

*Economic
Damages of
Hurricane
Gustav
to Seafood
Processors and
Dealers,
Marinas,
and Livebait
Dealers in
Coastal
Mississippi*



Economic Damages of Hurricane Gustav to Seafood Processors and Dealers, Marinas, and Livebait Dealers in Coastal Mississippi

Benedict C. Posadas

Associate Research and Extension Professor
Coastal Research and Extension Center
Mississippi State University
Mississippi-Alabama Sea Grant Extension Program

This document was approved for publication as MAFES Bulletin 1190 of the Mississippi Agricultural and Forestry Experiment Station and as Mississippi-Alabama Sea Grant Publication No. MASGP-10-007. This project was partially funded by the Mississippi Department of Marine Resources under award number 09025-09040392. It was published by the Office of Agricultural Communications, a unit of the Division of Agriculture, Forestry, and Veterinary Medicine at Mississippi State University. Copyright 2011 by Mississippi State University. All rights reserved. This publication may be copied and distributed without alteration for nonprofit educational purposes provided that credit is given to the Mississippi Agricultural and Forestry Experiment Station.

Economic Damages of Hurricane Gustav to Seafood Processors and Dealers, Marinas, and Livebait Dealers in Coastal Mississippi

INTRODUCTION

The two most destructive storms during the 2008 Atlantic hurricane season were hurricanes Ike and Gustav. Hurricane Gustav made landfall on the coast of Louisiana in the morning of September 1, 2008. Weather reports that day indicated that the storm surge was as high as 15 feet in some areas of coastal Mississippi, and several sections of Highway 90 in Biloxi and Gulfport were flooded. Before the storm made landfall, massive evacuations were reported along the various evacuation routes from the coastal areas of Louisiana and Mississippi. Less than 2 weeks later, Hurricane Ike, the worst storm that season, made landfall in Galveston, Texas, on September 13. Massive property devastation and loss of lives were reported in Texas and in other states along the path of the storm.

As the state regulatory agency for marine resources, the Mississippi Department of Marine Resources (DMR) had an urgent and compelling need to complete damage assessments in the affected areas. An accurate assessment of the damages in the affected areas was needed to ensure that any federal and state assistance was adequate and that it allocated resources to the appropriate sectors and recipients. Moreover, disruptions in the markets of the goods and services supplied by the affected

marine establishments were expected as a result of the massive devastation in nearby states. The overall goal of this project was to assess the economic damages associated with hurricanes Gustav and Ike to the seafood processors, dealers, marinas, and livebait dealers in coastal Mississippi. To the extent possible, the specific objectives of this project were as follows:

- (1) To identify all seafood processors, dealers, marinas, and livebait dealers adversely affected by the 2008 hurricanes;
- (2) To identify original physical characteristics and production levels for these operations and to provide an estimate of the costs of rebuilding or repairing the facilities' structures and equipment to their prehurricane state;
- (3) To estimate foregone economic activities of these establishments and measure the associated negative economic impact on the regional economy; and
- (4) To conduct educational programs for the managers and regulators of the marine industries in the region.

MATERIALS AND METHODS

Population of Marine Establishments

This economic assessment included all of the resident seafood processors and dealers, commercial and municipal marinas, and livebait shrimp dealers licensed by DMR and/or operating in Mississippi during the 2008–2009 season. DMR decided to include these marine establishments in the damage assessment because they fall under the state marine resources regulatory agency’s jurisdiction. The official lists of resident licensed marine establishments were retrieved from licenses DMR issued in 2008–2009. Economic information about the licensed resident marine operations collected by Posadas (2006, 2007, 2008, 2010) was merged with the DMR licensing databases of marine establishments. Marine establishments with multiple licenses were counted only once to eliminate double counting in the total population included in the survey (Table 1).

Mailing lists of all resident seafood processors and/or dealers were merged to eliminate double counting of damages since some establishments were licensed as both seafood processor and dealer. DMR listed 142 establishments as resident seafood processors and/or dealers operating during the 2008–2009 season. Locations of the 26 seafood-processing

establishments in the three coastal counties are shown in Figure 1. Most of the seafood processors were located in Harrison County, while three plants were in Hancock County and four plants were in Jackson County.

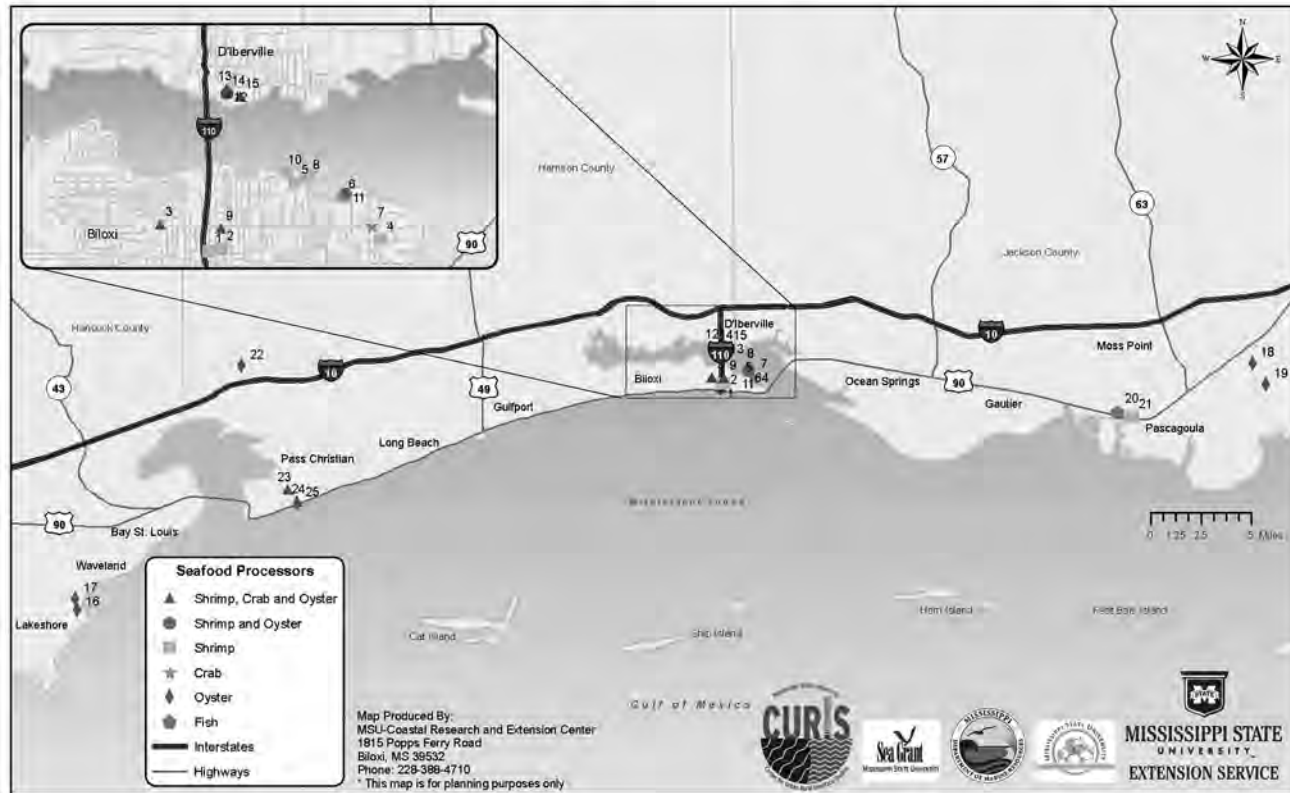
The mailing list for livebait shrimp dealers operating in Hancock, Harrison, and Jackson counties was generated from the 13 licenses issued by DMR for the 2008–2009 season. The locations of the 13 livebait shrimp dealers in the three coastal counties are shown in Figure 2. Seven of the dealers were located in Jackson County. Hancock and Harrison counties each had three livebait dealers.

Mailing lists of commercial and municipal marinas in Hancock, Harrison, and Jackson counties were compiled from several sources. The primary source was the mailing list used by Posadas (2010) during the assessment of the damages to marinas due to Hurricane Katrina. This coastal marina database was updated using the marina listings on the DMR website and the marina listings in telephone directories (online and print). From these combined databases of marinas, a mailing list was compiled of 20 commercial and municipal marinas operating in the three coastal counties in 2008–2009.

Table 1. Number of Licensed Resident Marine Establishments in Mississippi During the 2008–2009 Season.

Type	Number of establishments	Sample included in the survey
Seafood dealers and processors	142	142
Livebait shrimp dealers	13	13
Commercial and municipal marinas	20	20
Total	175	175

Seafood Processors in Coastal Mississippi, 2009



Seafood Processors:

1. Biloxi Freezing & Processing, Inc.
204 Bohm Street
Biloxi, MS 39530
228-435-1911
2. Custom Pack, Inc.
211 Caillavet Street
Biloxi, MS 39530
228-435-3632
3. Desportes & Son's Seafood
1075 Division Street
Biloxi, MS 39530
228-435-2175
4. Golden Gulf Coast Packing, Inc.
280 Maple Street
Biloxi, MS 39530
228-374-6121
5. Gollott Brothers Seafood
555 Bayview Ave.
Biloxi, MS 39530
228-432-7865
6. GulfPride Enterprises, Inc.
381 East Bayview Ave.
Biloxi, MS 39530
228-432-1929
7. Jennifer Le Seafood
287 Division Street
Biloxi, MS 39530
228-432-0209
8. M&M Processing, LLC
542 East Bayview Ave.
Biloxi, MS 39530
228-238-9300
9. Quality Poultry and Seafood
895 Division Street
Biloxi, MS 39530
228-432-5216
10. R. A. Lesso Seafood Co., Inc.
598 East Bayview Ave.
Biloxi, MS 39530
228-374-7200
11. Shemper Seafood
367 Bayview Ave.
Biloxi, MS 39530
228-435-2703
12. C.F. Gollott & Son's Seafood
9357 Central Avenue
D'Iberville, MS 39532
228-382-2747
13. Fournier & Son's Seafood
9450 Central Avenue
D'Iberville, MS 39532
228-392-4283
14. North Bay Seafood
9419 Central Avenue
D'Iberville, MS 39532
228-392-8573
15. Seymour & Son's Seafood
3201 St. Charles Street
D'Iberville, MS 39532
228-392-4020
16. Bayou Caddy Fisheries
5200 Shipyard Road
Lakeshore, MS 39558
228-467-4332
17. Gulf Shores Sea Products, Inc.
5400 Ann Street
Lakeshore, MS 39558
228-323-6370
18. D. L. Pettis & Son Seafood
9400 Pettis Road
Moss Point, MS 39562
228-475-8678
19. Hopper Seafood
3701 Grand Bature Road
Moss Point, MS 39562
228-475-3850
20. Clark's Seafood Co.
4401 Clark Street
Pascagoula, MS 39567
228-762-4511
21. Pascagoula Freezer & Ice
3708 Pascagoula Street
Pascagoula, MS 39567
228-762-2541
22. B&W Seafood
27055 Bradley Road
Pass Christian, MS 39571
228-860-4207
23. Crystal Seas Seafood
166 West North Street
Pass Christian, MS 39571
228-452-2722
24. Jerry Forte Seafood
South Market Street
Pass Christian, MS 39571
228-452-2681
25. Pass Purchasing Seafood
South Market Street
Pass Christian, MS 39571
228-452-9604

Figure 1. Seafood Processors in Coastal Mississippi, 2009.

Mississippi Licensed Live Bait Shrimp Dealers for the 2008-2009 Season



Figure 2. Licensed Livebait Shrimp Dealers in Mississippi, 2008–2009 Season.

Sources of Primary Data About the Marine Establishments

Similar questionnaires used by Posadas (2006, 2007, 2008, 2010) after hurricanes Katrina and Rita were developed to collect economic information from all of the licensed resident marine establishments (Appendices A, B, C). Three different surveys were conducted for the three groups of marine establishments included in this assessment. The first group consisted of 142 resident seafood processors and dealers. The second group included 13 livebait dealers. The third group had 20 commercial and municipal marinas. A letter explaining the economic assessment and a different questionnaire for each of the three groups were mailed to 175 licensed resident marine establishments in October 2008.

A follow-up mailing with another letter and the same questionnaire was sent to each establishment that did not respond to the first mailing in January 2009. In addition, DMR personnel were prepared to

provide assistance to marine establishments that needed help in completing the surveys. However, none of the marine establishments included in the survey requested any assistance in completing the survey.

A pictorial survey of the marine establishments was conducted to generate GPS coordinates, develop benchmark digital pictures at their current locations, and determine their current operational status. During this pictorial survey, several marine establishments that were not included in the three mail surveys were located and added to the original databases for future reference. Several marine establishments included in the surveys were located or have mailing addresses in residential areas. A few of the marine establishments included in the mail surveys were not located despite several attempts to locate them.

RESULTS AND DISCUSSION

Participating Establishments

As of March 2009, 49 marine establishments responded to the surveys (Table 2); that is 28% of the total population of 175 marine establishments. The participating marine establishments consisted of 34 seafood dealers and processors, seven livebait deal-

ers, and eight marinas. The overall response rate was 32%, with 28% of the seafood processors and dealers, 58% of the livebait dealers, and 47% of the marinas responding to the survey.

Table 2. Total Population and Number of Participating Mississippi Marine Establishments.

Sector	Units	Total population	Participating sample	Mail returned without forwarding addresses	Response rate ¹
Seafood dealers and processors	houses	142	34	20	28
Livebait shrimp dealers	houses	13	7	1	58
Commercial and municipal marinas	facilities	20	8	3	47
Total		175	49	24	32

¹The response rate (percent) is equal to the number of units that participated in the survey divided by the number of units licensed or operating during the 2008–2009 season minus the number of questionnaires returned without forwarding addresses.

Sales and Purchases from Outside Mississippi

When asked the question, “How many percent of total sales were sold to customers outside of Mississippi?,” the responses varied among the three sectors (Table 3). Seafood dealers and processors reported selling 42% of their seafood products to customers from outside Mississippi. Livebait dealers sold about 16% of their bait products to customers from outside Mississippi. Marina operators reported that an average of 19% of their services were sold to customers coming from outside the state.

The average responses to the question, “How many percent of total purchases were bought from suppliers outside of Mississippi?,” varied among the three sectors (Table 3). Approximately 30% of the total purchases by seafood dealers and processors went to suppliers from outside Mississippi. Livebait dealers and operators reported minimal purchases (2–3%) from suppliers outside Mississippi. Participating establishments made a very wide range of responses to questions on total sales to customers and purchases from suppliers outside the state.

Table 3. Percent of Total Sales and Total Purchases of Participating Mississippi Marine Establishments to Customers and Suppliers Outside Mississippi.

Sector	Percent of total sales sold to customers outside Mississippi		Percent of total purchases bought from suppliers outside Mississippi	
	Average	Range	Average	Range
Seafood dealers and processors	42	0–98	30	0–95
Livebait shrimp dealers	16	2–30	2	0–6
Commercial and municipal marinas	19	0–50	3	0–10

Prehurricane Market Values of Facilities

The owners or operators of the marine establishments were asked to estimate the market values of their facilities before the hurricanes (Table 4). Seafood processors and dealers estimated the market values of their buildings, processing equipment, delivery equipment, refrigeration and storage equipment, and other equipment and accessories (Appendix A). Livebait dealers estimated the market values of their buildings, holding equipment, livehaul equipment, and other accessories (Appendix B). However, one of the reviewers of this bulletin pointed out that many bait dealers run their own livebait shrimp boats. During the damage assessment after Hurricane Katrina landed in Mississippi, Posadas (2008) included livebait shrimp boats with the commercial fishing fleet. In this assessment, the values of the boats, engines, gear, and accessories used in livebait shrimp fishing were not included.

Marina operators were asked to estimate market values of buildings, pump-out and filling stations, wet slips, dry storage, jetties, piers, ramps, and other equipment and accessories (Appendix C).

When asked to indicate the prehurricane market values of their facilities, participating seafood processors and dealers reported an average \$0.64 million per facility (Table 4). However, there were wide variations in their reported individual market values, with figures ranging from \$8,000 to \$3 million. Participating livebait dealers had facilities valued at an average \$134,550 per facility, but wide variations also were observed in the reported values (\$24,000 to \$243,000). There were wide variations in the average sizes of participating commercial and municipal marinas (\$35,000 to \$6 million), which averaged \$1.5 million per facility.

Table 4. Prehurricane Market Values of Facilities of Participating Mississippi Marine Establishments.

Sector	Total (\$)	Average (\$)	Range (\$)
Seafood dealers and processors	7,714,100	642,842	8,000–3,000,000
Livebait shrimp dealers	538,200	134,550	24,000–243,000
Commercial and municipal marinas	9,048,000	1,508,000	35,000–6,000,000
Total	17,300,300		

Lost Revenues and Job Opportunities

Participating marine establishments reported revenue losses totaling \$9.68 million associated with lost markets for their products or services and sources of supplies as a result of the 2008 hurricanes (Table 5). The foregone revenues were estimated by using the individual 2007 annual gross sales (AGS) of each participating marine establishment as an estimate of the 2008 expected AGS without the hurricanes, as well as the owners' or operators' perceptions of the proportion of 2008 AGS lost due to the hurricane. Their perceptions about the foregone revenues were probably influenced by their understanding of the market demands for their services by Mississippi residents and tourists during the years they were in operation before the hurricanes (Posadas, 2010). The owner's or operator's perceptions of future annual gross sales would also affect their hiring decisions. Among the seafood processors and dealers alone, the U.S. Department of Commerce (2009) reported that the participating 26 seafood processors and wholesalers operating in Mississippi in 2007 employed 3,162 workers.

When asked to give their best estimates of the 2008 annual gross sales lost due to lost market channels and sources of supplies, owners or operators of participating seafood processing and dealing houses reported an average 22% loss (Table 5). The perceived percent loss widely fluctuated among the responses from 0–100%. After combining the individual perceived losses reported by the participating seafood processors and dealers, the total foregone gross sales reached \$9.36 million.

The best estimate of the 2008 annual gross sales forgone due to lost market channels and sources of supplies reported by the participating owners or operators of livebait shrimp dealers averaged 29%. There were large variations in the perceived losses reported (0–50%). The combined foregone gross revenue was equivalent to almost \$107,000 in annual gross sales generated by the livebait dealers.

With more than \$1 million in annual gross sales earned by participating marinas in 2007, the owners or operators expected to lose 19% due to lost market channels and sources of supplies. Marina owners or operators varied widely in their

Table 5. Annual Sales Reported by Participating Mississippi Marine Establishments.

Sector	Annual gross sales in 2007 (\$)			Pct. total sales lost in 2008		Total sales lost in 2008 (\$)¹
	Total	Average	Range	Average	Range	
Seafood dealers and processors	54,547,736	3,896,267	4,000–12,000,000	22	0–100	9,358,456
Livebait shrimp dealers	365,000	91,250	30,000–165,000	29	0–50	106,950
Commercial and municipal marinas	1,071,600	178,600	21,600–300,000	19	0–50	215,400
Total	55,984,336					9,680,806

¹The total sales lost in 2008 due to lost market channels and sources of supplies is the sum of the percent of total sales lost in 2008 by each participating establishment multiplied by the corresponding 2007 annual gross sales of each establishment.

reports of expected 2008 losses (0–50%). Overall, they expected to lose more than \$215,000 in equivalent annual gross sales as a result of the hurricanes.

The impact of the 2008 hurricanes on employment was measured by comparing the number of crew members employed by the marine establishments in 2007 and the number of crew members employed after the hurricanes (Table 6). The total

number of workers employed by participating marine establishments shrank from 360 to 331, which is 92% of the prehurricane employment level. Participating seafood processors and dealers reduced their workforces by 6% from 322 to 302 workers. The number of employees working at livebait dealer houses dropped to 70% of the number before the hurricanes. The workforce employed by marinas decreased to 79% of its prehurricane size.

Table 6. Number of Employees Hired by Participating Mississippi Marine Establishments.

Sector	Number of workers in 2007			Number of workers after hurricanes			
	Total	Average	Range	Total	Average	Range	Pct. of 2007
Seafood dealers and processors	322	16	0–130	302	16	0–120	94
Livebait shrimp dealers	10	2	0–4	7	1	0–3	70
Commercial and municipal marinas	28	4	0–14	22	3	0–14	79
Total	360			331			92

Estimated Costs of Damages to Restore to Prehurricane Level

The total damages associated with the 2008 hurricanes consisted of public and private losses, as well as direct and indirect losses. Direct public damages included inventory losses, damages to marine resources, damages to publicly owned and operated marine infrastructures, and costs of cleanup, debris removal, and disposal (Posadas et al., 2008). Direct private damages included inventory losses, damages to privately owned and operated establishments, lost revenues due to foregone sales, and costs of cleanup, debris removal, and disposal. Indirect damages are those foregone economic activities of business sectors associated with the production of marine products and services.

The scope of the damage assessment was limited to direct damages to the facilities of the Mississippi resident seafood processors and deal-

ers, livebait shrimp dealers, and municipal and commercial marina establishments licensed by DMR and/or operating in Mississippi during the 2008–2009 season. Total direct damages to facilities included inventory losses, damages to buildings, equipment, and other accessories, and costs of cleanup, removal, and disposal.

Overall estimated losses reached \$1.79 million, including costs of inventories lost, total costs of restoring damaged buildings and equipment to prehurricane levels, and costs of demolition, disposal, and cleanup (Table 7). Participating seafood processors and dealers reported total damages amounting to more than \$646,000. Total damages sustained by the participating livebait shrimp dealers were more than \$232,000. Participating marina operators reported more than \$917,00 in total damages.

Table 7. Estimated Costs of Damages to Restore to Prehurricane Level as Reported by Participating Mississippi Marine Establishments.

Sector	Buildings (\$)	Equipment (\$)	Demolition, disposal, and cleanup (\$)	Inventory (\$)	Total (\$)
Seafood dealers and processors	164,300	266,300	71,000	145,000	646,600
Livebait shrimp dealers	154,000	47,500	15,500	15,500	232,500
Commercial and municipal marinas	684,139	144,181	45,500	43,200	917,020
Total	1,002,439	457,981	132,000	203,700	1,796,120

Insurance Payments and Outstanding Loans

The level of insurance existing at the time of the hurricane was measured by the amount of insurance coverage the operating facilities were expecting for the damages sustained by their facilities. Insurance coverage is generally required for facilities financed with loans from private and federal lending institutions such as the U.S. Small Business Administration (SBA). As shown in Table 8, the insurance proceeds received or expected by the damaged establishments were negligible.

The capital debt remaining to be paid off was measured by the amount of outstanding loans owners or operators had on their facilities at the time of the hurricane. Outstanding loans were broken down by major sources, including loans from SBA and loans from other sources. It is assumed that these loans were incurred to finance the purchase or construction of fixed assets used by the marine establishments before the 2008 hurricanes. The combined outstanding loans remaining for all the participating establishments reached more than \$9.33 million (Table 8).

Table 8. Insurance Proceeds and Outstanding Loans from SBA and Other Sources of Participating Mississippi Marine Establishments.

Sector	Insurance proceeds	SBA loan	Other loans	Total loans
Seafood dealers and processors	26,100	4,081,000	1,183,500	5,264,500
Livebait shrimp dealers	0	44,000	353,000	397,000
Commercial and municipal marinas	0	1,777,276	1,896,496	3,673,772
Total	26,100	5,902,276	3,432,996	9,335,272

SUMMARY AND IMPLICATIONS

This bulletin summarizes the economic damages to seafood processors, dealers, marinas, and livebait dealers in coastal Mississippi as a result of hurricanes Gustav and Ike. The damage assessment included all of the resident seafood processors, dealers, marinas, and livebait dealers that were issued licenses by the Mississippi Department of Marine Resources to operate in the state during the 2008–2009 season.

Three different surveys were conducted for the three groups of marine establishments included in the assessment. The first group consisted of 142 seafood processors and dealers, the second group included 13 livebait dealers, and the third group had 20 commercial and municipal marinas. A letter explaining the economic assessment and a different questionnaire for each of the three groups were mailed to 175 licensed resident marine establishments in October 2008. A follow-up mailing with another letter and questionnaire was sent to those who did not respond to the first mailing in January 2009.

As of March 2009, 49 marine establishments responded to the surveys — 28% of the total population of 175 marine establishments. Participating marine establishments consisted of 34 seafood dealers and processors, seven livebait dealers, and eight marinas. Pictorial surveys of the marine establishments located in Hancock, Harrison, and Jackson counties were conducted to generate GPS coordinates, take digital pictures at their current locations, and determine current

operational status of marine establishments included in the survey.

Estimates of total damages reported by participating marine establishments associated with the 2008 hurricanes consisted of inventory losses, damages to facilities and equipment, and costs of demolition, disposal, and cleanup at damaged facilities. Total damages and foregone sales associated with the 2008 hurricanes amounted to \$11.47 million broken down as follows:

- Damages to buildings — \$1 million;
- Damages to equipment and accessories — \$0.46 million;
- Costs of demolition, disposal, and cleanup of damaged facilities and equipment — \$0.13 million;
- Inventory losses — \$0.2 million; and
- Foregone gross sales due to lost market channels and supply sources — \$9.68 million.

When viewed on a regional basis, these lost market channels and supply sources would lead to considerable reduction in the final levels of economic activity, income generation, employment creation, and tax collections in the sectors affected by the hurricanes. When the backward and forward linkages in the regional economy are considered, additional indirect and induced losses are likely. Backward linkages would include purchases of equipment, fuel, and seafood products by the participating marine establishments.

LITERATURE CITED

- Bull, Ross.** 1994. Disaster Economics, 2nd ed. United Nations Development Programme Disaster Management Training Programme and University of Wisconsin Disaster Management Center.
- Posadas, Benedict C.** 2010. Economic Assessment of the Impacts of Hurricane Katrina on Coastal Mississippi Charter Boats for Hire, Marinas and Live Bait Dealers. Mississippi Agricultural and Forestry Experiment Station Bulletin 1165, Mississippi State, Mississippi.
- Posadas, Benedict C., Ruth A. Posadas, and William S. Perret.** 2008. Estimating Economic Damages to Mississippi Commercial and Recreational Fishing Industries from Hurricane Katrina. *In* pages 131-144 Katherine McLaughlin (ed). Mitigating Impacts of Natural Hazards of Fishery Ecosystems. American Fisheries Society Symposium 64, Bethesda, Maryland.
- Posadas, Benedict C.** 2008. Economic Assessment of the Impacts of Hurricane Katrina on Mississippi Commercial Fishing Fleet. Mississippi Agricultural and Forestry Experiment Station Bulletin 1165, Mississippi State, Mississippi. Last verified: October 1, 2009 <http://msucares.com/pubs/bulletins/b1165.pdf>
- Posadas, Benedict C.** 2007. Economic Assessment of the Impacts of Hurricane Katrina on Mississippi Seafood Processing Plants and Dealer Houses. Mississippi Agricultural and Forestry Experiment Station Information Bulletin 435, Mississippi State, Mississippi. Last verified: October 1, 2009 <http://msucares.com/pubs/infobulletins/ib0435.pdf>
- Posadas, Benedict C.** 2006. Economic Assessment of the Impacts of Hurricane Katrina on Mississippi Recreational Boats. Final report submitted to the National Marine Fisheries Service, Silver Spring, Maryland.
- Posadas, Benedict C., and Ruth A. Posadas.** 2006. Economic Assessment of the Impacts of Hurricanes Katrina and Rita on Mississippi Seafood Harvesting, Processing and Recreational Boating Industries. 13th Biennial International Institute of Fisheries Economics and Trade's Conference - IIFET 2006 Portsmouth: Rebuilding Fisheries in an Uncertain Environment, Portsmouth, United Kingdom.
- The H. John Heinz III Center for Science, Economics, and the Environment.** 2000. The Hidden Costs of Coastal Hazards: Implications for Risk Assessment and Mitigation. Island Press, Washington, D.C.
- U.S. Department of Commerce.** 2009. Fisheries Economics of the United States 2006: Economics and Sociocultural Status and Trends Series. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Silver Spring, Maryland.
- U.S. Department of Commerce.** 2009. Fisheries of the United States 2008. Current Fishery Statistics No. 2008. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Silver Spring, Maryland.

APPENDIX A. Cover Letter and Seafood Dealers Questionnaire

January 15, 2009

Dear Seafood Processor/Dealer:

A survey of Mississippi seafood processors and dealers is currently being undertaken to determine the level of economic losses associated with Hurricanes Gustav and Ike. The Mississippi Department of Marine Resources has contracted the Mississippi State University-Coastal Research and Extension Center to conduct the assessment of the damages. These losses would include damages to your physical facilities and revenues lost due to damaged market channels and suppliers.

The information on damage or no damage is vital in assessing the impacts of these hurricanes on the Mississippi marine establishments. If your establishment was not damaged by these hurricanes, please indicate that in the questionnaire and mail it back in the enclosed envelope.

We would truly appreciate your cooperation in completing this assessment and rest assured that all the results will be reported in summary tables without specific reference to your individual responses.

Please return the completed questionnaire as soon as possible in the enclosed envelope or call the Mississippi Department of Marine Resources at 228-523-4081 (Mai Dang) or 228-523-4084 (Ruth Posadas) if you need somebody to come and visit with you to complete the interview.

Thank you very much for your cooperation.

Upon publication of this report, a copy will be sent to your address if you check the appropriate box in the attached questionnaire.

Very respectfully yours,

Benedict Posadas, Ph.D.
Associate E&R Professor of Economics

SURVEY OF ECONOMIC LOSSES DUE TO HURRICANES GUSTAV AND IKE

PART 1. PLEASE COMPLETE THIS SECTION (QUESTIONS 1-6):

1. **NAME OF SEAFOOD ESTABLISHMENT:** _____

2. **IN WHAT CITY IS YOUR SEAFOOD ESTABLISHMENT LOCATED?** _____

3. **WHICH CATEGORY BEST DESCRIBES YOUR SEAFOOD ESTABLISHMENT?**

- Seafood processor only Seafood dealer only
 Both seafood processor and dealer

4. **WHAT TYPE OF SEAFOOD DOES YOUR ESTABLISHMENT CURRENTLY HANDLE:**

(Please check all that applies):

- Crab Oyster Shrimp Foodfish Industrial fish

5. MARKET CHANNELS AND SEAFOOD SOURCES

A. How many percent of total sales were sold to customers outside of Mississippi?
_____ percent

B. How many percent of total purchases were bought from suppliers outside of Mississippi?
_____ percent

6. ESTIMATION OF LOST REVENUES AND JOB OPPORTUNITIES

A. What was your gross annual sales in 2007 (before H. Gustav and Ike)? \$ _____

B. How many workers did you employ in 2007 (before H. Gustav and Ike)? _____
persons

C. How many workers are you employing now (after H. Gustav and Ike)? _____
persons

D. What is your best estimate of the 2008 total sales that you lost due to lost market channels and sources of supplies? _____ percent

PART II. PLEASE COMPLETE THIS SECTION (QUESTIONS 7-8) ONLY IF YOUR FACILITY WAS DAMAGED BY HURRICANES GUSTAV AND/OR IKE

7. ESTIMATE OF FACILITIES AND PRODUCT INVENTORY LOSSES

A. Please indicate the market values of buildings, processing equipment, delivery equipment, and other accessories in your facility before the hurricanes:

B. If your facility was damaged by the hurricanes, what are your best estimates of the costs of the damages to your facility that you need to restore to pre-hurricane level?

Category	Pre-hurricane market values (\$)	Estimated costs of the damages to restore to pre-hurricane level (\$)	Estimated costs of demolition, removal, disposal & clean up (\$)
Buildings			
Processing equipment			
Refrigeration/Storage equipment			
Delivery equipment			
Other equipment and accessories			
Total market values			

C. How much was the estimated value of seafood products and supplies that were lost during the hurricanes? \$_____

8. INSURANCE AND LOANS ON DAMAGED FACILITIES

A. What is the amount of insurance coverage you expect for the damages of your facilities? \$_____

B. What is the amount of outstanding loans you have on the facilities from Small Business Administration \$_____

C. What is the amount of outstanding loans you have on the facilities from other sources \$_____

Please check this box if you want a copy of the final report mailed to your address.

APPENDIX B. Cover Letter and Live-Bait Dealers Questionnaire

January 23, 2009

Dear Live Bait Dealer:

A survey of live bait dealers is currently being undertaken in Mississippi to determine the level of economic losses sustained as a result of Hurricanes Gustav and Ike. The Mississippi Department of Marine Resources has contracted the Mississippi State University-Coastal Research and Extension Center to conduct the assessment of the damages. These losses would include damages to your physical facilities and revenues lost due to damaged market channels and suppliers.

The information on damage or no damage is vital in assessing the impacts of these hurricanes on the Mississippi marine establishments. If your establishment was not damaged by the hurricanes, please complete Part I only of the questionnaire and mail it back in the enclosed envelope. If your establishment was damaged by the hurricanes, please complete Part I and Part II of the questionnaire.

We would truly appreciate your cooperation in completing this assessment and rest assured that all the results will be reported in summary tables without specific reference to your individual responses.

Please return the completed questionnaire as soon as possible in the enclosed envelope or call the Mississippi Department of Marine Resources at 228-523-4081 (Mai Dang) or 228-523-4084 (Ruth Posadas) if you need somebody to come and visit with you to complete the interview.

Thank you very much for your cooperation.

Upon publication of this report, a copy will be sent to your address if you check the appropriate box in the attached questionnaire.

Very respectfully yours,

Benedict Posadas, Ph.D.
Associate Extension and Research Professor of Economics

SURVEY OF ECONOMIC LOSSES DUE TO HURRICANES GUSTAV AND IKE

PART 1. PLEASE COMPLETE THIS SECTION (QUESTIONS 1-4):

1. NAME OF LIVE BAIT DEALER

2. CITY LIVE BAIT DEALER IS LOCATED: _____

3. CUSTOMER BASE AND SOURCES OF SUPPLIES

A. What percentage of your customers was from outside of Mississippi? _____ percent

B. How many percent of total purchases were bought from suppliers outside of Mississippi? _____ percent

4. ESTIMATION OF LOST REVENUES AND JOB OPPORTUNITIES

A. What was your gross annual sales in 2007 (before H. Gustav and Ike)?
\$ _____

B. How many workers did you employ in 2007 (before H. Gustav and Ike)?
_____ persons

C. How many workers are you employing now (after H. Gustav and Ike)? _____ persons

D. What is your best estimate of the 2008 total sales that you lost due to lost market channels and sources of supplies? _____ percent

PART II. PLEASE COMPLETE THIS SECTION (QUESTIONS 5-6) ONLY IF YOUR FACILITY WAS DAMAGED BY HURRICANES GUSTAV AND/OR IKE

5. ESTIMATE OF FACILITIES AND PRODUCT INVENTORY LOSSES

A. Please indicate the market values of buildings, livehaul equipment, live bait holding equipment and other accessories in your facility before the hurricanes.

B. If your facility was damaged by the hurricanes, what are your best estimates of the costs of the damages to your facility that you need to restore to pre-hurricane level?

Category	Pre-hurricane market values (\$)	Estimated costs of the damages to facility to restore to pre-hurricane level (\$)	Estimated costs of demolition, removal, disposal & clean up of damaged facilities (\$)
Buildings			
Holding equipment			
Livehaul equipment			
Other accessories			
Total			

C. How much was the estimated value of bait products and supplies that were lost during the hurricanes? \$ _____

6. INSURANCE AND LOANS ON DAMAGED FACILITIES

A. What is the amount of insurance coverage you expect for the damages?
\$ _____

B. What is the amount of outstanding loans you have on the facilities from Small Business Administration \$ _____

C. What is the amount of outstanding loans you have on the facilities from other sources
\$ _____

Please check this box if you want a copy of the final report mailed to your address.

APPENDIX C. Cover Letter and Marinas Questionnaire

January 23, 2009

Dear Marina Operator:

A survey of marinas is currently being undertaken in Mississippi to determine the level of economic losses sustained as a result of Hurricanes Gustav and Ike. The Mississippi Department of Marine Resources has contracted the Mississippi State University-Coastal Research and Extension Center to conduct the assessment of the damages. These losses would include damages to your physical facilities and revenues lost due to damaged market channels and suppliers.

The information on damage or no damage is vital in assessing the impacts of these hurricanes on the Mississippi marine establishments. If your establishment was not damaged by the hurricanes, please complete Part I only of the questionnaire and mail it back in the enclosed envelope. If your establishment was damaged by the hurricanes, please complete Part I and Part II of the questionnaire.

We would truly appreciate your cooperation in completing this assessment and rest assured that all the results will be reported in summary tables without specific reference to your individual responses.

Please return the completed questionnaire as soon as possible in the enclosed envelope or call the Mississippi Department of Marine Resources at 228-523-4081 (Mai Dang) or 228-523-4084 (Ruth Posadas) if you need somebody to come and visit with you to complete the interview.

Thank you very much for your cooperation.

Upon publication of this report, a copy will be sent to your address if you check the appropriate box in the attached questionnaire.

Very respectfully yours,

Benedict Posadas, Ph.D.
Associate Extension and Research Professor of Economics

SURVEY OF ECONOMIC LOSSES DUE TO HURRICANES GUSTAV AND IKE

PART I. PLEASE COMPLETE THIS SECTION (QUESTIONS 1-5):

1. **NAME OF MARINA:** _____

2. **CITY MARINA IS LOCATED:** _____

3. **MARINA FACILITIES:** (Please check all that applies):

Wet slips Dry storage Refueling station Pump-out station Boat ramp

4. MARKET CHANNELS AND SOURCES OF SUPPLIES

A. What percentage of your customers was from outside of Mississippi? _____ percent

B. How many percent of total purchases were bought from suppliers outside of Mississippi? _____ percent

5. ESTIMATION OF LOST REVENUES AND JOB OPPORTUNITIES

A. What was your gross annual sales in 2007 (before H. Gustav and Ike)?
\$ _____

B. How many workers did you employ in 2007 (before H. Gustav and Ike)? _____ persons

C. How many workers are you employing now (after H. Gustav and Ike)? _____ persons

D. What is your best estimate of the 2008 total sales that you lost due to lost market channels and sources of supplies? _____ percent

PART II. PLEASE COMPLETE THIS SECTION (QUESTIONS 6-7) ONLY IF YOUR FACILITY WAS DAMAGED BY HURRICANES GUSTAV AND/OR IKE

6. ESTIMATE OF FACILITIES AND PRODUCT INVENTORY LOSSES

A. Please indicate the market values of buildings, wet slips, dry storage, jetties, piers, ramps and other equipment in your facility before the hurricanes:

B. If your facility was damaged by the hurricanes, what are your best estimates of the costs of the damages to your facility that you need to restore to pre-hurricane level?

Category	Pre-hurricane market values (\$)	Estimated costs of the damages to facility to restore to pre-hurricane level (\$)	Estimated costs of demolition, removal, disposal & clean up of damaged facilities (\$)
Buildings, pump-out & filling stations			
Wet slips			
Dry storage			
Jetties, piers & ramps			
Equipment & accessories			
Total			

C. How much was the estimated value of supplies that were lost during the hurricanes?
\$ _____

7. INSURANCE AND LOANS ON DAMAGED FACILITIES

A. What is the amount of insurance coverage you expect for the damages?
\$ _____

B. What is the amount of outstanding loans you have on the facilities from Small Business Administration \$ _____

C. What is the amount of outstanding loans you have on the facilities from other sources
\$ _____

Please check this box if you want a copy of the final report mailed to your address.



Printed on Recycled Paper

Mention of a trademark or proprietary product does not constitute a guarantee or warranty of the product by the Mississippi Agricultural and Forestry Experiment Station and does not imply its approval to the exclusion of other products that also may be suitable.

Discrimination based upon race, color, religion, sex, national origin, age, disability, or veteran's status is a violation of federal and state law and MSU policy and will not be tolerated. Discrimination based upon sexual orientation or group affiliation is a violation of MSU policy and will not be tolerated.