

Economic Impacts of Alternative Regulatory Scenarios on the Florida Fresh Half-Shell Oyster Industry: A Study of Potential Outcomes¹

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Note: The following is excerpted from a larger report issued in April 2010. To access the complete report, visit

<http://www.agmarketing.ifas.ufl.edu/pubs/2000s/IndustryReport10-1.pdf>

Executive Summary

- The purpose of this study was to examine the economic impacts of possible closures of the fresh half-shell oyster market for varying time periods with the intention of protecting consumers from *Vibrio vulnificus* infections.
- Economic impacts were estimated for harvesters, processors, and the overall economies of Gulf and Franklin Counties which are located in the "Big Bend" area of Florida's Panhandle region. Oyster beds located in the coastal waters off these counties are considered the most productive in the state.
- Economic impacts on harvesters were estimated by examining detailed Trip Ticket data on landings and dockside prices for calendar year

2004 and published average monthly state-wide oyster landings for 2000–2004 (obtained from the Florida Wildlife Conservation Commission [FWC]).

- Economic impacts on processors were estimated by using average annual landings as reported by FWC and industry estimates of monthly proportions of Florida harvested yields sold as fresh half shell versus shucked product.
- F.O.B. (freight-on-board) prices of fresh half-shell and shucked products for 2004, as well as seasonal shucked yields, were obtained from major Florida processors.
- During the 2004 calendar year, 496 individuals harvested and sold Florida oysters. Of these harvesters, 448 sold only oysters (90%) while 48 sold oysters and some other saltwater species.
- Dockside revenues received by the 496 harvesters for oysters amounted to nearly \$3 million in 2004, while dockside revenues for all other saltwater species sold by oyster harvesters generated about \$111,000. Other species

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accounted for less than 4% of the harvesters' annual income from commercial fishing.

- Of the 496 harvesters, only 28 earned more than \$20,000 from oysters in 2004. About 150 earned less than \$1,000.
- Approximately 50% of the harvesters accounted for over 90% of oyster revenues.
- Examination of 2000–2004 average oyster dockside revenues reveals seasonal total revenues of about 31% for May–September and 19% for June–August.
- Of the 496 harvesters, 14 operate only during May through September; the 14 only generated \$6,500 collectively in total annual revenue. If this five-month period had prohibited fresh half-shell sales, the 14 harvesters' revenues from oysters destined for shucking would have been just over \$900.
- There were 9 harvesters of the 496 that only operated during the June–August period in 2004. These harvesters collectively received just over \$2,000 in total oyster revenues; if fresh half-shell sales had been prohibited, they would have generated less than \$300 for oysters going to shucking.
- There were 213 harvesters (42.9%) who did not operate during the May–September period. There were 262 harvesters (52.8%) who did not harvest oysters during the June–August period.
- Using average oyster landings for 2000–2004 and 2004 dockside prices, seven unique scenarios were examined to determine the economic impacts on harvesters, processors, and the overall Gulf and Franklin County region economies. Average landings for the five-year period were used to provide a more stable, long-term average rather than one specific year. Each scenario assumed a different combination of regulatory closures and post-harvest treated (PHT) oyster utilization.
- Scenario 1 represents the current situation, with no fresh half-shell closure. PHT oyster sales were not included. Total harvester revenues from oysters were estimated at \$3.3 million. F.O.B. gross revenues were estimated at approximately \$5.8 million, and the total economic impact on the region was approximately \$13.6 million.
- Scenario 2 assumed a May–September closure of the fresh half-shell market with no PHT half-shell replacement. Quantities destined for shucking were assumed to continue at 14% of landings. Under this scenario, harvesters' dockside revenues would be reduced to \$2.45 million (26%), and processors' F.O.B. sales would be reduced to \$4.3 million (25%). Economic impact on the regions was reduced to about \$10.2 million (26%).
- Scenario 3 assumed a June–August closure of the fresh half-shell market with no PHT replacement. Quantities destined for shucking were assumed to continue at 14% of landings. Under this scenario, harvesters' gross revenues were reduced to \$2.8 million (16%). Processors' F.O.B. revenues were reduced to about \$4.9 million (15.4%). The overall economic impact on the region dropped to \$11.5 million (15.8%).
- Under Scenario 4, a May–September closure of the fresh half-shell market was assumed. However, it was also assumed that 25% of the usual average fresh half-shell sales during the May–September period could be replaced by frozen PHT product. It was further assumed that the shellstock needed for this 25% replacement could be harvested in equal amounts during March and April, and sold during the months of May–September at observed historical seasonal proportions. Scenario 4 results in dockside revenues of \$2.7 million, about 20% lower than Scenario 1. However, due to the substantially higher prices for frozen PHT product, F.O.B. revenues would decline to \$5.6 million (3.4%). Overall economic impacts on the region would be about \$13.2 million, about 3.5% lower than Scenario 1.
- Scenario 5 also assumed a May–September closure of the fresh half-shell market but with a 50% replacement by frozen PHT product. As in Scenario 4, shellstock required for the PHT replacement would be harvested in March and April, and the frozen product sold during May–September in quantities conforming to

historic seasonal (monthly) sales patterns. With the 50% replacement, harvesters' revenues would be about \$2.9 million, about 13% below those for Scenario 1. Gross F.O.B. revenues would increase to \$6.8 million (18%), and the regional economic impacts would increase to about \$16.2 million, approximately 19% greater than Scenario 1.

- Scenario 6 assumed a June–August closure of the fresh half-shell market, with a 25% replacement by frozen PHT product. Again, the shellstock required for this replacement would be harvested in March and April, and frozen PHT product would be sold in June–August at historic seasonal levels. Harvesters' revenues would be slightly above \$2.9 million, about 12% below Scenario 1, but F.O.B. gross revenues would be about \$5.7 million, a decrease of only 2.1%. The regional economic impact would be about \$13.4 million, which is also 2.1% below that estimated for Scenario 1.
- Scenario 7 assumes a June–August closure of the fresh half-shell market with a 50% replacement by frozen PHT product. Again, shellstock required would be harvested in March and April and sold at historic monthly levels during the 3-month summer period. Under this scenario, harvesters' revenues would be just over \$3 million, about 8% below those of Scenario 1. F.O.B. gross revenues would be about \$6.4 million, an increase of about 11% over Scenario 1. Overall Gulf and Franklin County region economic impacts would be about \$15.2 million, an increase of about 11.5%.
- In conclusion, in the worst case scenarios, closure of the fresh half-shell market for five months or three months with minimal or no frozen PHT product replacement would cause economic losses to harvesters and processors, as well as the overall regional economy. Reductions in harvesters' dockside revenue and processors' F.O.B. gross revenues would be about 25% and 16%, respectively for the 5-month and 3-month closures.
- Replacement levels of 25% and 50% of historical fresh half-shell sales with frozen PHT product may be unrealistic with respect to the biological and logistical feasibility of accelerating the harvest of shellstock requirements for the closure periods to earlier months (i.e., March and April). Sales of frozen PHT product may be difficult to realize because of higher F.O.B. prices necessitated by drastically increased processing and storage costs. Another issue is the degree of market acceptance by seafood wholesalers, retailers, and consumers accustomed to fresh half-shell product at lower prices. A definitive assessment of the market potential for frozen PHT oysters could not be made by this study because of anomalies in the supply chain for fresh half-shell oysters caused by hurricanes in 2004 and 2005.
- Even if 25% or 50% replacement levels are achievable in the marketplace and processors' gross F.O.B. revenues are increased, there are no assurances that these gross revenues will result in sustainable profitability to the processors. The large investment required for PHT processing and economies of scale may preclude all but a very few processors from participating in the frozen PHT market.