U.S. Farm-Raised Catfish Industry
2012 Review and 2013 Outlook

Highlights

► U.S. farm-raised catfish was seventh in the 2011 “Top 10” fish and seafood consumption list for Americans, who consumed 15.0 pounds of fish and seafood per year in total and 0.56 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 were processed. In 2012, 300 million pounds were processed, down 34 million pounds (-10%) from 334 million pounds processed in 2011; and a 55% decrease since the 2003 peak.

► Imports of frozen catfish fillets increased by 34 million pounds (+14%) to 237 million pounds in 2012; and imports now account for 78% of all U.S. sales of frozen catfish fillet product.

► There were 83,020 acres of water in U.S. catfish production in January 2013, down 8% from 2012. Current production acreage for the top three catfish producing states, Alabama, Arkansas and Mississippi was down 4,400 acres (-6%) to 75,000 acres.

► The number of U.S. catfish operations decreased by 94 (-13%) from January 2012 to January 2013 and is now at 624.

► The average price received by producers was $0.967 per pound in 2012, down $0.202 per pound from the 2011 average price of $1.177 per pound. In 2012 there was a $0.455 per pound difference between high (January, $1.248 per pound) and low (September, $0.793 per pound) pond bank prices received during the year.

► Total producer income in 2012 was $292 million, a $101 million decrease (-26%) from the 2011 total producer income of $393 million. This was due to the reduction in processing volume and the lower average price received by producers. (Note: 2011 had a record high price received by producers at $1.177/lb average for the year).

► In-pond inventories of foodsize fish in January 2013 were down 5.4% from January 2012 levels. Stocker inventory was down 27% from Jan. 2012 levels. Fingerling weight (and number) inventory was down 26% and 12% respectively from January 2012 levels. Broodfish pounds were up 4%.

► Catfish feed prices (32% protein) in 2012 averaged $469/ton, up $48/ton (+12%) over the 2011 average feed price of $421/ton. Note: 2012 feed prices peaked in August ($562/ton) while the lowest feed price in 2012 occurred in January and February ($401/ton).
U.S. Farm-Raised Catfish Industry
2012 Review and 2013 Outlook

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This 2012 review and the 2013 outlook reports on recent trends in the U.S. catfish industry were derived primarily from NASS reports; Catfish Processing, Catfish Production, and Catfish Feed Deliveries reports.

As of March 12, 2013, NASS (Agricultural Statistics Board of the U.S. Department of Agriculture, National Agricultural Statistics Service) announced the suspension of certain statistical estimates and reports due to sequestration, including all Catfish and Trout Reports including Catfish Feed Deliveries and Catfish Processing reports (for information contact Sue King at (202) 690-8122).

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 products, U.S. farm-raised catfish production statistics on water acreage, live fish price, inventories, feed price, and an outlook for 2013.

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 2013 purchases of domestically produced channel catfish.

U.S. per capita fish and seafood consumption was lower in 2011 than in 2010, though the long-term trend is still 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 position. Salmon replaced pollock as the number three preferred product in 2003 and has remained there. Tilapia was surpassed by pollock, dropping from fourth place to fifth place. Pangasius rose to sixth place.
U.S. farm-raised catfish was seventh in the 2011 “Top 10” fish and seafood consumption list for Americans, who consumed 15.0 pounds of fish and seafood per year in total and 0.56 pound per year of catfish.

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

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

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<tbody>
<tr>
<td>1. Tuna</td>
<td>Shrimp (4.00)</td>
<td>Shrimp (4.10)</td>
<td>Shrimp (4.0)</td>
<td>Shrimp (4.2)</td>
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<tr>
<td>2. Shrimp (3.50)</td>
<td>Tuna</td>
<td>Tuna</td>
<td>Tuna (2.7)</td>
<td>Tuna (2.6)</td>
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<tr>
<td>3. Pollock</td>
<td>Salmon</td>
<td>Salmon</td>
<td>Salmon (2.0)</td>
<td>Salmon (1.952)</td>
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<tr>
<td>4. Salmon</td>
<td>Pollock</td>
<td>Pollock</td>
<td>Pollock (1.45)</td>
<td>Pollock (1.312)</td>
</tr>
<tr>
<td>5. Catfish (0.996)</td>
<td>Catfish (1.137)</td>
<td>Tilapia (1.208)</td>
<td>Catfish (0.849)</td>
<td>Catfish (0.8)</td>
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<tr>
<td>6. Cod</td>
<td>Cod</td>
<td>Catfish (0.8)</td>
<td>Cod (0.46)</td>
<td>Pangasius (0.628)</td>
</tr>
<tr>
<td>7. Clams</td>
<td>Crabs</td>
<td>Crabs</td>
<td>Crabs (0.57)</td>
<td>Catfish (0.559)</td>
</tr>
<tr>
<td>8. Crabs</td>
<td>Clams</td>
<td>Cod</td>
<td>Cod (0.46)</td>
<td>Crab (0.518)</td>
</tr>
<tr>
<td>9. Flatfish</td>
<td>Tilapia (0.525)</td>
<td>Clams</td>
<td>Pangasius (0.41)</td>
<td>Crab (0.501)</td>
</tr>
<tr>
<td>10. Scallops</td>
<td>Scallops</td>
<td>Pangasius (0.356)</td>
<td>Clams (0.34)</td>
<td>Clams (0.331)</td>
</tr>
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2. Imports

- Imports of frozen catfish fillets increased by 34 million pounds (+14%) to 237 million pounds in 2012; and imports now account for 78% of all U.S. sales of frozen catfish fillet product.

Figure 3 shows the dramatic increase in imports of frozen, boneless catfish fillet products (Ictalurus, Pangasius and Siluriformes), and:

- in 2005 the import quantity was 30 million pounds of frozen fillets;
- in 2006 the import quantity increased to 75 million pounds (+149%);
- in 2007 the import quantity increased to 85 million pounds (+13%);
- in 2008 the import quantity increased to 102 million pounds (+21%);
- in 2009 the import quantity increased to 129 million pounds (+26%);
- in 2010 the import quantity increased to 138 million pounds (+6%);
- in 2011 the import quantity increased to 204 million pounds (+48%); and
- in 2012 the import quantity increased to 237 million pounds (+14%).

In total, the U.S. catfish industry processed and sold 124 million pounds of frozen catfish fillets in 2005, 118 million pounds in 2006, 104 million pounds in 2007, 103 million pounds in 2008, 96 million pounds in 2009, 98 million pounds in 2010, 70 million pounds in 2011, and 68 million pounds of frozen fillet product in 2012, Figure 4.

Figure 3. Imported Catfish, 1990 – 2012.
The quantity of imported frozen catfish fillets sold in the U.S. was equal to the quantity of U.S. processed frozen catfish-like 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 made up 22% of the entire quantity sold in the U.S. in 2012 (78% 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-like frozen fillet product sold in the U.S. From 2005 to 2012, imported frozen catfish-like fillet product has increased from 20% to 78% of the market share for frozen catfish and catfish-like fillet products in the U.S. (U.S. percentage of sales have declined from 80% to 22% during this same period). Much of this decline relates to high catfish feed prices, due primarily to increasing and very high soybean and corn prices, the main ingredients of catfish feed.

Figure 4. Quantity of U.S. Catfish and Imported Catfish-like Frozen Fillets Sold in the U.S. (U.S. percentages of frozen fillets sold are in boxes), 2005-2012.
3. U.S. Catfish Processing and Frozen/Fresh Inventory

U.S. catfish processed and inventoried fresh and frozen fish (and in-pond inventories discussed later) provide a view of what was in demand and supplied to the U.S. market place. The U.S. catfish industry has been in decline since a high mark in 2003 when 662 million pounds of round weight catfish were processed. In 2012, 300 million pounds were processed, down 34 million pounds (-10%) from 334 million. From 2003’s high to the 2012 low, there has been a 361 million pound decrease (-55%) in U.S. farm-raised round weight catfish processed, Figure 5.

During the 2000 to 2012 period frozen catfish fillet product sales have declined by 52 million pounds (-44%), while frozen “Other” product sales have declined by 18 million pounds (-40%) and frozen whole catfish product sales have declined by 7 million pounds (-53%), Figure 6.

During the same 2000 to 2012 period fresh catfish fillet product sales have declined by 31 million pounds (-52%), while fresh “Other” product sales have declined by 11 million pounds (-65%) and fresh whole catfish product sales have declined by 17 million pounds (-41%), Figure 7.

Figure 5. Round Weight Processed by U.S. Processors*, 1975 – 2012.

*Foodsize Catfish Only
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. This increased to 777,000 pounds in 2010, then decreased to 514,000 pounds in 2011, and increased to 530,000 pounds in 2012. 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, decreased to 7.7 million pounds in 2011, and increased to 10.4 million pounds in 2012. Of these frozen forms, the fillet form dominates. There was a monthly inventory of frozen fillets averaging
8.6 million pounds in 2009, 7.2 million pounds in 2010, 4.8 million pounds in 2011, and 8.5 million pounds in 2012. Clearly, processor inventory of catfish products was lower in 2011 but 2012 was similar to 2009 and 2010.

4. U.S Farm-raised Catfish Production

Sales of domestic catfish products (foodfish, broodfish, stockers, fry, and fingerlings) in 2012 were approximately $341 million, down 20% from 2011 ($423 million) sales. This is understandable as production acreage and quantity has decreased significantly over the past several years, Figure 8. U.S. farm-raised catfish production acres have declined to 83,020 acres (projected use from January 2013 NASS Catfish Production report) from a 2002 high of 196,760 acres, a 113,740 acre decrease (-58%) in 11 years, Figure 8. Since 2002, Alabama acreage has declined 7,700 acres (-30%), Arkansas acreage has declined 29,800 acres (-78%), Louisiana acreage has declined 11,780 acres (-97%), and Mississippi acreage has declined 62,900 acres (-56%).

Escalating catfish 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 2012 period. This has caused many producers in Arkansas, Louisiana and Mississippi delta regions to convert their pond acreage to corn and soybean. Producers’ income, that is the average annual price received across the whole industry by producers multiplied by total round weight processed, was $101 million (-26%) less in 2012 ($292 million) than in 2011 ($393 million); and few producers in the U.S. catfish industry saw any profit in 2012.

Figure 8. Water Acreage Used in U.S. Catfish Production, Jan 1998- Jan 2013.
5. Fish Price and In-pond Fish Inventory
The pond 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, increased to $1.18 per pound in 2011, and decreased to $0.97 per pound in 2012. It is noteworthy that 2011 prices to producers 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 2012 price level could not keep up with this high 2011 price. The 2012 price paid to producers averaged $0.967 per pound, down $0.20 per pound, reflecting an uncertain need for fish by U.S. processors in 2012 and low consumer demand.

Figure 9. Nominal Prices Paid to Producers by Month, 2007-2012.

Figure 10. Nominal Prices Paid to U.S. Catfish Producers by month, January 2006 to December 2012.
In-pond fish inventory

Round weight processed catfish was 300 million pounds in 2012, down 34 million pounds from the 2011 level (334 million). If the 2012 quantity is to be processed in 2013, 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 2013 and into early to mid-2014, and from fingerling inventory to supply demand in late 2014 and early to mid-2015.

The January 2013 foodsize catfish in-pond inventories (small, medium and large sizes) were reported at 233 million pounds, down 5% from January 2011, Figure 11.

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

The “stocker” size catfish will be harvestable in mid- to late-2013. The inventory of stocker sized fish in January 2013 was approximately 69 million pounds, Figure 12, down 27% from January 2012 levels.
The reported fingerling quantity and numbers available from the January 2013 report show decreases of 26% and 12% respectively, but the trend shows a bottoming out of fingerling supply, Figures 13a and 13b.
Many catfish production operations have gone out of business. There are now 624 producers, down 94 operations from a year earlier (-13%), Figure 14. Low prices and prior years of reduced production and processing have led to hatchery operators reducing their number of fingerlings and broodstock in stock. However, broodstock pounds in inventory in January 2013 were up 4% over January 2012 levels, indicating a longer term potential for more fingerling supplies if the industry demands them.
Thus, from an “in-pond” inventories perspective, there will be enough foodsize fish and advanced stockers in 2013 for processing quantities equaling the 2012 round weight processing quantity. For the future, the increased number of broodstock on hand will provide the potential for more fingerlings in mid-2013 to increase foodsize fish availability for very late 2014 and early 2015. The fish shortage of 2011 was unfortunate as seafood buyers turned to imported white fish as substitutes to meet their needs. This did lead to further decreases in market share for U.S. catfish processors and reduced the quantity required from U.S. catfish producers. Thus, the progress of the industry in 2013 will be critical in knowing the long-term future of the U.S. farm-raised catfish industry.

6. Feed Price

The feed price trend has continued to increase from 2001 onward (Figure 15 from 2006 through 2012). In 2012 catfish feed prices peaked at never-before-seen levels in the U.S. catfish industry, with producers paying an average of $469 per ton, up $48 per ton (+12%) from the 2011 annual average price of $421 per ton for 32% crude protein floating feed. Note that this increase is in addition to a feed price increase of $67 per ton (+19%) in 2011. Though the average price was $469 per ton for 2012, the price was greater than $500 per ton during August, September and October, Figure 16.

High catfish feed component prices for corn and soybean meal have pushed the catfish feed price higher in the last five years, and with expected high corn and soybean prices in 2013 this trend is expected to continue. Additionally, acreage battles with rice and cotton are occurring and could further increase the scarcity of corn and soybeans and elevate their prices. There may be some relief on these commodity prices resulting from 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.

In 2013 it is estimated that Brazil will produce a record soybean crop of 83.5 million tons, surpassing the U.S. as the world’s largest producer of soybeans. Global soybean production was increased to 269.5 million tons as Brazil’s production prospects more than offset Argentina’s depleting weather and production conditions. Global corn production for 2012/13 was increased by 2.1 million tons with increases in Brazil, Mexico, India, and Ukraine. South American weather and production estimates in 2013 will need to be followed throughout the year as these harvests are key indicators of price movement, up or down, in these two crops and will translate into catfish feed price direction as well.
Figure 15. Prices for 28% and 32% Crude Protein, Floating Catfish Feed, January 2006 to December 2012.

Figure 16. Monthly Prices for 28% and 32% Crude Protein, Floating Catfish Feed in 2012.
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, 2011 and 2012. 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 2007 through 2012 compared to the relatively stable, though declining, feed delivery quantities in Alabama for the same period.

In 2012, Mississippi fed 218 thousand tons of catfish feed, which is down 38% from 2004 levels (353 thousand tons); while Alabama fed over 151 thousand tons in 2012 which is down 52 thousand tons from 2004 levels (-26%), Figure 18. Arkansas fed 35 thousand tons of feed in 2012, which is down 70% from 2004 levels (117 thousand tons). Meanwhile, Louisiana catfish production has nearly disappeared, with feed fed in 2012 at just over 2.5 thousand tons, down 94% from 2004 levels (39 thousand tons). There have been some increases and decreases in catfish production in other states west and east of the Mississippi River respectively, and combined these states fed 45 thousand tons in 2012, Figure 18, representing 10% of all feed fed in the U.S. catfish industry.

Figure 17. Comparison of Total U.S. Catfish Foodfish Feed Delivered between 2007 and 2012.
7. Farm-Raised Catfish Outlook for 2013

The long term trend in U.S. consumption of fish and seafood products is increasing, though in the last few years per capita quantity has decreased. Among the most consumed fish and seafood species in the U.S., farm-raised catfish produced in the U.S. is number seven, preceded by shrimp, tuna, salmon, pollock, tilapia, and Pangasius. The final three species in the top ten list are crab, cod, and clam. The surprise in 2011 was Pangasius jumping from ninth place to sixth place and moving ahead of channel catfish. Pangasius consumption is 0.628 pounds, up from 0.41 pounds consumed annually per capita in 2010. 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 2012 to 237 million pounds, an increase of 33 million pounds over 2011 imported quantities (204 million pounds). Imported frozen catfish fillets now account for 78% of all sales of this product form in the U.S. This trend is likely to continue in 2013, due to the relatively high cost of producing and processing of U.S. catfish products. Round weight processing in the U.S. catfish industry was down 10% from 2011 levels, but is expected to be at similar levels in 2013 as seen by equal or slightly lower beginning inventories of fish in ponds and above average beginning of year levels of fish in processor storage.
The U.S. catfish industry had a good production year until slowed by uncertain buyers for harvested fish that began to be noticeable in mid-2012. High feed prices, uncertain sales of produced fish, and a low price to producers by processors signaled to producers to cut back on feeding and restocking. When fish are not routinely harvested in multiple-batch production systems and the ponds are fed a maintenance diet there will be very large size differences of fish in ponds. Fish larger than four pounds receive a reduced price from the processor. Thus, in 2013 there is the possibility that there will be a shortage of smaller, more desirable fish sizes.

Because the price received by producers was low compared to operating costs, many producers went out of business in 2012. With the high feed price it is possible that there will be a shortage of correctly sized catfish and the price paid to processors may be bid up in 2012. The question is whether the increase in price to producers and processors will be accepted by wholesalers, retailers and consumers. Perhaps the improving economy will result in more catfish sales, at a higher price, in the U.S. marketplace.

In 2012 the escalating feed and fuel costs were not matched by a sufficiently high pond-bank price to result in a profit to producers. The result was a 13% decrease in the number of U.S. catfish operations and an 8% decrease in the number of production acres. Prices received by producers in 2012 averaged $0.967 per pound, 18% less than the 2011 average price ($1.177 per pound).

The price producers will receive in 2013 is hard to determine, but in January 2013, processors paid $0.82 per pound to producers, which was $0.43 per pound less than in January 2012. With continued high catfish feed prices, catfish processors would benefit from figuring in the variable costs of production as well as fixed costs when determining the price to pay producers. Paying a price that covers variable costs will ensure short term survival of farmers and paying a price that covers variable and fixed costs will ensure a long term profitability and sustainability for the industry as it allows for investment in new technologies, such as in-pond raceways, that can significantly reduce the cost of production. If the breakeven cost of production covering variable cost is not paid by processors to producers, then producers will continue to go out of business, infrastructure closings will follow, and that will mean the end to the large-scale U.S. farm-raised catfish industry as we know it today. The question is whether the processors can pass on a higher fish price to their middlemen buyers.

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March 2013
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 data 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/, then search for 'catfish'. 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, comes 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,” “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.
Fillets - Boned sides of the fish, cut lengthwise away from the backbone. Includes regular, shank, and strip fillets 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 fillets cut from below the rib section of the fish. Usually includes breading or added ingredients.
Round and Gutted 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 fillets. 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 fillets 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 bona fide 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:

<table>
<thead>
<tr>
<th>Alabama Feed Mill LLC</th>
<th>Land O’ Lakes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arkat Feeds</td>
<td>Melick Aqua Feed LLC</td>
</tr>
<tr>
<td>Cargill Animal Nutrition</td>
<td>Rangen, Inc.</td>
</tr>
<tr>
<td>Carolina Fish Feeds</td>
<td>Silver Cup</td>
</tr>
<tr>
<td>Delta Western</td>
<td>Southfresh Feeds</td>
</tr>
<tr>
<td>Fishbelt Feeds, Inc.</td>
<td>Star Milling Co.</td>
</tr>
<tr>
<td>Flint River Mills, Inc.</td>
<td>Topwater Feed Mill</td>
</tr>
</tbody>
</table>

**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.