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2023 Census of Aquaculture

Interviewer's Manual

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Background

The 2023 Census of Aquaculture is a follow-on project to the 2022 Census of Agriculture, and response is required by law. The 2023 Census of Aquaculture is the fifth census conducted to measure the aquaculture industry in the United States. The first national aquaculture census was conducted in 1998, in response to the intense need for an accurate measure of the aquaculture sector. Subsequent aquaculture censuses were conducted in 2005, 2013 and most recently 2018. The 2023 Census of Aquaculture will update data collected from the 2018 Census of Aquaculture. Limited aquaculture statistics from the 5-year Census of Agriculture have been presented since 1974. This census will expand aquaculture data collected from the 2022 Census of Agriculture.

Some parts of the aquaculture industry have seen tremendous growth over the last several decades. Value of aquaculture products sold in the U.S. has increased from \$45 million in 1974 to more than \$1.5 billion in 2018. For the five-year period from 2013 to 2018, there was an increase of \$144.0 million or 10.5 percent. It is important that detailed, unbiased information is available to help determine the economic impact of aquaculture at the state and national levels. Data published from the census will provide industry representatives a reliable source of public information for justification of research projects and funding requests to help benefit producers.

The 2018 data is published here.

[2017 Census of Agriculture / 2018 Census of Aquaculture Highlights](#)

[2018 Census of Aquaculture Publication](#)

Specific examples of benefits to producers include:

- Farm organizations use the information to lobby Congress or state legislatures for funding and support of industry related programs
- Government, extension, and university scientists use the information to determine research needs and as justification for funding research, the Cooperative Extension service, and other programs to develop new and improved methods of increasing aquaculture production and profitability
- Drug companies use the information to evaluate production levels before developing drugs to enhance aquaculture production
- Information could be used to calculate disaster payments
- Suppliers to the aquaculture industry use the data to plan production and marketing of new products
- Insurance companies use the information to establish need for insurance policies

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- Growers use the data to determine what to raise, whether to expand production, and to compare their operation's production volumes, pricing points, and culture methods with state and national averages
- Aquaculture businesses use the data to develop market strategies and to determine locations of facilities that will serve aquaculture producers
- Banks and other lending institutions need production and sales data to justify loans
- Provides a comparison of the economic contribution of the Aquaculture industry in relation to wild harvest fisheries

The National Aquaculture Association (NAA) has consulted with the National Agricultural Statistics Service (NASS) to help prepare for the 2023 census, from input on report form development to encouraging response to the 2022 Census of Agriculture. Industry representatives are eager to review current and comprehensive aquaculture data. To encourage respondent participation and stress the importance of census results to the aquaculture community, the NAA will send a letter of support for the 2023 Census of Aquaculture to its members in December 2023.

Chapter 1 - General

Authority and Confidentiality

The Census of Agriculture is required by law under the “Census of Agriculture Act of 1997”, Public Law 105-113 ([Title 7, United States Code, Section 2204g](#)). The law authorizes the Secretary of Agriculture to conduct a Census of Agriculture beginning in 1998, and in every fifth year after, covering the prior year. In connection with the census, the Secretary may conduct any survey or other information collection, and employ any sampling other statistical method, that the Secretary deems necessary to furnish annual or other data on the subjects covered by the census. The 2023 Census of Aquaculture is conducted under the provisions of this section.

This census is conducted in accordance with the [Confidential Information Protection and Statistical Efficiency Act of 2018, Title III of Public Law Number 115-435](#), codified in the 44 United States Code Chapter 35 and other applicable Federal laws. Responses will be kept confidential and will not be disclosed in identifiable form to anyone other than employees or agents. By law, every NASS employee as well as every agent has taken an oath and is subject to a jail term of up to 5 years, a fine of up to \$250,000, or both if he and she willfully discloses ANY identifiable information about the respondent. More information on how USDA protects information can be found at: [USDA - National Agricultural Statistics Service - About NASS - Confidentiality Pledge](#).

Farm Definition

Aquaculture is defined as the farming of aquatic organisms, including baitfish, crustaceans, food fish, mollusks, ornamental fish, sport, or game fish, and other aquaculture products. Farming involves some form of intervention in the rearing process, such as seeding, stocking, feeding, protection from predators, etc. Farming also implies individual or corporate ownership of the stock being cultivated, in a controlled environment at least part of the time. Fish, shellfish, and other aquatic products which are caught or harvested by the public from non-controlled waters or beds are considered wild caught and are NOT included as aquaculture farms. In addition, aquatic plants, except algae and sea vegetables, are not considered as aquaculture for the census of aquaculture. For the 2023 Census of Aquaculture, an aquaculture farm is defined as any place from which \$1,000 or more of aquaculture products were produced and sold or produced and distributed for restoration, conservation, enhancement, or recreation during the census year.

Examples of aquaculture farms include:

- Ocean-raised fish in pens, cages, etc.
- Shellfish harvested from leased, owned, controlled, or managed beds
- Soft shell crabs – During the shedding process the crab is in a controlled environment.
- State and Federal Fish Hatcheries
- Operations which buy aquaculture products and provide inputs to add value (i.e., weight gain) prior to selling or distributing.

Please review species listed in the report form for a more comprehensive listing of aquaculture species included in the census.

Examples of NON-aquaculture farms include:

- Aquaculture products caught by the public from non-controlled waters.
- Operations which buy aquaculture products for immediate resale or distribution. No inputs are provided which add value to the aquaculture products purchased
- Producers of aquatic plants other than algae and sea vegetables

Fee fishing operations, including fish-out operations, fee-lakes, catch-out ponds, and pay-lakes, are included in the census only if value is added to the fish, that is, the **fish are fed and gain weight**. If the operator purchases grown fish for stocking a pond and does not feed them, the operation should be excluded from the census. Also exclude operations that are recreational, such as taking fish from public waters.

Enumerator's Job

The Census of Aquaculture is a census of all known aquaculture operations in the U.S. You are to contact selected producers and solicit their cooperation to supply data for the census. As always, information provided will be kept confidential and combined with other producer data to provide a summary. You should be thoroughly familiar with the report form and benefits to the producer for completing the report form.

Basic guidelines for completing the report form:

- CAPI is the preferred method of data collection, however if it is necessary to complete a paper questionnaire use a number 2 pencil for entries.
- Make all entries clear and easy to read.
- Follow skip instructions.
- Record entries to the unit specified on the questionnaire.

- Record acres whole or tenth acre as specified on the report form.
- Record total sales entries to nearest dollar.
- Record percentage entries to nearest whole percent.
- Write notes to describe unusual situations.

The project code to use on your timesheet for this survey is 658.

Chapter 2 - Terms and Definitions

Enumerators working on the Census of Aquaculture should be familiar with the definitions of the terms listed below.

Types of Aquaculture Products Sold or Distributed

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 like bacteria called blue green algae, as well as green, brown, and red algae. Most algae grow through photosynthesis.

Bait fish – Fish used for bait. Examples include Fathead minnows, Goldfish, Golden shiners, Emerald or Silver shiners, feeder and bait goldfish, Silversides, Suckers, bait crawfish, killifish, Chubs, and other types of minnows.

Crustaceans – Invertebrate animals with a hard-shelled segmented body, and jointed legs. Examples include crawfish, lobster, prawns, shrimp, and soft shell crabs.

Food fish – Fish raised primarily for food. Examples include Barramundi, Carp (Bighead, Black, common, Grass, Silver, Triploid Grass, White Amur, etc.), Cobia, Cod (Atlantic and Black), Catfish, Flounder, Hybrid Striped Bass, Pangasis/Swai, Pacific threadfin (Moi), Yellow Perch, Salmon (Atlantic and Pacific), Seriola, Sturgeon, Tilapia, Trout, Arctic Char, Croakers, Milkfish, Red Drum, Redfish, Rockfish, Shad, and Threadfin Shad. There are separate sections for catfish and trout.

Hybrid Catfish – A cross between a female channel catfish and a male blue catfish.

Miscellaneous aquaculture – The production of algae and sea vegetables, alligators, frogs, caviar, eels, sea urchins, snails, tadpoles, turtles, and live rock. Also include Gambusia (a western mosquito larvae eating fish) and bioassay fish (fish used for toxicity testing).

Mollusks – Marine invertebrates have no backbone structure. In general, Mollusks consist of 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, and quahogs. Snails are technically mollusks. However, snails are collected in the miscellaneous aquaculture section of the census form, as some are for food, and some are pets or ornamental.

Ornamental fish – Fish that are raised for water gardens, aquariums, etc. Examples include Angelfish, Goldfish, Guppies, Koi, seahorses, and tropical fish. Freshwater live bearers are fish that retain their eggs in the bodies and give birth to live free-swimming young. Fresh water egg layers lay eggs instead.

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

Sport fish – Fish produced 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, smallmouth, and black bass, bluegill, bluegill bream, bream, hybrid bluegill, brim, crappie, gar fish, muskie, northern pike, shellcracker, redear shellcracker, sunfish, and walleye.

Trout – For this census, trout includes all freshwater species of trout as well as sea run trout and steelhead that were raised in a controlled environment. Include fish released into the wild (distributed fish), but exclude any fish caught from the wild. Also exclude landlocked salmon (Kokanee).

Size categories

Broodfish - Fish kept for egg production, including males. Females produce the fertilized eggs which go to hatcheries.

Eggs – Embryos surrounded by nutrient material with a protective covering.

Fingerlings - Young fish, larger than a fry but not an adult.

Foodsize or Market size - Grown aquaculture products ready for market.

Fry - Very young post larval fish

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

Seed stock - young animals, generally oysters, clams, or mussels, used for stocking

Stockers – Young animals that are large enough to be placed in the final grow-out pond, net pen, or tank to grow to foodsize.

Methods of production

Aquaponics – 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

Cages - Cage culture involves growing an animal 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.

Cubic feet to gallons conversion – U.S. gallon = cubic feet x 7.5

Flow through raceways – 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 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.

Mollusks off bottom – Marine invertebrates, most with an external shell, suspended in water by ropes, plastic trays, or mesh bags. These are filter feeders and need only clean water to thrive. Mollusks raised off bottom are clams, mussels, and oysters.

Mollusks on bottom – Marine invertebrates, most with an external shell, raised on the bottom in tidal waters. These marine habitats have had oyster shell, clam shell, or other material added to improve the habitat for growth and survival of the mollusk

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

Pens - 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.

Ponds – A body of standing water, either natural or artificial, that is usually smaller than a lake.

Recirculating systems - Metal, plastic, or fiberglass tanks normally above ground and usually under cover. Some tanks may consist of frames with liners. Water is ninety percent or more recycled rather than releasing it back to nature.

Point of First Sale Outlets

Point of First Sale: The point of first sale is the first point at which money changes hands. Delivery to a processing plant is considered a point of first sale. (Definitions apply to the Catfish, Trout and Sales Outlet by Species Sections.)

Processors: These are companies that convert live fish to a product ready to cook and distribute, such as fish fillets. In Section 11, include fish that the operator sells or delivers directly to a plant for processing. 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. In addition, include fish raised by the operator and then processed through their own processing plant.

Live Hauler/Brokers: Individual or company 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: Individuals, grocers, restaurants, or companies who buy aquaculture products to re-sell to consumers.

Direct to Consumers: These 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: Only 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: Aquaculture sold to other farmers who raise for future sale.

Government Agencies: Sales 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.

Exports: Aquaculture moved outside the United States borders.

Other Sales Outlets: All other point of sale 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.

Miscellaneous

Enhancement - A term often used on the West Coast with salmon. State and tribal hatcheries are releasing young salmon into known population area's to be harvested later upon the salmon's return from the sea

Distributed Fish – Fish that are produced for release into the wild for **restoration, conservation, enhancement, or recreation purposes**. Distributed fish are counted in the Trout Survey, Census of Aquaculture and Census of Agriculture. Values may be assigned by similar sales comparison or by other methods when applicable.

Fresh Water – 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.

Salt Water – Water from a sea or ocean, including brackish water. Also, it may be fresh water converted to salt water by adding chemicals.

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

Surface water area - A measure of the number of square units (acres, feet, etc.) needed to cover the surface of a pond, tank, raceway, etc.

Value of Sales - The gross value of live weight sales a producer receives before marketing and production costs are deducted. The value should reflect the price received at the farm gate, excluding packaging and distribution costs. If the operation has its own processing plant, the reported sales should be the value going into the plant.

Chapter 3 – Survey Procedures

General

The 2023 Census of Aquaculture is a special study conducted as a follow-on project to the 2022 Census of Agriculture. The 2023 Census of Aquaculture will be conducted in all 50 States. The annual January Catfish and Trout survey programs will be conducted in conjunction with the Census of Aquaculture.

The report form has been designed to reduce survey costs by capturing information required for both the annual catfish and trout programs and the aquaculture census. All data collection costs will be charged to the Census of Aquaculture.

The *Catfish Production* release will be published on February 15, 2024. It will include data collected in AL, AR, CA, MS, NC and TX, with GA, LA, and MO published in the Other States category with the addition of any other state data collected that would normally be estimated for by HQ due to insufficient aggregate production.

The *Trout Production* release will be published on February 25, 2024. It will include data collected in AR, CA, CO, GA, ID, MI, MO, NY, NC, OR, PA, UT, VA, WA, WV, and WI, with CT, MA, NE, NV, NH, NJ, NM, TN, and WY published in the Other States category with the addition of any other state data collected that would normally be estimated for by HQ due to insufficient aggregate production.

Results from the 2023 Census of Aquaculture will be published in December 2024. Past and future publications of the Census of Aquaculture can be found online at https://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Census_of_Aquaculture/index.php.

Survey Reference Period

The reference period is calendar year 2023 except for Section 4 Catfish questions 2, 3, 5 and 6 that address production activities in 2024. Question 4 in the catfish section refers to the time period from July 1 – December 31, 2023. All other questions refer to the 12 month period from January 1 to December 31, 2023.

Methods of Data Collection

Mailed Report Forms

The National Processing Center (NPC) will mail a report form to the aquaculture operations in your State identified in the 2022 Census of Agriculture on December 18, 2023. Enclosed with the report form will be a letter from the Administrator of NASS encouraging cooperation. A second report form will be mailed to non-respondents on January 23, 2024. Pressure sealed mailers with a thank you and reminder message, and EDR Survey Code are scheduled for January 3, 2024, and February 2, 2024.

Electronic Data Reporting (EDR)

Respondents will be able to complete the report form over the Internet. The web address is referenced on the report form and the letter signed by the NASS Administrator. For security purposes, respondents will need to know their unique survey code to complete the report form over the Internet. The survey code is located just above the bar code on the front page of the report form.

A portion of the respondents will not respond by mail or EDR. Your Regional Field Office (RFO), in combination with the individual field offices, will determine which operations to include in a phone or personal interview follow-up. Modes of data collection are under the discretion of the RFO staff. All data collection plans provided by your RFO, or individual field office should be followed.

New Operations

The goal of any census is to account for all known operations. Therefore, new aquaculture operators discovered during data collection should be interviewed. You may need to check with staff from your RFO to determine if the newly discovered operator is already on the list of known aquaculture producers.

Entering Data

Use a black pencil to record data and notes; never use ink on a questionnaire. Make all entries clear, and easy to read. Entries in check boxes and key code boxes must be entirely inside the boxes. Record responses in the units indicated on the questionnaire. If a respondent gives an answer in a different unit, write the answer outside the printed box, convert it to the required unit, and record the converted data

in the box. Each question should be answered. Probe the respondent for a best estimate if actual data are unknown. If “zero”, “none”, etc. are reported for any question, please indicate with a dash.

Refusals

Since this is a census, and response is required by law, it is very important that the number of refusals is kept to a minimum. If you should have a refusal, it is important that you probe the respondent for general details. You should also observe as much as possible about the size of the operation and types of aquaculture products being produced. However, do not trespass or deceptively try to obtain the data. Provide detailed written notes to describe the size and scope of the operation. When possible, your notes should address the following items:

- Why did the respondent refuse?
- Is the operation involved in aquaculture?
- What aquaculture products are raised and how many?
- How large is the operation, in terms of water acres and value of sales?
- Does the operation use freshwater or saltwater?
- What methods of production does the operation utilize?
- Does the operation raise aquaculture products to be sold?
- Does the operation raise aquaculture products to be distributed for restoration, conservation, enhancement or recreational purposes?

Mailing Completed Work

Completed report forms should be forwarded to the State office, or RFO, or your supervisor, according to the guidelines provided to you. If you doubt that the last completed work will reach the State office by the due date, call your supervisor for additional instructions.

Burden Statement

Federal regulations require that an estimate of the average time required for completion be provided with all questionnaires used by agencies of the federal government. The burden statement regulation also provides the public with an opportunity to respond to the Office of Management and Budget (OMB) regarding any aspect of a survey. This regulation is administered by the OMB which has the duty of approving and overseeing government data collection efforts.

If a respondent has problems with the time required to complete the form, this

issue may be conveyed to OMB at the address given on the burden statement. Since use of the burden statement is required by OMB regulations, any questions regarding the burden statement or the Paperwork Reduction Act should be addressed in writing to the OMB.

Respondents often ask, “How long will this take?” Enumerators should note the burden statement average time requirement and never directly contradict it. However, enumerators may provide additional information such as, “The official average time for this census is 30 minutes, but the interviews I have conducted in this area are averaging 20 minutes.”

Chapter 4 – Completing the Report Form

General

The 2023 Census of Aquaculture is designed as a mail-out and mail-back report form. Therefore, most of the instructions for answering the questions can be found on the report form itself. Some additional information has been added to the Instruction Sheet that will accompany the report form. It is important that you have reviewed the Instruction sheet and report form prior to conducting an interview.

The report form will collect information pertaining to the water sources, size of operation, methods of production, catfish, trout, food and/or sport fish, baitfish, crustaceans, mollusks, ornamental and other fish production and sales, aquaculture products sold, sales outlets, and aquaculture products distributed.

The report form was designed with the intent to meet the needs of most producers. However, producers use a wide variety of management and production systems and some of these may not be compatible with the report form design. Every effort to obtain the needed data must be made to insure accurate statistics. Attempt to obtain the producer's best estimate if actual data is not known. If "zero", "none", etc. are reported for any item, please indicate with a dash or checking any appropriate none box.

Section 1 – Aquaculture Production Screening

There is one screening question on the front page of the report form to determine if the operation **produced** any aquaculture products in 2023. If the respondent answers "yes", then continue to Section 2, page 2. If the respondent answers "no", then probe the respondent to determine if they were ever involved in aquaculture production. Write detailed notes describing the situation and skip to Section 13 on the back page and complete the remainder of the report form.

SECTION 1: AQUACULTURE PRODUCTION SCREENING

1. In 2023, did this operation or the individual(s) listed on the address label **produce and/or raise** any of the aquaculture or aquaculture products listed below? **Produce** means that inputs, such as seed, stock, food, and/or protection, are supplied to add weight or change the form of aquatic animals. Exclude wild-caught products by fishing or trapping where inputs were not added, aquatic plants other than algae and sea vegetables, and aquaculture products brokered for immediate resale or distribution.

- Catfish
- Trout
- Other Food Fish or Sport Fish, including tilapia, salmon, sunfish, perch, crawfish for food, etc.
- Crustaceans and Mollusks, including clams, crabs, crawfish, oysters, shrimp soft-shell crabs, other shellfish, etc.
- Ornamental fish, including koi, goldfish, seahorses, etc.
- Aquaculture products, including eggs, algae and sea vegetables, alligators, caviar, eels, frogs, sea urchins, snails, tadpoles, turtles, turtle eggs, etc.

377 1 **Yes** - Go to Section 2, page 2

3 **No** - Go to Section 13, page 16

Section 2 – Sources of Water

Check all sources of water that were utilized by the operation in 2023. Artificial saltwater which includes water converted to saltwater by adding chemicals is to be reported according to its source before conversion: Groundwater/Well water, On-farm surface water, or Off-farm water.

SECTION 2: SOURCES OF WATER

1. In 2023, which of the following **SOURCES** of water did this operation use for its aquaculture production? Include artificial saltwater which includes water converted to saltwater by adding chemicals. Report water converted to saltwater in Section 3, Question 2. 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.

152 **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 **Off-farm water** - Water from a federal supplier, irrigation district, cooperative or neighborhood ditches, commercial company, or municipal (town) or community water system.

154 **Saltwater** - Include brackish water, tidal, sub-tidal, open public waterways, owned or leased.

Section 3 – Methods of Production

Report the area owned, rented, or used for aquaculture production in 2023 by the respondent, spouse, partnership, corporation, or organization identified on the report form label. All responses in this section should be rounded to tenths of acres or reported in square feet.

Report all production methods that were used for raising aquaculture products in 2023. Refer to Chapter 2: Terms and Definitions, page 5, and 6 for definitions of the Methods of Production. Report artificial saltwater, water converted to saltwater by adding chemicals, as **saltwater** in Section 3, Question 2.

If the respondent used a production method that is not listed on the page, record the name, and volume of the production method used under item j, “Specify type”. In addition, record the unit for the volume reported (i.e., cubic feet, gallons...etc.).

j. Other method not listed above: Report unit and volume.		
Specify type \nearrow	Unit	Volume
8014 <input type="text"/>	<input type="text"/>	<input type="text"/>
... 137		138

Section 4 – Catfish Production

Questions in this section have been taken from the annual Catfish Production Survey. This is NOT the only section of the form that will reference Catfish. Catfish may also be reported in Section 12, page 15, Aquaculture Distributed (Not sold).

Section Screening

Please check the appropriate response and follow the skip instructions.

SECTION 4: CATFISH	
1. Did this operation produce any catfish in 2023?	
372 1	<input type="checkbox"/> Yes - Continue
3	<input type="checkbox"/> No - Go to Section 5, page 6

Total Water Area (Acres)

Report whole acres of all surface areas of water used and to be used on this operation to produce catfish during the period January 1 – June 30, 2024, in questions 2, 3, and 5. Estimates will be based on acreage that will be used for fish production during the 6-month period, regardless of the type of facility. All reports with a positive catfish inventory (Section 4, page 4, question 6) must have water acreage. Notice that question 4, water area taken out of production, refers to

the second half of 2023, July 1 – December 31.

	Acres
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, 2024? (Exclude areas of new facilities under construction) 259	<input type="text"/>
a. How many of the total acres are currently being or will be RENOVATED? 260	<input type="text"/>
b. How many of the total acres are USED FOR BROODFISH production? 261	<input type="text"/>
c. How many of the total acres are USED FOR FOODSIZE production? 266	<input type="text"/>
d. How many of the total acres are USED EXCLUSIVELY FOR FINGERLINGS? 262	<input type="text"/>
3. What is the water area of NEW FACILITIES under construction or to be constructed for use during the period of January 1 – June 30, 2024? 263	<input type="text"/>
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, 2023? 264	<input type="text"/>
5. How many of the total acres are USED OR TO BE USED FOR HYBRID CATFISH during the period of January 1 – June 30, 2024? 265	<input type="text"/>

2a. Acres currently being or will be RENOVATED

Include surface area of water that is currently being or will be renovated during the next 6 months. If the acreage will be out of production for the entire 6-month period, the acreage should only be included in water area taken out of production (Section 4, page 4, question 4).

2b. Acres used for BROODFISH production

Acres of water in which broodfish are currently being kept. Production fish may also be kept in these acres. If both types are kept in the same pond, acreage should be prorated for each type. Do not report the acres twice.

2c. Acres used for FOODSIZE production

Acres of water in which foodsize fish are currently being raised. Broodfish may also be kept in these acres. If both types are in the same pond, acreage should be pro-rated for each type.

2d. Acres used EXCLUSIVELY FOR FINGERLINGS

This is the water area that is used exclusively for raising fingerlings. No other size of fish, even fry, should be in the ponds for the acreage to be included in this category.

3. Water area of NEW FACILITIES

Acres of water in new facilities that will come into production during the next 6 months. Acreage that will not be in production during the next 6 months should be excluded.

4. Water area TAKEN OUT OF PRODUCTION

Acres that were taken out of production during the last 6 months and are not expected to be brought back into production during the next 6 months. Acreage that will be brought back into production during the next 6 months should be reported in the total water area used and to be used to produce catfish for commercial purposes.

5. Acres used or to be used for HYBRID CATFISH

This is the water area that is used exclusively for raising hybrid catfish. This question is unique to the Census of Aquaculture and is not asked on the annual Catfish Growers survey questionnaire.

Inventory

Two of the three entries (total number, total pounds, or average pounds) for the columns of question 6 must be present for each inventory category present on the operation. An average live weight in pounds per fish is asked for broodfish and large, medium, and small foodsize, while weight per 1,000 fish is asked for large and small stockers and fingerlings.

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6. On **January 1, 2024**, what was this operation's estimated inventory of catfish in the following size categories? For items 6b through 6g, exclude Broodfish reported in item 6a.

SIZE CATEGORY	CATFISH INVENTORY				
	Total Number	OR	Total Pounds	Average Pounds	
				Per Fish	Per 1000 Fish
a. Broodfish - fish being used or to be used for breeding.	721	OR	720	722	Tenths
b. Large Foodsize - over 3 lbs.	724	OR	723	725	
c. Medium Foodsize - over 1½ lbs. to 3 lbs.	727	OR	726	728	
d. Small foodsize - over ¾ lbs. to 1½ lbs.	730	OR	729	731	
e. Large Stockers - over 180 lbs. to 750 lbs./1000 fish	733	OR	732		735
f. Small Stockers - over 60 lbs. to 180 lbs./1000 fish	737	OR	736		739
g. Fingerlings - 2 to 6 inches OR 2 to 60 lbs./1000 fish	741	OR	740		742

Many producers prefer to think in terms of averages per fish or per 1,000 fish. They may not know exactly how many fish they have because of losses during the year. A rule of thumb used by many producers during the active feeding part of the year (May – October) is that food size catfish eat 2 percent of their body weight in feed per day. The fish are normally fed what they will completely consume in 15 minutes. Most producers have some type of weighting equipment associated with the feeding process and know accurately how many pounds are being fed. If the respondent knows the average weight of fish in the pond, an accurate estimate of the number of fish should be as follows:

Amount of feed.....1000 pounds
 Average Weight of fish.....¾ pounds
 2% of Body Weight (¾ lbs. x 2%)0.0150 pounds
 Feed lbs. ÷ (2% of the fish weight) => 1000 lbs./0.0150 lbs. =
 Fish.....66,667 fish

NOTE: Fish smaller than ¾ pound are generally fed closer to 3 percent of their weight.

From late October through late April (when water temperatures fall below 65 degrees) the fish are placed on a maintenance ration. This consists of approximately 1 percent of their body weight per day and is used to prevent weight loss.

Total Catfish Sales

Sales are comprised of two questions. Question 7 asks for number of fish sold, pounds of live weight sold and total value of production for all the production categories. Question 8 asks the breakout by point of first sale outlet. Catfish produced and **not sold** but distributed for restoration, conservation, or recreation purposes should be reported in Section 12, page 15.

Total sales for the entire year are reported in Question 7. An entry is needed in all three columns for a line of data to be useable except for 7g, catfish eggs. If the number is not available, probe to get a measure of size so that the total number may be derived. Data for sales of catfish eggs is unique to the Census of Aquaculture and is not collected on the annual Catfish Growers questionnaire.

7. During 2023, 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:	Total Number Sold	Total Pounds Live Weight Sold	Total Sales (Dollars)
	610	609	611
a. Broodfish (fish being used or to be used for breeding)			\$.00
	613	612	614
b. Broodfish (previously used for breeding).			\$.00
	616	615	617
c. All Foodsize (over ¾ lbs. per fish).			\$.00
	619	618	620
d. Stockers (over 6 inches) or (over 60 lbs. to 750 lbs. per 1000 fish).			\$.00
	622	621	623
e. Fingerlings (2 to 6 inches) or (2 lbs. to 60 lbs. per 1000 fish).			\$.00
	625	624	626
f. Fry (under 2 inches) or (less than 2 lbs. per 1000 fish).			\$.00
	627		628
g. Catfish Eggs (fertilized)			\$.00

If the respondent has trouble reporting live weight of sales, refer to the Length-Weight Tables in Appendix A. For example, let us say that the respondent reports 100,000 four-inch fingerlings sold. When we look at the Length-Weight Table, the corresponding weight per fish is 0.0184 pounds. Multiply 100,000 by 0.0184 resulting in 1,840 pounds. Enter 100,000 in cell 622 and 1,840 in cell 621 in the report form.

Point of First Sale Outlet

The first point at which money changes hands is the point of first sale. See Chapter 2 – Terms and Definitions for information on Sales Outlet categories. Each column of entries for a category must add to 100 percent.

Sales outlet data help determine market developments. Entries will be recorded to the nearest whole percent. Within each category, entries in rows a. through i. must add to 100 percent. The foodsize group (column 1) includes broodfish sold for food.

POINT OF FIRST SALE OUTLET		Percent of Total Value of Fish Sold As:			
		FOODSIZE over ¾ pound (Include Broodfish)		STOCKERS ¾ lb. or less (usually 6 inches or more in length)	
8. In 2023, what percent of the total value of sales for foodsize catfish, including broodfish, and stockers, reported in items 7a – 7d (above), was sold directly to each of the following Sale Outlets? Exclude fish bought for immediate resale or fish brokered by this operation.					
a. Processors, including processing done on or off this operation.	640		%		
b. Live haulers and/or brokers	630		%	631	%
c. Retail outlets (restaurants, grocery stores, etc.)	642		%		
d. Direct to consumers (farmers market, on-farm fee fishing)	638		%		
e. Recreational stocking (private lakes and ponds)	632		%	633	%
f. Wholesale to other producers, including sales to stock commercial and fee fishing operations	634		%	635	%
g. Government agencies	636		%	637	%
h. Exports.	646		%	647	%
i. Other, specify: <input type="text"/>	644		%	645	%
Total		100%		100%	

Reported percents should be for the point of first sale; or, in other words, the first point at which money changes hands. This question references the broodfish, foodsize fish over ¾ pound, and stockers reported in the previous question. Report the point of first sale of broodfish of all types and foodsize fish over ¾ pound in Column 1 -Foodsize. Report stockers in Column 2 – Stockers. Most foodsize fish are sold to processing plants, while most stocker sales are sold to other producers. If a State or Federal hatchery buys fish for releasing into public water, the value should be recorded as sales to Government agencies.

Office Use Only - Completion Code Boxes

270	Office Use Only Acres	760	Office Use Only Inventory	650	Office Use Only Sales

Completion code boxes are located at the end of this section. K270 (acres) applies to questions 2 – 5. K760 (inventory) applies to question 6. K650 (sales) applies to questions 7 and 8. These boxes are to be completed when all data are inaccessible, refused, or when valid zeros are reported for all items in a section. Check with your State Coordinator for proper handling of partially completed sections. The concept of coding the completion boxes is the same for all surveys. The more information you can obtain from or about operators that refuse, or are inaccessible, the better. You can code these boxes. You will need to enter a code for the following situations:

1 = Incomplete, but has the item of interest (acres, inventory, or sales). Through observation or other information, you know the operation has the item of interest on the total acres operated.

2 = After observation or other sources of information were sought, you do not know if operation has the item of interest (acres, inventory, or sales).

3 = Valid Zero. Enter this code whenever it is known, either through interviews or other sources, that the operator has none of the items of interest on the total acres operated.

Section 5 – Trout Production

Section Screening

If Section 5, item 1 is No, then the respondent will continue to Section 6, Food and/or Sport Fish.

SECTION 5: TROUT	
1.	Did this operation sell any trout or trout eggs in 2023? Exclude distributed trout (not sold). Report distributed trout in Section 12, page 15.
375 1	<input type="checkbox"/> Yes - Continue
3	<input type="checkbox"/> No - Go to Section 6, page 8

Total Trout Sales

Total sales for the entire year are reported in **Question 2**. Except for trout eggs in question 2e, an entry is needed in all three items for a line of data to be useable. If the number is not available, probe to get a measure of size, i.e., pounds per fish, so that the total number may be derived.

There are several operations that grow and process their own fish. The fish that are grown and processed by the same operation should be included in the number and pounds sold. Generally, these fish will be included in the 12" or longer group. These operations may not be able to provide total dollars received since the fish were not sold as live fish. However, every attempt should be made to obtain an average live weight price. If the grower/processor can provide an estimated average price or bought some fish to process, please make a note of these prices on the report form. Exclude sales by brokers.

2. What were the total trout sales of fish and eggs produced on this operation during 2023? 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.

FISH SIZE:	Total Number Sold	Total Pounds Live Weight Sold	Total Sales** (Dollars)
a. Broodfish (fish being used or to be used for breeding)	067	068	069
			\$.00
	022	023	024
b. 12 inches or longer			\$.00
	025	026	027
c. 6 inches to less than 12 inches long			\$.00
	057	058	059
d. 1 inch to less than 6 inches long			\$.00
	028		029
e. Trout Eggs (fertilized)			\$.00

** Live weight price exclude cleaning charges.

12" or Longer Fish – Grown commercially for food, usually weighing from three fourths to one and one-half pounds.

6" – less than 12" Fish – These are usually stockers and usually weigh less than three-fourths of a pound. They may be sold as foodsize fish.

Fingerlings – Fish usually from 1 inch to less than 6 inches long.

If the respondent has trouble reporting live weight of sales, refer to the Length-Weight Tables in Appendix B. For example, let us say that the respondent reports

25,000 seven-inch fish sold for 25 cents per fish. When we look at the Length-Weight Table, the corresponding weight per fish is 0.147 pounds. Multiply 25,000 fish by 0.147 pounds per fish results in 3,675 pounds of fish. Enter 25,000 in cell 0025 and 3,675 in cell 0026. To calculate total sales, multiply 25 cents (price per fish) by 25,000 (number of fish) resulting in \$6,250.

Point of First Sale Outlet

The first point at which money changes hands is the point of first sale. Delivery of fish directly to a plant for processing is a point of first sale to a processor. See Chapter 2 – Terms and Definitions for an explanation of each type of sale outlet.

POINT OF FIRST SALE OUTLET		Percent of Total Value of Fish Sold As:			
		12 inches or longer		6 to less than 12 inches	
			%		%
a. Processors, including processing done on or off this operation	039		%	061	%
b. Live haulers and/or brokers	030		%	031	%
c. Retail outlets (restaurants, grocery stores, etc.)	040		%	062	%
d. Direct to consumers (farmers market, on-farm fee fishing)	019		%	063	%
e. Recreational stocking (private lakes and ponds)	032		%	033	%
f. Wholesale to other producers, including sales to stock commercial and fee fishing operations	034		%	035	%
g. Government agencies	036		%	037	%
h. Exports	070		%	071	%
i. Other, specify: 8017 <input style="width: 200px; height: 15px;" type="text"/>	041		%	042	%
Total		100%		100%	

The sales outlet data are comparable to the sales reported in **Question 3**. Sales of fish less than 6" are excluded. Record outlet entries to the nearest whole percent. Each column of entries for a category must add to 100 percent. Fish or eggs released by hatcheries should not be entered in this section.

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

Cause of Loss

Losses cover all trout deaths, including fish less than 6 inches long. Both number and pounds lost are required. Probe the respondents for best estimates when losses are unknown. Average length or pounds per fish lost can be used to derive total pounds or number if only one is known.

4. What were the total number and live weight pounds of trout lost during 2023 for each of the following reasons?			
INCLUDE: <ul style="list-style-type: none"> • Only losses intended for sale • All lengths and sizes 			
CAUSE OF LOSS	INTENDED FOR SALE		
	Number	Pounds	
a. Disease	045	046	
b. Theft or vandalism	047	048	
c. Chemical contamination	049	050	
d. Drought	051	052	
e. Flood	053	054	
f. Predators (animals, birds, etc.)	081	082	
g. Other, specify: <input type="text"/>	055	056	

Disease: Include losses from both parasitic and bacterial caused sickness.

Theft or vandalism: The unauthorized removal of fish and/or the destruction of property causing a loss of fish by intentional acts of persons known or unknown.

Chemical contamination: Include losses from pesticide or herbicide poisoning.

Droughts: Include losses from lack of water causing oxygen depletion.

Flood: Include losses from too much water washing the fish away.

Predators: Include losses from mink, otters, birds, and other animals.

Other: Include losses from any source not fitting the pre-listed causes. Please note the cause in comments.

Office Use Only - Completion Code Boxes

The completion code box is located under question 4. This box is to be completed when all data are inaccessible, refused, or when valid zeros are reported for all items in a section. **Note that the Office Use Box, item 707, in Section 5 refers to both sales and losses of fish intended for sale.** Check with your State Coordinator for proper handling of partially completed sections. The concept of coding the completion boxes is the same for all surveys. The more information you can obtain from or about operators that refuse or are inaccessible, the better you can code these boxes.

1 = Incomplete, has Trout Sales - Through observation or other information, you know the operation has the item of interest on the total acres operated.

2 = Sales Unknown - After observation or other sources of information were obtained, you do not know if the operation has Trout sales or Trout distribution.

3 = Valid Zero - Enter this code whenever it is known, either through interviews or other sources, that the operator has none of the items of interest on the total acres operated.

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

Section 6 – Food and/or Sport Fish

Complete this section if there were any food fish or sport fish raised and sold in 2023. If the operation did not raise and sell food or sport fish, skip to section 7. Catfish and Trout sales are to be reported **ONLY** in Section 4 and Section 5 and should not be duplicated in this section. This table has been set up to capture the number and pounds of food/sport fish sold by size category and their eggs, in addition to the corresponding value of sales.

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 2023?
Exclude distributed (not sold) food fish and/or sport fish. Report distributed food and/or sport fish in Section 12, page 15.

378 1 **Yes** - Continue

3 **No** - Go to Section 7, page 9

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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.					
PLEASE COMPLETE ALL COLUMNS					
1		2	3	4	5
Species and Code From table at the bottom of this page		Size Category 1 - Foodsize or market size 2 - Stockers 3 - Fingerlings or Fry 4 - Broodfish 5 - Eggs complete columns 3 and 5	Total Number of Fish or Eggs Sold	Total Pounds Live Weight Sold	Total Sales
Species produced and sold	Code	Enter Code	Number	Pounds	Dollars
Example: Tilapia	26	1	12,000	18,000	\$ 45,000 .00
Example: Sunfish	24	3	450,000	9,000	\$ 70,000 .00

Column 1 – Species and Code

Record the name and code of the species raised and sold in this column. The most common species of food fish and sport fish have been listed alphabetically at the bottom of the page. If the operation reports selling a food/sport fish not listed, write the name of the species in the table, and probe the respondent to determine if the species sold is considered a food fish or sport fish. Use code 29 (other food fish) or 30 (other sport fish) as appropriate.

Column 2 – Size Category

Record the size of the species sold. If the operation sold the same species of fish at various sizes, use a separate line for each size category sold.

Column 3 – Total Number Sold of Fish or Eggs Sold

Record the total number of fish or eggs sold that correspond to the entries in columns 1 and 2.

Column 4 – Total Pounds of Live Weight Sold

Record the total pounds of fish or eggs sold that correspond to the entries in columns 1 and 2. Complete for all size categories **except** eggs.

Column 5 – Total Sales

Record the total revenue received from the sale of the fish reported in columns 1 and 2.

For eggs sold complete columns 1, 2, 3 and 5. Otherwise, an entry is needed in all five columns for a line of data to be useable. If the operator is unable to provide a value for either the total number of fish sold or the total pounds of live weight sold, probe to get an average size of fish sold. This information will allow the missing value to be derived.

The following is a listing of species broken out by food fish and sport fish. This listing may be helpful when completing section 12 of the report form (Sales Outlet by Species):

Food Fish		Sport Fish	
Barramundi	Red Drum	Bass, largemouth	Other Sport Fish
Bass, hybrid striped	Salmon (all)	Bass, smallmouth	
Carp (all)	Seriola	Crappie (sac-au-lait)	
Cobia	Sturgeon	Muskie	
Cod (all)	Tilapia	Northern Pike	
Flounder	Yellow Croaker	Sunfish	
Pangasius/Swai	Other Food Fish	Walleye	
Perch, yellow	Arctic Char		

Note that in some cases the same fish may be thought of as food or sport fish, depending on the producer. Nearly all sport fish sales are of the fingerlings, fry, and stocker size groups. Sport fish are those fish raised to be released for recreation.

Carp are listed as food fish as they are often used for food. However, they may be sold for other uses. Grass carp (also called Triploid Grass Carp, or Triploid White Amur) are used for controlling vegetation in ponds and lakes. Black carp are used to control snails in ponds.

Section 7 – Baitfish

Complete this section if there were any baitfish produced and sold in 2023. If the operation did not produce and sell baitfish skip to section 8, page 10.

SECTION 7: BAITFISH					
<p>1. Did this operation sell any baitfish, including crawfish sold for bait, in 2023? Exclude distributed (not sold) baitfish. Report crawfish for food in Section 8. Report distributed baitfish in Section 12, page 15.</p> <p>379 1 <input type="checkbox"/> Yes - Continue</p> <p>3 <input type="checkbox"/> No - Go to Section 8, page 10</p>					
2. How many surface acres of water were used to produce baitfish in 2023? . . . 400	<table border="1"> <thead> <tr> <th>Acres</th> <th>Tenths</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	Acres	Tenths		
Acres	Tenths				

For question #2, record the number of surface acres of water devoted strictly to baitfish production. Report to the nearest tenth of an acre.

Baitfish are typically sold by the number, pound, or gallon. Selling baitfish by the gallon is more prevalent in northern States. To simplify the reporting process, two sales tables are provided for the respondent to choose from. If the respondent sold baitfish by either the number or pound, complete the first table (3a). If the respondent sold baitfish by the gallon, complete the second table (3b).

Species of baitfish are prelisted in both tables. If the respondent raised and sold baitfish that is not prelisted, record the information as “Other” and specify the name of the species.

<p>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:</p> <ul style="list-style-type: none"> • 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.
--

Instructions for completing Table 3a:

There are five columns to the table: Species Raised and Sold, Pounds Live Weight Sold, Total Number of Fish Sold, Number of Fish per Pound and Total Sales.

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 of Fish per Pound	
Example: Fathead minnows	20		OR	250	\$ 225 .00

Entries are expected for Pounds Live Weight Sold, Total Sales and (Total Number of Fish Sold **OR** Number of Fish per Pound).

However, if the respondent does not know the Pounds of Live Weight Sold, probe for the Total Number of Fish Sold **AND** the Number of Fish per Pound so the Pounds Live Weight may be derived.

Instructions for completing Table 3b:

There are five columns to the table: Species Raised and Sold, Total Number of Gallons Sold, Pounds per Gallon Sold, Number of Fish per Gallon, and Total Sales.

TABLE 3b: Baitfish Sold by the Gallon PLEASE COMPLETE ALL COLUMNS					
Species Raised and Sold	Total Number of Gallons Sold	Pounds Per Gallon Sold	Tenths	Number of Fish per Gallon	Total Sales (Dollars)
Example: Golden shiners	150	8	5	1,500	\$ 6,000 .00

An entry is needed in all five columns for a line of data to be useable. If the respondent is not sure of a value, ask the respondent to approximate. Note that the units for Crawfish are not in gallons. For Crawfish, report the total number of sacks sold, pounds per sack sold, number of crawfish per sack and total sales.

Goldfish can be sold as either baitfish or an ornamental. Determine with respondent how much was sold for each purpose if they are reported it in both sections

Crawfish for bait are reported in Section 7: Baitfish. Crawfish for food are reported in Section 8: Crustaceans and Mollusks.

Section 8 – Crustaceans and Mollusks

Complete this section if there were any Crustaceans and Mollusks produced and sold in 2023. If the operation did not raise and sell Crustaceans or Mollusks, skip to Section 9, page 12.

SECTION 8: CRUSTACEANS AND MOLLUSKS (Includes clams, crawfish, oysters, shrimp, soft-shell crabs, etc.)	
1. Did this operation sell any crustaceans or mollusks in 2023? Exclude distributed (not sold) crustaceans and mollusks. Report distributed crustaceans and mollusks in Section 12, page 15.	
380	1 <input type="checkbox"/> Yes - Continue
	3 <input type="checkbox"/> No - Go to Section 9, page 12

This table has been set up to capture the number and pounds of Crustaceans and Mollusks sold by size category and the corresponding value of sales.

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 1 - Food or market size 2 - Broodstock 3 - Larvae 4 - Seed - Complete only columns 4, 5, 9 5 - Other, specify: 8114	Number of Units Sold	Unit Sold 1 - Number 2 - Pound - in shell 3 - Pound - out of shell 4 - Dozen 5 - Bushel 6 - Sack/bag 7 - Gallon 8 - Barrel 9 - Other, specify: 8115	
				Enter Code	Enter Code
LINE	Species produced and sold	Code	Enter Code	Number	Enter Code
	Example: Crawfish	7	1	100,000	2 →
	Example: Pacific oyster seed	13	4	8,000,000	1 →
	Example: Eastern oysters	12	1	150	4 →

Columns 1& 2 – Species and Code

Record the name and code of the species raised and sold in these columns. The most common species of crustaceans and mollusks have been listed alphabetically at the bottom of the page. If the operation reports selling a crustacean/mollusk that is not listed, write the name of the species in the table, and probe the respondent to determine if the species sold is a crustacean or mollusk. Use code 15 (other crustacean) or 16 (other mollusk) as appropriate.

Note that there are multiple listings for Clams and Oysters. If the respondent reports selling clams other than Hard, Manila or Geoduck (pronounced gooey-duck) Clams use code 5, Other Clams, and provide the name of the clam. If the respondent

reports selling oysters other than Eastern/Gulf Coast Oysters or Pacific Oysters use code 14 and provide the name of the oyster.

Column 3 – Size Category

Record the size of the species sold. If the operation sold the same species at various sizes, use a separate line for each size category sold.

Column 4 – Number of Units Sold

Record the total number of crustaceans or mollusks sold that correspond to the entries in columns 1 - 3.

Column 5 – Unit Sold

Crustaceans and Mollusks may be sold in multiple units such as dozen, bushels, etc. Record the number code that corresponds to the number of units sold reported in Column 4 (i.e., if respondent sold crustaceans or mollusks by the pound in shell, Column 5 entry = 2).

LINE	6		OR	7		8	9	
	Weight of product sold <small>If unit code in column 5=2 or 3, skip columns 6 and 7</small>				Average Number of crustaceans or mollusks per unit sold <small>If unit sold is number (column 5=1), skip this column</small>	Total Sales		
	Number of pounds per unit sold		Total pounds Sold				Number	Dollars
	Pounds	Tenths		Pounds				
			OR			20	\$	50,000 .00
			OR				\$	50,000 .00
	5	5	OR			120	\$	9,000 .00

Columns 6 & 7 – Weight of Product Sold

Skip columns 6 and 7 if the respondent reports quantity sold in pounds, in or out of shell (Column 5 entry = 2 or 3). For all other units (Bushel, Gallon, Sack...etc.), an entry is expected in column 6 (Number of pounds per unit sold) OR column 7 (Total pounds sold). If column 3 = 4 then columns 6 and 7 are blank.

Column 8 – Average Number of Crustaceans or Mollusks per Unit Sold

Skip Column 8 if the respondent reports quantity sold by the number (Column 5 entry = 1 or column 3 = 4). For all other units (Pound, Bushel, Gallon, Sack.... etc.) an entry is expected in Column 8.

Column 9 – Total Sales

Record the total sales that correspond to entries in Columns 1 - 8.

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The following is a listing of species broken out by Crustaceans and Mollusks. This listing may be helpful when completing section 12 of the report form (Sales Outlet by Species):

Crustaceans	Mollusks
Crabs, soft shell	Abalone
Crawfish for food	Clams (all)
Lobster	Mussels
Prawns, fresh water	Oysters (all)
Shrimp, salt water	Other Mollusks
Other crustaceans	

Section 9 – Ornamental Fish

Complete this section if there were any Ornamental Fish produced and sold in 2023. If the operation did not produce and sell Ornamental Fish, skip to section 10.

SECTION 9: ORNAMENTAL FISH	
1. Did this operation sell any ornamental fish in 2023? Exclude distributed (not sold) ornamental fish. Report distributed ornamental fish in Section 12, page 15.	
381	1 <input type="checkbox"/> Yes - Continue
	3 <input type="checkbox"/> No - Go to Section 10, page 13

This table has been set up to capture the number of Ornamental Fish sold and the corresponding value of sales. Sales are not asked by size category for ornamental fish.

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.					
1		2	3	4	5
Species and Code From table at the bottom of this page		Number of units produced and sold	Unit Sold 1 - Number of fish 2 - Pounds 3 - Boxes 4 - Bags 5 - Other, specify: 8116 <input type="text"/>	Average number of fish per unit Skip this column if unit sold is number of fish (column 3=1)	Total Sales
Species produced and sold	Code	Number	Enter code	Number	Dollars
Example: Koi	2	12,000	1		\$ 24,000 .00
Example: Ornamental, Freshwater live bearers	3	200	3	250	\$ 6,000 .00

Column 1 – Species and Code

Record the name and code of the species raised and sold in this column. The most common species of ornamental fish have been prelisted alphabetically at the bottom of the page. If the operation reports selling ornamental fish that are not pre-listed, write the name of the species in the table and use code 6 (other ornamentals).

Note that there are multiple listings for tropical fish. Probe the respondent to determine if the tropical fish are considered Freshwater live bearers (code 3), Freshwater egg layers (code 4) or Saltwater (code 5).

Column 2 – Number of Units Sold

Record the total number of units sold that correspond to the entry in Column 1.

Column 3 – Unit Sold

Record the number code that corresponds to the number of units sold reported in Column 2 (i.e., if respondent sold ornamental fish by the box, Column 3 entry = 3). If the operation sold the same species of ornamental fish in multiple units, use a separate line for each unit sold.

Column 4 – Average number of fish per unit

This column is needed to determine the total number of ornamental fish that were sold from the operation. Skip Column 4 if the respondent reports ornamental fish sold by the number of fish (Column 3 entry = 1).

Column 5 – Total Sales

Record the total sales that correspond to entries in Columns 1 - 4.

The following is a listing of species for ornamental fish. This listing may be helpful when completing section 12 of the report form (Sales Outlet by Species):

Ornamental Fish
Goldfish
Koi
Freshwater, live bearers
Freshwater egg layers
Saltwater
Other, i.e., Seahorses, invertebrates

Section 10 – Miscellaneous Aquaculture

Complete this section if there were any aquaculture products raised and sold in 2023 that were not accounted for in Sections 4 - 9 of the report form. If the operation did not raise and sell miscellaneous aquaculture, skip to Section 11.

SECTION 10: MISCELLANEOUS AQUACULTURE PRODUCTS			
<p>1. Did this operation sell any other aquaculture products in 2023? Exclude distributed (not sold) other aquaculture products. Report distributed other aquaculture products in Section 12, page 15.</p> <p>382 1 <input type="checkbox"/> Yes - Continue</p> <p>3 <input type="checkbox"/> No - Go to Section 11, page 14</p> <p>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.</p>			
PLEASE COMPLETE ALL COLUMNS			
Species Produced and Sold	Total Number Sold	Total Pounds Sold	Total Sales (Dollars)

This table has been set up to capture information for all other aquaculture products raised and sold in 2023. Aquaculture products have been pre-listed. If the operation reports selling aquaculture products not pre-listed on this page; write the name of the product in the table under “Other” and provide the corresponding total number sold, total pounds sold and total sales. Many farms will raise algae and feed it to the young fish. The report form asks only for the total sales of the algae sold. Algae processed for chemicals or energy is included, but only the algae portion of the sales. Most sea vegetables grow naturally and are just harvested, which should not be included. Count only the sea vegetables raised by the farmer.

Turtle versus Tortoise. A Tortoise is not considered aquaculture as it is land dwelling.

Section 11 – Sales Outlet by Species

Complete this section if there were any aquaculture products sold in Sections 6 – 10 of the report form.

Point of First Sale Outlet

This table is set up to capture information for the point of first sale outlet by type of aquaculture product sold. The first point at which money changes hands is the

point of first sale. Delivery to the processing plant is the point of first sale to a processor. See Chapter 2 – Terms and Definitions for an explanation of each sale outlet category.

SECTION 11: SALES OUTLET BY SPECIES (Exclude catfish and trout)							
1. In Sections 6-10, you reported sales of aquaculture and aquaculture products by category. This section asks more details about the sale of those products. In 2023, what percent of this operation's total value of aquaculture sales was sold directly to the following outlets for each species category?							
Point of first sale outlet	Food fish Exclude Catfish and Trout	Sport or Game fish	Baitfish	Ornamental Fish	Crustaceans	Mollusks	Other Aquaculture
This row shows the section where each type of aquaculture was reported	Section 6, Page 8	Section 6, Page 8	Section 7, Page 9	Section 9, Page 12	Section 8, Page 10	Section 8, Page 10	Section 10, Page 13
Did you report sales in the section listed at the top of each column?	Yes - Fill column No - Next column	Yes - Fill column No - Skip column					
Processors, including processing done on or off this operation	801 %	831 %			861 %	851 %	871 %
Live haulers and/or brokers.	804 %	834 %	814 %	824 %	864 %	854 %	874 %
Retail outlets (restaurants, grocery stores, etc.)	802 %	832 %	812 %	822 %	862 %	852 %	872 %
Direct to consumers (farmers market, on-farm fee fishing)	803 %	833 %	813 %	823 %	863 %	853 %	873 %
Recreational stocking (private lakes and ponds)	805 %	835 %	815 %	825 %	865 %	855 %	875 %
Wholesale to other producers including sales to stock commercial and fee fishing operations.	806 %	836 %	816 %	826 %	866 %	856 %	876 %
Government agencies.	807 %	837 %	817 %	827 %	867 %	857 %	877 %
Exports.	809 %	839 %	819 %	829 %	869 %	859 %	879 %
Other, specify: 8092	808 %	838 %	818 %	828 %	868 %	858 %	878 %
Total	100%						

There are seven types of aquaculture products listed across the top of the table: Food fish, Sport or Game Fish, Baitfish, Ornamental Fish, Crustaceans, Mollusks, and Other Aquaculture. Report in each column the respondent indicated having sales in the report form. Each column reported must sum to 100 percent. Record the percent (in terms of value of sales) that were sold directly to the outlets listed.

Catfish and Trout sales outlets were reported in Sections 4 and 5 respectively and are excluded in Section 11, Column 1, Food fish. See next page for a list of food fish (Column 1) and sport or game fish (Column 2) species.

Food Fish		Sport Fish	
Barramundi	Red Drum	Bass, largemouth	Other Sport Fish
Bass, hybrid striped	Salmon (all)	Bass, smallmouth	
Carp (all)	Seriola	Crappie (sac-au-lait)	
Cobia	Sturgeon	Muskie	
Cod (all)	Tilapia	Northern Pike	
Flounder	Yellow Croaker	Sunfish	
Pangasius/Swai	Other Food Fish	Walleye	
Perch, yellow	Arctic Char		

Section 12 – Aquaculture Distributed (Not sold)

Complete this section if the operation distributed any aquaculture products for restoration, conservation, or recreational purposes in 2023. If the operation did not distribute any aquaculture products, skip to Section 13.

Distribution is the process of releasing into the wild aquaculture products for restoration, conservation, enhancement, or recreations purposes and are reported in this section. Distributed aquaculture cannot have exclusive harvest rights controlled by anyone after they are released into the wild. Aquaculture sold (for money) by State and Federal hatcheries should be excluded from this section and reported in the sales sections 4-10. Only include Aquaculture that was raised and distributed from this operation. Aquaculture that was transferred, but not sold, to other facilities for additional growing should not be included in this section.

Distributed trout is recorded in Section 12. These are the same questions that are on the annual trout questionnaire.

Examples:

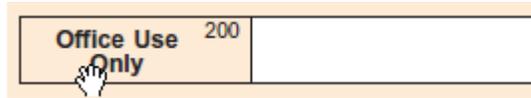
- A) Wyoming State’s Hatchery A moves (but does not sell for money) eggs to Wyoming State’s hatchery B where the eggs will be hatched into fish, grown to maturity, and released into Wyoming’s public water. State Hatchery A should not report the eggs as distributed or sold as the fish were not distributed from its facility and not sold for money. Hatchery B will report these fish and distributed value in Section 12 as they were raised in its facility and distributed from its facility.

- B) Maryland State’s Hatchery C moves (but does not sell for money) most of its eggs to Maryland State’s Hatchery D where the eggs will be hatched into fish, grown to maturity, and released. The remaining eggs are sold for money to other private hatcheries. Hatchery C should report those eggs sold for money in sections 4-10. State hatchery C should not record the eggs moved to State hatchery D because they were not sold and were not distributed from State hatchery C. Hatchery D will report these fish in Section 12 as they were raised in its facility and distributed from its facility.
- C) The State Idaho’s Fish and Game (IDFG) supply’s many of Idaho’s public waterways with fish raised in their state-run hatcheries. They also purchase, for money, fish from Montana’s Fish and Wildlife service which IDFG immediately releases into Idaho State’s public waters. IDFG hatcheries would report all fish raised and distributed from their hatcheries in Section 12. In section 12, none of the IDFG hatcheries should report fish purchased from Montana’s Fish and Wildlife hatcheries as these fish did not receive additional growing in IDFG owned hatcheries. All the hatcheries controlled by Montana’s Fish and Wildlife would report the fish sold to IDFG in sections 4-10.
- D) One of New Mexico State’s hatcheries sells small fry to a private company in Colorado where they are raised to maturity. Colorado State’s Parks and Wildlife then buy those fish from the private hatchery and immediately distributes them into Colorado State public waters. New Mexico’s state hatchery and the private company would report the fish sold in sections 4-10. No Colorado State entity should report these fish as distributed or sold because they did not increase their weight.

The distributed section is often confusing. When in doubt, write a detailed comment explaining the situation.

SECTION 12: AQUACULTURE DISTRIBUTED (Not sold)				
<p>1. Did this operation distribute aquaculture products, for which the operation was not paid, into the wild for restoration, conservation, enhancement, or recreational purposes during 2023? INCLUDE: Aquaculture products released directly into the wild. EXCLUDE: Aquaculture reported in previous sections.</p>				
383	1	<input type="checkbox"/>	Yes - Continue	
	3	<input type="checkbox"/>	No - Go to Section 13, page 16	
<p>2. What were the total amounts produced and distributed by this operation, by species category, in 2023? Include all size categories within each species.</p>				
Species	Number distributed	Pounds distributed	Number of eggs or seed stock distributed	Estimated Total Value of Product Distributed

Completion Code Box - Office Use Only



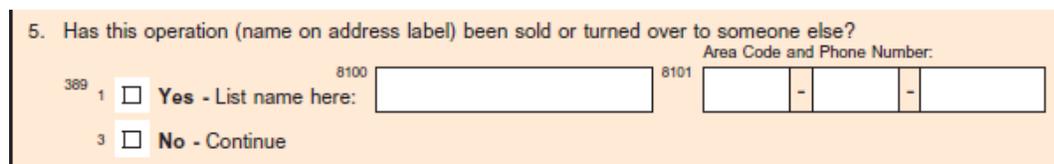
The trout completion code box is located under the table. This box is to be completed when all data are empty or valid zeros are reported for all trout items in the section. If any positive data is reported, leave the box empty. The only valid responses are empty or '3' for this item.

3 = Valid Zero - Enter this code whenever it is known, either through interviews or other sources, that the operator has not distributed aquaculture products.

Section 13 – Operation

Complete this section for every interview. The census is to account for all aquaculture operations in the U.S. that produced and sold or produced and distributed aquaculture products in 2023. It is important that NASS identifies any new operations or possible duplicate operations. If a new operation is identified, additional data collection may be required.

If an operation was in business part of 2023 and then was sold to someone else, a report form will need to be completed for each operator.



Section 14 – Conclusion

Complete this section for every interview. A comments section has been provided to write any notes describing unusual situations or pass along any information the respondent wants relayed to the State Field Office. Record the respondent's Name, Phone Number, E-mail, and Date (MM-DD-YY) the interview was conducted.

SECTION 14: CONCLUSION			
COMMENTS:			
1091	<input type="text"/>		
	Respondent Name:		
9912	<input type="text"/>		
	Area Code and Phone Number:		Date: (MM-DD-YY)
9911	<input type="text"/>	-	<input type="text"/>
		-	9910 <input type="text"/>
	E-mail		
1095	<input type="text"/>		
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 2024.			

Publication Schedules

Census of Aquaculture – Final results from the census will be published in December 2024. Data will be published for all 50 States in a report entitled 2023 Census of Aquaculture. The report will be available on the NASS Web site at <http://www.nass.usda.gov>

Catfish Production – Data will be published for the 11 major producing catfish States on beginning of February 2024 in the *Catfish Production* release. Information will be published from data collected in Section 4 of the report form.

Trout Production – Data will be published for the 20 major producing trout States on end of February 2024 in the *Trout Production* release. Information will be published from data collected in Section 5 and Section 12 of the report form.

Office Use Boxes

OFFICE USE ONLY																	
Response	9901	Respondent	9902	Mode	9903	R Unit	9921	Enum.	9998	Eval.	9900	Change	9985	Office Use for POID	9989		
1-Comp 2-R 3-Inac 4-Office Hold 5-R-Est 6-Inac-Est 7-Off Hold-Est 8-Known Zero		1-Op/Mgr 2-Sp 3-Acct/Bkpr 4-Partner 9-Oth		1-Mail 2-Tel 3-Face-to-Face 4-CATI 5-Web 6-e-mail 7-Fax 8-CAPI 19-Other													
														Optional Use			
														9907	9908	9906	9916

Response Code (9901)

Upon completion of the interview, enter the response code in cell 9901.

Response codes are:

- Code 1 – Complete
- Code 4 – Office Hold (FO use only)
- Code 5 – Refusal Estimated
- Code 6 – Inaccessible Estimated
- Code 7 – Office Hold Estimated

Since this is a census of all known aquaculture operations, refusal and inaccessible (2 and 3) are not valid responses. If you have a refusal or inaccessible and don't have any estimates for the operation, leave the Response Box blank and write a note documenting the situation. Known zero will also not be used for the Census of Aquaculture.

Respondent Box (9902)

Upon completion of the interview, enter the respondent code in cell 9902.

Respondent codes are:

- Code 1 – Operator or manager
- Code 2 – Operator's Spouse
- Code 3 – Accountant or Bookkeeper
- Code 4 – Partner
- Code 9 – Other – Someone other than those listed in codes 1 – 4

Mode Box (9903)

Upon completion of the interview, enter the mode code in cell 9903.

Mode codes you will use are:

- Code 2 – PATI – Paper Assisted Telephone Interview (Telephone)
- Code 3 – PAPI – Paper Assisted Personal Interview (Face-to-Face)
- Code 8 – CAPI – Computer Assisted Personal Interview

Enumerator Code (9998)

Enter your enumerator ID number in the Enum. Code cell 9998 and print your name in the S/E Name box.

Date (9910)

Record the date the report form was completed. Enter the date in MMDDYY format on the line provided in cell 9910. For example, if the interview was completed on December 20, 2023, enter 12 20 23 in the date cell.

Final Review

Review the entire questionnaire before forwarding it to your Supervisor or the Regional office. Make sure all items are complete, including 'Yes' and 'No' boxes checked, yes boxes coded with a 1, and dashes (--) in cells when the response is 'None' or 'No' as appropriate. Make sure notes are present and complete for unusual situations.

Appendix A - Catfish Length-Weight Table

On the following two pages are tables which may be used to determine the weight of a fish if the length is known. For lengths greater than 29.0 inches, look up the two-digit length needed, and then move the length decimal one digit to the right and the weight decimal three digits to the right. For example, to find the weight of a 34-inch fish, look up 34 in the table. You will not find a 34-inch fish; however, listed is a 3.4-inch fish which averages .0113 pounds, so moving the decimal as instructed, a 34-inch fish would average 11.3 pounds.

Source: Colt, John E., length-weight calculator, website referenced on page 44. G. A. Wedemeyer, editor, 2001. Fish hatchery management, second edition. American Fisheries Society, Bethesda, Maryland.

2023 Census of Aquaculture
Interviewer's Manual – Appendix A

Catfish Length – Weight Table

Length Per Fish (Inches)	Ave. Weight Per Fish (Pounds)	Length Per Fish (Inches)	Ave. Weight Per Fish (Pounds)	Length Per Fish (Inches)	Ave. Weight Per Fish (Pounds)
Fry		2.7	.00566	5.5	.0479
.1	.0000003	2.8	.00632	5.6	.0505
.2	.0000023	2.9	.00702	5.7	.0533
.3	.0000078	3.0	.00777	5.8	.0561
.4	.0000184	3.1	.00857	5.9	.0591
.5	.0000360	3.2	.00943	Small Stockers	
.6	.0000621	3.3	.0103	6.0	.0621
.7	.0000987	3.4	.0113	6.1	.0653
.8	.000147	3.5	.0123	6.2	.0686
.9	.000210	3.6	.0134	6.3	.0719
1.0	.000288	3.7	.0146	6.4	.0754
1.1	.000383	3.8	.0158	6.5	.0790
1.2	.000497	3.9	.0171	6.6	.0827
1.3	.000632	4.0	.0184	6.7	.0865
1.4	.000790	4.1	.0198	6.8	.0905
1.5	.000971	4.2	.0213	6.9	.0945
1.6	.00118	4.3	.0229	7.0	.0987
1.7	.00141	4.4	.0245	7.1	.103
1.8	.00168	4.5	.0262	7.2	.107
1.9	.00197	4.6	.0280	7.3	.112
Fingerlings		4.7	.0299	7.4	.117
2.0	.00230	4.8	.0318	7.5	.121
2.1	.00266	4.9	.0338	7.6	.126
2.2	.00306	5.0	.0360	7.7	.131
2.3	.00350	5.1	.0382	7.8	.137
2.4	.00398	5.2	.0405	7.9	.142
2.5	.00450	5.3	.0428	8.0	.147
2.6	.00506	5.4	.0453	8.1	.153

2023 Census of Aquaculture
Interviewer's Manual – Appendix A

Catfish Length – Weight Table (continued)

Length Per Fish (Inches)	Ave. Weight Per Fish (Pounds)	Length Per Fish (Inches)	Ave. Weight Per Fish (Pounds)	Length Per Fish (Inches)	Ave. Weight Per Fish (Pounds)
8.2	.159	10.9	.373	13.7	.740
8.3	.165	11.0	.383	Small Food Size	
8.4	.171	11.1	.393	13.8	.756
8.5	.177	11.2	.404	13.9	.773
Large Stockers		11.3	.415	14.0	.789
8.6	.183	11.4	.426	14.5	.877
8.7	.189	11.5	.438	15.0	.971
8.8	.196	11.6	.449	15.5	1.07
8.9	.203	11.7	.461	16.0	1.18
9.0	.210	11.8	.473	16.5	1.29
9.1	.217	11.9	.485	17.0	1.41
9.2	.224	12.0	.497	Medium Food Size	
9.3	.231	12.1	.510	17.5	1.54
9.4	.239	12.2	.522	18.0	1.68
9.5	.247	12.3	.535	18.5	1.82
9.6	.255	12.4	.549	19.0	1.97
9.7	.263	12.5	.562	19.5	2.13
9.8	.271	12.6	.576	20.0	2.30
9.9	.279	12.7	.589	21.0	2.66
10.0	.288	12.8	.603	Large Food Size	
10.1	.296	12.9	.618	22.0	3.06
10.2	.305	13.0	.632	23.0	3.50
10.3	.314	13.1	.647	24.0	3.98
10.4	.324	13.2	.662	25.0	4.50
10.5	.333	13.3	.677	26.0	5.06
10.6	.343	13.4	.692	27.0	5.66
10.7	.352	13.5	.708	28.0	6.32
10.8	.362	13.6	.724	29.0	7.02

Appendix B: Trout Length-Weight Table

On the following two pages are tables which may be used to determine the weight of a fish if the length is known. For lengths greater than 25.0 inches, look up the two-digit length needed, move the length decimal one digit to the right and the weight decimal three digits to the right. For example, to find the weight of a 28-inch fish, look up 28 in the table. You will not find a 28-inch fish; however, listed is a 2.8-inch fish which averages .00915 pounds, so moving the decimal as instructed, a 2.8-inch fish would average 9.15 pounds.

Source: Colt, John E., length-weight calculator, website referenced on page 44.
G. A. Wedemeyer, editor, 2001. Fish hatchery management, second edition.
American Fisheries Society, Bethesda, Maryland.

Trout Length-Weight Table

Length Per Fish (Inches)	Ave. Weight Per Fish (Pounds)	Length Per Fish (Inches)	Ave. Weight Per Fish (Pounds)	Length Per Fish (Inches)	Ave. Weight Per Fish (Pounds)
1.0	.000406	3.8	.0231	6.6	.123
1.1	.000541	3.9	.0250	6.7	.128
1.2	.000704	4.0	.0269	6.8	.134
1.3	.000897	4.1	.0290	6.9	.140
1.4	.00112	4.2	.0312	7.0	.147
1.5	.00138	4.3	.0335	7.1	.153
1.6	.00168	4.4	.0360	7.2	.160
1.7	.00202	4.5	.0385	7.3	.166
1.8	.00240	4.6	.0411	7.4	.173
1.9	.00283	4.7	.0439	7.5	.181
2.0	.00331	4.8	.0468	7.6	.188
2.1	.00383	4.9	.0500	7.7	.196
2.2	.00441	5.0	.0529	7.8	.203
2.3	.00505	5.1	.0562	7.9	.211
2.4	.00574	5.2	.0596	8.0	.220
2.5	.00650	5.3	.0632	8.1	.228
2.6	.00731	5.4	.0668	8.2	.237
2.7	.00820	5.5	.0706	8.3	.245
2.8	.00915	5.6	.0746	8.4	.255
2.9	.0102	5.7	.0787	8.5	.264
3.0	.0113	5.8	.0830	8.6	.273
3.1	.0125	5.9	.0874	8.7	.283
3.2	.0137	6.0	.0919	8.8	.293
3.3	.0151	6.1	.0966	8.9	.303
3.4	.0165	6.2	.102	9.0	.314
3.5	.0180	6.3	.107	9.1	.324
3.6	.0196	6.4	.112	9.2	.335
3.7	.0213	6.5	.117	9.3	.346

Trout Length – Weight Table (continued)

Length Per Fish (Inches)	Ave. Weight Per Fish (Pounds)	Length Per Fish (Inches)	Ave. Weight Per Fish (Pounds)	Length Per Fish (Inches)	Ave. Weight Per Fish (Pounds)
9.4	.358	11.3	.625	14.0	1.19
9.5	.369	11.4	.642	14.5	1.33
9.6	.381	11.5	.659	15.0	1.47
9.7	.394	11.6	.676	15.5	1.63
9.8	.406	11.7	.694	16.0	1.79
9.9	.419	11.8	.712	16.5	1.96
10.0	.432	11.9	.731	17.0	2.15
10.1	.445	12.0	.749	17.5	2.35
10.2	.458	12.1	.768	18.0	2.56
10.3	.472	12.2	.788	18.5	2.78
10.4	.486	12.3	.807	19.0	3.01
10.5	.500	12.4	.828	19.5	3.26
10.6	.515	12.5	.848	20.0	3.52
10.7	.530	12.6	.869	20.5	3.79
10.8	.545	12.7	.890	21.0	4.08
10.9	.560	12.8	.911	22.0	4.41
11.0	.576	12.9	.933	23.0	5.05
11.1	.592	13.0	.955	24.0	5.74
11.2	.608	13.5	1.07	25.0	6.49