

American Alligator Production: An Introduction

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The American alligator (*Alligator mississippiensis*) is raised primarily for its hide to produce high-quality leather for a global market. For more than 100 years alligator hides have been in high demand for luxury leather products in Europe and Asia, as well as here in the United States. For the past 40 years the species has been intensively managed, resulting in healthy wild populations and the development of commercial production facilities that promote conservation of the species and its wetland habitat. Regulations provide for the sustainable use of this renewable natural resource while protecting endangered crocodylian species found elsewhere in the world.

Of the numerous species of crocodylians worldwide, the American alligator is one of the few species that are commercially produced. Because of the Threatened or Endangered status of some of the other crocodylians, both domestic and international trade are highly regulated and monitored. The U.S. Fish and Wildlife Service, through the Endangered Species Act and other wildlife laws, monitors state programs and inspects all shipments of hides that are exported. Individual state agencies regulate both wild harvest and farm production activities. Foreign importers of alligator hides are subject to the regulations of a treaty known as the Convention for the International Trade of Endangered Species (CITES).

The first commercial alligator farm was in Florida in the 1890s. Until the 1980s, alligator farms in Louisiana and Florida were mainly geared toward tourism. Research and management efforts during the 1970s and 1980s led to the development of intensive efforts to raise

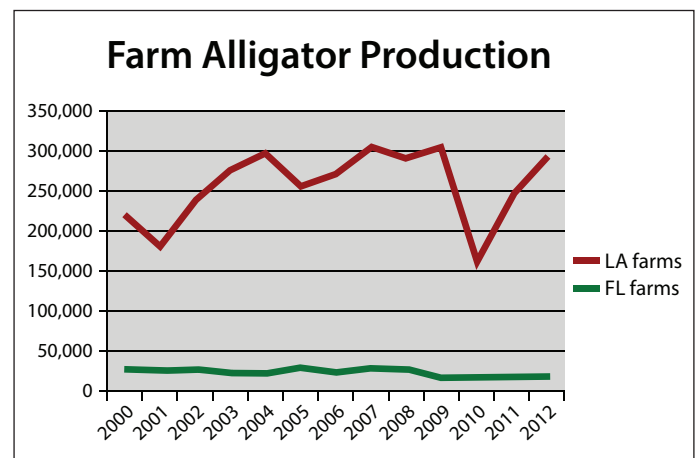


Figure 1. Number of farm alligator skins produced in Louisiana and Florida since 2000. The decline in production in 2010 reflected a drop in demand caused by the global recession from 2008 to 2009.

alligators for their hides in environmentally controlled facilities. The farming concept, along with regulated wild harvests, ensured the protection and sustainable use of the species throughout its range.

By 1991, the number of farms in Louisiana reached a peak of 134, although only 91 actually sold hides. Florida, Texas, Georgia, Alabama, and Mississippi combined had 96 licensed farmers. Most farms were of moderate size, producing a few hundred to several thousand alligators each year. Total production in the early 1990s was approximately 125,000 hides annually. Over the last 20 years, the industry has evolved to larger but fewer farms. In 2014, there were 37 production facilities in four states (Louisiana, Florida, Georgia, and Texas), and the total annual production was slightly more than 350,000

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hides with a total value of hides and meat exceeding \$85,000,000. Louisiana and Florida farms account for more than 98 percent of the production.

Range

The American alligator is a wetland species native to the southeastern U.S. from Florida to Texas and as far north as Arkansas and North Carolina. The largest natural populations are found in the coastal marshes of Louisiana and the swamps and Everglades of Florida.



Alligator nest in Louisiana coastal marsh. (Photo by Ruth M. Elsey)

Biology

Understanding the reptilian nature of alligators is important in their commercial production. Growth is greatly influenced by temperature. In their natural habitat, alligators grow slowly, taking 3 to 4 years to reach 48 inches, the market size of most farm-raised alligators. Under optimal conditions on farms, alligators reach this size in 12 to 15 months.

Alligators in the wild reach sexual maturity in about 8 to 10 years when they are at least 6 feet long. Nesting occurs during early summer and the average clutch size is



Hatchling American alligator. (Photo by Ruth M. Elsey)

30 to 35 eggs. Incubation takes about 65 to 70 days. Alligators are carnivorous and prey upon food proportional to their size. Hatchlings eat insects, crustaceans, and small fish. Larger animals also eat mammals, birds, and other reptiles, including smaller alligators.

Facility Requirements

Alligator farms are designed to maintain a warm aquatic environment so that the animals continue to grow throughout the year. Alligator facilities have either flooded stalls or tanks in which to hold the animals. The temperature is maintained at 80 to 88 °F (27 to 31 °C), with a water depth of 14 to 18 inches (35 to 45 cm).

A dependable source of heated water is required in order to flush and refill the stalls or tanks regularly. The frequency depends on the size and density of the alligators and the amount of food provided.

An adequate waste water system is necessary to handle the volume of water used. Most farms store the used water in holding ponds until it can be irrigated onto pastures or crop lands. If allowed to discharge into a public drainage, water treatment and discharge regulations must be followed.

Alligators must be segregated according to size to reduce aggression and stress. For small alligators up to 24 inches (61 cm) in length, 1 square foot per animal is required for farms in Louisiana. Three square feet are required for alligators 24 to 48 inches (61 to 122 cm) long. One additional square foot (929 cm²) is needed for every additional 6 inches (15 cm) in length.

The location of an alligator farm is important for several reasons. The routine care of alligators, including managing waste water, will generate odors. The facility should be located far from residential or other areas where odors would cause a problem. It should also be located out of a flood-prone area unless protective measures can be taken. Alligators can be sensitive to disturbance and loud noises, so sites near airports or busy highways should be avoided.

In states where alligator farming is allowed, certain regulations apply to the care and handling of alligators as well as to the facility design and management. Consult with the appropriate agencies for details.

Farming vs. Ranching

Very few farms maintain a breeding population of adult alligators because of the time, expense, and land requirements to produce a large quantity of viable eggs. The concept of “ranching” was developed in the 1980s. Alligator ranching is a method in which producers collect eggs from nests in the wild in order to stock their faci-



Alligator eggs buried in the nest cavity. (Photo by Ruth M. Elsey)

ties. State regulations control the number of eggs that can be collected to maintain healthy wild populations. However, whatever the source of eggs, all production facilities are referred to as alligator farms.

In Louisiana, farmers contract with landowners to collect eggs where suitable nesting habitat is available. Farmers are issued permits by the Louisiana Department of Wildlife and Fisheries. These permits specify an allowable quota of eggs for each property. A percentage of the cohort that hatches from these eggs is then released within 2 years back into the habitat as juveniles (36 to 60 inches long). In Florida and Texas, only 50 percent of the nests can be used for egg collection on any particular property. Both management techniques ensure a sustainable wild population. Landowners support the ranching concept because it provides income and ensures the sustainability of the alligator resource on their property.

Egg collection begins as early as May in Florida or as late as July in Louisiana. Nests are located by aerial search, and airboats are generally needed to get to the nest site and collect the eggs. Proper handling and incubation are critical for optimum hatchability.

Grow Out

The care and maintenance of alligators is time consuming, labor intensive, and expensive. That is why many of the smaller facilities closed in the 1990s, giving way to larger, more efficient farms.

Alligators are fed a diet of high-protein floating pellets 5 to 7 days per week. Many farmers feed 56 percent protein pellets for the first few months before changing to a 45 percent protein pellet for the rest of the growth cycle. The stalls or tanks are drained, washed, and refilled regularly. Workers need to monitor daily food consumption and note any abnormal behavior that could indicate stress or the onset of health issues.

Once the alligators reach harvest size, they are euthanized and skinned. The skins are salted and shipped to tanneries, while the carcasses are processed for the meat market.

The current market demand for farmed alligators is for watch straps and small leather products. This requires an alligator between 36 and 48 inches (91 and 122 cm) long. Alligators can reach harvest size in about 12 to 15 months depending on grow-out conditions and natural growth rates.

Conclusion

Alligator farming in the southeastern U.S. has become a valuable industry over the past 30 years. State, federal, and international regulations ensure the sustainable use of this renewable resource and also the conservation of the species and its wetland habitat. The technology has been developed to humanely raise large numbers of alligators in climate-controlled facilities to meet the global market demand.



Female alligators will aggressively defend their nests. (Photo by Ruth M. Elsey)

Further Information

Contact the respective state agencies for the current regulations pertaining to alligator farming in these states:

- Louisiana Department of Wildlife and Fisheries
<http://www.wlf.louisiana.gov/wildlife/alligator-program>
- Florida Fish and Wildlife Conservation Commission
<http://myfwc.com/wildlifehabitats/managed/alligator/>
- Texas Parks and Wildlife Department
https://tpwd.texas.gov/publications/pwdpubs/media/pwd_bk_w7000_1433_alligator_farming_in_texas.pdf
- Georgia Department of Natural Resources – Wildlife Resources Division
<http://www.georgiawildlife.com/>
- Mississippi Wildlife, Fisheries and Parks
<https://www.mdwfp.com/wildlife-hunting/alligator-program.aspx>
- Alabama Department of Conservation and Natural Resources
<http://www.outdooralabama.com/>

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