

Starting an Aquaculture Enterprise in Georgia

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The climate and water resources in Georgia are suitable for a number of commercially important freshwater and saltwater aquatic animals. A wide variety of aquatic species already cultured in Georgia, provide sources of food, hides, sport, recreation, and ornamental enjoyment as commercial activities. Aquaculture can be an alternative land use in Georgia, allowing rural and urban fish culture enterprises. The climate in Georgia varies from a growing season in the south of more than 210 days with few freezing days to a moderate cool water climate in the mountains of northeast Georgia.

Carefully select the aquatic species for culture after study of the biology, market, and resource requirements. **Successful aquaculture producers play a major role in marketing the product they produce.** So, before selecting an aquaculture species, identify sales for products with specific prices, weights, product form, volume, and timing. Without that information, business planning is impossible. Take time to visit people who would be interested in buying your products, learn who the existing suppliers and competitors are, and take time to understand what will be required to produce the aquatic species so that a profit is made.

Permits (see website under Regulations below):

Since 1992, most fish farms in Georgia have had only one permit, the **Aquaculturist Registration for production of domestic fish**. See the list of species in Table 1 covered by the registration. However, depending on the type and size of the aquaculture enterprise more permits may be required. The Aquaculture Registration issued by the Georgia Department of Natural Resources covers Aquaculture enterprises producing and selling or reselling domestic fish.

A notable exception is white perch (*Morone americana*). White perch is an example of a fish that is native to states near Georgia, but has become a nuisance species in other states because it eats eggs of important sportfish and can hybridize with the white bass (*Morone chrysops*) and the yellow bass (*Morone mississippiensis*). Other examples of aquatic species with potential to damage the fisheries of Georgia include blueback herring, bighead carp, silver carp, snakehead, channeled apple snail, and zebra mussels. Some species including the flathead catfish and spotted bass are found in some Georgia river basins, but cause irreparable damage when transferred to other waters outside their native range.

Table 1. Fish that are included on the Aquaculture Registration application as domestic fish.	
Channel catfish	Goldfish
Largemouth bass	Koi and Common carp
Rainbow, brown, and brook trout	Freshwater drum
Crappie	Smallmouth buffalo
Bluegill sunfish	Red drum
Redear sunfish	Gizzard shad
Hybrid sunfish	Threadfin shad
Hybrid bass	Paddlefish
Golden shiner	Yellow perch
Fathead minnow	Mosquitofish
"Domestic fish" are lawfully obtained farmed fish which are held in confinement in private ponds, but only if they are fish species which are either indigenous to Georgia or are fish species which have been recognized before 1992 as having an established population in Georgia's public waters.	

The Aquaculture Registration covers the commercial fish hatchery license, the wholesale fish dealer's license, or retail fish dealer's license for domestic fish. Certain "paper trail" documents required by the registration carried during fish deliveries include a bill of sale with number, weight or average length information. Renew the Aquaculture Registration every two years.

Other licenses include the "Catch-Out Pond License", "Commercial Fish Hatchery License," and "Fish Dealers License," also managed by the Department of Natural Resources to regulate the sale of wild or game fish species in Georgia. Since some of these permits overlap in definition, it is best to contact the state office of the Fisheries Division of the Department of Natural Resources to avoid duplication. For example if you had a Commercial Fish Hatchery license, you may not need a Fish Dealers License. Each of these licenses requires a fee to be paid.

A "Wild Animal License" is also available for possession, sale, purchase, transport, import, or transfer of any wild animal including exotic fish, like tilapia and grass carp. The exception for exotic fish is when they are in containers which has water that is discharged through a filtering system capable of removing all fish and fish eggs and is disposed of in a septic tank permitted by the county or in a waste water treatment system permitted by the Georgia Environmental Protection Division. Notably, rainbow trout, brown trout, common carp, goldfish, and fathead minnows are non-native fish that are not considered exotic. Also, no permit is required to purchase triploid grass carp from wild animal dealers licensed by the state of Georgia as long as the buyer retains a bill of sale and the grass carp are stocked into a private pond.

Currently the "National Pollutant Discharge Elimination System Permit" is required of facilities that raise large quantities of coldwater or warmwater fish. Coldwater facilities that produce a discharge at least 30 days per year must be permitted unless they produce less than 9,090 kilograms (about 20,000 lbs) and feed less than 2,272 kilograms (about 5,000 lbs) of food each year. Warmwater facilities that discharge at least 30 days per year must be permitted unless they are closed ponds that discharge only in periods of excess runoff or produce less than 45,454 kilograms (about 100,000 lbs) of aquatic animals per year.

An "Agricultural Water Use Permit" may be required if ground water withdrawals are 100,000 gallons per day or more on a monthly average. Farm pond or farm impoundment uses for fish, wildlife, recreation or other farm uses are exempted. Farm uses include irrigation of recreational turf and processing perishable agricultural products except in certain areas such as the Chattahoochee River watershed upstream from Peachtree Creek and the counties of Chatham, Effingham, Bryan, and Glynn. Contact the Division of Environmental Protection for exact requirements. This permit does not require a fee.

A "Trout Waters - Approval to Impound or Discharge" permit issued by the Georgia Environmental Protection Division, Water Protection Branch in order to control the elevation of temperature in Secondary Trout Waters by 2oF or less and to no increase in Primary Trout Waters. No fee is required for this permit.

The Georgia Department of Agriculture requires that aquaculture enterprises as well as other agriculture conduct activities consistent with Best Management Practices established by the Department. The practices are defined in the publication "Agricultural Best Management Practices for Protecting Water Quality in Georgia." The Georgia Soil and Water Conservation Commission distributes this publication.

Saltwater aquaculture activities may be regulated by the Coastal Resources Division of the Department of Natural Resources. The permits available include the "Commercial Fishing License and Commercial Fishing Boat License" for saltwater fish and shrimp and the "Master Collecting Permit" for oysters and

clams.

The Department of Agriculture also offers “Wholesale Fish Dealers License” for persons or corporations who sell fish or seafood to any kind of retail dealer. The “Processing Facilities License” is authorized by the Georgia Food Act and allows the Department of Agriculture to inspect processing facilities. “Mobile Sales License” covers any vehicle from which retail sales of fresh or frozen seafood, meat, poultry, and other foods take place. Processing or repacking catfish requires inspection by the US Department of Agriculture, however.

Federal “404 and Section 10 Permits” are required by aquaculturists who build in navigable waters. If dredging or filling waters including wetlands are planned, the 404 permit is required. It is notable that a “State Water Quality Certification” is required from the Georgia Environmental Protection Division, Water Protection Branch before the US Army Corps of Engineers will take final action on 404 or Section 10 permits. The application is sent to the EPD automatically during the Corps review process for State Water Quality Certification. aquaculture includes more than 20 species of aquatic animals and plants today. More restrictive regulations may be applied by the county where the aquaculture activity is planned. Also, contact the US Army Corps of Engineers whenever pond construction will impact a stream or wetland.

Pond Construction:

Pond construction has become a highly regulated activity in Georgia since 2006 when the US Army Corps of Engineers joined with the Georgia Department of Natural Resources and the USDA Natural Resources Conservation Service to expand regulating guidelines for pond construction and pond site maintenance. Whenever a pond is constructed, especially when water impoundment will impact a ditch, stream, or wetland, contact the NRCS office in your county for assistance so that your course of action can be determined.

1. Contact your NRCS representative prior to starting construction of a pond.
2. If needed, complete a Farm Pond Exemption Information Paper (GAENG-378-EX1) to NRCS. Also, submit to the US Army Corps of Engineers for agreement. Aquaculture ponds do not meet that exemption and require a permit if streams or wetlands are involved.
3. Contact the EPD Watershed Protection Program when constructing ponds near streams that contain trout.
4. Plan to use erosion control measures during dirt excavation. The “Manual for Erosion and Sediment Control in Georgia” describes necessary activities at the website, gaswcc.georgia.gov.
5. When a proposed dam is over 25 feet tall, or your pond has 100 acre-feet storage or more, you must work with the Georgia DNR EPD Safe Dams Program.
6. When pumping water from surface water sources, Georgia DRN EPD Water Withdrawal Permitting Program may require an Agricultural Water Withdrawal Permit.
7. Contact the Local Issuing Authority (LIA), if applicable. Aquaculture ponds as defined by GESA (O.C.G.A. 12-7-17(5)) may be exempt from LIA permitting and buffer requirements. See LIA lists and pond construction information at: <https://epd.georgia.gov/erosion-and-sedimentation>

Business Planning

Start with a good review of what you must expect from aquaculture by reading the information on aquaculture start-up at the Southern Regional

Aquaculture Center: <https://srac.tamu.edu/viewCategory/23>

For aquaponics businesses, a very detailed business planning guide can be found at US EPA: <https://www.epa.gov/land-revitalization/aquaponics-business-plan-user-guide>

Institutions with assistance for aquaculture enterprises:

The University of Georgia

<http://aquaculture.caes.uga.edu/>

Fort Valley State University

<http://ag.fvsu.edu/index.php/extension/agricultural-and-natural-resources/aquaculture/>

Resources:

<https://srac.tamu.edu/>

Southern Regional Aquaculture Center fact sheets on aquaculture topics and species specific technical information.

Regulations:

<https://georgiawildlife.com/aquaculture>

Georgia Department of Natural Resources discussion of aquaculture permits.