

Disaster Recovery



Assessment of Damage to Louisiana Agricultural, Forestry, and Fisheries Sectors By Hurricane Katrina

On August 29, 2005, Hurricane Katrina hit the eastern Gulf Coast region of Louisiana and then made its way north affecting the entire Southeastern portion of Louisiana. The areas affected most by Hurricane Katrina represent a large portion of Louisiana's fisheries, dairy, sugarcane, forestry, wildlife, vegetable, nursery, and citrus industries. In many cases, the high winds and flood waters completely devastated these industries. In addition, other agronomic crops such as cotton and rice were also marginally affected by excessive winds.

Shortly after the storm, the LSU AgCenter began to develop assessments of the potential damage caused to the agricultural, fisheries, and forestry industries in the state. Because of communication limitations and access difficulties to many of the hardest hit areas of the state, assessments have been difficult. In addition, for many of these commodities, the economic impact of this storm will continue to grow because of delays in re-establishing infrastructure and communications. Therefore, current estimates will likely grow until some type of normalcy is returned to production. However, based on the information known at this time and given the historical value of these industries to the state, the LSU AgCenter was able to begin to provide preliminary estimates on losses of revenue due to production losses.

When natural disasters of this nature occur, the impact to agricultural can originate from several different sources. Obviously, the most direct economic impact to any industry is that of revenue loss from production

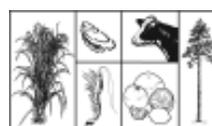
loss. Another source of economic impact is the potential for lowered prices because of either quality issues, alterations in supply and demand conditions, or the disruption in marketing and distribution channels. A third source of economic impact is the potential for increased production costs. A final source of economic impact, related to increased costs, is the physical damage caused to agricultural infrastructure. While all sources of economic impact are important and all play a role in the total effects felt by an industry, some are considerably more difficult to assess.

Given that assessments on production losses were the most attainable at this time, the estimates in Table 1 provide projections of direct revenue loss and increased production costs for each commodity. For some industries, preliminary estimates of infrastructure damage were available and are provided in the commodity damage description.

These estimates should be viewed as preliminary. For many commodities the exact nature of the losses are still being assessed and for some commodities the exact nature of the losses will continue to increase depending upon the time required to repair infrastructure and for marketing and distribution channels to return to some resemblance of normalcy. In addition, for some commodities losses could also include future revenue losses. In areas where flooding occurred, land may not be suitable for its original agricultural endeavor. The LSU AgCenter will continue to update and gather new information in an effort to refine these estimates.

Table 1. Preliminary Estimates of Economic Impact From Hurricane Katrina to Louisiana Agriculture Due to Reduced Revenue and Increased Costs

Commodity	Estimated Economic Impact
Forestry	
Timber	\$610,821,639.00
Christmas Trees	\$2,044,924.00
Total Forestry	\$612,866,563.00
Agronomic Crops	
Sugarcane (Sugar and Molasses)	\$145,134,369.00
Cotton	\$10,400,000.00
Rice	\$483,900.00
Total Agronomic Crops	\$156,018,269.00
Fruits/Nuts/Vegetables/Honey	
Vegetables	\$2,570,909.00
Wholesale Nurseries	\$19,018,350.00
Citrus	\$10,780,800.00
Total Fruits/Nuts/Vegetables/Honey	\$32,370,059.00
Livestock and Forage	
Cattle	\$11,590,282.00
Dairy	\$1,155,391.00
Horses	\$11,096,273.00
Total Livestock and Forage	\$23,841,946.00
Aquaculture	
Alligators	\$3,797,091.00
Turtles	\$5,355,000.00
Total Aquaculture	\$9,152,091.00
Fisheries	
Shrimp	\$72,115,067.00
Oysters	\$25,163,025.00
Crabs	\$15,150,698.00
Menhaden	\$17,208,447.00
Commercial Finfish	\$12,552,496.00
Total Fisheries	\$142,189,733.00
Wildlife/Recreational	
Hunting Leases	\$3,829,657.00
Charter Fishing	\$20,391,750.00
Total Wildlife/Recreational	\$24,221,407.00
Total Estimated Economic Impact	\$1,000,660,068.00



The following gives a brief description of the methodology and assumptions used in developing estimates for each of the listed commodities along with other potential issues facing the industry.

Timber

Damage estimates for timber were developed based on forestry industry personnel's assessment of the percentage of timber affected in impacted regions. Estimates for the total gross volume of all timber and sawtimber in each affected parish were obtained from the Southern Forestry Inventory Assessment database. Using historical percentages of softwood and hardwood timber and historical percentages for pulpwood and chip-n-saw timber in each parish, estimates for volumes of timber by type and growth stage were developed. Estimated post-storm value of timber were developed assuming that 30 percent of the downed timber would be salvaged and assuming that salvaged timber would be valued at a discounted pulpwood price. Estimates of pre-and post-storm values of the existing timber were developed with the difference being the expected loss in revenue.

Christmas Trees

Damage estimates for Christmas trees were developed based on AgCenter personnel's assessment of expected tree loss, quality discounts, and additional production costs. The assessment provided estimates of the number of acres with lodged trees. For each of the downed trees, labor costs and supplies associated with staking these trees upright formed the estimate for additional production costs. While many of these trees would be expected to survive once staked back upright, it was assumed that 20 percent would evidentially be lost. In addition, of those trees that do survive, it is estimated that 30 percent would experience quality discounts associated with irregular re-growth.

Sugarcane

Damage estimates for sugarcane are based on AgCenter personnel's assessment of production losses, increased planting and harvesting costs, and revenue loss and increased costs associated with flooded cane acres. Production losses were developed by comparing post-storm production and revenue estimates to "normal" sugar production and revenue. The National Agricultural Statistics Service (NASS) average of sugar production from 1999 to 2001 was used as the proxy for "normal" production. In addition to reduced sugar production, the lodged cane associated with the storm will likely necessitate the switch of planting cane from wholestalks to billeted cane. The additional costs associated with plant cane as billeted cane were estimated.



The additional harvest costs associated with slower harvest times needed to harvest lodged cane were also estimated.

While not provided in the estimate, experience with past storms has indicated that sugarcane production could be affected by 10 percent to 15 percent in subsequent years because of carry-over effects. AgCenter personnel are attempting to address the issue of saltwater intrusion on future production of sugarcane as well as other commodities.

Cotton

Damage estimates for cotton are based on AgCenter personnel's assessment of production losses. Estimates on acres impacted and expected yield losses formed the basis of estimated revenue loss. One issue not included but that will have an impact on cotton producers is the potential for mills to assess a fee to mill cotton. With high fuel prices, revenue from sale of cottonseed will likely not cover milling costs.

Rice

Damage estimates for rice stem from lodged rice in certain areas in Northeast Louisiana. Estimates on the number of acres lodged were obtained from AgCenter personnel. An assumed yield loss due to decreases in harvest efficiency formed the basis of estimated revenue losses.

Vegetables

Damage estimates for vegetables are based on 2004 farm gate values and assumed percentage losses. While not provided in these estimates, additional economic impacts could result from either temporary or permanent loss in marketing channels. Finally, these estimates do not provide any projections for infrastructure damage or potential revenue loss because of saltwater intrusion. AgCenter personnel continue to assess additional economic damages.

Wholesale Nurseries

Damage estimates for wholesale nurseries are based on 2004 farm gate values and assumed percentage losses. While not provided in these estimates, additional economic impacts could result from either temporary or permanent loss in marketing channels. Finally, these estimates do not provide any projections for infrastructure damage or potential revenue loss because of saltwater intrusion. AgCenter personnel continue to assess additional economic damages.

Citrus

Damage estimates for citrus is based on AgCenter personnel's assessment of production loss, value of loss trees, and increased production costs. Revenue loss was estimated assuming the number of acres affected and average revenue per acre. Economic impact of lost trees was estimated assuming the number of acres lost and an average value per acre. Finally, increased production costs were estimated assuming a per acre cost associated with cleanup. While not provided in the estimate, there are likely future production implications because of saltwater intrusion and infrastructure damages. AgCenter personnel continue to assess additional economic damages.

Cattle

Damage estimates were based on AgCenter personnel's estimate of the number of cattle unaccounted for because of Hurricane Rita and the percentage of salvaged cattle that will be forced liquidated because of inadequate pastures. For calves, current market value was assumed in calculating revenue loss. For cows and bulls, a replacement value was used to determine the economic impact. The estimate provides only losses in expected revenue for 2005. It does not account for lost future earnings of lost cattle. In addition, these estimates do not provide estimates for damage to infrastructure. AgCenter personnel continue to assess potential future losses as well as the extent and nature of infrastructure damage.

Dairy

Damage estimates were based on AgCenter personnel's estimate for pounds of milk that had to be dumped because of disruptions in infrastructure and distribution channels and additional costs associated with having to run generators to maintain production. Average milk production per day in affected areas was determined using historical production values. Days of lost production were estimated for each affected area to determine the total amount of milk loss to date. The estimates also include estimated increased production costs associated with having to use generators to maintain production. While not provided in these estimates, there is likely reduced milk production because of increased stress and less-than-optimum milking conditions. In addition to these conditions, it is likely that producers will experience increased animal health costs. Finally, these estimates do not provide projections for damage to infrastructure. AgCenter personnel continue to assess additional potential impacts as well as the extent and nature of infrastructure damage and possibly cattle losses.

Horses

Damage estimates were based on AgCenter personnel's assessment of the number of dead horses and estimated loss training revenue. For dead horses, an assumed replacement value formed the basis of the economic impact. Due to damage to facilities and loss of power, normal training activities would not be possible. Estimates for average training revenue, total number of loss training days, and the number of horses impacted formed the basis for loss revenue estimates. In addition to the estimates provided, current estimates of potential infrastructure losses are projected at \$16 million dollars.

Alligators

Damage estimates for alligators were based on 2004 farm gate values and AgCenter personnel's assessment of potential revenue losses. In addition to the estimates provided, infrastructure damage is estimated at \$7 million. While not provided in these estimates, future production implications are expected because of saltwater intrusion. AgCenter personnel continue to assess additional economic damages.

Turtles

Damage estimates for turtles were based on 2004 farm gate values and AgCenter personnel assessment of potential revenue losses. In addition to the estimates provided, infrastructure damage is estimated at \$2 million. AgCenter personnel continue to assess additional economic damages.

Fisheries

Damage estimates for all fisheries industries (shrimp, oysters, crab, menhaden, and commercial finfish) were based on 2004 farm gate values and AgCenter personnel's assessment of potential revenue losses. While not provided in these estimates, there is likely damage to infrastructure. AgCenter personnel continue to assess additional economic damages.

Hunting Leases

Damage estimates for hunting leases were based on 2004 farm gate values and AgCenter personnel's assessment of potential revenue losses. While not provided in these estimates, there is likely damage to infrastructure to hunting lodges and other related facilities. AgCenter personnel continue to assess additional economic damages.



Charter Fishing

Damage estimates for charter fishing were based on the number of licensed guides in the affected area, the estimated average revenue per fishing trip per day and the estimated number of loss fishing days. Data from the Louisiana Department of Wildlife provided estimates for the number of licensed guides impacted. AgCenter personnel provided estimates for the average revenue per fishing trip and the estimated number of loss fishing days. While not provided in this estimates, there is also likely damage to charter boats and other related infrastructure. AgCenter personnel continue to assess additional economic damages.



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