1.98	2.32	2.86	1.67	2.55
Pieces or Chunks	1.15	1.19	1.11	0.94	0.86	0.99	0.87	0.88	0.96	0.86	0.98
Whole, Round or Heads On	1.66	1.47	1.30	1.06	1.07	1.24	1.05	1.24	1.61	1.41	1.31
Total	**1.85**	**1.66**	**1.44**	**1.21**	**1.19**	**1.33**	**1.13**	**1.33**	**1.70**	**1.43**	**1.43**
	Average Real Dockside Prices of Shrimp (in 2005 Dollar)										
Landing Condition	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Headed or Heads Off	3.99	3.47	2.81	2.57	2.54	2.47	1.92	2.19	2.63	1.52	2.61
Pieces or Chunks	1.3	1.30	1.21	1.00	0.88	0.99	0.84	0.83	0.88	0.78	1.00
Whole, Round or Heads On	1.86	1.61	1.41	1.13	1.10	1.24	1.02	1.17	1.48	1.28	1.33
Total	**2.08**	**1.82**	**1.57**	**1.29**	**1.23**	**1.33**	**1.10**	**1.25**	**1.56**	**1.30**	**1.45**



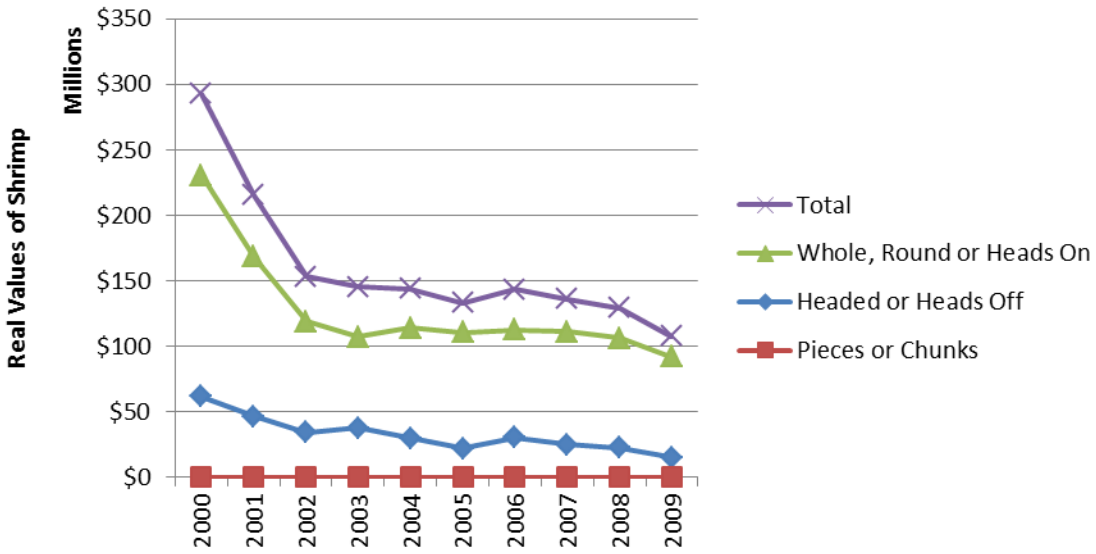
Source: Appendix Table B.21. Real prices are in 2005 dollar.

Figure B.6 Average Real Dockside Prices of Shrimp by Landing Condition, 2000 – 2009

Table B.22 Dockside Values of Shrimp by Landing Condition, 2000 – 2009

	Nominal Dockside Values of Shrimp (in $)										
Landings Condition	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Headed or Heads Off	55,075,658	42,407,436	31,650,426	35,558,318	29,155,751	22,420,300	31,596,742	26,502,549	24,793,754	16,944,560	31,610,549
Pieces or Chunks	55,279	56,188	98,259	89,775	48,488	29,886	39,554	25,306	13,857	14,479	47,107
Whole, Round, Heads On	205,175,786	153,462,432	109,494,613	100,901,112	110,568,596	110,926,714	116,238,800	118,044,707	116,113,596	101,531,984	124,245,834
Total	**260,306,723**	**195,926,057**	**141,243,299**	**136,549,205**	**139,772,836**	**133,376,900**	**147,875,096**	**144,572,562**	**140,921,207**	**118,491,023**	**155,903,491**

	Real Dockside Values of Shrimp (in 2005 Dollar)										
Landings Condition	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Headed or Heads Off	61,882,761	46,601,578	34,402,637	37,827,998	30,057,476	22,420,300	30,676,448	25,002,405	22,746,563	15,404,145	32,702,231
Pieces or Chunks	62,111	61,746	106,803	95,506	49,988	29,886	38,402	23,874	12,713	13,163	49,419
Whole, Round, Heads On	230,534,591	168,640,035	119,015,884	107,341,608	113,988,244	110,926,714	112,853,204	111,362,931	106,526,235	92,301,804	127,349,125
Total	**292,479,464**	**215,303,359**	**153,525,325**	**145,265,112**	**144,095,707**	**133,376,900**	**143,568,054**	**136,389,210**	**129,285,511**	**107,719,112**	**160,100,775**



Source: Appendix Table B.22. Real values are in 2005 dollar.

Figure B.7 Real Dockside Values of Shrimp by Landing Condition, 2000 – 2009

Appendix C - Shrimp Landings, Dockside Prices and Values per Effort

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Table C.1 Average Shrimp Landings per Fisherman by Species, 2000 – 2009

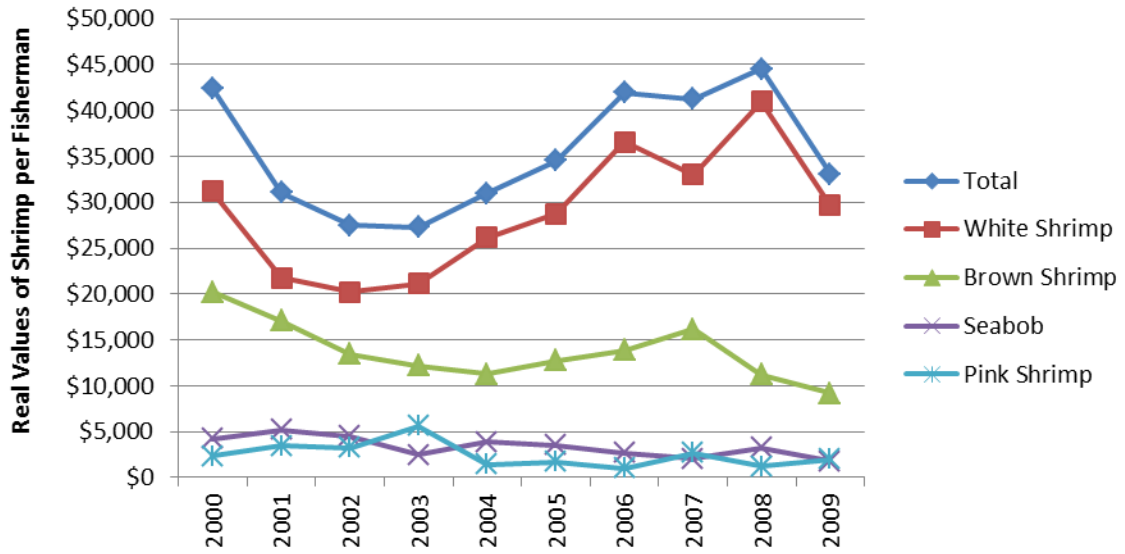
	Average Shrimp Landings per Fisherman (in Pounds)										
Species	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
White Shrimp	13,876	11,194	11,353	15,372	19,475	19,330	30,872	23,537	25,962	27,325	19,830
Brown Shrimp	11,163	10,651	10,748	12,876	14,825	12,078	17,659	17,392	12,911	13,100	13,340
Seabob	6,841	9,949	11,253	7,962	12,362	9,779	6,881	5,822	9,142	5,225	8,521
Pink Shrimp	1,194	2,843	2,158	3,261	1,144	1,278	922	1,895	925	1,685	1,730
Total	**21,401**	**18,444**	**19,198**	**23,710**	**28,884**	**26,569**	**40,305**	**34,443**	**32,844**	**34,127**	**27,993**

Table C.2 Average Nominal Dockside Values of Shrimp per Fisherman by Species, 2000 – 2009

	Average Nominal Dockside Values of Shrimp per Fisherman (in $)										
Species	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
White Shrimp	27,790	19,828	18,634	19,868	25,385	28,746	37,688	35,000	44,656	32,602	29,020
Brown Shrimp	17,982	15,534	12,392	11,478	10,922	12,755	14,304	17,172	12,257	10,119	13,492
Seabob	3,791	4,707	4,114	2,339	3,788	3,498	2,801	2,180	3,540	1,968	3,273
Pink Shrimp	2,105	3,138	2,963	5,280	1,399	1,679	1,052	2,834	1,333	2,187	2,397
Total	**37,791**	**28,248**	**25,276**	**25,619**	**30,085**	**34,545**	**43,213**	**43,744**	**48,527**	**36,358**	**35,340**

Table C.3 Average Real Dockside Values of Shrimp per Fisherman by Species, 2000 – 2009

	Average Real Dockside Values of Shrimp per Fisherman (in 2005 Dollar)										
Species	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
White Shrimp	31,225	21,789	20,255	21,136	26,170	28,746	36,590	33,019	40,968	29,639	28,954
Brown Shrimp	20,204	17,071	13,470	12,210	11,260	12,755	13,887	16,200	11,245	9,199	13,750
Seabob	4,260	5,173	4,472	2,489	3,905	3,498	2,720	2,057	3,248	1,789	3,361
Pink Shrimp	2,365	3,449	3,221	5,617	1,442	1,679	1,021	2,674	1,223	1,988	2,468
Total	**42,462**	**31,041**	**27,474**	**27,254**	**31,015**	**34,545**	**41,954**	**41,268**	**44,520**	**33,053**	**35,459**



Source: Appendix Table C.3. Real values are in 2005 dollar.

Figure C.1 Average Real Dockside Values of Shrimp per Fisherman by Species, 2000 – 2009

Table C.4 Average Landings and Dockside Values of Shrimp per Fishing Trip, 2000 – 2009

Measures	Average Landings and Dockside Values of Shrimp										
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Average Landings per Trip (Lbs.)	721	752	852	1,003	1,127	1,294	1,538	1,291	1,348	1,371	1,130
Average Nominal Values per Trip ($)	1,274	1,152	1,122	1,084	1,174	1,683	1,649	1,639	1,991	1,461	1,423
Average Real Values per Trip (in 2005 $)	1,431	1,266	1,220	1,153	1,210	1,683	1,601	1,546	1,827	1,328	1,426

Table C.5 Average Landings and Dockside Values of Shrimp per Hour of Fishing Trip, 2000 – 2009

Measures	Average Landings and Dockside Values of Shrimp										
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Average Landings per Hour of Trip (Lbs.)	11.34	10.60	9.75	11.92	13.97	16.06	19.00	15.79	16.39	17.16	14.20
Average Nominal Values per Hour of Trip ($)	20.02	16.23	12.84	12.88	14.55	20.88	20.37	20.06	24.22	18.28	18.03
Average Real Values per Hour of Trip (in 2005 $)	22.49	17.83	13.96	13.70	15.00	20.88	19.78	18.92	22.22	16.62	18.14

Table C.6 Average Landings and Dockside Values of Shrimp per Fishing Vessel, 2000 – 2009

Measures	Average Landings and Dockside Values of Shrimp										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Average Landings per Vessel (Lbs.)	12,717	14,293	19,717	24,021	28,984	26,680	41,172	34,663	32,675	31,804	26,673
Average Nominal Values per Vessel ($)	22,456	21,891	25,959	25,955	30,189	34,688	44,142	44,023	48,277	33,884	33,146
Average Real Values per Vessel (in 2005 $)	25,231	24,056	28,216	27,612	31,122	34,688	42,856	41,531	44,291	30,803	33,041

Table C.7 Average Landings and Dockside Values of Shrimp per Foot of Fishing Vessel, 2000 – 2009

Measures	Average Landings and Dockside Values of Shrimp										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Average Landings per Foot (Lbs.)	3,848,850	3,384,287	2,635,899	3,082,339	3,281,038	2,514,284	3,448,132	2,810,693	2,309,412	2,957,977	3,027,291
Average Nominal Values per Foot ($)	6,796,520	5,183,229	3,470,351	3,330,468	3,417,429	3,269,042	3,696,877	3,569,693	3,412,136	3,151,357	3,929,710
Average Real Values per Foot (in 2005 $)	7,636,540	5,695,856	3,772,121	3,543,052	3,523,122	3,269,042	3,589,201	3,367,635	3,130,400	2,864,870	4,039,184

Table C.8 Shrimp Landings by Fishing Vessel Length Category, 2000 – 2009

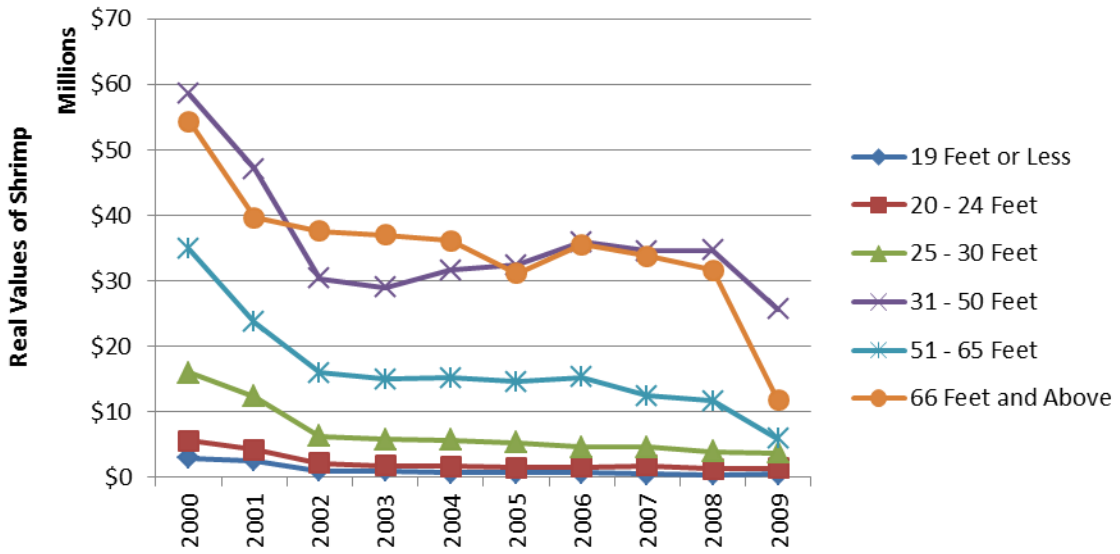
	Shrimp Landings (in Pounds)										
Vessel Size	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
19 Feet or Less	2,212,314	2,065,304	1,042,485	1,224,605	958,073	765,920	1,042,678	621,357	546,398	700,969	1,118,010
20 - 24 Feet	4,000,474	3,382,974	2,178,570	2,356,589	2,518,520	1,668,368	2,229,711	2,183,181	1,630,860	1,951,303	2,410,055
25 - 30 Feet	10,622,972	9,382,179	5,847,825	7,074,108	7,508,604	5,266,654	6,010,401	5,433,828	4,186,139	4,849,180	6,618,189
31 - 50 Feet	35,902,931	33,410,605	26,412,305	32,332,770	37,445,025	29,116,067	41,272,499	35,456,865	32,026,143	31,029,702	33,440,491
51 - 65 Feet	18,291,597	15,357,083	13,715,501	14,982,705	16,612,902	12,613,901	15,708,959	11,350,745	9,525,411	6,569,246	13,472,805
66 Feet and Above	19,248,059	16,763,058	19,725,720	23,933,780	24,152,357	18,846,616	26,836,588	21,455,496	16,959,588	9,892,283	19,781,355
Unspecified	57,132,604	47,564,850	38,358,663	44,471,329	44,998,995	34,305,271	44,824,439	37,331,577	30,504,190	56,227,266	43,571,918
Total	**147,410,951**	**127,926,053**	**107,281,069**	**126,375,887**	**134,194,474**	**102,582,797**	**137,925,274**	**113,833,049**	**95,378,729**	**111,219,950**	**120,412,823**

Table C.9 Nominal Dockside Values of Shrimp by Fishing Vessel Length Category, 2000 – 2009

	Nominal Dockside Values of Shrimp ($)										
Vessel Size	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
19 Feet or Less	2,690,927	2,396,504	946,637	950,971	691,990	714,698	798,807	541,561	509,132	552,296	1,079,352
20 - 24 Feet	5,011,004	3,865,106	2,011,000	1,669,063	1,675,604	1,502,857	1,685,596	1,950,560	1,483,069	1,538,427	2,239,229
25 - 30 Feet	14,246,273	11,251,012	5,830,371	5,479,274	5,589,029	5,298,869	4,775,883	4,971,325	4,316,240	4,131,461	6,588,974
31 - 50 Feet	52,121,309	42,822,908	27,930,178	27,214,517	30,714,960	32,379,205	36,995,997	36,660,604	37,799,333	28,195,898	35,283,491
51 - 65 Feet	30,987,761	21,622,006	14,685,484	14,148,606	14,779,073	14,629,549	15,771,436	13,228,372	12,776,186	6,509,453	15,913,793
66 Feet and Above	48,341,445	36,053,674	34,613,886	34,817,830	35,076,860	31,178,367	36,652,033	35,816,024	34,523,773	12,962,692	34,003,658
Unspecified	106,908,003	77,914,848	55,225,743	52,268,943	51,245,319	47,673,355	51,195,343	51,404,117	49,513,473	64,600,796	60,794,994
Total	**260,306,723**	**195,926,057**	**141,243,299**	**136,549,205**	**139,772,836**	**133,376,900**	**147,875,096**	**144,572,562**	**140,921,207**	**118,491,023**	**155,903,491**

Table C.10 Real Dockside Values of Shrimp by Fishing Vessel Length Category, 2000 – 2009

Vessel Size	Real Dockside Values of Shrimp (in 2005 Dollar)										
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
19 Feet or Less	3,023,514	2,633,521	1,028,953	1,011,671	713,391	714,698	775,541	510,907	467,093	502,087	1,138,138
20 - 24 Feet	5,630,342	4,247,369	2,185,869	1,775,599	1,727,427	1,502,857	1,636,501	1,840,151	1,360,614	1,398,570	2,330,530
25 - 30 Feet	16,007,049	12,363,749	6,337,360	5,829,015	5,761,886	5,298,869	4,636,780	4,689,929	3,959,854	3,755,873	6,864,036
31 - 50 Feet	58,563,269	47,058,140	30,358,889	28,951,614	31,664,907	32,379,205	35,918,444	34,585,475	34,678,287	25,632,635	35,979,087
51 - 65 Feet	34,817,709	23,760,446	15,962,482	15,051,709	15,236,158	14,629,549	15,312,074	12,479,596	11,721,272	5,917,685	16,488,868
66 Feet and Above	54,316,230	39,619,422	37,623,789	37,040,245	36,161,712	31,178,367	35,584,498	33,788,702	31,673,186	11,784,266	34,877,042
Unspecified	120,121,352	85,620,712	60,027,982	55,605,259	52,830,226	47,673,355	49,704,217	48,494,450	45,425,204	58,727,997	62,423,075
Total	292,479,464	215,303,359	153,525,325	145,265,112	144,095,707	133,376,900	143,568,054	136,389,210	129,285,511	107,719,112	160,100,775



Source: Appendix Table C.10. Real values are in 2005 dollar.

Figure C.2 Real Dockside Values of Shrimp by Fishing Vessel Length Category, 2000 – 2009

Table C.11 Shrimp Landings from LDWF Basins and NMFS Grids by Gear Type, 2000 – 2009

	Shrimp Landings from LDWF Basins and NMFS Grids (in Pounds)										
Gear Type	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Otter Trawl, Shrimp	80,702,054	71,746,004	67,887,458	78,939,892	81,179,115	62,614,370	78,555,492	61,371,744	49,899,238	60,796,381	69,369,175
Skimmer Nets	60,843,863	52,403,421	35,749,075	43,372,840	49,003,577	37,411,071	55,162,226	48,899,175	42,881,209	47,103,258	47,282,972
Butterfly Nets	5,622,757	3,557,605	3,465,288	3,821,509	3,919,668	2,516,144	4,128,806	3,546,790	2,591,462	3,261,987	3,643,202
Other	6,008	14,318	14,578	18,248	8,296	4,546	4,595	2,186	753	7,009	8,054
All Gear	**147,240,771**	**127,921,796**	**107,276,755**	**126,371,461**	**134,193,620**	**102,582,497**	**137,878,689**	**113,833,014**	**95,376,430**	**111,217,699**	**120,389,273**

Note: "Other" includes fish otter trawls, crab pots and traps, cast nets, etc.

Table C.12 Shrimp Landings from the LDWF Basins by Gear Type, 2000 – 2009

	Landings of Shrimp from LDWF Basins (in Pounds)										
Gear Type	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Skimmer Nets	58,234,877	50,698,476	33,797,673	40,980,893	46,566,356	35,650,379	51,119,518	43,884,398	39,075,176	44,134,850	44,414,260
Otter Trawl, Shrimp	32,073,936	31,585,549	25,829,783	34,285,626	36,297,399	27,401,667	35,410,936	31,895,055	23,957,209	26,280,165	30,501,733
Butterfly Nets	4,684,722	2,666,542	1,852,773	2,353,094	2,017,795	2,121,828	3,444,841	3,324,480	2,587,736	3,256,085	2,830,990
Other	92,636	195,255	146,039	220,550	82,335	27,516	32,315	14,993	4,353	46,112	86,210
All Gear (Basins)	**95,086,171**	**85,145,823**	**61,626,268**	**77,840,162**	**84,963,883**	**65,201,389**	**90,007,610**	**79,118,925**	**65,624,474**	**73,717,212**	**77,833,192**

Note: "Other" includes fish otter trawls, crab pots and traps, cast nets, etc.

Table C.13 Shrimp Landings from the NMFS Grids by Gear Type, 2000 – 2009

	Landings of Shrimp from NMFS Grids (in Pounds)										
Gear Type	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Otter Trawl, Shrimp	48,338,915	39,985,594	42,057,675	44,623,425	44,879,849	35,208,005	43,131,008	29,476,689	25,942,029	34,516,216	38,815,941
Skimmer Nets	2,548,044	1,695,715	1,951,402	2,389,092	2,436,869	1,759,382	4,041,377	5,014,380	3,806,033	2,961,339	2,860,363
Butterfly Nets	935,266	890,048	1,612,515	1,468,415	1,901,873	394,316	683,965	222,310	3,726	5,902	811,834
Other	17,005	20,330	31,181	18,730	8,956	13,696	1,855	312	-	10,372	12,244
All Gear (Grids)	**51,839,230**	**42,591,687**	**45,652,773**	**48,499,662**	**49,227,546**	**37,375,399**	**47,858,205**	**34,713,691**	**29,751,788**	**37,493,829**	**42,500,381**

Note: "Other" is comprised mainly of fish otter trawls and unspecified gear types.

Table C.14 Nominal Dockside Values of Shrimp from LDWF Basins and NMFS Grids by Gear Type, 2000 – 2009

	Nominal Dockside Values of Shrimp from LDWF Basins and NMFS Grids (in $)										
Gear Type	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Otter Trawl, Shrimp	167,022,585	124,815,764	99,964,083	97,771,385	97,109,428	89,886,570	96,133,234	91,178,506	87,796,305	73,052,593	102,473,045
Skimmer Nets	84,316,999	65,935,917	37,282,654	35,307,829	39,422,706	40,885,135	48,183,681	50,347,951	50,500,674	42,887,160	49,507,071
Butterfly Nets	8,506,560	4,906,367	3,790,906	3,250,392	3,170,578	2,553,529	3,481,831	3,027,964	2,615,222	2,492,842	3,779,619
Other	8,679	17,467	16,736	16,356	6,298	5,713	3,821	2,584	1,253	7,103	124,590
All Gear	**260,306,723**	**195,926,057**	**141,243,299**	**136,549,205**	**139,772,836**	**133,376,900**	**147,875,096**	**144,572,562**	**140,921,207**	**118,491,023**	**155,903,491**

Note: "Other" includes fish otter trawls, crab pots and traps, cast nets, etc.

Table C.15 Nominal Dockside Values of Shrimp from LDWF Basins by Gear Type, 2000 – 2009

	Nominal Dockside Values of Shrimp from LDWF Basins (in $)										
Gear Type	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Skimmer Nets	80,404,582	63,643,244	35,250,188	33,210,250	37,550,319	38,825,121	44,044,673	44,314,802	44,977,974	39,753,191	46,197,434
Otter Trawl, Shrimp	50,408,887	42,480,159	28,204,854	32,783,401	33,013,562	32,552,480	37,750,368	42,070,404	36,593,135	28,674,401	36,453,165
Butterfly Nets	7,097,533	3,750,979	1,949,123	1,979,291	1,677,973	2,206,524	2,838,125	2,814,395	2,608,015	2,489,596	2,941,155
Other	133,222	252,617	160,956	187,378	59,491	31,813	26,764	17,808	6,044	48,192	92,429
All Gear (Basins)	**138,044,223**	**110,126,999**	**65,565,121**	**68,160,321**	**72,301,345**	**73,615,936**	**84,659,929**	**89,217,408**	**84,185,167**	**70,965,379**	**85,684,183**

Note: "Other" includes fish otter trawls, crab pots and traps, cast nets, etc.

Table C.16 Nominal Dockside Values of Shrimp from NMFS Grids by Gear Type, 2000 – 2009

	Nominal Dockside Values of Shrimp from NMFS Grids (in $)										
Gear Type	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Otter Trawl, Shrimp	115,900,461	82,025,844	71,759,229	64,929,289	64,093,778	57,327,976	58,347,781	49,108,103	51,203,170	44,378,191	65,907,382
Skimmer Nets	3,825,597	2,280,500	2,032,466	2,095,093	1,871,954	2,058,377	4,136,577	6,032,931	5,522,700	3,124,998	3,298,119
Butterfly Nets	1,404,980	1,154,038	1,841,783	1,271,100	1,492,605	347,005	643,706	213,569	7,207	3,246	837,924
Other	44,639	10,615	41,506	28,457	9,836	19,855	2,312	281	-	8,973	16,647
All Gear (Grids)	**121,175,676**	**85,470,997**	**75,674,985**	**68,323,939**	**67,468,172**	**59,753,212**	**63,130,375**	**55,354,883**	**56,733,076**	**47,515,408**	**70,060,072**

Note: "Other" is comprised mainly of fish otter trawls and unspecified gear types.

Table C.17 Real Dockside Values of Shrimp from LDWF Basins and NMFS Grids by Gear Type, 2000 – 2009

	Real Dockside Values of Shrimp from LDWF Basins and NMFS Grids (in 2005 Dollar)										
Gear Type	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Otter Trawl, Shrimp	187,665,826	137,160,181	108,656,612	104,012,112	100,112,813	89,886,570	93,333,237	86,017,459	80,547,069	66,411,448	105,380,333
Skimmer Nets	94,738,201	72,457,051	40,524,624	37,561,521	40,641,965	40,885,135	46,780,273	47,498,067	46,330,893	38,988,328	50,640,606
Butterfly Nets	9,557,932	5,391,612	4,120,550	3,457,863	3,268,637	2,553,529	3,380,418	2,856,570	2,399,286	2,266,220	3,925,262
Other	9,751	19,194	18,191	17,400	6,493	5,713	3,710	2,438	958	6,457	9,031
All Gear	**292,078,972**	**215,296,755**	**153,520,077**	**145,257,698**	**144,094,840**	**133,376,650**	**143,519,896**	**136,389,160**	**129,282,995**	**107,717,652**	**160,053,470**

Note: "Other" includes fish otter trawls, crab pots and traps, cast nets, etc.

Table C.18 Real Dockside Values of Shrimp from LDWF Basins by Gear Type, 2000 – 2009

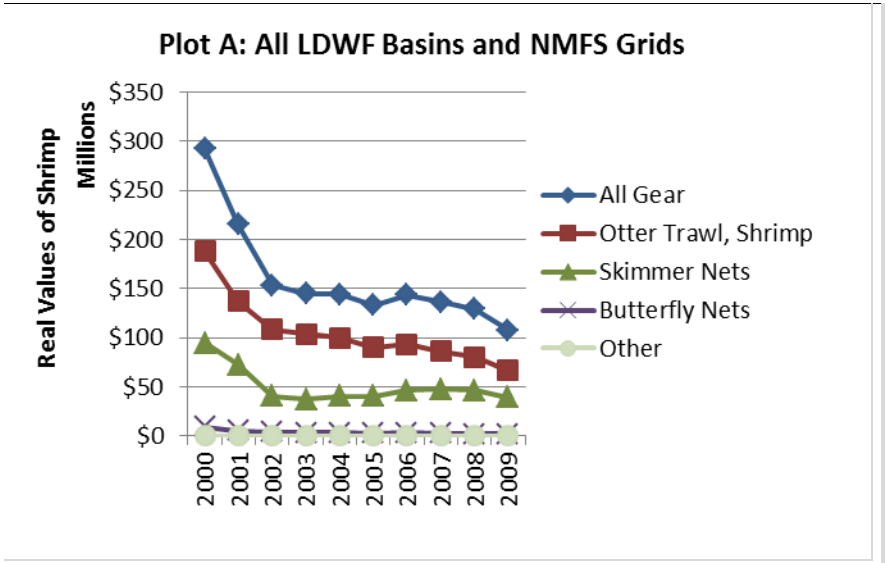
	Real Dockside Values of Shrimp from LDWF Basins (in 2005 Dollar)										
Gear Type	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Average**
Skimmer Nets	90,342,227	69,937,631	38,315,422	35,330,054	38,711,669	38,825,121	42,761,819	41,806,417	41,264,196	36,139,264	47,343,382
Otter Trawl, Shrimp	56,639,199	46,681,494	30,657,450	34,875,959	34,034,600	32,552,480	36,650,843	39,689,060	33,571,684	26,067,638	37,142,041
Butterfly Nets	7,974,756	4,121,955	2,118,611	2,105,629	1,729,869	2,206,524	2,755,461	2,655,089	2,392,674	2,263,269	3,032,384
Other	149,688	277,602	174,953	199,338	61,332	31,813	25,984	16,800	5,544	43,809	98,686
All Gear (Basins)	**155,105,868**	**121,018,681**	**71,266,436**	**72,510,979**	**74,537,469**	**73,615,936**	**82,194,106**	**84,167,366**	**77,234,098**	**64,513,981**	**87,616,492**

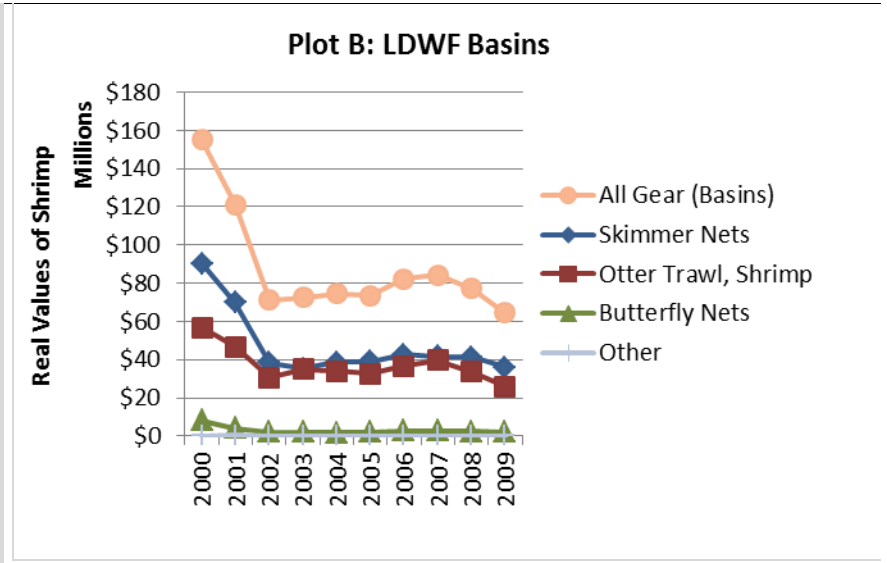
Note: "Other" includes fish otter trawls, crab pots and traps, cast nets, etc.

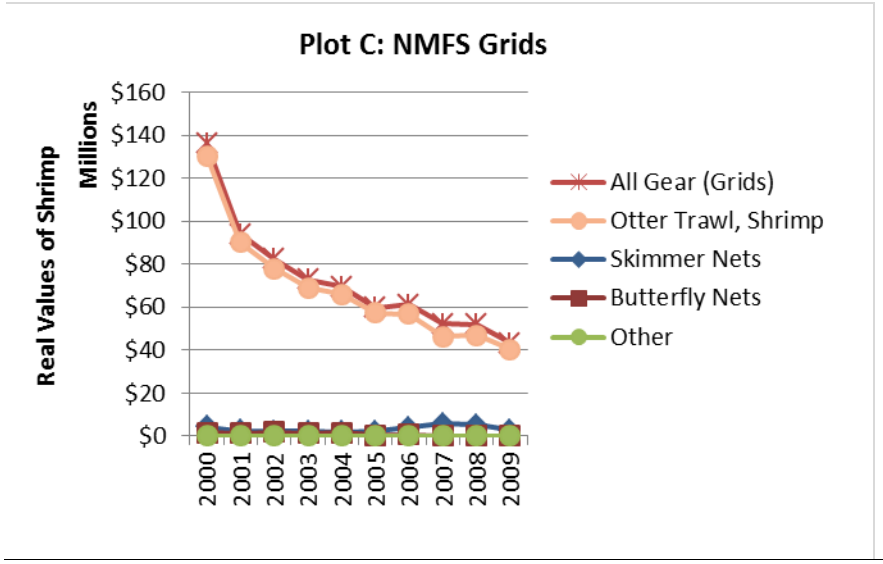
Table C.19 Real Dockside Values of Shrimp from NMFS Grids by Gear Type, 2000 – 2009

Gear Type	Real Dockside Values of Shrimp from NMFS Grids (in 2005 Dollar)										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Otter Trawl, Shrimp	130,225,237	90,138,290	77,999,162	69,073,712	66,076,059	57,327,976	56,648,331	46,328,399	46,975,385	40,343,810	68,113,636
Skimmer Nets	4,298,423	2,506,044	2,209,202	2,228,822	1,929,850	2,058,377	4,016,094	5,691,444	5,066,697	2,840,907	3,284,586
Butterfly Nets	1,578,629	1,268,174	2,001,939	1,352,234	1,538,768	347,005	624,957	201,480	6,612	2,951	892,275
Other	50,155	11,665	45,115	30,275	10,140	19,855	2,244	265	-	8,158	17,787
All Gear (Grids)	**136,152,444**	**93,924,172**	**82,255,418**	**72,685,042**	**69,554,817**	**59,753,212**	**61,291,626**	**52,221,588**	**52,048,694**	**43,195,825**	**72,308,284**

Note: "Other" is comprised mainly of fish otter trawls and unspecified gear types.







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Source: Appendix Tables C.17, C.18 and C.19. Real values are in 2005 dollar. "Other" includes fish otter trawls, crab pots and traps, cast nets, etc.

Figure C.3 Real Dockside Values of Shrimp from LDWF Basins and NMFS Grids by Gear Type, 2000 – 2009

Appendix D - Maps of Fishing Areas and Hurricane Tracks

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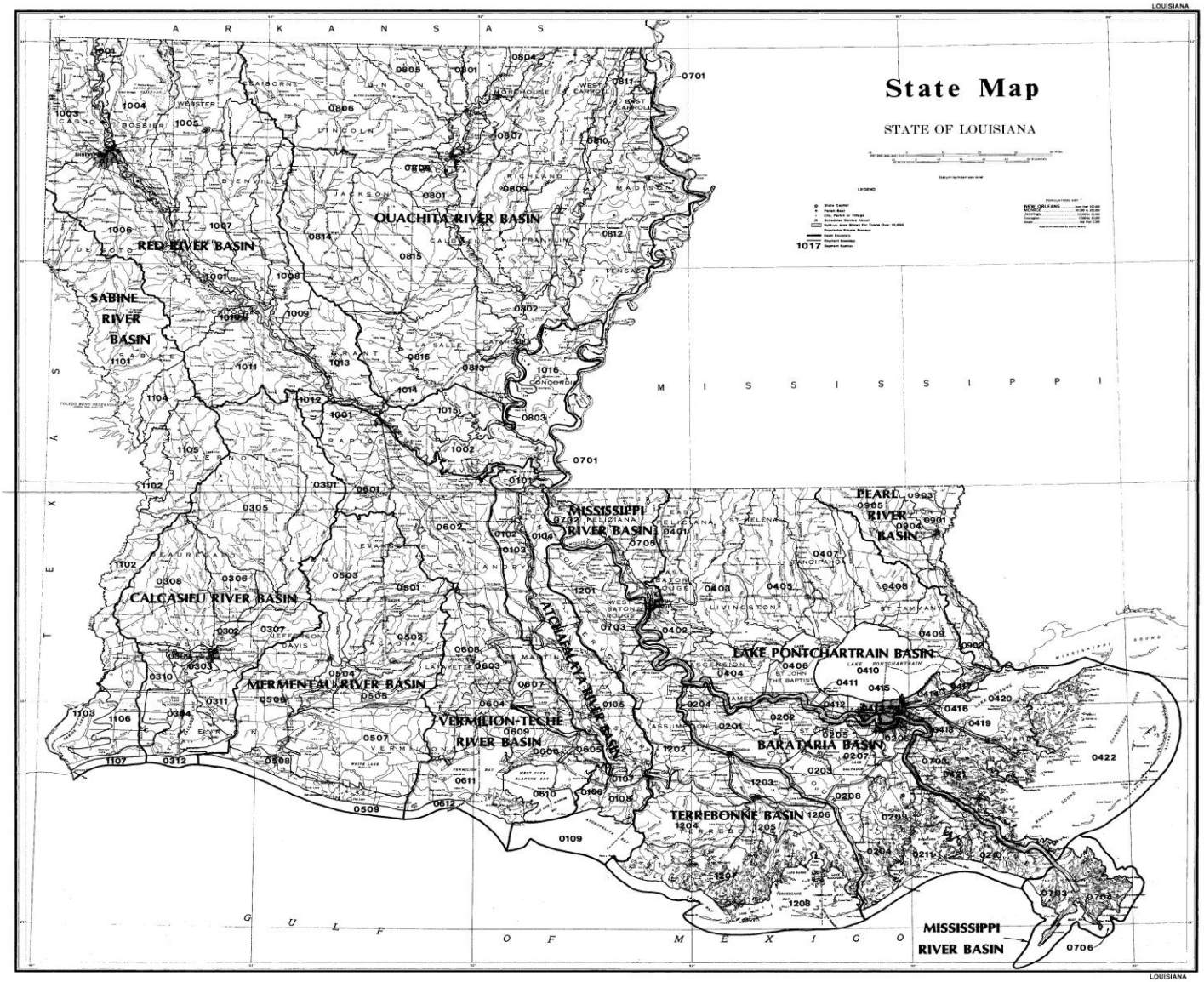


Figure D.1 Map of Louisiana by LDWF Trip Ticket Basin

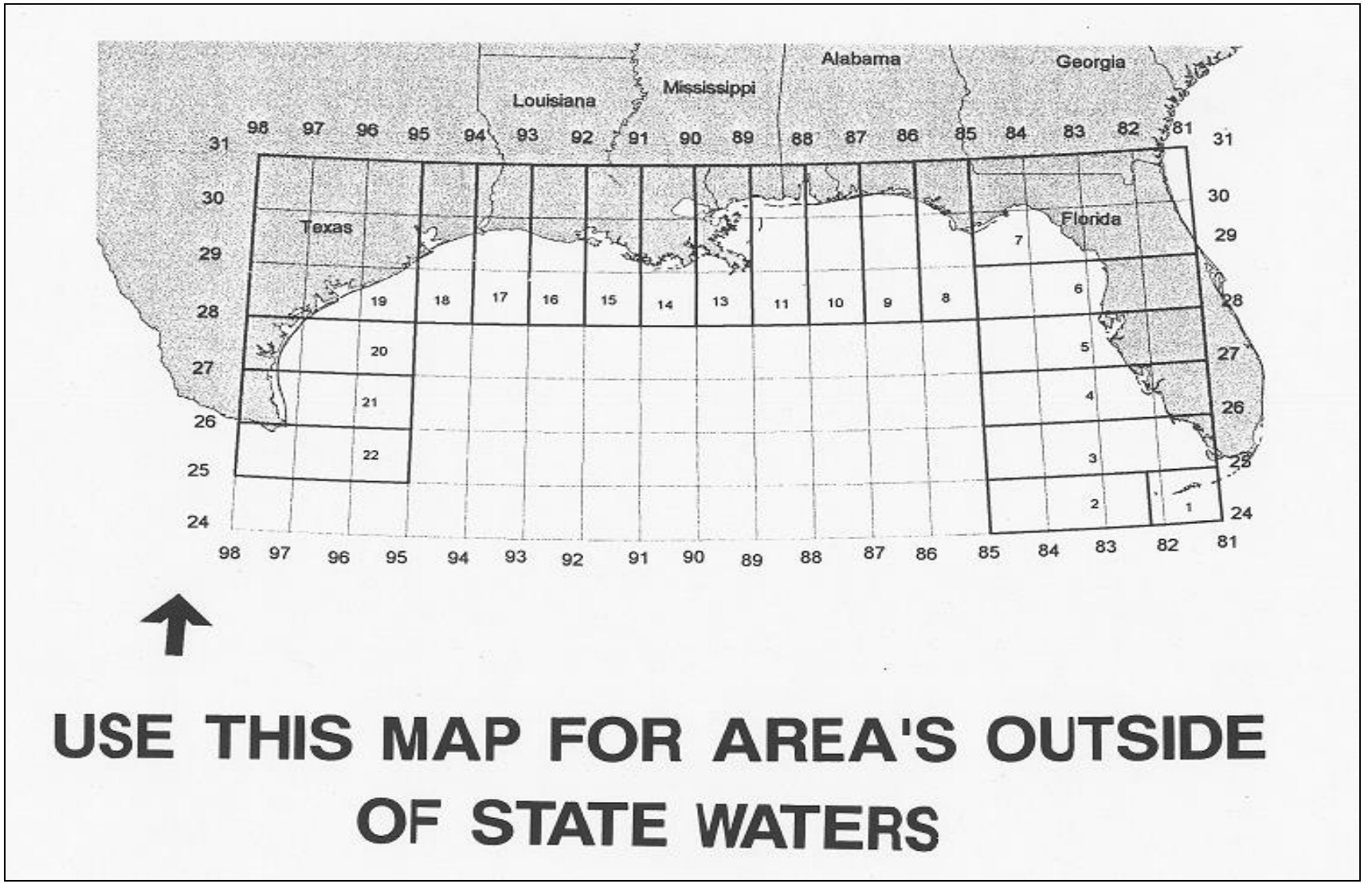
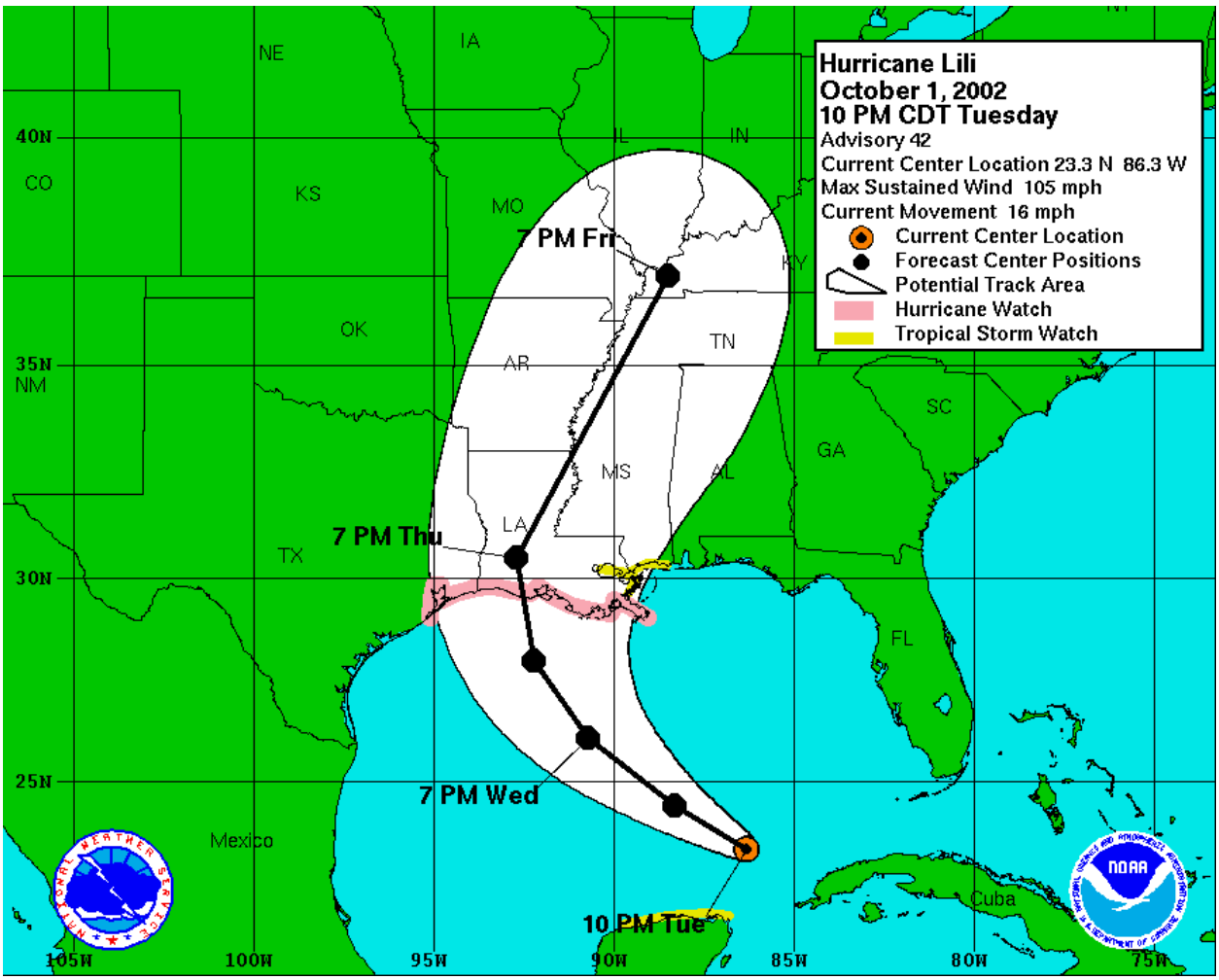
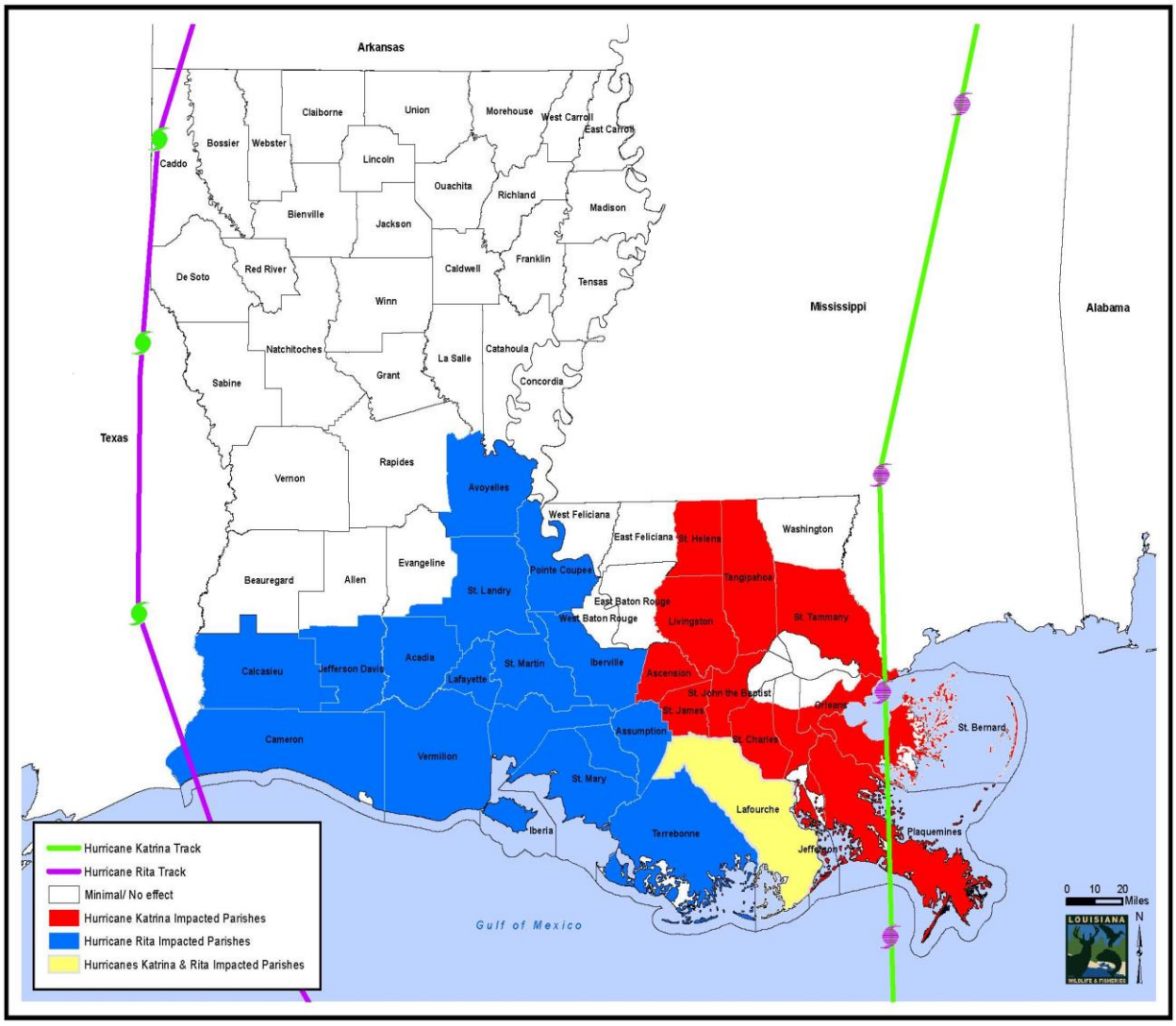


Figure D.2 Map of Fishing Locations by NMFS Grid



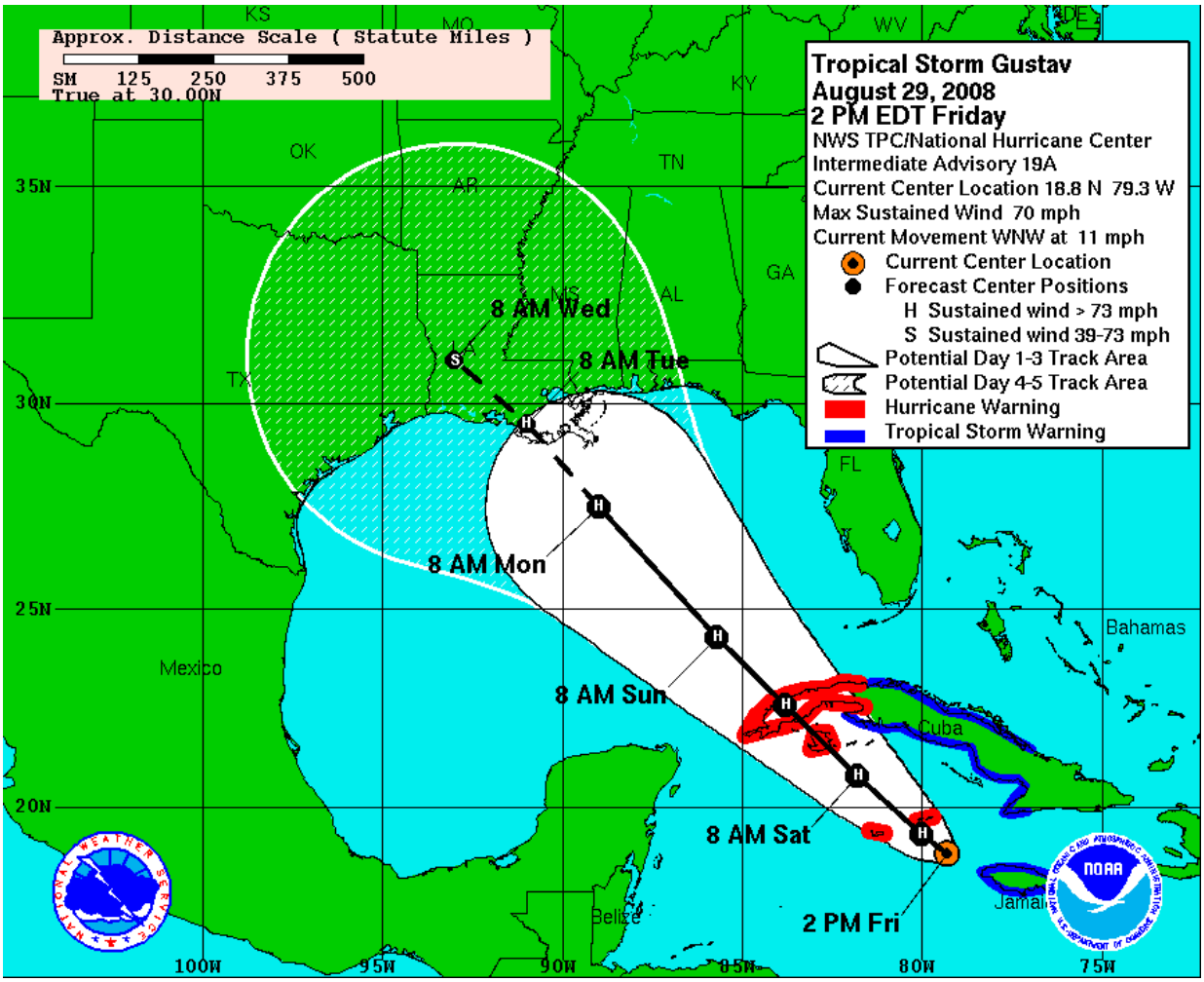
Source: National Hurricane Center, NOAA. Note that hurricane Lili was a category 1 hurricane.

Figure D.3 Track of Hurricane Lili in 2002



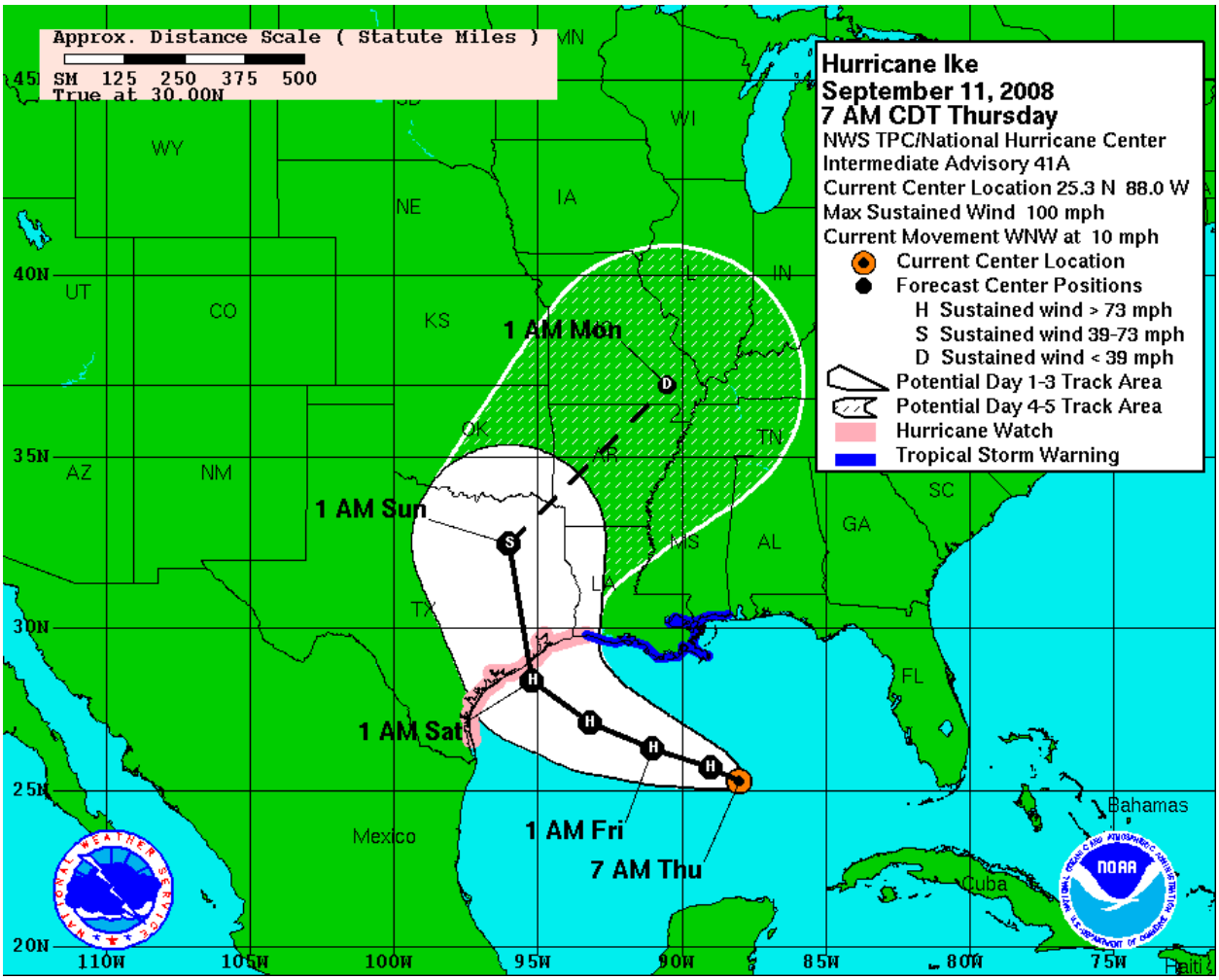
Source: S. Armand, Louisiana Department of Wildlife and Fisheries, LAGISDVD, ESRI, NOAA, Nov. 15, 2010. Note that hurricanes Katrina and Rita were both category 3 hurricanes.

Figure D.4 Tracks of Hurricanes Katrina and Rita in 2005



Source: National Hurricane Center, NOAA. Note that hurricane Gustav was a category 2 hurricane.

Figure D.5 Track of Hurricanes Gustav in 2008



Source: National Hurricane Center, NOAA. Note that hurricane Ike was a category 1 hurricane.

Figure D.6 Track of Hurricanes Ike in 2008