# Appendix B <br> General Explanation and Report Form 

## DEVELOPMENT OF THE REPORT FORM

Planning for the 2018 Census of Aquaculture started in 2017 with the mailout for the 2017 Census of Agriculture. The report form was developed through input from other government agencies, special interest groups, and each of NASS's field offices. Report form testing was conducted in several States and included various types of aquaculture producers. Aquaculture producers were asked to evaluate the report form through cognitive interviews, and patterns which emerged from these interviews were considered when making changes to the report form.

## DATA CHANGES

Following are report form changes and their effect on the publication tables.

## Report Form Changes

Added items include:

- Freshwater and saltwater area in square feet
- Crustacean and mollusk section, unit of pint

Deletions include:

- Screening skip pattern for aquaculture producers that solely produced and distributed aquaculture for restoration, conservation, enhancement, or recreational purposes


## Table Changes

Aquaculture producers that solely produce and distribute aquaculture for restoration, conservation, enhancement, or recreational purposes are included in the following tables:

- Table 10. Freshwater and Saltwater Acres Used for Aquaculture Production
- Table 11. Sources of Water Used for Aquaculture Production
- Table 12. Methods Used for Aquaculture Production


## DEFINITIONS AND EXPLANATIONS

The following definitions and explanations provide a detailed description of the terms used in this publication. Items in the tables which carry the note "See text" are also explained. For exact wording of the questions on the 2018 Census of Aquaculture report form, see a copy of the form at the end of this appendix.


#### Abstract

Algae. These are a very large and diverse group of simple organisms that can range from the microscopic (microalgae) to large seaweeds (macroalgae), such as giant kelp more than 100 feet in length. Microalgae include both organisms similar to bacteria called blue green algae, as well as green, brown, and red algae. Most algae grow through photosynthesis.


Aquaponics. This is a system of aquaculture in which the waste produced by farmed fish or other aquatic animals supplies nutrients for plants grown hydroponically (cultivating plants in water), which in turn purify the water.

Baitfish. These are fish used for bait, such as crawfish for bait, fathead minnows, goldfish (feeder and bait), golden shiners, other shiners (emerald, silver, etc.), and suckers. Examples of fish in the Other baitfish category include hubs, leeches, and other types of minnows.

Broodstock. These are fish or other stock kept for reproduction, including males. Female broodfish produce the fertilized eggs which go to hatcheries.

Cages or pens. Cage culture involves growing a culture species in floating cages or baskets. Cages are normally used in larger, open bodies of water, such as
lakes or rivers. The sides of the cages are rigid and are made of materials like plastic or plastic covered wire. Pens are large enclosures usually placed in rivers or ocean bays. Pens are usually floated in the water, but may also be secured to the bottom. Pens are supported in some way, with the sides being flexible.

Carp, other. This category includes bighead, black, common, silver carp, and other carp not listed on the report form.

Crustaceans. These are invertebrate animals with a hard-shelled, segmented body and jointed legs. Examples include crawfish, lobsters, prawns, shrimp, and soft-shell crabs.

Direct to consumers. This sales category includes sales made directly to individuals for home consumption or placement in their ponds for personal use. Also included are operations that raise and market fish through their own fee fishing operation. Sales made to fee fishing operations are included under Wholesale to other producers.

Eggs. These are embryos surrounded by nutrient material and a protective covering.

Enhancement. This is a term often used on the West Coast with salmon. State and tribal hatcheries are releasing young salmon into known population areas to be harvested later upon the salmon return from the sea.

Fingerlings. A size category including young fish, larger than a fry but not an adult.

Flow through raceways. This is an environment where fish are in a confined area, usually long and narrow, in which water enters one end and exits the other. Raceways can either be a natural flow system or a closed system. A natural flow system uses the natural flow of a river or stream, with water diverted from the stream. A closed system has the water from the raceway flow through a series of ponds and then is pumped into a header pond that flows back into the raceway. The water area for a closed system is the surface acres of a raceway and all associated ponds. The area for a natural flow system is the surface acres that the raceway occupies.

Food fish. These are fish raised primarily for food.

Examples include hybrid striped bass, carp, catfish, flounder, yellow perch, red drum, salmon, sturgeon, tilapia, and trout. Examples of Other food fish include barramundi, cobia, Atlantic and black cod, pangasius/swai, seriola, yellow croaker, and other food fish not listed on the report form.

In the 2018 Census of Aquaculture, the summary by value of aquaculture products sold is published for all food fish, including catfish and trout. In addition, eggs from food fish are included in the food fish totals.

Foodsize. A size category including grown aquaculture products ready for market, also known as market size.

Fry. A size category including very young post-larval fish.

Government agencies. This sales outlet category includes sales made to Federal, State, or local government agencies, hatcheries, or other groups involved in purchasing aquaculture to stock Federal, publicly owned, or regulated waters and recreational areas.

Hybrid catfish. These are a cross between a female channel catfish and a male blue catfish.

Hybrid striped bass. These are a cross between a male white bass and a female striped bass.

Larvae. Newly hatched, earliest stage of animals that undergo metamorphosis, differing markedly in form and appearance from the adult.

Live haulers, brokers, etc. Individuals or companies that purchase aquaculture products from a producer for immediate resale. They may or may not take possession of the product. Live haulers transport aquaculture products in oxygenated tank trucks to other outlets, including processing plants, pay lakes, recreational lakes, and retail outlets.

Miscellaneous aquaculture. This category represents the production of aquaculture products other than food fish, sport fish, baitfish, ornamental fish, crustaceans, and mollusks. Examples include microalgae, sea vegetables such as seaweed and ogo, alligators, caviar, eels, frogs, sea urchins, snails, tadpoles, turtles, and live rock. Examples of Other
miscellaneous aquaculture include Gambusia and bioassay fish (fish used for toxicity testing).

Mollusks. These are marine invertebrates. Invertebrates have no backbone structure. In general, mollusks have three body regions: a head, a visceral mass, and a "foot." Mollusks usually have a shell; although, some do not. Examples include Abalone, clams, mussels, oysters. Examples of mollusks in the Other mollusk category include scallops and scallop seed.

Mollusks off bottom. The use of water column suspension techniques, including enclosures and lines for the production of normally bottom-dwelling mollusks. These techniques are designed to minimize bottom predators and maximize the use of a threedimensional space for cultivation.

Mollusks on bottom. The practice of raising mollusks on the bottom of tidal waters that have had oyster shell, clam shell, or other material added to improve the habitat for growth and survival.

Non-recirculating systems. Process of rearing aquatic organisms and discharging the water after its intended use.

Off farm water. Water that comes from a Federal supplier; irrigation district; mutual, private, or cooperative ditches; commercial company; or municipal or community water system.

On farm surface water. Surface supply not controlled by a water supply organization. Examples include streams, drainage ditches, lakes, ponds, springs, and reservoirs.

Ornamental fish. These are fish raised for water gardens, aquariums, etc. Examples include Koi and guppies. An example in the Other ornamental fish category is seahorses.

Other aquaculture products. This category includes all aquaculture products that are not listed in the table.

Oysters, other. This category includes Kumomoto and other oysters besides Eastern and Pacific.

Pens. See Cages or pens.

Point of first sale. The first point at which money is exchanged for aquaculture products. For example, delivery of aquaculture products from the farm to the processing plant is considered to be the point of first sale.

Ponds. The most common type of water facility for raising fish. Most ponds are man-made and fish usually have access to the entire pond.

Processors. Companies that convert live fish to a product ready to cook, such as fish fillets. Usually, the purchasing plant has no ties to the producer. However, in some cases, the plant may be a cooperative that is jointly owned by the producer and other producers. Also included in this category are the sales of aquaculture products by vertically integrated operations through their own processing and marketing operations.

Recirculating systems. Metal, plastic, or fiberglass tanks normally above ground and usually under cover used for the rearing of aquatic organisms where 90 percent or more of system water is recycled. Some tanks may consist of frames with liners.

Recreational stocking. When the point of first sale is recreational stocking, the purchaser will use the aquaculture production to stock private lakes or ponds.

Saltwater. Water from a sea or ocean, including brackish water. Freshwater converted to saltwater by adding chemicals was tabulated as saltwater acres used in production. The source of water was tabulated as freshwater.

Sea vegetables. A type of algae seaweed that grows naturally in the ocean.

Seed. A size category including young aquaculture species, generally oysters, clams, or mussels, used for stocking; newly fertilized, earliest stage of these animals, also known as seed stock.

Shellfish. An aquatic invertebrate animal with a shell, particularly an edible mollusk or crustacean.

Sport fish. These are fish raised primarily to be released into lakes and streams to be caught by sport fishermen. Fish may also be sold to fee fishing
operations. Examples include largemouth and smallmouth bass, crappie, muskie, northern pike, sunfish, and walleye.

Stockers. A size category including young aquaculture species that are large enough to be placed in the final grow-out pond, net, pen, or tank to grow to foodsize.

Sunfish. This category includes bluegill, coppernose, bream, redear/shellcrackers, etc.

Surface water acres. A measure of the number of square acres needed to cover the surface of a pond, tank, raceway, etc.

Value of sales. The gross value of sales before marketing and production costs are deducted.

Wholesale to other producers. This sales outlet category includes sales made to other aquaculture producers who buy live fish to raise for a later sale.

## 2018 CENSUS OF AQUACULTURE

AQ-100
(08/21/2018)


National Agricultural Statistics Service

Please return your completed report to:

Census of Aquaculture 1201 East 10th Street Jeffersonville, IN 47132

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0535-0237. The time required to complete this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Everyone who receives a form must return one by mail or via the Internet at

## www.agcounts.usda.gov

Your report is due by January 14, 2019.
Questions? Call us toll free at 1-888-4AG-STAT (1-888-424-7828)

## SECTION 1: AQUACULTURE PRODUCTION SCREENING

1. In 2018, did this operation or the individual(s) listed on the address label produce any fish, mollusks, crustaceans, or other aquaculture products? Produce means that inputs are supplied to add weight or change the form of aquatic animals.

INCLUDE: - Catfish, trout, food and/or sportfish, baitfish, crustaceans and mollusks, ornamental fish, miscellaneous aquaculture, and aquaculture distributed.
EXCLUDE: • Wild-caught products.

- Aquaculture products brokered for immediate resale or distribution.
$\qquad$

Yes - Go to Section 2, page 2
No - Go to Section 13, page 16

## SECTION 2: SOURCES OF WATER

1. In 2018, which of the following SOURCES of water did this operation use for its aquaculture production? Check all that apply.
151 Groundwater / Well water - Water from a well or wells located on this farm or another farm, or recycled from a well pond.On-farm surface water - Surface supply not controlled by a water supply organization. Include streams, drainage ditches, farm lakes, runoff ponds, springs, or reservoirs on or adjacent to this farm.
$153 \quad$ Off-farm water - Water from a federal supplier, irrigation district, cooperative or neighborhood ditches, commercial company, or municipal (town) or community water system.
154Saltwater - Include brackish water, tidal, sub-tidal, open public waterways, owned or leased.

## SECTION 3: METHODS OF PRODUCTION

1. In 2018, how many freshwater acres or surface area square feet were used to produce fish, mollusks, crustaceans, or other aquaculture products? $\qquad$ 120


OR Surface Area Square Feet
a. Of those reported in 1, how many were rented or leased FROM others? (Include leased from the State.) 12

2. In 2018, how many saltwater acres or surface area square feet were used to produce fish, mollusks, crustaceans or other aquaculture products? $\qquad$
$\qquad$ 121

3. Which production methods did this operation use in 2018 ?

Report each production area only once. All production areas reported under Question 3a-3j should equal the total production area reported in Question 1 and 2.
a. Ponds:
(i) How many ponds were used to produce aquaculture products?
(Exclude flooded cropland)
(ii) What was the total water surface area of these ponds?

b. Cropland used for crawfish: How many total cropland acres were used for crawfish production?
a. Of those reported in 2, how many were rented or leased FROM others? (Include leased from the State.) 122
$\square$

091
$\square$

for crawtish production?
c. Flow through raceways: How many raceways were used for raising aquaculture products?


Continued on page 3
3. (Continued from previous page) Which production methods did this operation use in 2018 ?
d. Recirculating systems (Exclude aquaponics, report in Item 3f):
(i) How many recirculating tanks, where 90 percent or more of the system water is recycled, were used to produce aquaculture products? .
(ii) What was the total volume of these tanks?


35 $\square$
e. Non-recirculating systems:
(i) How many non-recirculating tanks, where 89 percent or less of the system water is recyled, were used to produce aquaculture products?
140
(ii) What was the total volume of these tanks?

g. Cages or Pens:
(i) How many cages or pens were used to produce aquaculture products? (Exclude traps)

(ii) What was the total volume of these cages or pens?

133

h. Mollusks on bottom: What was the total water area?
i. Mollusks off bottom: Which of the following were used? Check all that apply.

| 141 | $\square$ | Floating Trays | 143 | $\square$ | Long lines | 145 | $\square$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | Rafts

8013 $\square$
j. Other method not listed above: Report unit and volume.


## SECTION 4: CATFISH

1. Did this operation produce any catfish in 2018?
${ }^{372} 1$Yes - Continue
3No - Go to Section 5, page 6
2. What are the total WATER ACRES used and to be used on this operation to produce catfish during the period of January 1 - June 30, 2019 ? (Exclude areas of new facilities under construction)
a. How many of the total acres are currently being or will be RENOVATED?

260
b. How many of the total acres are USED FOR BROODFISH production?.

261
c. How many of the total acres are USED FOR FOODSIZE production?

266
d. How many of the total acres are USED EXCLUSIVELY FOR FINGERLINGS?. 262


What is the water area of NEW FACILITIES under construction or to be constructed for use during the period of January 1 - June 30, 2019 ?

263 $\square$
4. Of the facilities previously used to produce catfish, how much water area was TAKEN OUT OF PRODUCTION during the period of July 1 - December 31, 2018 ?

264 $\square$
5. How many of the total acres are USED OR TO BE USED FOR HYBRID CATFISH during the period of January 1 - June 30, 2019 ?

265
6. On January 1, 2019, what was this operation's estimated inventory of catfish in the following size categories? For items 6 b through 6 g , exclude Broodfish reported in item 6a.

## SIZE CATEGORY

a. Broodfish - fish being used or to be used for breeding
b. Large Foodsize - over 3 lbs.
c. Medium Foodsize - over $11 / 2 \mathrm{lbs}$. to 3 lbs .
d. Small foodsize - over $3 / 4 \mathrm{lbs}$. to $11 / 2 \mathrm{lbs}$.
e. Large Stockers - over 180 lbs. to $750 \mathrm{lbs} . / 1000$ fish
f. Small Stockers - over 60 lbs. to $180 \mathrm{lbs} . / 1000$ fish
g. Fingerlings -2 to 6 inches $\mathbf{O R}$ 2 to 60 lbs./1000 fish.


## Note: Catfish produced and not sold but distributed for restoration, conservation,or recreation purposes should be reported in Section 12, page 15.

7. During 2018, what were this operation's Total Catfish Sales? Value of sales should reflect the price received at the farm gate, excluding packaging and distribution costs. If this operation has its own processing plant, the reported sales should be the value going into the plant.

## SOLD AS:

a. Broodfish (fish being used or to be used for breeding)
b. Broodfish (previously used for breeding). . . . . . .
c. All Foodsize (over $3 / 4 \mathrm{lbs}$. per fish).
d. Stockers (over 6 inches) or (over 60 lbs . to 750 lbs . per 1000 fish)
e. Fingerlings ( 2 to 6 inches) or ( 2 lbs . to 60 lbs. per 1000 fish).
f. Fry (under 2 inches) or (less than 2 lbs. per 1000 fish)
g. Catfish Eggs (fertilized).

| Total Number Sold | Total Pounds Live Weight Sold | Total Sales (Dollars) |  |
| :---: | :---: | :---: | :---: |
| 610 | 609 | 611 |  |
|  |  | \$ | . 00 |
| 613 | 612 | 614 |  |
|  |  | \$ | . 00 |
| 616 | 615 | 617 |  |
|  |  | \$ | . 00 |
| 619 | 618 | 620 |  |
|  |  | \$ | . 00 |
| 622 | 621 | 623 |  |
|  |  | \$ | . 00 |
| 625 | 624 | 626 |  |
|  |  | \$ | . 00 |
| 627 |  | 628 |  |
|  |  | \$ | . 00 |

8. In 2018, what percent of the total value of catfish sales reported in Items $7 \mathrm{a}-7 \mathrm{~g}$ above was sold directly to each of the following point of first sale outlets? Exclude fish bought for immediate resale or fish brokered by this operation.

## POINT OF FIRST SALE OUTLET

a. Processors (also include fish processed on the operation)
b. Live haulers/brokers
c. Retail outlets (restaurants, grocery stores, etc.)
d. Direct to consumers (farmers market, on-farm fee fishing)
e. Recreational stocking (private lakes and ponds).
f. Wholesale to other producers (to stock commercial and fee fishing operations)
g. Government agencies
h. Exports
i. Other, specify:


## SECTION 5: TROUT

1. Did this operation sell any trout or trout eggs in 2018 ? (Trout produced and not sold but distributed for restoration, conservation or recreation purposes should be reported in Section 12, page 15).
${ }^{375}{ }_{1}$Yes - Continue
3No - Go to Section 6, page 8
2. What were the total trout sales of fish and eggs produced on this operation during 2018 ? Value of sales should reflect the price received at the farm gate, excluding packaging and distribution costs. If this operation has its own processing plant, the reported sales should be the value going into the plant.

3. In 2018, what percent of the total trout value of sales reported in Items $2 \mathrm{a}-2 \mathrm{e}$ was sold directly to each of the outlets listed below? Exclude fish bought for immediate resale or fish brokered by this operation.

## POINT OF FIRST SALE OUTLET

a. Processors (also include fish processed on the operation)
b. Live haulers/brokers
c. Retail outlets (restaurants, grocery stores, etc.)
d. Direct to consumers (farmers market, on-farm fee fishing).
e. Recreational stocking (private lakes and ponds).
f. Wholesale to other producers (to stock commercial and fee fishing operations)
g. Government agencies
h. Exports
i. Other, specify:


Total

PERCENT OF
total value of sales

| 12 inches or longer |  | 6 to less than <br> 12 inches |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 039 |  | $\%$ | 061 |  | $\%$ |
| 030 |  | $\%$ | 031 |  | $\%$ |
| 040 |  | $\%$ | 062 |  | $\%$ |
| 019 |  | $\%$ | 063 |  | $\%$ |
| 032 |  | $\%$ | 033 |  | $\%$ |
| 034 |  | 035 |  | $\%$ |  |
| 036 |  | 037 |  | $\%$ |  |
| 070 |  | 071 |  | $\%$ |  |
| 041 |  | 042 |  | $\%$ |  |

4. What were the total number and live weight pounds of trout lost during 2018 for each of the following reasons?
INCLUDE: - Only losses intended for sale

- All lengths and sizes




## Trout distributed should be reported in Section 12, page 15.

## SECTION 6: FOOD AND / OR SPORT FISH

1. Other than catfish or trout, did this operation sell any food fish or sport fish, including carp used as biological control agents, in 2018 ? (Food and/or sport fish produced and not sold but distributed for restoration, conservation or recreation purposes should be reported in Section 12, page 15).

378
$1 \quad$ Yes - Continue
$3 \quad \square \quad$ No - Go to Section 7, page 9
2. Include the number sold, total pounds and total sales for each size category. Use a separate line for each species and size category sold. Value of sales should reflect the price received at the farm gate, excluding packaging and distribution costs. If this operation has its own processing plant, the reported sales should be the value going into the plant. For eggs report total number sold and total sales. Report roe caviar in Section 10.


## SECTION 7: BAITFISH

1. Did this operation sell any baitfish, including crawfish sold for bait, in 2018? Report crawfish for food in Section 8. (Baitfish produced and not sold but distributed for restoration, conservation or recreation purposes should be reported in Section 12, page 15).
379Yes - Continue
3No - Go to Section 8, page 10
2. How many surface acres of water were used to produce baitfish in 2018 ? 400

| Acres | Tenths |
| :---: | :--- |
|  |  |

3. Report baitfish sales below. Value of sales should reflect the price received at the farm gate, excluding packaging and distribution costs. Exclude fish bought for immediate resale or fish brokered by this operation.
Report baitfish sold by the:

- Pound or Number of fish in TABLE 3a. If the total number of fish sold is not known, report the approximate number of fish per pound.
- Gallon in TABLE 3b. If pounds and number of fish are not known, approximate. Report crawfish sold for bait in sacks.

TABLE 3a: Baitfish Sold by the Pound or Number of Fish

| Species Raised and Sold | Pounds Live Weight Sold |  | Number of Fish |  |  |  |  | Total Sales (Dollars) |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Total Number of Fish Sold |  | OR | Number ofFish per Pound |  |  |  |  |  |
| Example: Fathead minnows |  | 20 |  |  | OR |  | 250 | \$ |  | 225. | . 00 |
| Fathead minnows | 402 |  | 401 |  | OR | 403 |  | 404 | \$ |  | . 00 |
| Goldfish - feeder and bait | 410 |  | 409 |  | OR | 411 |  | 412 | \$ |  | . 00 |
| Golden shiners | 418 |  | 417 |  | OR | 419 |  | 420 | \$ |  | . 00 |
| Other shiners (Emerald, silver, etc.) | 426 |  | 425 |  | OR | 427 |  | 428 | \$ |  | . 00 |
| Suckers | 434 |  | 433 |  | OR | 435 |  | 436 | \$ |  | . 00 |
| Crawfish - bait (report crawfish for food in Section 8) | 442 |  | 441 |  | OR | 443 |  | 444 | \$ |  | . 00 |
| Other, 8029 specify: | 450 |  | 449 |  | OR | 451 |  | 452 | \$ |  | . 00 |


| TABLE 3b: Baitfish Sold by the Gallon PLEASE COMPLETE ALL COLUMNS |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Species Raised and Sold | Total Number of Gallons Sold |  | Pounds <br> Per Gallon Sold |  | Tenths | Number of Fish per Gallon |  | Total Sales (Dollars) |  |  |
| Example: Golden shiners |  | 150 |  | 8 | 5 |  | 1,500 |  | \$ | 6,000 . 00 |
| Fathead minnows | 405 |  | 406 |  |  | 465 |  | 466 | \$ | . 00 |
| Goldfish - feeder and bait | 413 |  | 414 |  |  | 415 |  | 416 | \$ | . 00 |
| Golden shiners | 421 |  | 422 |  |  | 423 |  | 424 | \$ | . 00 |
| Other shiners <br> (Emerald, silver, etc.) | 429 |  | 430 |  |  | 431 |  | 432 | \$ | . 00 |
| Suckers | 437 |  | 438 |  |  | 439 |  | 440 | \$ | . 00 |
| Crawfish - bait in sacks (report crawfish for food in Section 8) | 445 |  | 446 |  |  | 447 |  | 448 | \$ | . 00 |
| Other, 8031 specify: | 453 |  | 454 |  |  | 455 |  | 456 | \$ | . 00 |

## SECTION 8: CRUSTACEANS AND MOLLUSKS

(Includes clams, crawfish, oysters, shrimp, soft-shell crabs, etc.)

1. Did this operation sell any crustaceans or mollusks in 2018? (Crustaceans and mollusks produced and not sold but distributed for restoration, conservation or recreation purposes should be reported in Section 12, page 15).
380Yes - ContinueNo - Go to Section 9, page 12
2. Report each species and size category on a separate line. Value of sales should reflect the price received at the farm gate, excluding packaging and distribution costs. If this operation has its own processing plant, the reported sales should be the value going into the plant. Report crawfish for bait in Section 7.

CONTINUE ACROSS EACH LINE FROM PAGE 10 TO PAGE 11. ANSWER ALL 9 COLUMNS FOR EACH LINE.

|  | 1 |  | 2 |  | 3 | 4 |  | 5 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Species and Code From the table at the bottom of this page |  |  | Size Category <br> 1-Food or market size <br> 2 - Broodstock <br> 3 - Larvae <br> 4 - Seed - Complete only columns 4, 5, 9 <br> 5 - Other, specify: <br> 8114 |  | Number of Units Sold |  |  |  |  |
| LINE | Species produced and sold | Code |  | Enter Code |  | Number |  | Enter Code |  |  |
|  | Example: Crawfish |  | 7 | 1 |  | 100,000 |  | $2 \quad \rightarrow$ |  |  |
|  | Example: Pacific oyster seed |  | 13 | 4 |  | 8,000,000 |  | 1 $\rightarrow$ <br> 4 $\rightarrow$ |  |  |
|  | Example: Eastern oysters |  | 12 | 1 |  | 150 |  |  |  |  |
| 01 |  | 881 |  | 882 |  | 883 |  | 884 |  | $\rightarrow$ |
| 02 |  | 889 |  | 890 |  | 891 |  | 892 |  | $\rightarrow$ |
| 03 |  | 897 |  | 898 |  | 899 |  | 900 |  | $\rightarrow$ |
| 04 |  | 905 |  | 906 |  | 907 |  | 908 |  | $\rightarrow$ |
| 05 |  | 913 |  | 914 |  | 915 |  | 916 |  | $\rightarrow$ |
| 06 |  | 021 |  | 922 |  | 923 |  | 924 |  | $\rightarrow$ |
| 07 |  | 929 |  | 930 |  | 931 |  | 932 |  | $\rightarrow$ |
| 08 |  | 937 |  | 938 |  | 939 |  | 940 |  | $\rightarrow$ |
| 09 |  | 945 |  | 946 |  | 947 |  | 948 |  | $\rightarrow$ |
| 10 |  | 954 |  | 955 |  | 956 |  | 957 |  | $\rightarrow$ |
| 11 |  | 962 |  | 963 |  | 964 |  | 965 |  | $\rightarrow$ |
| 12 |  | 970 |  | 971 |  | 972 |  | 973 |  | $\rightarrow$ |
| Nam | Code |  | Name |  |  | Code | Name |  |  | de |
|  | ne . . . . . . . . . . . . . . . . . . . . . 1 |  | Crawfish for food - report |  |  |  | Oysters, Eastern . . . . . . . . . . . . . . 12 |  |  |  |
| Clam | s, Manila $3$ |  | Lobster |  | crawfish for bait in Section 7 | 8 | Oysters, Pacific. . . . . . . . . . . . . . . . 13 |  |  |  |
| Clam | s, Geoduck.................. . . 4 | Mussels |  |  |  | 9 | Enter name in first column. . . . . . 14Other crustaceans. |  |  |  |
| Clam | s, other. | Prawns, fresh waterShrimp, salt water . |  |  |  | 10 | Enter name in first column. . . . . . . 15 |  |  |  |
|  | name in first column ....... . 5 |  |  |  |  |  |  |  |  |  |  |  |  |
| Crab | s, soft-shell . . . . . . . . . . . . . . . 6 |  | Shrimp, salt water. . |  |  |  | Enter name in | st co | mn. | 16 |

## SECTION 8, CRUSTACEANS AND MOLLUSKS, CONTINUES ON THIS PAGE.



21208111

## SECTION 9: ORNAMENTAL FISH

1. Did this operation sell any ornamental fish in 2018? (Ornamental fish produced and not sold but distributed for restoration, conservation or recreation purposes should be reported in Section 12, page 15). 381
$1 \quad$ Yes - Continue
$3 \quad \square$
No - Go to Section 10, page 13
2. Report each species on a separate line. Value of sales should reflect the price received at the farm gate, excluding packaging and distribution costs. Exclude fish bought for immediate resale or fish brokered by this operation.


SECTION 10: MISCELLANEOUS AQUACULTURE PRODUCTS

1. Did this operation sell any other aquaculture products in 2018? (Aquaculture products produced and not sold but distributed for restoration, conservation, or recreation purposes should be reported in Section 12, page 15.)
$382{ }_{1}$Yes - ContinueNo - Go to Section 11, page 14
2. Include only other aquaculture products. Include all size categories within each species. Value of sales should reflect the price received at the farm gate, excluding packaging and distribution costs. If this operation has its own processing plant, the reported sales should be the value going into the plant.

PLEASE COMPLETE ALL COLUMNS

| Species Produced and Sold | Total Number Sold |  | Total Pounds Sold |  | Total Sales (Dollars) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Algae: Micr |  |  | 470 | \$ | . 00 |
| Sea Vegetables (seaweed, ogo) .... |  |  |  |  | 471 |  | 472 | \$ | . 00 |
| Alligators: Whole . . . . . . . . . | 743 |  | 744 |  | 745 | \$ | . 00 |
| Meat |  |  | 747 |  | 748 | \$ | . 00 |
| Hides (report in feet) | 749 |  |  |  | 751 | \$ | . 00 |
| Caviar. . . . . . . . . . . . . . . . . . . |  |  | 753 |  | 754 | \$ | . 00 |
| Eels | 755 |  | 756 |  | 757 | \$ | . 00 |
| Frogs | 758 |  | 759 |  | 761 | \$ | . 00 |
| Sea Urchins | 762 |  | 763 |  | 764 | \$ | . 00 |
| Snails . . . . . . . . . . . . . . . . . . . | 765 |  | 766 |  | 767 | \$ | . 00 |
| Tadpoles | 768 |  | 769 |  | 770 | \$ | . 00 |
| Turtles: Whole | 771 |  | 774 |  | 772 | \$ | . 00 |
| Eggs . . . . . . . . . . . 7 | 773 |  |  |  | 775 | \$ | . 00 |
| Live rock: 8085 specify unit | 776 |  | 777 |  | 778 | \$ | . 00 |
| Other, specify: ${ }^{8086}$ | 779 |  | 780 |  | 781 | \$ | . 00 |
| 8087 Other, specify: | 782 |  | 783 |  | 784 | \$ | . 00 |
| Other, specify: ${ }^{8088}$ | 085 |  | 786 |  | 787 | \$ | . 00 |
| Other, specify: ${ }^{8089}$ | 791 |  | 792 |  | 793 | \$ | . 00 |
| $\qquad$ | 794 |  | 795 |  | 796 | \$ | . 00 |
| Other, specify: ${ }^{8091}$ | 797 |  | 798 |  | 799 | \$ | . 00 |

## SECTION 11: SALES OUTLET BY SPECIES (Exclude catfish and trout)

1. Did this operation sell any of their aquaculture products in 2018 ?

EXCLUDE: • Catfish and trout.

- Aquaculture products brokered for immediate resale or distribution.
${ }^{395} 1$Yes - Continue
3No - Go to Section 12, page 15

2. In 2018, what percent of this operation's total value of aquaculture sales was sold directly to the following outlets for each species category?


SECTION 12: AQUACULTURE DISTRIBUTED (Not sold)

1. Did this operation distribute aquaculture products for restoration, conservation, enhancement, or recreational purposes during 2018? Exclude aquaculture reported in previous sections. 383Yes - Continue

3No - Go to Section 13, page 16
2. What were the total amounts produced and distributed by this operation, by species category, in 2018? Include all size categories within each species. For fish, crustaceans or mollusks distributed, report both number and pounds. For eggs or seed, report only the number distributed. Write in species not listed.


## SECTION 13: OPERATION

1. Did this operation grow and sell aquatic plants in 2018 ?
```
\({ }^{384} 1\)
```

```Yes
3
```

```No
```

2. In the future, does this operation intend to produce aquaculture products?
```
386
```

```Yes
3
```

```No
```

3. It is important that we do not duplicate data. Is it possible the information on this form would be reported
by another operation or under another name?
387Yes - List name here:
8096 $\qquad$


#### Abstract

Area Code and Phone Number:


3No - Continue
4. Do you make any day-to-day decisions for another aquaculture operation?

5. Has this operation (name on address label) been sold or turned over to someone else?

Area Code and Phone Number:


SECTION 14: CONCLUSION

## COMMENTS:



This completes the questionnaire. Thank you for your cooperation.
The complete report will be available on the Internet at http://www.nass.usda.gov in fall of 2019.

| OFFICE USE ONLY |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Response |  | Respondent |  | Mode |  | $\begin{gathered} \hline \text { R Unit } \\ \hline 9921 \end{gathered}$ | $\begin{array}{\|c} \hline \text { Enum. } \\ \hline 9998 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \text { Eval. } \\ \hline 9900 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \text { Change } \\ \hline 9985 \end{array}$ | Office Use for POID |  |  |  |
| $\begin{aligned} & \text { 1-Comp } \\ & \text { 2-R } \\ & \text { 3-Inac } \end{aligned}$ | 9901 | $\begin{aligned} & 1-\mathrm{Op} / \mathrm{Mgr} \\ & 2-\mathrm{Sp} \\ & 3-\mathrm{Acct} / \mathrm{Bkpr} \end{aligned}$ | 9902 | $\begin{aligned} & \text { 1-Mail } \\ & \text { 2-Tel } \\ & \text { 3-Face-to-Face } \end{aligned}$ | 9903 | 9921 | 9998 |  | 9985 | 9989 | - |  |  |
| 4-Office Hold |  | 4-Partner |  | 4-CATI <br> 5-Web |  |  |  |  |  |  | Optio | al Us |  |
| 6-Inac-Est <br> 7-Off Hold-Est <br> 8-Known Zero |  |  |  | $\begin{aligned} & \text { 6-eved } \\ & \text { 6--mail } \\ & \text { 8-CaPA } \\ & \text { 19-Other } \end{aligned}$ |  |  |  |  |  | 9907 | 9908 | 9906 | 9916 |

# INSTRUCTION SHEET 2018 CENSUS OF AQUACULTURE 

## Instructions by Section

## Section 1 - Aquaculture Production Screening

This section determines whether or not your operation is within the scope of this census.

Item 1 - Report whether you produced any aquaculture or aquaculture products of any kind in 2018. Aquaculture products include fish of any kind, shellfish, mollusks, crustaceans, egg production, food or sport fish, baitfish, ornamentals, catfish, crawfish, koi, minnows, oysters, perch, soft-shell crabs, trout, turtles, algae, alligators, live rock, and any other aquaculture products. If you did not produce any aquaculture products of any kind in 2018, please mark "No" and continue to Section 13 on the back page of the form and complete the remainder of the census form.

## Section 2 - Sources of Water

This section determines sources of water that this operation used for its aquaculture production in 2018.

## Section 3 - Methods of Production

Items 1 and 2 - Report the freshwater and saltwater acres or surface area owned, rented, or used for aquaculture production in 2018 by the respondent, spouse, partnership, corporation, or organization identified on the questionnaire. All responses in this section should be rounded to tenths of acres OR reported in square feet of surface area.

Items 1a and 2a-Report the freshwater and saltwater acres or surface area used for aquaculture production in 2018 that was rented or leased FROM others on shares, cash rent, used rent-free, in exchange for services, for taxes, etc., regardless of location, even if used for part of the year. Include leased from the State. All responses should be rounded to tenths of acres OR reported in square feet of surface area.

Freshwater is water with less than 0.5 parts per thousand dissolved salts. May be found in lakes,
rivers, bodies of groundwater, or obtained from wells or surface runoff.

Saltwater is water from a sea or ocean, including brackish water. In addition, it is freshwater converted to saltwater by adding chemicals.

Item 3a (i) - Ponds. A body of standing water, either natural or artificial, that is usually smaller than a lake.

Item 3b-Cropland used for crawfish. Include both permanent and rotational.

Item 3c- Flow through raceways. A confined area, usually long and narrow, in which water enters one end and exits the other. Raceways can either be a natural flow system, using the natural flow of a river or stream, or a closed system where the water from the raceway flows through a series of ponds and then is pumped into a header pond that flows back into the raceway. The water area for a closed system would be the surface acres of the raceway and of all associated ponds. The area for a natural flow system would be the surface acres that the raceway occupies.

Cubic feet to gallons conversion. U.S. gallon $=$ cubic feet $\times 7.5$.

Item 3d (i)- Recirculating systems. Metal, plastic, or fiberglass tanks normally above ground and usually under cover used for the rearing of aquatic organisms where 90 percent or more of the system water is recycled. Some tanks may consist of frames with liners.

Item 3e (i) - Non-recirculating systems. Metal, plastic, or fiberglass tanks normally above ground and usually under cover used for the rearing of aquatic organisms where 89 percent or less of the system water is recycled. Some tanks may consist of frames with liners.

Item 3f (i) - Aquaponics. A system that combines aquaculture with hydroponics (cultivating plants in water) in a symbiotic environment.

Item $3 \boldsymbol{g}$ (i) - Report the number of cages and pens used to produce Aquaculture products. Exclude traps (used to capture aquatic creatures).

Cages. The sides of the cages are rigid and are made of materials like plastic or plastic-covered wire.

Pens are large enclosures usually placed in rivers or ocean bays. Pens are usually floated in the water, but may also be secured to the bottom. Pens are supported in some way, with the sides being flexible.

Item $\mathbf{3 h}$ - Mollusks on bottom. Growing on the bottom.

Item 3i - Mollusks off bottom. Growing without touching the bottom.

Item 3i-Other method. Other methods not listed.

## Section 4 - Catfish

Item 5 - The hybrid catfish is a combination of a female channel catfish and a male blue catfish.

## Section 5 - Trout

Item 4a-Disease includes losses from both parasitic and bacterial caused sickness.

Item 4b - Theft or vandalism includes the unauthorized removal of fish and/or the destruction of property causing a loss of fish by intentional acts of persons known or unknown.

Item 4c-Chemical contamination includes losses from pesticide or herbicide poisoning.

Item 4d - Droughts include losses from lack of water causing oxygen depletion.

Item 4e-Flood include losses from too much water washing the fish away.

Item $4 \boldsymbol{f}$ - Predators include losses from mink, otters, birds, and other animals.

Item $4 g$ - Other include losses from any source not fitting the pre-listed causes. Please note the cause in comments.

## Section 6 - Food and/or Sport Fish

Item 1 - This question determines whether you produced and sold Food and/or Sport Fish.

Item 2 - Report the number sold, total pounds and total sales for each type and size of food and/or sport fish produced.

Column 1 - Record the type of food or sport fish produced and sold.

Column 2 - Record the size category code being reported. Foodsize includes grown aquaculture products ready for market. Stockers are large enough to be placed in the final grow-out pond, net, pen, or tank. Fingerlings are young fish, larger than a fry but not an adult. Fry are very young, post-larval fish. Broodstock are fish kept for egg production, including males. Eggs are embryos surrounded by nutrient material and a protective covering.

Column 3 - Report the total number of fish or eggs sold.

Column 4 - Report total pounds of fish sold. Complete for all size categories except eggs.

Column 5 - Total revenue received from the sale of the food and sport fish produced.

## Section 7 - Baitfish

Item 1 - This section determines whether you produced and sold Baitfish. Crawfish for food is reported in section 8.

Baitfish are fish used for bait, such as crawfish, fathead minnows, golden shiners, emerald or silver shiners, feeder and bait goldfish, suckers, chubs, leeches, and other types of minnows.

Table 3a - For Baitfish sold by the pound or number of fish, report the Total pounds live weight sold, and Total Sales. Total sales should reflect the price received at the farm gate, excluding packaging and distribution costs.

Report either the total number of fish sold or number of fish per pound.

Table $3 \boldsymbol{b}$ - For Baitfish sold by the gallon, report the total number of gallons sold, Pounds per gallon, number of fish per gallon and total sales.

Section 8 - Crustaceans and Mollusks (Includes clams, crawfish, oysters, shrimp, soft-shell crabs, etc.)

Item 1 - This section determines whether you produced Crustaceans and/or Mollusks, including crawfish for food. Crawfish for bait is reported in section 8.

Crustaceans are invertebrate animals with a hard shelled segmented body, and jointed legs. Examples include crawfish, lobsters, prawns, shrimp, and soft shell crabs.

Mollusks are marine invertebrates (no backbone). In general, mollusks have three body regions: a head, a visceral mass, and a "foot." Mollusks usually have a shell, although some do not. This category includes abalone, clams, mussels, oysters, scallops and scallop seed.

## Section 9-Ornamental Fish

Item 1 - This section determines whether you produced and sold Ornamental Fish.

Ornamental fish are raised for water gardens, aquariums, etc. Examples include koi, ornamental goldfish, tropical fish, and ornamental catfish.

Item 2 - Report each species and type of unit sold on separate lines. Types of units sold include number of fish, pounds, boxes, bags, etc. Report the number of units produced and sold in column 2.

Column 5 -- Report total sales in dollars. Total sales should reflect the price received at the farm gate, excluding packaging and distribution costs

## Section 10 - Miscellaneous Aquaculture

Item 1 - This section determines whether you produced and sold Miscellaneous Aquaculture. This includes Algae, alligators, eels, frogs, sea urchins, snails, tadpoles and turtles. Do not include wild caught or harvested items.

Item 2 - Report total number and weight sold of all sizes within each species. Total sales should reflect the price received at the farm gate, excluding packaging and distribution costs.

## Section 11 - Sales Outlet by Species (Exclude catfish and trout)

Item 1 - Report where the operation sold its production directly. The percentage for each category of product must equal 100 percent. Catfish and trout are reported in sections 4 or 5.

Processors are companies that convert live fish to a product ready to cook and distribute, such as fish fillets.

Live haulers/brokers are individuals or companies that purchase aquaculture products from a producer for immediate resale. They may or may not take possession of the product. Live haulers transport aquaculture products in oxygenated tank trucks to other outlets, including processing plants, pay lakes, recreational lakes, and retail outlets.

Retail outlets are individuals, grocers, restaurants, or companies who buy aquaculture products to resell to consumers.

Direct to consumers are sales made directly to individuals for home consumption or placement in their ponds for personal use. This includes places that raise and market fish through their own fee fishing operation.

Recreational stocking includes aquaculture sold to individuals or private enterprises for the sole purpose of stocking recreational waters.

- Aquaculture sold to Federal State or local government agencies for stocking public waters should be reported as sold to "Government Agencies."
- Aquaculture that are sold for the purpose of stocking another producer's commercial ponds should be reported as sold "Wholesale to Other Producers."
- Fish sold by fee-fishing or U-fish operations should be listed as being sold "Direct to Consumers."

Wholesale to other producers includes aquaculture sold to other farmers who raise for future sale.

Government agencies includes sales to Federal, State, or local government hatcheries or other groups involved in purchasing aquaculture to stock

Federal, publicly owned, or regulated waters and recreational areas.

Exports includes aquaculture moved outside the United States borders.

Other includes outlets not meeting the above definitions. Export sales should be listed here if not going directly out of the United States. If in doubt as to where to put sales, list them here with notes explaining the situation.

## Section 12 - Aquaculture Produced and Distributed (not sold) for Restoration, Enhancement, Conservation, or Recreational Purposes

Complete this section if the operation distributed any aquaculture products for restoration, enhancement, conservation or recreational purposes in 2018. If the operation did not distribute any aquaculture products, skip to Section 13.

Fish and eggs distributed without charge should be entered here. Fish and eggs sold should be excluded from this table and reported as sales in the appropriate section.

## Section 13 - Operation

Item 3 - If this operation has additional names, or connections to additional operations, record the name and phone number here.

Item 4 - This question determines if the operator made day to day decisions for multiple operations. If you are involved with any other aquaculture operation, list them here.

Item 5-If this operation was sold or turned over to someone else, record the new operators name and phone number here.

## Section 14 - Conclusion

Print your name, phone number, e-mail address, and the date you completed the questionnaire.

