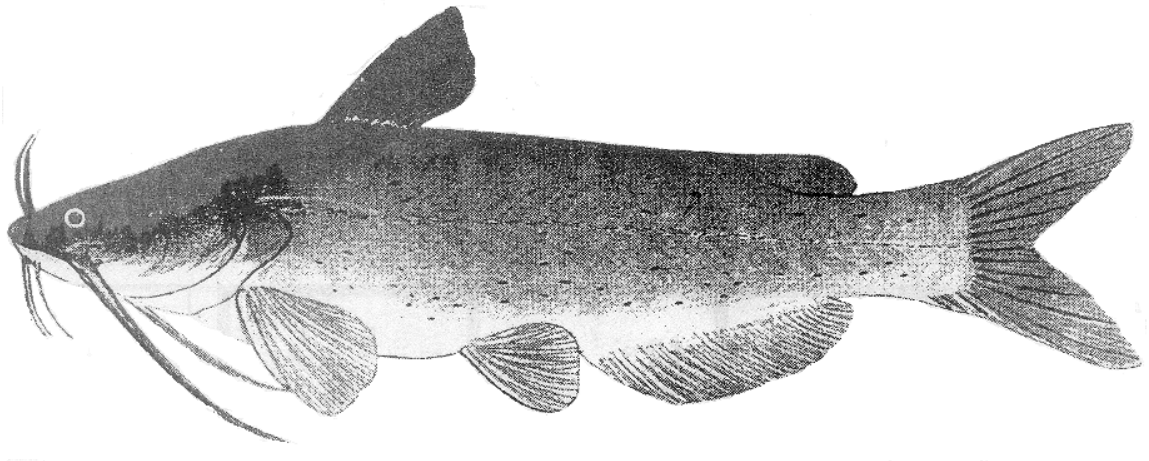


# 2011 U. S. Catfish Database



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Mississippi Agricultural Statistics Service (MASS)

# 2011 U.S. Catfish Database

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## **U.S. Farm-Raised Catfish Industry 2011 Review and 2012 Outlook**

### **Highlights**

- ▶ U.S. farm-raised catfish was sixth in the 2010 “Top 10” fish and seafood consumption list for Americans, who consumed 15.8 pounds of fish and seafood per year in total and 0.80 pound per year of catfish.
- ▶ The U.S. catfish industry has been on a contracting course since a high mark in 2003 when 662 million pounds of round weight catfish was processed. In 2011, 334 million pounds were processed, down 138 million pounds (-29 percent) from 472 million pounds processed in 2010, and a 49 percent decrease since the peak 2003 level.
- ▶ Imports of frozen catfish fillets increased by 66 million pounds (+48 percent) to 204 million pounds in 2011; imports now account for 74 percent of all U.S. sales of frozen catfish fillet product.
- ▶ Total U.S. water acreage in catfish production was 89,390 acres in Jan. 2012, down 10 percent from 2011. Current production acreage for the top three catfish producing states, Alabama, Arkansas, and Mississippi was down 8,500 acres (-9.7 percent) to 79,400 acres.
- ▶ The number of U.S. catfish operations decreased by 191 operations (-21 percent) from Jan. 2010 to Jan. 2011 and is now at 718 operations.
- ▶ In 2011, the average price received by producers was \$1.177 per pound, up \$0.375 per pound from the 2010 average price of \$0.802 per pound. In 2011 there was a \$0.274 per pound difference between high (August, \$1.277 per pound) and low (January, \$0.931 per pound) pond-bank price received during the year.
- ▶ Even with the reduction in processing volume, the higher prices received by producers increased the total producer income in 2011 (\$393 million) by \$14.9 million (+3.9 percent) over the 2010 (\$378 million) level.
- ▶ In-pond inventories of foodsize fish in Jan. 2012 was up 1.5 percent from Jan. 2011 levels. Stocker inventory was down 25 percent from Jan. 2011 levels. Fingerling weight inventory was down 38 percent from Jan. 2011 levels. Broodfish pounds were up 10 percent. These inventory levels indicate that foodfish supply to processors will be **short** for 2012 and 2013 if the 2011 round weight processing quantity level is to be maintained.
- ▶ Catfish feed prices (32 percent protein) in 2011 averaged \$421/ton, up \$67/ton (+19 percent) over the 2010 average feed price (\$353/ton). In September 2011 feed prices peaked (\$441/ton) while the low feed price in 2011 occurred in Dec. (\$399/ton).

# **U.S. Farm-Raised Catfish Industry 2011 Review and 2012 Outlook**

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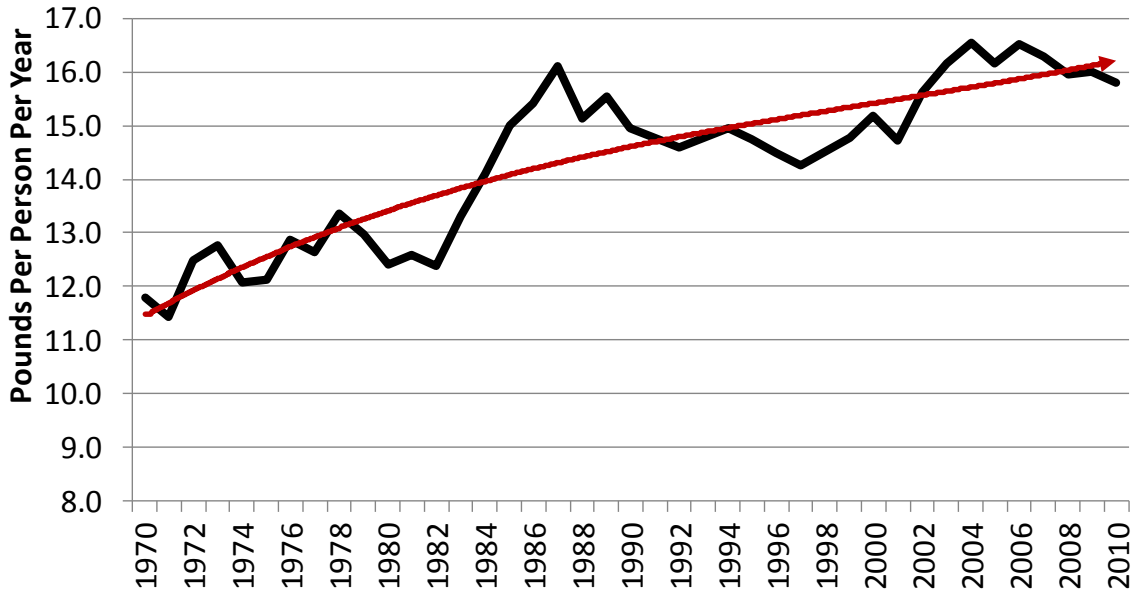
This 2011 review and 2012 outlook reports on recent trends in the U.S. catfish industry derived primarily from NASS reports, primarily their Catfish Processing, Catfish Production, and Catfish Feed Deliveries reports (which we are grateful to still have after being removed for a short while in 2011). Complete data for the contents of this introduction are contained in the catfish database tables which follow this report. Sections in this introduction provide information on American's fish and seafood consumption patterns, imports of "catfish-like" products, U.S. catfish industry statistics on processing, inventory of fresh/frozen product, U.S. farm-raised catfish production statistics on water acreage, fish price, inventories, feed price, and an outlook for 2012.

## **1. U.S. Fish and Seafood Consumption**

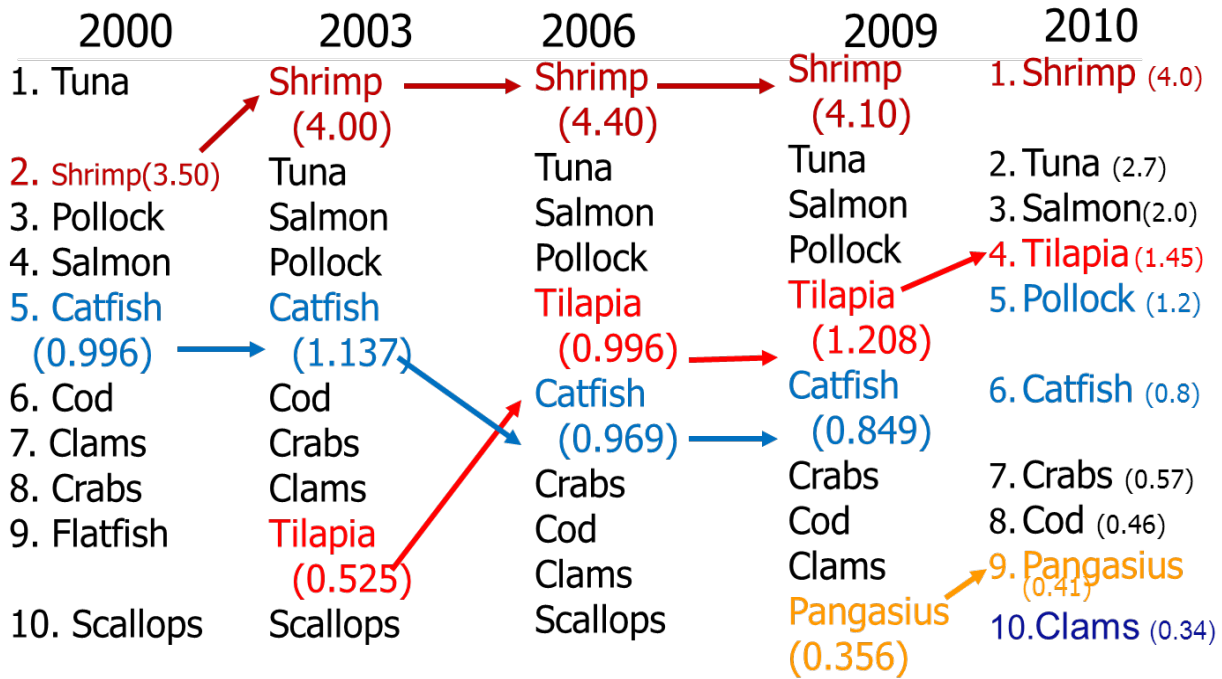
Consumers ultimately decide what food products they will purchase based on their likes and dislikes. Consumers have many fish/seafood choices and elect to purchase these products based on product attributes they prefer, such as price, taste, flavor, texture, enjoyment, other protein options, etc. Thus, it is important to understand American fish and seafood consumption patterns and where domestically produced farm-raised catfish fits among consumed fish and shellfish species, and to understand how consumer trends may influence 2012 purchases of domestically produced channel catfish.

U.S. per capita fish and seafood consumption was lower in 2010 than in 2009, though the long-term trend is rising, Figure 1. There have been some changes in American's species preferences over time, Figure 2. Shrimp became the number one consumed seafood product in the U.S. in 2002 and has stayed in this position ever since. Tuna, primarily canned tuna, dropped to second place and has stayed at this level. Salmon replaced Pollock as the number three preferred product in 2003 and has remained there. In 2006 catfish dropped from fifth to sixth place, though much of this drop in consumption was due to the removal of non-Ictaluridae fish (basa and tra) from the database, and in 2010 consumption of catfish decreased to 0.80 pounds per person per year. Tilapia was not among the top ten preferred products before 2002, but went from ninth place in 2003 to fourth place in 2010 with 1.45 pounds being consumed by each American in 2010. The surprise entry into the top ten consumed seafoods in 2009 was Pangasius at 0.356 pounds consumed per American; consumption increased to ninth place in 2010, with per capita consumption increasing to 0.41 pounds.

**Figure 1. U.S. Per Capita Consumption of Fish and Shellfish Products**



**Figure 2. U.S. Top Ten Seafood Consumed, per capita consumption**



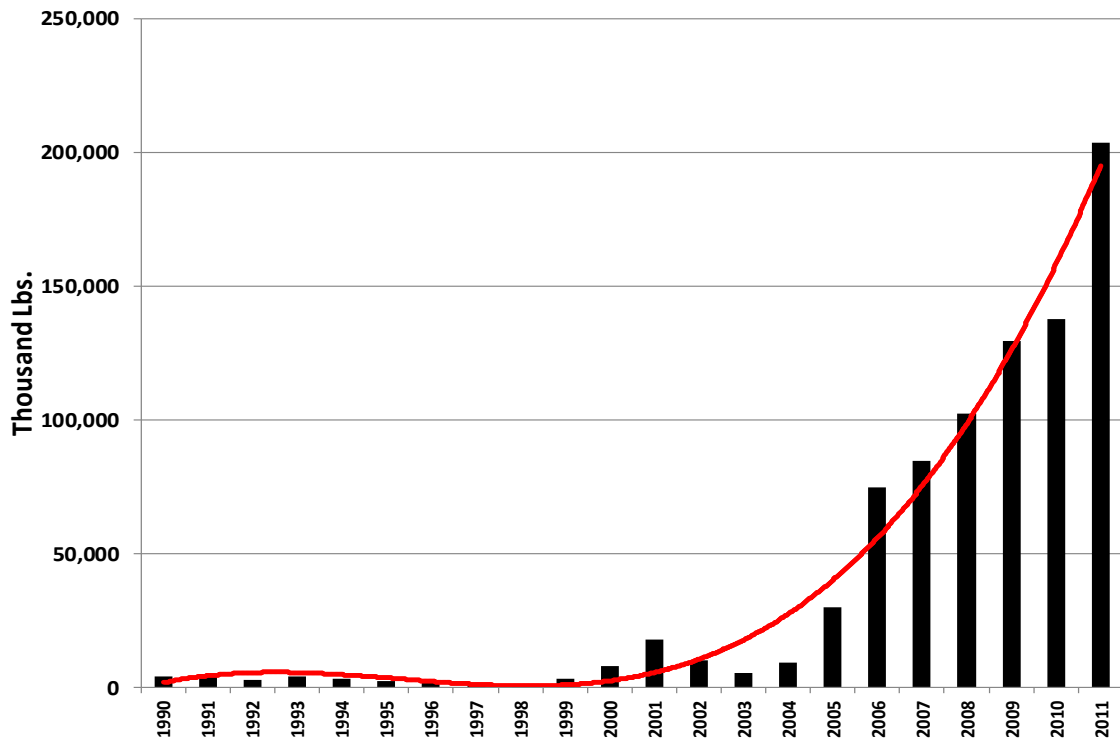
## 2. Imports

Figure 3 shows the dramatic increase in imported frozen catfish fillet products (*Ictalurus*, *Pangasius*, and *Siluriformes*):

- in 2005 the import quantity was 30 million pounds of frozen fillets,
- in 2006 the import quantity increased to 75 million pounds (+ 149 percent),
- in 2007 the import quantity increased to 85 million pounds (+ 13 percent),
- in 2008 the import quantity increased to 102 million pounds (+ 21 percent),
- in 2009 the import quantity increased to 129 million pounds (+ 26 percent),
- in 2010 the import quantity increased to 138 million pounds (+ 6 percent), and
- in 2011 the import quantity increased to 204 million pounds (+ 48 percent).

In total, the U.S. catfish industry processed and sold 124 million pounds of frozen catfish fillets in 2005, 118 million in 2006, 104 million in 2007, 103 million in 2008, 96 million in 2009, 98 million in 2010, and 70 million pounds of frozen product in 2011, Figure 4.

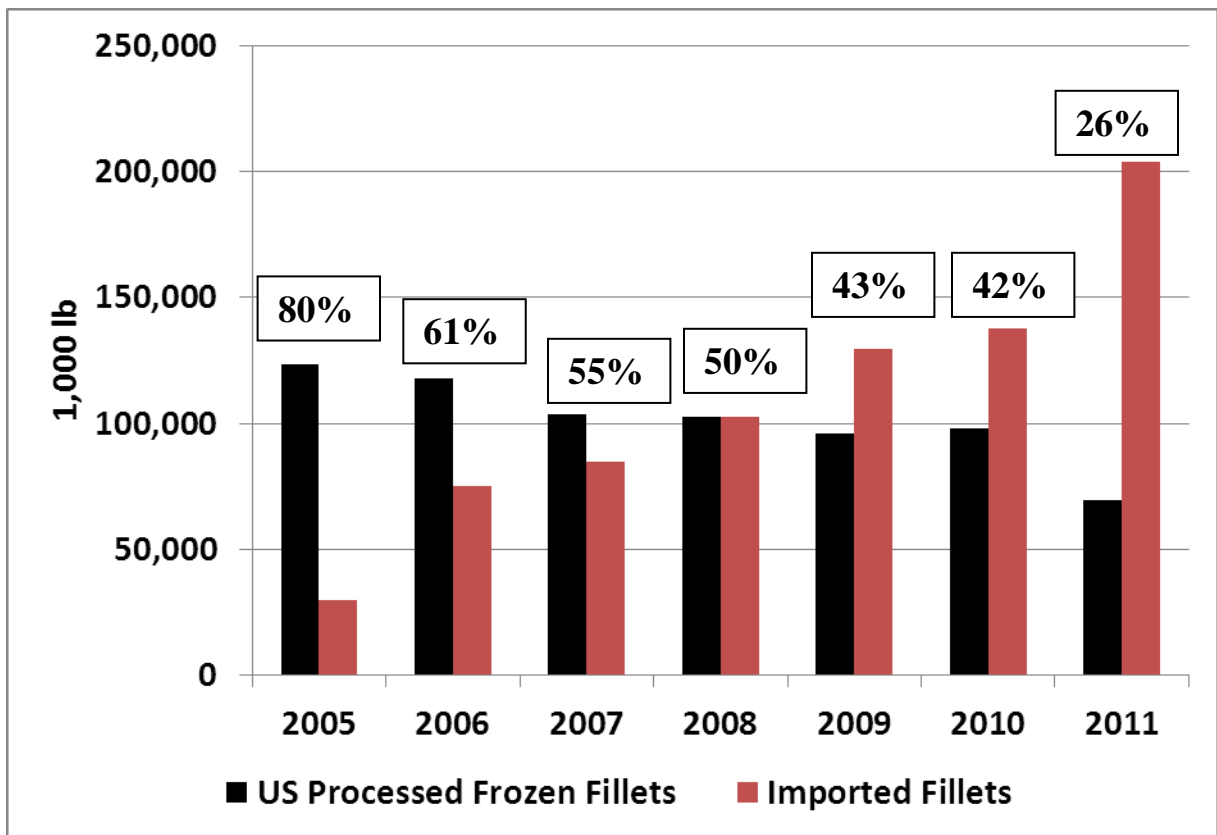
**Figure 3. Imported Catfish, 1990 – 2011**





The quantity of imported frozen catfish fillet products sold in the U.S. was even with the quantity of U.S. processed frozen catfish fillet products sold as recently as 2008. Since then the sales percentage of this product form from the U.S. processing industry has continued to decline. Domestically produced frozen catfish fillet products were 26 percent of the entire quantity sold in the U.S. (76 percent was imported), Figure 4. This is remarkable, given that in 2005 there were 124 million pounds of U.S. processed frozen catfish fillet product sold in U.S. and only 30 million pounds of imported catfish frozen fillet product sold in the U.S. In six years, from 2005 to 2011, imported frozen catfish fillet product has increased from 20 percent to 74 percent of the market share for frozen catfish fillet products in the U.S. (U.S. percentage of sales have declined from 80 percent to 26 percent over this same period).

**Figure 4. Quantity of U.S. Catfish and Imported Catfish-like Frozen Fillets Sold in the U.S. (U.S. percentages of frozen fillet sold are in boxes), 2005-2011**



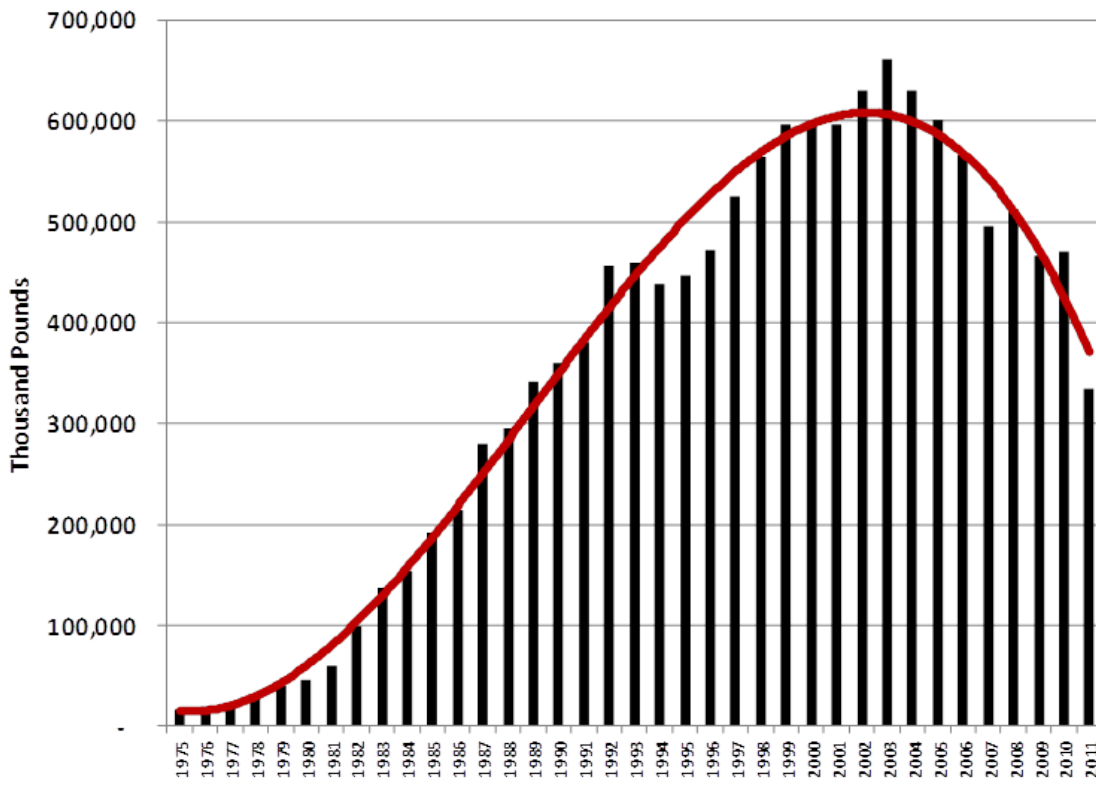
### 3. U.S. Catfish Processing and Frozen/Fresh Inventory

U.S. catfish processing and inventory quantities of fresh and frozen fish (and in the pond, discussed later) provide a view of what was demanded and supplied to the U.S. marketplace. In 2011, the U.S. catfish industry processed 334 million pounds, down 138 million pounds (-29 percent) from the 472 million pounds processed in 2010, Figure 5. Round weight processing in the U.S. catfish industry has been contracting since its peak in 2003 at 662 million pounds. From the 2002 high to the 2010 low, there has been a 327 million pound decrease (-49 percent) in U.S. farm-raised round weight catfish processed.

During the 2000 to 2011 period frozen catfish fillet product sales have declined by 50 million pounds (-42 percent), while frozen other product sales have declined by 14 million pounds (-30 percent) and frozen whole catfish product sales have declined by 7 million pounds (-50 percent), Figure 6.

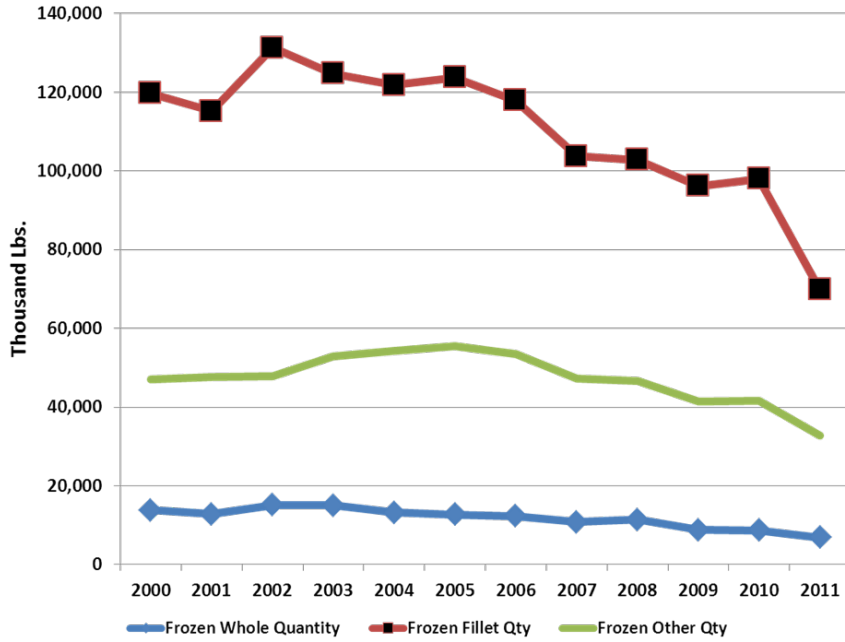
During the same 2000 to 2011 period fresh catfish fillet product sales have declined by 31 million pounds (-52 percent), while fresh other product sales have declined by 11 million pounds (-65 percent) and fresh whole catfish product sales have declined by 17 million pounds (-41 percent), Figure 7.

**Figure 5. Round Weight Processed by U.S. Processors<sup>\*</sup>, 1975 – 2011**

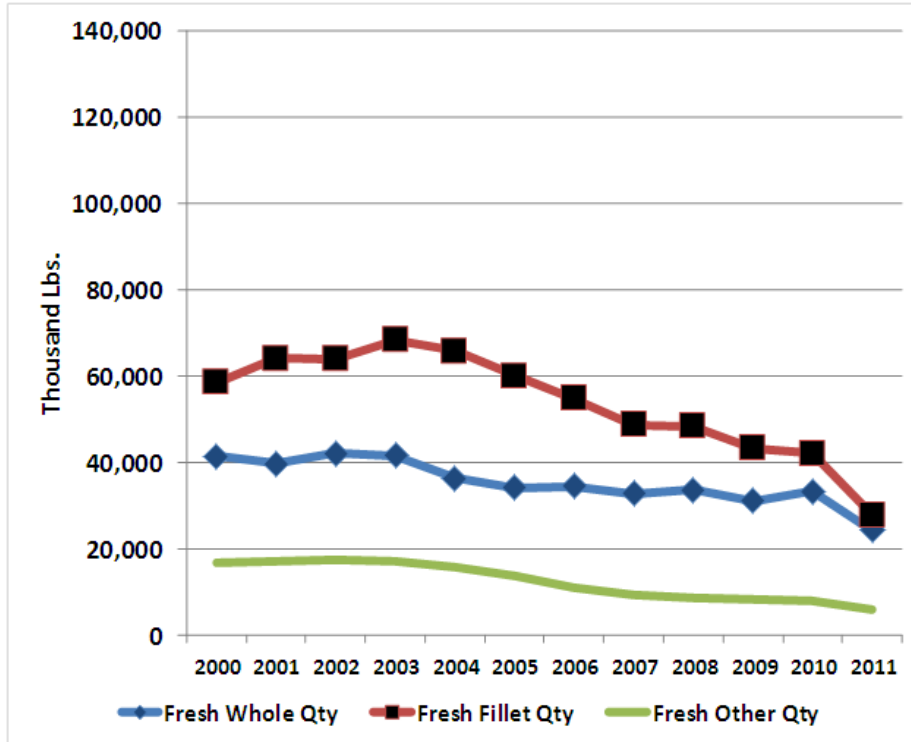


\*Foodsize Catfish Only

**Figure 6. U.S. Processed Weight of Frozen Catfish Products, 2000-2011**



**Figure 7. U.S. Processed Weight of Fresh Catfish Products, 2000-2011**

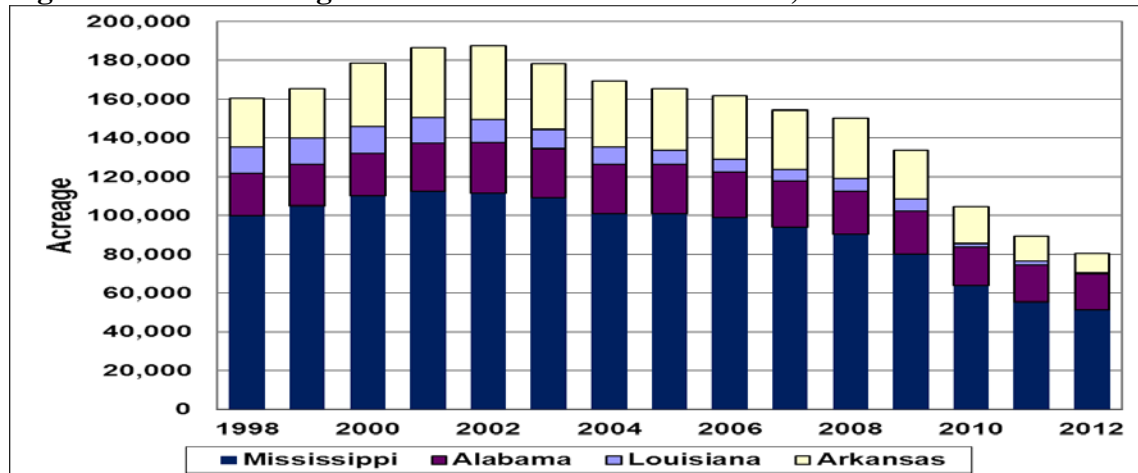


Fresh product (on ice) inventory held at processing plant refrigerated warehouses is small compared to frozen inventory quantities. In 2009 there was an average monthly inventory of approximately 701,000 pounds of fresh whole, fillet, and other product forms on hand that increased to 777,000 pounds in 2010 and then decreased to 514,000 pounds in 2011. In contrast, the average monthly 2009 frozen inventory of whole, fillet, and other products was approximately 11.3 million pounds that decreased to 10.7 million pounds in 2010 and further decreased to 7.7 million pounds in 2011. Of these frozen forms, the fillet form dominates. There was a monthly inventory quantity of frozen fillets averaging 8.6 million pounds in 2009, 7.2 million pounds in 2010, and 4.8 million pounds in 2011. Clearly, processor inventory of catfish products have declined in recent years.

#### 4. U.S Farm-raised Catfish Production

Sales of domestic catfish products (foodfish, broodfish, stockers, fry, and fingerlings) in 2011 were approximately \$423 million, up 5 percent from 2010 (\$403 million) sales. This follows on the sales increase in 2010 of a \$30 million increase over 2009 sales. This is remarkable as production quantity and production acreage has decreased significantly over the past several years, Figure 8. U.S. farm-raised catfish production acres have declined to 89,390 acres (projected use from Jan. 2012 NASS Catfish Production report) from a 2002 high of 196,760 acres, a 107,370 acre decrease (-55 percent) in ten years, Figure 8. From 2002, Alabama acreage has declined 7,400 acres (-29 percent), Arkansas acreage has declined 28,300 acres (-74 percent), Louisiana acreage has declined 11,210 acres (-93 percent), and Mississippi acreage has declined 60,300 acres (-54 percent). Escalating feed and fuel costs combined with volatile annual prices to the producers, weakened demand, and lost market share for final products have made profits very difficult in the U.S. catfish industry during the 2002 to 2010 period and has resulted in many producers in Arkansas, Louisiana, and Mississippi delta regions to revert their pond acreage into corn and soybean acres. However, the producer’s income, that is the average annual price received across the whole industry by producers multiplied by total round weight processed, was \$14.9 million (+3.9 percent) greater in 2011 (\$393 million) than in 2010 (\$378 million), and producers remaining in the U.S. catfish industry finally saw some profit in 2011.

**Figure 8. Water Acreage Used in U.S. Catfish Production, 1998- 2012**



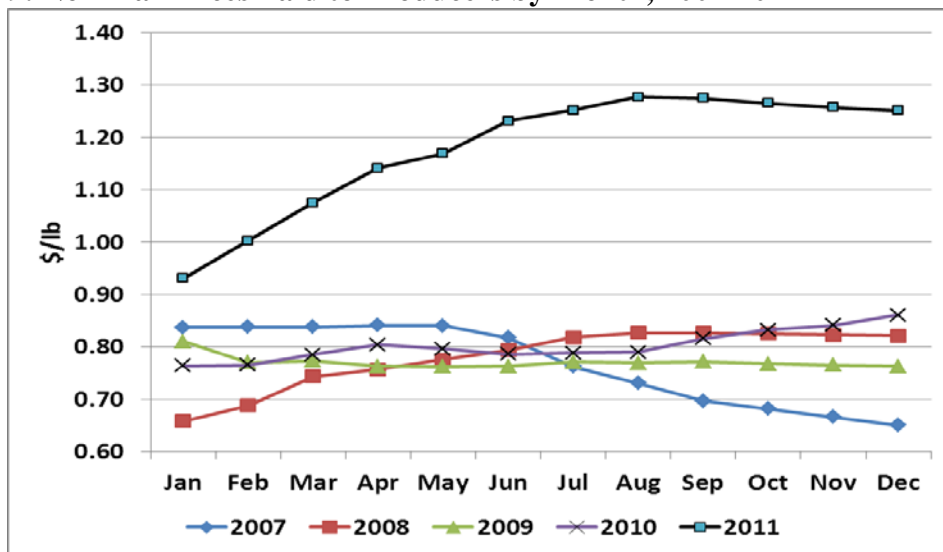
## 5. Fish Price and In-pond Fish Inventory

The farm bank price paid to catfish producers averaged \$0.767 per pound in 2007, increased to \$0.780 per pound in 2008, decreased to \$0.771 per pound in 2009, increased to \$0.802 per pound in 2010, and increased to \$1.18 per pound in 2011. It is noteworthy that 2010 prices were the highest they had ever been and were reflecting a severe shortage of fish inventory in the ponds at that time, Figures 9 and 10. However, the 2011 price level went past this prior high and catapulted the pond-bank price up by \$0.375 per pound, reflecting the severe shortage of fish in 2011.

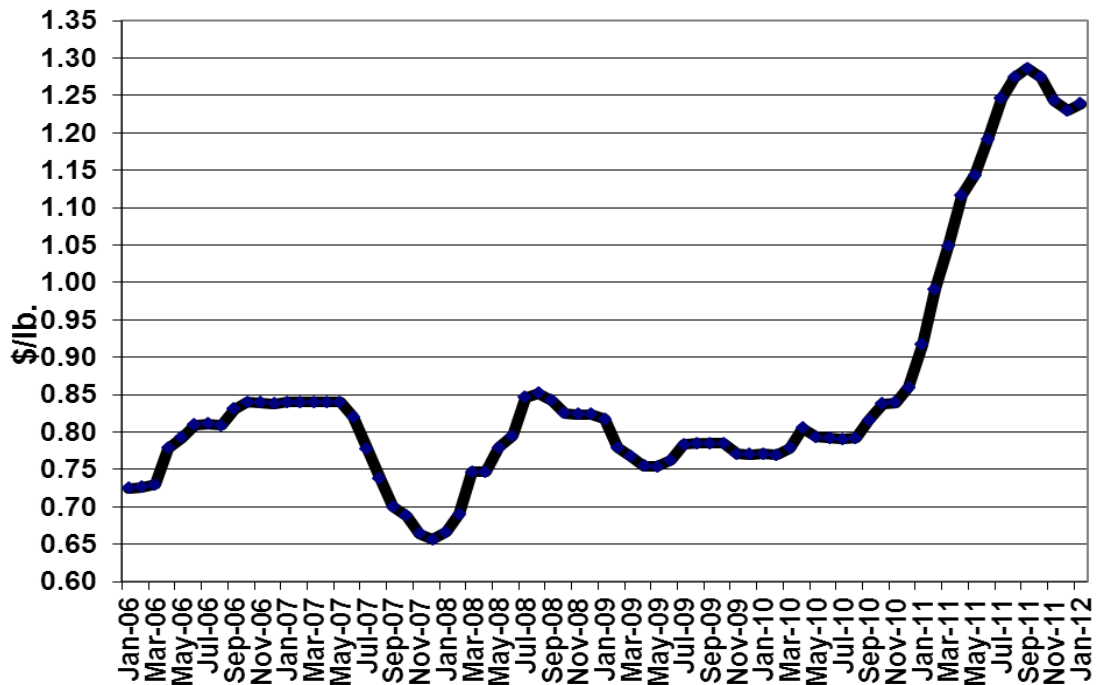
Factors contributing to this price increase were the severe shortage of fish and the lack of fish in processor and pond inventories. It is thought that the beginning of this shortage began with the low Dec. 2007 (\$0.650/lb) and Jan. 2008 (\$0.658/lb) price levels. These low fish prices combined with increasing feed prices (\$334 and \$370/ton for Dec. 2007 and Jan. 2008) sent shock waves through the U.S. catfish industry, leading many to wonder if there would be a catfish industry at these opposing price levels. This set of conditions triggered many producer decisions concerning stocking, feeding, and even staying in business that have led the industry to the shortage of fish in 2010 and 2011.

This new higher pond-bank price level is likely to be maintained in 2012 as initial inventory assessments for 2012 are not any higher than early 2011 stock levels. Processors, as a group, have had to raise their wholesale price to their buyers and, so far, have been able to sell catfish at this higher wholesale price, but have lost much market share in the lucrative frozen fillet market. The higher price received by producers is welcomed as it begins to cover increased feed prices and other input price increases that have occurred over the last 20 years but have never been covered by any increase in price at the pond-bank. The higher price to producers should entice those producers who have survived the last few years to stay in business, but at these price levels processors will continue to lose market share to imported substitute products.

**Figure 9. Nominal Prices Paid to Producers by Month, 2007-2011**



**Figure 10. Nominal Prices Paid to U.S. Catfish Producers by month, Jan. 2006 to Jan. 2012**

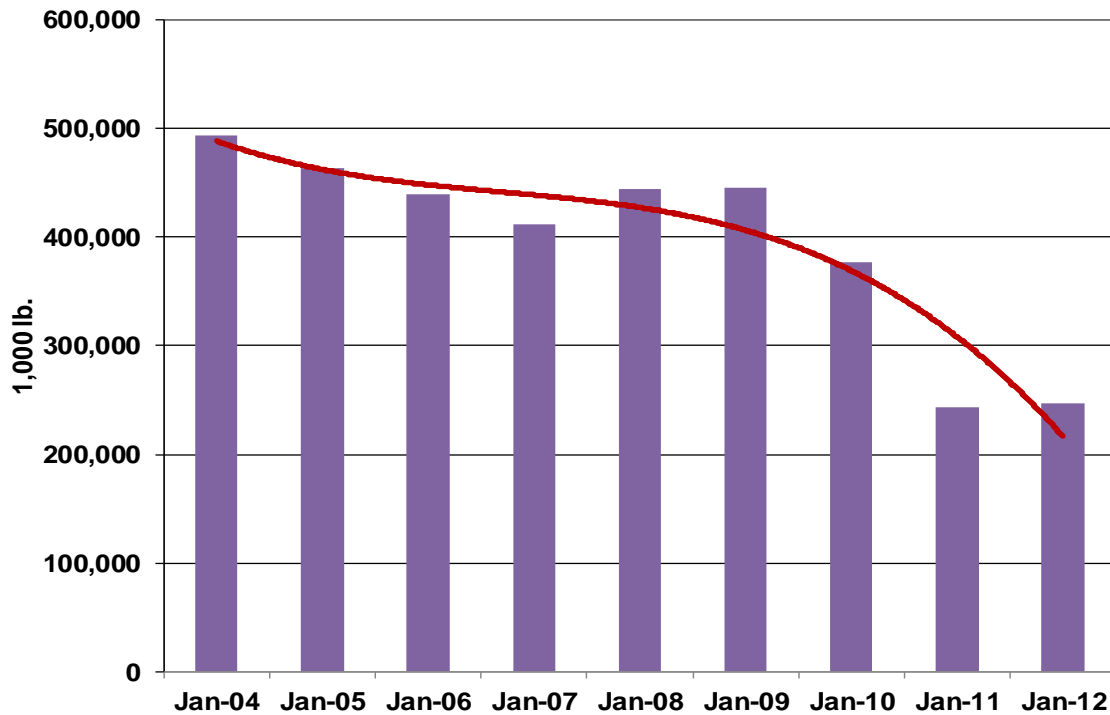


**In-pond fish inventory**

Round weight processed catfish was 334 million pounds in 2011, down 138 million pounds from the 2010 level (472 million). If the 2011 quantity is to be processed in 2012, the fish will have to come from foodsize catfish in-pond inventories for the immediate term (and processor’s frozen stored product discussed earlier), from stockers to supply demand in late 2012 and into early to mid-2013, and from fingerling inventory to supply demand in late 2013 and early to mid-2014.

As stated in the 2010 Catfish Database, the Jan. 2011 foodsize catfish in-pond inventories (small, medium, and large sizes) were reported at 244 million pounds, down 35 percent from Jan. 2010, and indicated that foodsize fish to the processing sector would be **very short**, by a gap of 133 million pounds if 2010 processing levels (466 million pounds) were to be maintained. This is again the case for 2012, with Jan. 2012 foodsize catfish inventory in ponds at about the same level as reported in Jan. 2011; thus, no increase in immediately available harvest-sized fish is to occur in early to mid-2012, Figure 11.

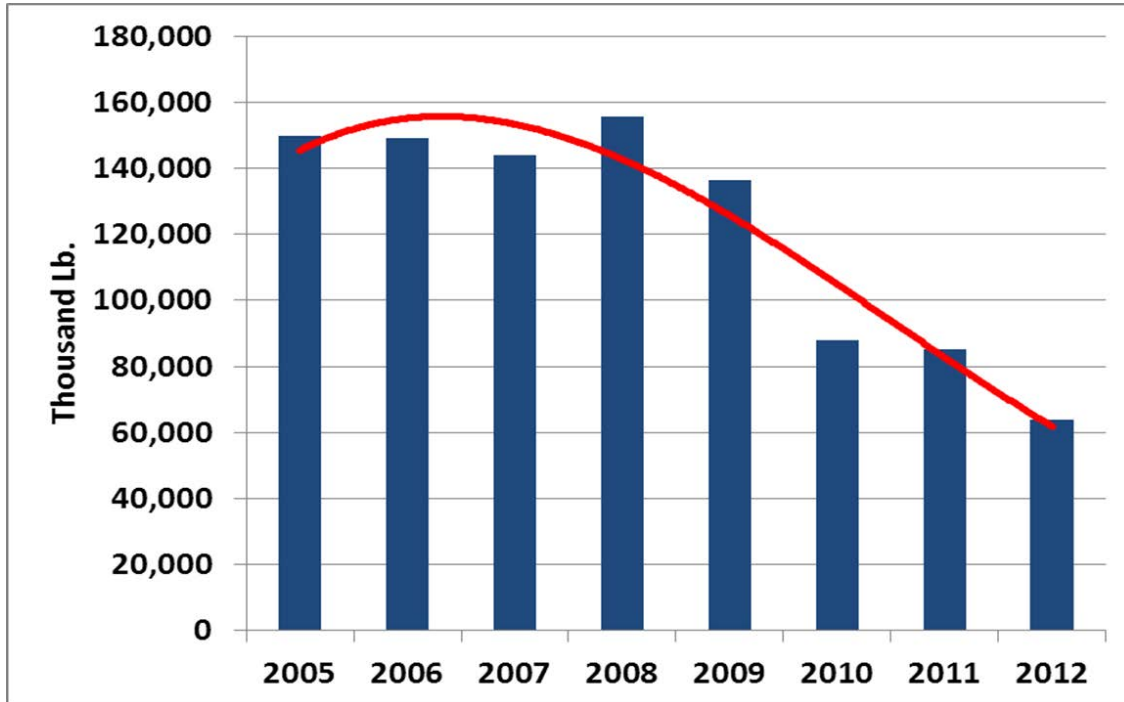
**Figure 11. U.S. Catfish Foodsize In-pond Inventory, lbs.**



The next size fish, the stocker, will be harvestable in mid- to late-2012. However, the inventory of stocker-sized fish is not there in sufficient quantities to increase foodsize fish availability in 2012. In fact, the Jan. 2012 stocker inventory (small plus large stocker sizes) is 21.5 million pound less (-25 percent) than in Jan. 2011, meaning there will be no increase in foodsize fish coming from this year's class in 2012, Figure 12.

Looking at the small and large stocker-sized inventories reported in Jan. 2012, there is a huge decrease in large-sized stockers, down from 2011 level (63.3 million pounds) to 34.5 million pounds in 2012 (-45.5 percent). The positive potential increase in future foodsize fish comes from the small stocker inventory reported in Jan. 2012, being 7.3 million pounds greater than Jan. 2011 levels (+33.1 percent), though these fish will not be available for harvest until late 2012 or early 2013. Thus, the combined stocker-sized fish will not contribute toward increasing, or even sustaining, 2011 levels of foodsize fish processing.

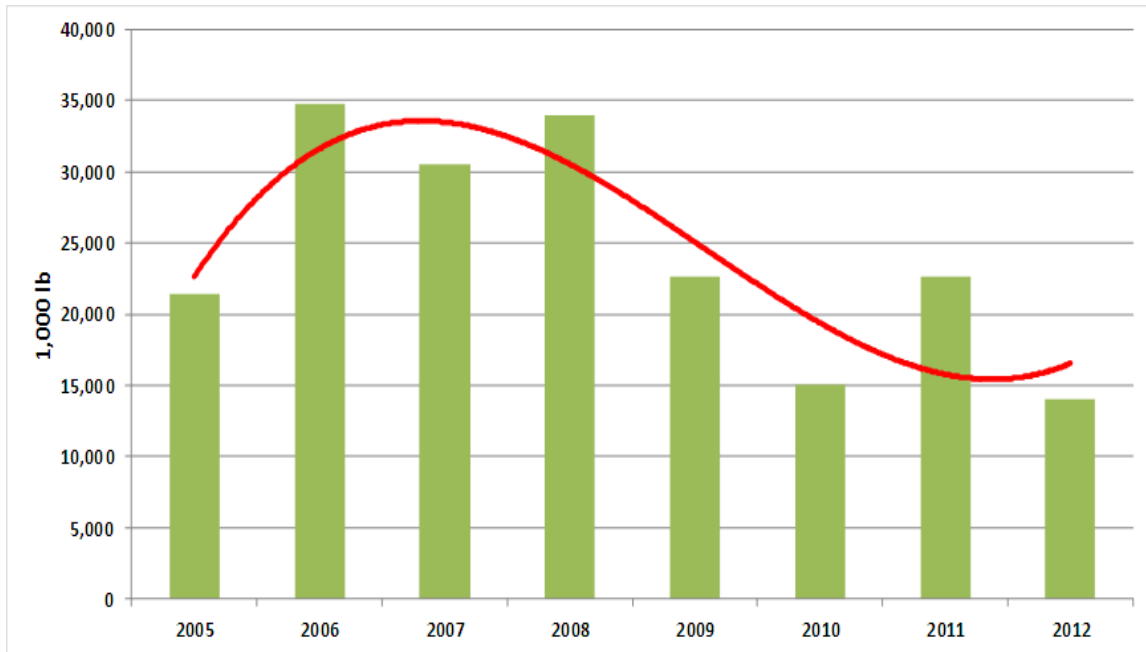
**Figure 12. U.S. Catfish Stockers In-pond Inventory, lb.**



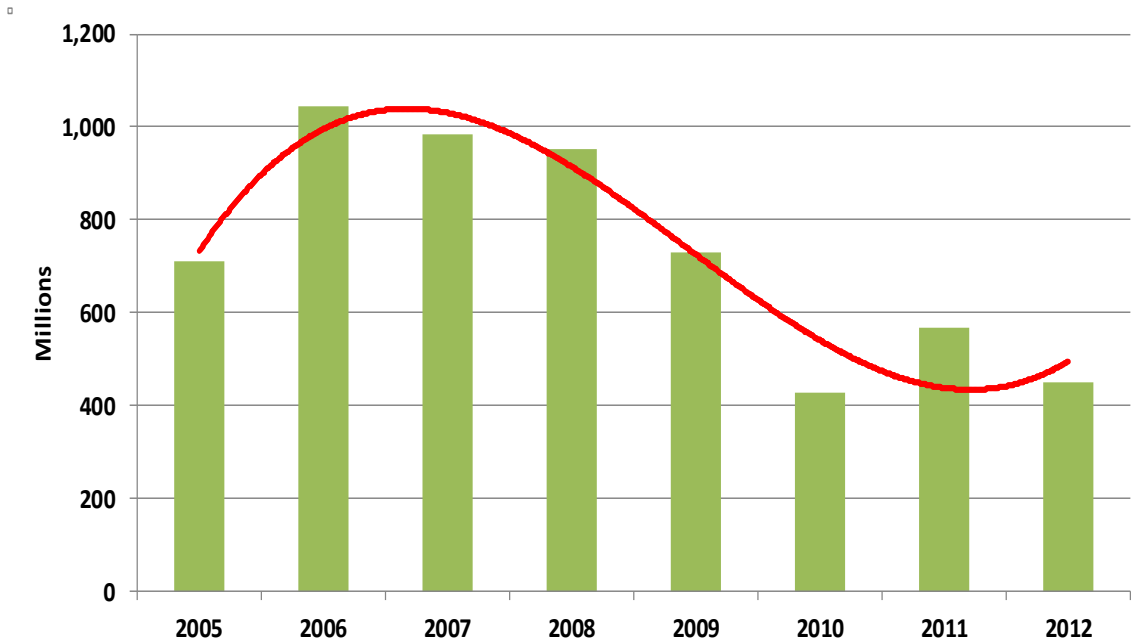
There was a positive note in the reported fingerling quantity and numbers available from the Jan. 2011 report, but that is being negated by the return to a lower volume of fingerling pounds (Figure 13a) and fingerling numbers (Figure 13b) available in early 2012. Thus, it looks like there will be fewer stockers available in early 2013, resulting in fewer foodsize fish available from this size class in late 2013 and early 2014.



**Figure 13a. U.S. Catfish Fingerlings in Inventory, Jan. of Each Year, lb.**

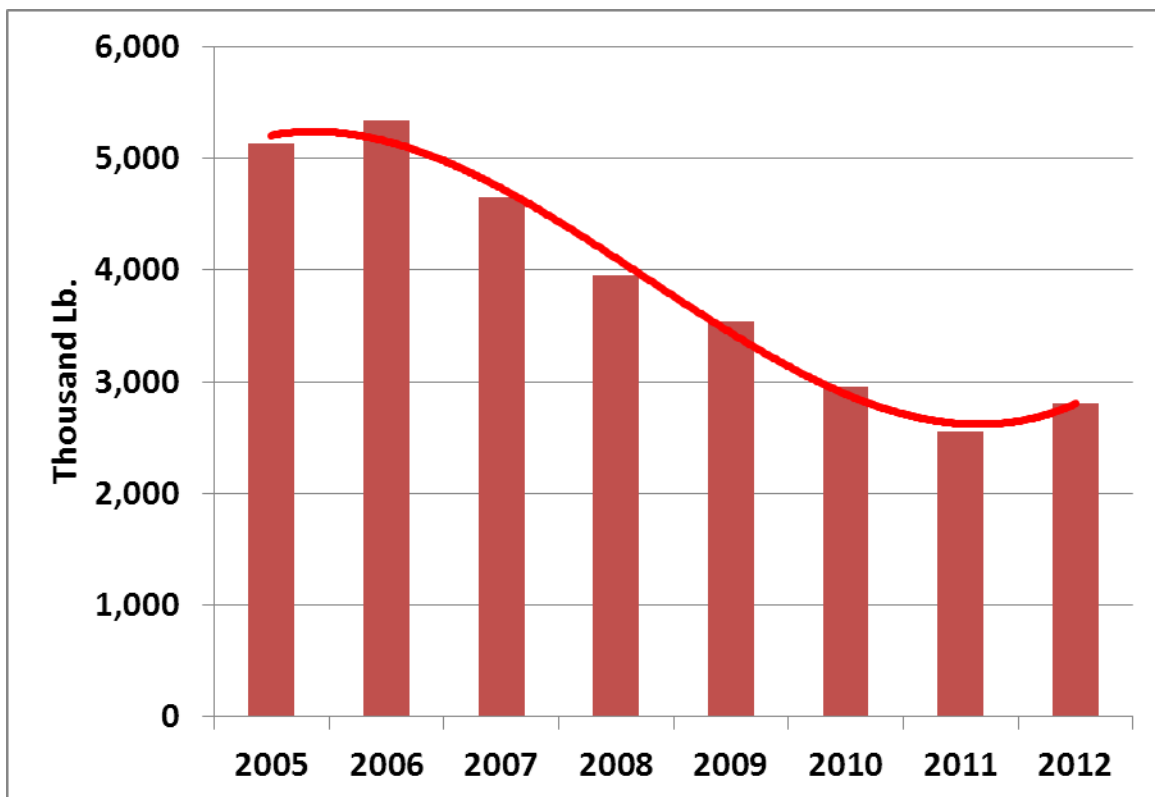


**Figure 13b. U.S. Catfish Fingerlings in Inventory, Jan. of Each Year, number**



Many catfish production operations have gone out of business. There are now 718 producers, down 191 from a year earlier (-21 percent) and others have involuntarily reduced their level of production due to a shortage of available fingerlings, high price of feed, and/or lack of available financing. Such difficulties and prior years of lowered production/processing led to hatchery operators reducing the number of fingerlings and broodstock they keep on hand. Broodstock pounds in inventory in Jan. 2011 were still lower than in 2010, but the rate of decline lessened with only 13 percent less broodstock pounds in 2011 compared to 2010. In Jan. 2012, catfish broodstock pounds have made a slight comeback, increasing by 256,000 pounds (to 2.8 million pounds and +10 percent) over Jan. 2011 levels. Perhaps, with the higher foodsize fish prices to producers, the demand for fingerlings will continue to increase, and hatchery operators will continue to increase their broodstock numbers this year. Hopefully, 2011 will be seen as the bottom level for broodstock pounds, Figure 14. The dampening effect on this rebound will continue to be the high price of feed, both at the hatchery/fingerling level and at the grow-out operational level.

**Figure 14. U.S. Catfish Broodfish In-pond Inventory, lbs.**



Thus, from an “in-pond” inventories perspective, there will **not** be enough foodsize fish and advanced stockers in 2012 for processing quantities equaling the 2011 round weight processing quantity. For the future, the increased number of broodstock on hand will provide needed fingerlings in mid-2012 to increase foodsize fish availability for very late 2013 and early 2014. This shortage is unfortunate as seafood buyers must turn to

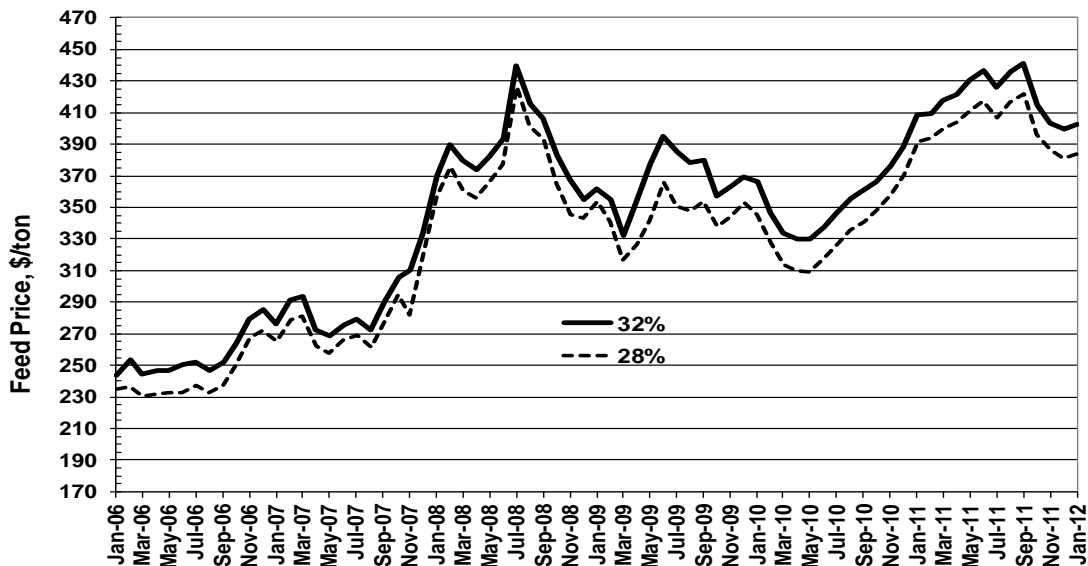
imported sources of fish as substitutes to meet their needs (as seen earlier in the increase in frozen catfish fillets coming from imports). This could lead to further decreases in market share for U.S. catfish processors and reduce the quantity required from U.S. catfish producers as well. Thus, the next few years are very critical to the future survival of the U.S. farm-raised catfish industry.

## 6. Feed Price

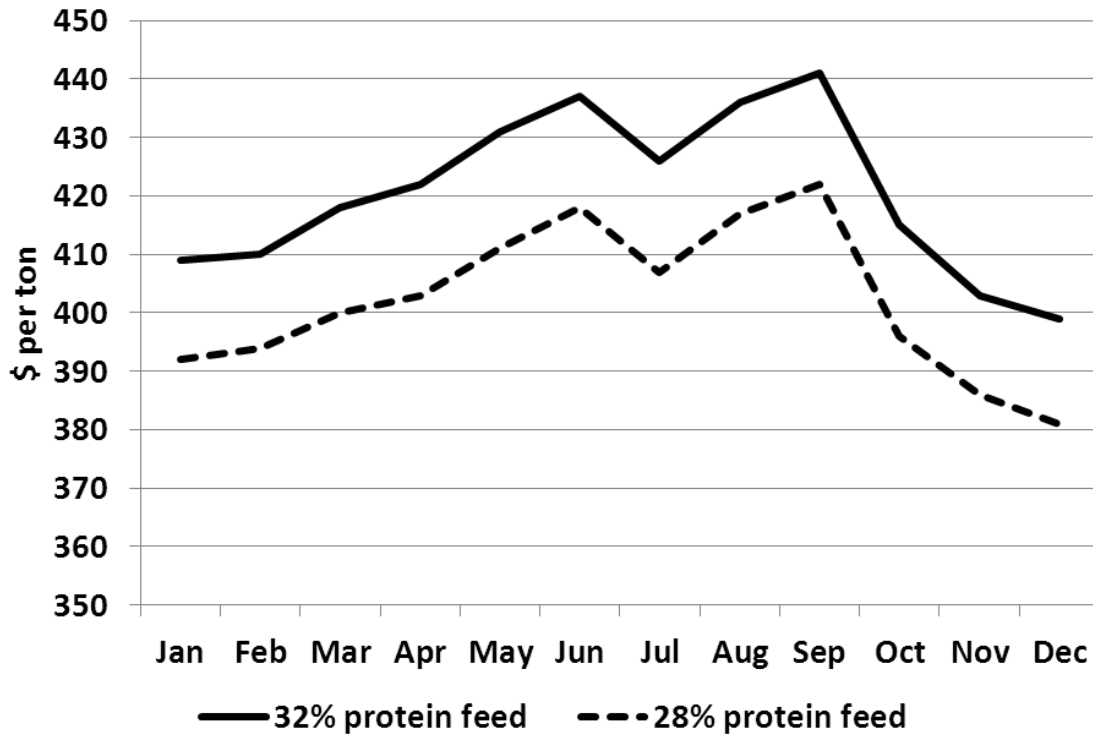
Feed prices have continued on an increasing projection from 2001 onward, as shown for 2006 through 2011 in Figure 15. In 2011 catfish feed price peaks never before seen in the U.S. catfish industry occurred, with producers paying an average of \$421 per ton, up \$67/ton (+19 percent) from the 2010 annual average price of \$353/ton for 32 percent crude protein floating feed. Though the average price was \$421/ton for the year the price was greater than \$420/ton for the six primary production months, April through Sept., when the 32 percent feed price averaged \$432 per ton, Figure 16.

High catfish feed component prices for corn and soybean meal have pushed the catfish feed price higher in the last four years, and with expected high corn and soybean prices in 2012 this trend is expected to continue. Additionally, acreage battles with rice and cotton are occurring and could further increase the scarcity of corn and soybean and elevate their prices. There may be some relief on these commodity prices from some corn acreage expansion and possibly better yields in the U.S., but these commodity price levels also depend on crop harvests in Argentina and Brazil where current drought conditions may have significantly damaged crops, and, thus, further the scarcity for these grains in the world and U.S. markets. Though the end of 2011 saw catfish feed prices below \$400/ton, it is expected that tight corn and soybean supplies in 2012 will push the feed price above \$400/ton for most of the 2012 production year.

**Figure 15. Prices for 28 percent and 32 percent Crude Protein, Floating Catfish Feed, Jan. 2006 to Jan. 2012**



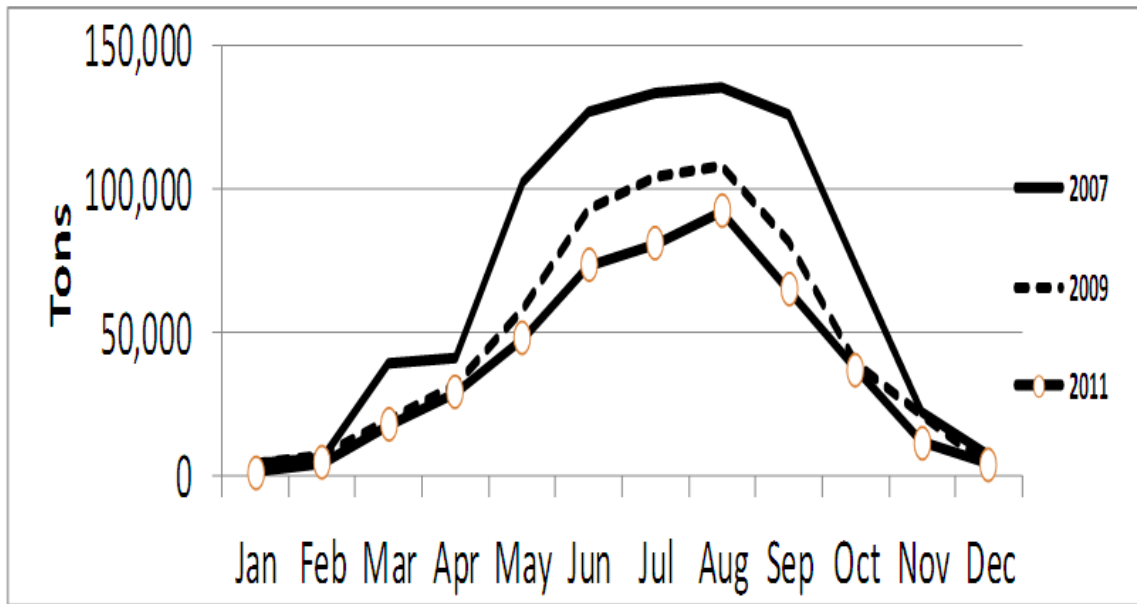
**Figure 16. Monthly Prices for 28 percent and 32 percent Crude Protein, Floating Catfish Feed in 2011**



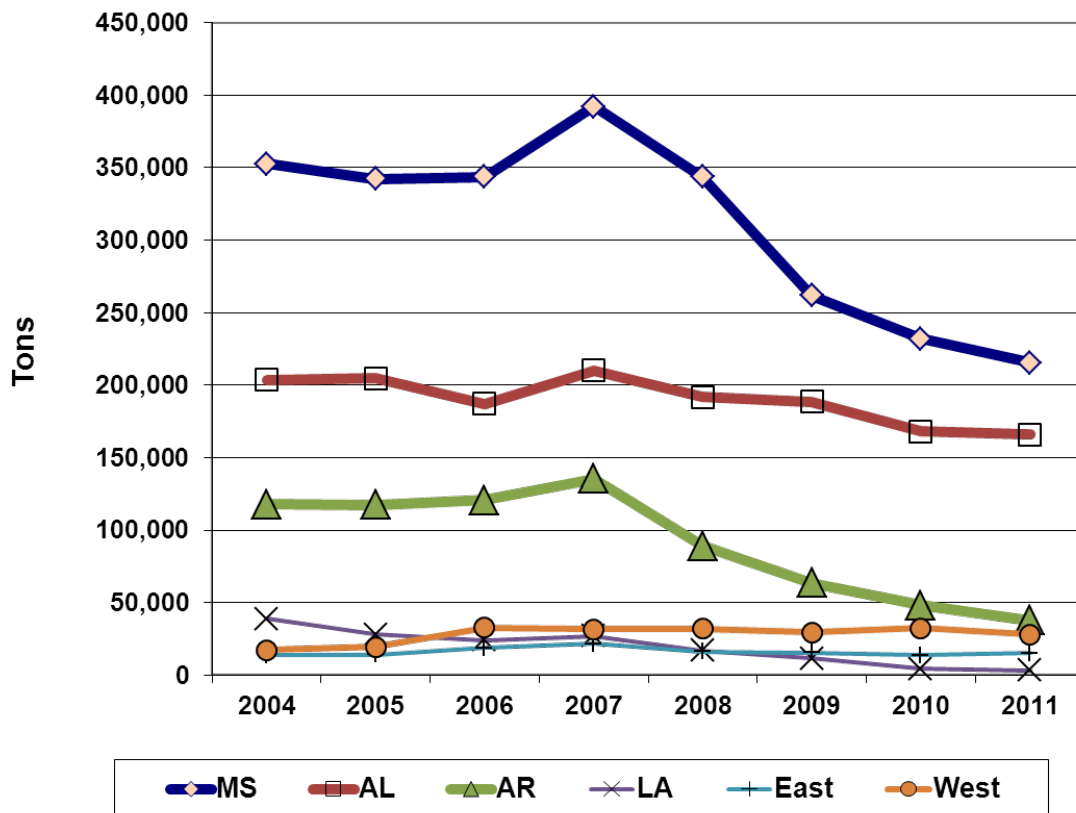
The Feed Delivered report from USDA/NASS, Figure 17, graphically depicts and compares the monthly tons of feed delivered to the U.S. catfish industry in 2007, 2009, and 2011. From this figure, it is clear the total feed being fed in the U.S. farm-raised catfish industry is declining, and is a clear indicator of overall catfish production declining in the U.S. Additionally, when graphed by state where the feed was delivered, the sharp declines in production occurring in individual states is seen, Figure 18. It is clear that Mississippi and Arkansas had the greatest reduction in feed purchases in 2008 through 2011 compared to the relatively stable feed delivery quantities in Alabama for the same period.

In 2011, Mississippi fed 215 thousand tons of catfish feed, which is down 39 percent from 2004 levels (353 thousand tons); while Alabama fed more than 165 thousand tons in 2011, which is down 38 thousand tons from 2004 levels (-19 percent), Figure 18. Arkansas fed more than 37 thousand tons of feed in 2011, which is down 68 percent from 2004 levels (117 thousand tons). Meanwhile, Louisiana catfish production has almost gone out of existence, with feed fed in 2011 at just over 3 thousand tons, down 92 percent from 2004 levels (39 thousand tons). There have been some increases in catfish production in other states east and west of the Mississippi River, and combined these states fed 43 thousand tons in 2011, Figure 18, representing 10 percent of all feed fed in the U.S. catfish industry.

**Figure 17. Comparison of Total Catfish Feed Delivered Between 2006 and 2010**



**Figure 18. Catfish Feed Delivered to each State and Remaining Other States**



## **7. Farm-Raised Catfish Outlook for 2012**

The long-term trend in U.S. consumption of fish and seafood products is increasing. Among the most consumed fish and seafood species in the U.S., farm-raised catfish produced in the U.S. is number six, preceded by shrimp, tuna, salmon, tilapia, and Pollock. The final four species in the top ten list is crab, cod, Pangasius, and clam. The surprise fish to enter the top ten list is Pangasius, at 0.41 pounds consumed per person per year, up from 0.356 pounds consumed per person per year in 2009. This is an imported “catfish-like” product and is a substitute product to the channel catfish species grown in the U.S.

Recent trends show there is an increasing quantity of imported frozen catfish and catfish-like fillets coming into the U.S. This import trend continued and increased dramatically in 2011 to 204 million pounds, an increase of 66 million pounds over 2010 imported quantities (138 million pounds). Imported frozen catfish fillets now account for 74 percent of all sales of this product form in the U.S. This trend is likely to continue in 2012, due to the present scarcity of U.S. produced catfish products and their higher relative price. Round weight processing in the U.S. catfish industry was down 29 percent from 2010 levels and is expected to be less in 2012 as seen by level or lower beginning inventories of fish in ponds and in processor warehouses.

The in-pond catfish inventory (pounds) for food-sized catfish is about the same in 2012 as it was in 2011 and will provide no increase in fish availability this year over last year. Jan. 2012 stocker-sized catfish inventories (pounds) are down 25 percent from Jan. 2011 levels and will provide no increase of fish available in early 2012. There is an increase in small stocker inventory but they will not be of harvest size until 2013. Thus, it seems the 334 million pounds processed in the U.S. in 2011 will be hard to achieve in 2012. Fingerling quantities were less in Jan. 2012 compared to 2011 levels, which reduces the chance that future fingerlings for stocking can match the increasing demand for fingerlings in 2012. In 2011 it seemed that hatchery operators were gearing up for the increased demand for catfish fingerlings by producers, but 2012 beginning fingerling inventories are less than in Jan. 2011 and suggest otherwise. However, there is evidence there will be an increase in 2012 fingerling production because 2012 broodfish pounds are up 10 percent over Jan. 2011 levels. The high price being paid for foodsize catfish by processors to producers will continue to increase the demand for fingerlings and, thus, broodstock numbers are likely to increase in 2012.

The U.S. catfish industry had a severe shortage of fish in 2011, and it looks like that trend will continue throughout 2012. Short fish supplies during processors and wholesalers time of need have forced many seafood buyers to buy imported catfish or turn to alternative white-flesh fish species to meet their needs. This has led to further decreases in market share for U.S. catfish processors, especially for the frozen catfish fillet products. This, in turn, may reduce the quantity of catfish required from U.S. producers.

However, in 2011, the increased price received by producers for their fish finally allowed them to have a profitable year and is the first profitable one in many years, especially in light of the increasingly high feed prices of the last several years. Because all U.S. catfish processors were facing the fish shortage, they bid up in prices to producers as a way to compete for live product. Processors had no choice but to pass on the higher fish input cost to wholesalers and retailers, who paid the higher prices and passed the price increase on to consumers or kept price increases lower by reducing the profit margin at the retail outlet. In any case, the U.S. market accepted the higher catfish price, which proved that the U.S. product is still desired by consumers. There is a demand for U.S. produced catfish products and, like in other industries, increased food prices are needed to keep up with increasing input prices. As the U.S. economic recovery provides increased numbers of main street worker jobs, the increased food prices are likely to be accepted compared to the last couple of years when high unemployment and no jobs in sight made passing on higher prices less likely.

For the first time in many years escalating feed and fuel costs were matched by a pond-bank price high enough for producers to make a profit and begin to pay off some of their accumulated debt and loans. Even with this good year there has been a 21 percent decrease in the number of US catfish operations and a 10 percent decrease in the number of production acres. Prices received by producers in 2011 averaged \$1.177 per pound, 37.5 percent greater than the 2010 average price (\$0.802/lb). It seems clear the high price to producers will continue in 2012 because of the current fish shortage, high feed prices and lack of significant in-pond and in-warehouse inventory increases over 2011 levels.

What price producers will receive in 2012 is hard to say, but in Jan. 2012, processors paid \$1.25/lb to producers. The question is whether this price level will become the new norm for the U.S. farm-raised catfish industry and whether processors will be able to sell all available products to wholesalers at these higher price levels. The price of feed continues to be high, at \$422/ton in early March 2012 for 32 percent protein feed. It is hard to believe that catfish feed prices can go higher than we have already seen but corn and soybean quantities are expected to be limited in the short term, with some increase in U.S. corn supplies during 2012 due to corn acreage expansion and possibly better yields. Prices for corn and soybeans also depend on crop harvests in Argentina and Brazil where current drought conditions may have significantly damaged crops and reduced the availability of corn and soybeans in the world, and that could mean higher catfish feed prices in the U.S.

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## **Notes from USDA NASS Reports:**

### **General**

USDA-NASS (U.S. Department of Agriculture - National Agricultural Statistical Service) provides to the public information on the production and processing sectors of the U.S. catfish industry. Over the years this information has been printed and distributed. More recently, data from 1995 to present have been put onto the Internet for easy access at <http://usda.mannlib.cornell.edu/>, where the term “catfish” can be searched. However, pre-1995 data are not available on-line. Thus, the reason for this publication is to put the longer time series together in one place. In some presented tables and graphs, time series have been shortened, but data for the longer series is available upon request. All data in this publication, except for catfish feed prices, come from USDA-NASS or the state equivalent MASS (Mississippi Agricultural Statistics Service). The following notes are the notes that accompany USDA's reports—Catfish Production, Catfish Processing, and Catfish Feed Deliveries—and MASS annual reports.

### **Catfish Production Report Notes:**

#### **Catfish Production Estimation and Survey Procedures:**

States used every available source of producer names to make their list as complete as possible. Great care was exercised to ensure that all operations were accounted for in the estimates.

#### **Estimation Procedures:**

Sound statistical methodology is employed to derive the estimates from reported data. All data are analyzed for unusual values. Data from each operation are compared to their own past operating profile and to trends from similar operations. Data for missing operations are estimated based on similar operations or historical data.

#### **Reliability:**

Catfish production estimates are based on a census of all known active producers and, therefore, have no sampling variability. However, estimates may be subject to errors such as omissions, duplication, and mistakes in reporting, recording, and processing of the data. These errors are minimized through strict quality controls in the edit and summarization process and a careful review of all reported data for consistency and reasonableness.

#### **Revision policy:**

Estimates for the previous year are subject to revision when current estimates are made. Revisions are the result of late or corrected data.



**Definitions Used for Catfish Production:**

**Broodfish** - Fish kept for egg production, including males. Broodfish produce the fertilized eggs which go to hatcheries. The most desirable size is 3 to 10 pounds or 4 to 6 years of age.

**Large Foodsize** - Fish weighing over 3 pounds.

**Medium Foodsize** - Fish weighing over one and one-half pounds to 3 pounds.

**Small Foodsize** - Fish weighing over three-fourths pound to one and one-half pounds.

**Large Stockers** - Fish weighing over 180 pounds to 750 pounds per 1,000 fish.

**Small Stockers** - Fish weighing over 60 pounds to 180 pounds per 1,000 fish.

**Fingerlings/Fry** - Fish weighing 60 pounds or less per 1,000 fish.

**Catfish Processing Report Notes:**

**Catfish Processing Estimation and Survey Procedures:**

Survey data for catfish processing are collected monthly from approximately 24 processors. All participating processors must meet the minimum criteria of having a capacity to process at least 2,000 pounds live weight of catfish per 8-hour shift. The survey is conducted entirely by NASS Headquarters' staff in Washington, D.C. NASS field offices, however, are responsible for keeping Headquarters informed of any new processing operations in their state to ensure that the survey coverage is as complete as possible. Processors are contacted either by mail or telephone. Diligent effort is made to ensure that all operations are accounted for in the estimate.

**Estimation Procedures:**

The Catfish Processing report refers strictly to farm-raised fish and excludes wild capture fish. Prior to summarization, questionnaires are compared with the previous month's reports for comparable placement of data, reasonable price levels, and reasonable inventory carryover given the sales and processing totals reported. Estimates are made for those processors whose reports are not available in time to be included in the release. These plants are identified by an asterisk on page 5 of each release of the Catfish Processing report. Estimates are normally based on the processor's previous report and current conditions. Published totals are a straight summation of the individual reports and estimated data. Price items are weighted by the associated volumes to compute weighted average prices. The published price for total whole fish, however, reflects an adjustment to the round and gutted only price to bring it to an equivalent dressed weight price. If a plant uses a fiscal accounting system, proration is used to convert reported data to a calendar month basis. Only national level estimates are published due to the limited number of plants involved. Generally, individual items are not published if there are less than three plants reporting, or if any one plant has 60 percent or more of the total. One unique feature of the Catfish Processing report is the listing of cooperating processors by name on each month's release. This feature originally was used to solicit industry cooperation in maintaining coverage, but it has continued because of the processors' overall acceptance of this policy.

**Reliability:**

Catfish processing estimates are based on a census of all known active processors and, therefore, have no sampling variability. However, estimates may be subject to errors such as omissions, duplication, and mistakes in reporting, recording, and processing of the data. These errors are minimized through strict quality controls in the edit and summarization process, and a careful review of all reported data for consistency and reasonableness. Revision Policy: Revisions may be necessary following a review of late reports received from plants. Revisions of less than two percent of the existing published levels of any category will normally not be made.

**Definitions Used For Catfish Processing:**

**Average Price Paid to Producers** - Refers to the price of fish delivered to the processing plant door. Price includes charges for any services provided by the processing plant, such as seining and hauling, but does not include any adjustments based on year-end settlements.

**Filletts** - Boned sides of the fish, cut lengthwise away from the backbone. Includes regular, shank, and strip filletts and excludes any breaded product.

**Fresh Fish** - Fish intended for immediate consumption. Also referred to as "ice-packed."

**Frozen Fish** - Fish which are individually quick-frozen and glazed (IQF) or individually bagged and bulk frozen.

**Nuggets** - Small filletts cut from below the rib section of the fish. Usually includes breading or added ingredients.

**Round and Guttled Only** - Fish with no processing done or viscera only removed.

**Round Weight** - A term for fish live weight.

**Steaks** - Cross-section cuts from larger dressed fish.

**Strips** - Finger size pieces of fish cut from filletts. Usually includes breading or added ingredients.

**Whole Dressed** - Weight of whole fish with only head, viscera, and skin removed. Generally, 60 percent of the live weight remains as dressed fish.

**Other Catfish** - Includes regular, shank, and strip filletts and excludes any breaded product.

**Whole** - Includes round and gutted and whole dressed fish

**Other** - Differs from "other" category used by USDA-NASS. Includes steaks, nuggets, and all products not already reported, including weight of breading and added ingredients.

**Total Fresh** - Includes whole, fillet, and other forms of fresh catfish.

**Total Frozen** - Includes whole, fillet, and other frozen catfish.

**Total** - Includes all fresh and total frozen catfish product forms.

**Processing data were compiled in cooperation with the following processors:**

America's Catch	Harvest Select Catfish, Inc.
Carolina Classics Catfish, LLC	Heartland Catfish
Consolidated Catfish Producers, LLC	Lake's Farm Raised Catfish, Inc.
Delta Supreme Processing	Pride of the Pond
Farm Catch Catfish Processors, Inc.	Prime Line Inc.
Fish Breeders of Idaho, Inc.	Seabrook Seafood, Inc.
Freshwater Farms Products, LLC	Simmons Farm Raised Catfish, Inc.
Guidry Catfish, Inc.	SouthFresh Farms
Haring's Pride Catfish	Superior Fish Processors

(As of the Jan., 2012 issue of NASS Catfish Processing)

**Catfish Feed Deliveries Report Notes:**

**Survey Procedures:** Survey data for catfish feed are collected from feed mills by the USDA-NASS Mississippi Field Office, who is responsible for ensuring survey coverage is as complete as possible. Mills are contacted by mail, telephone, fax, or internet. All cooperating feed mills have allowed NASS to publish data at the State, Regional, and National level.

**Estimation Procedures:** The Catfish Feed Deliveries report refers strictly to catfish feed delivered to bonafide catfish producers and excludes catfish feed delivered to producers of other species. The totals include both bagged and bulk feed. Prior to summarization, questionnaires are compared to previous reports for comparability. Estimates are made for feed mills whose reports are not available in time to be included in the release. Estimates are based on the mill's previous reports and current conditions. Published totals are a straight summation of the individual reports and estimated data.

If a mill uses a fiscal accounting system, proration is used to convert reported data to a calendar month basis.

Two unusual features of this report are worthy of note: (1) cooperating feed mills are listed by name, and (2) it is impossible for the public to infer the amount of catfish feed produced in each state. Since many mills deliver feed to more than one state and to growers of other species, any inferences about overall production per state or per mill are not valid.

**Reliability:** Catfish Feed estimates are based on a census of all known active and cooperating catfish feed mills, and therefore have no sampling variability. However, estimates may be subject to errors such as omissions, duplication, and mistakes in reporting, recording, and processing of the data. These errors are minimized through strict quality controls in the edit and summarization process, and a careful review of all reported data for consistency and reasonableness.

**Revision Policy:** Revisions may be necessary in the following month's publication pending a review of late reports received from mills. Revisions to previous estimates are made to improve month to month relationships. Estimates for the previous month are

subject to revision in all States each month when current estimates are made. In February, all monthly estimates for the previous year are reviewed and subject to revisions. The review is primarily based on data that may have been received after the original estimates were made.

### **Definitions Used for Catfish Feed Sales**

**Broodfish** - Fish kept for egg production, including males.

**Catfish Feed** - For the purposes of this report catfish feed is defined as feed delivered to bonafide catfish producers. Thus, it is not the absolute total amount of feed produced or even sold by a mill. (Some catfish feed is sold to producers of other species of fish.) The definition includes medicated feed.

**Catfish Feed for Foodsize Fish** - Feed containing pellets larger than 1/8 of an inch.

**Catfish Feed for Fingerlings/Broodfish** - Feed containing pellets 1/8 of an inch or smaller.

**Fingerlings** - Smaller fish about 2 to 6 inches in length.

**Foodsize Fish** - Fish being grown commercially for human consumption. Optimum sizes at harvest depend on the market but are generally no lower than 3/4 pound but near one pound.

### **Data were compiled in cooperation with the following feed mills:**

Alabama Feed Mill LLC	Land O' Lakes
Arkat Feeds	Melick Aqua Feed LLC
Cargill Animal Nutrition	Rangen, Inc.
Carolina Fish Feeds	Silver Cup
Delta Western	Southfresh Feeds
Fishbelt Feeds, Inc.	Star Milling Co.
Flint River Mills, Inc.	Topwater Feed Mill

### **Mississippi Catfish Notes:**

Mississippi data was obtained from Mississippi Agricultural Statistics Supplements.

Methods for gathering data: Much of the data used to calculate statistics published by the NASS is collected by a part-time staff of telephone and field enumerators. This enumerator staff is employed by the National Association of State Departments of Agriculture (NASDA) and serves as outside contract workers for the USDA. The National Agricultural Statistics Service is recognized as one of the premier statistical organizations in the world. That reputation rests in large part on the efforts of enumerators in every state in the U.S. The Mississippi Agricultural Statistics Service gratefully acknowledges the work and integrity of its own enumerators.