

# Geoduck Farming Fact Sheet and Overview

## Overview

Geoduck farming has been going on in South Puget Sound for over 15 years with 10 years at commercial densities. The industry continues to adapt and improve its practices in response to emerging technologies and science. To date approximately 150 acres have been planted in geoduck in Puget Sound.

## History of Geoduck Farming

Geoduck farming techniques were developed by Washington State Department of Fish and Wildlife in the early to mid 1980s. State researchers looked at both hatchery and grow-out methods including the PVC tube method used today in commercial geoduck cultivation. However, as funding decreased to the State, they eventually abandoned the project. Private industry took the lead from there.

Through many of years of trial and error and significant capital investment, seed production and survival began to stabilize. Today, hatchery production of seed can still vary from to year, but is usually close to 2.5 to 3.5 million geoduck seed annually.

Grow-out methods have evolved through the years. Growers have researched a number of different methods, but to date, the PVC tube remains the most viable. Research is on-going to look at alternative methods.

While it may seem there has been rapid growth in this new culture activity, the historical effort and capital investment has been significant. In the last decade, almost \$30 million has been applied to development of geoduck farming methods and hatchery technology.

The area available for intertidal geoduck farming is very limited in South Puget Sound due to substrate requirements and water quality issues. Future growth in this industry will also be limited by seed availability.

## The Geoduck Farm

### Planting

Geoduck seed produced in a hatchery is used for planting on private tidelands. The seed are approximately 5-15 mm in size when transported from the hatchery or nursery for planting.

Currently, geoduck seed is planted in 4-6" PVC pipe cut in approximately 9-12" lengths.

A length of pipe is worked into the substrate in the intertidal zone from approximately the -3 to +3 tidal elevation (MLLW). The pipes are spaced about 12-18" apart. Approximately 3-4" of the PVC pipe is left above the substrate. Generally 2-4 geoduck seed are planted in each pipe.

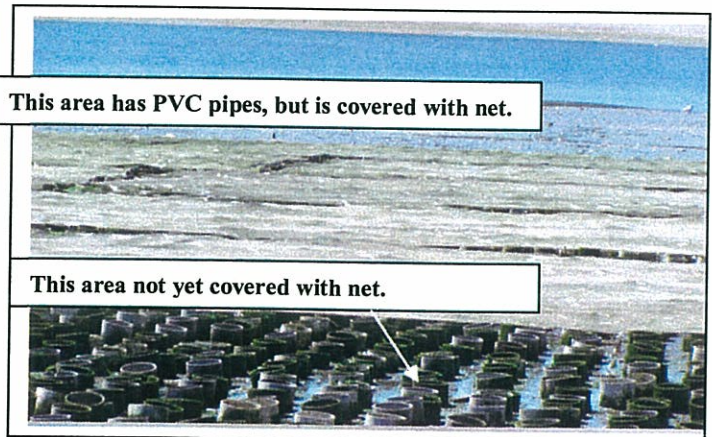
Juvenile geoduck must grow and dig to a depth adequate to evade predation (depth refuge). To help the young clams evade predators, nets are placed over the tops of the PVC pipe. Different types and methods of net have been employed.

On some beaches, each PVC pipe is topped with a single net and rubber-banded to keep the net in place. Many beaches, however, now have a single, large net covering the pipes. This eliminates excessive debris issues and reduces visual impacts.

Because of the low tidal elevations that geoducks are planted, visibility of the PVC pipes will only occur approximately 5% of the daylight hours over a 6-year crop cycle.



*Above: PVC pipe planted with geoduck. Right: PVC pipes covered with a single, large net.*

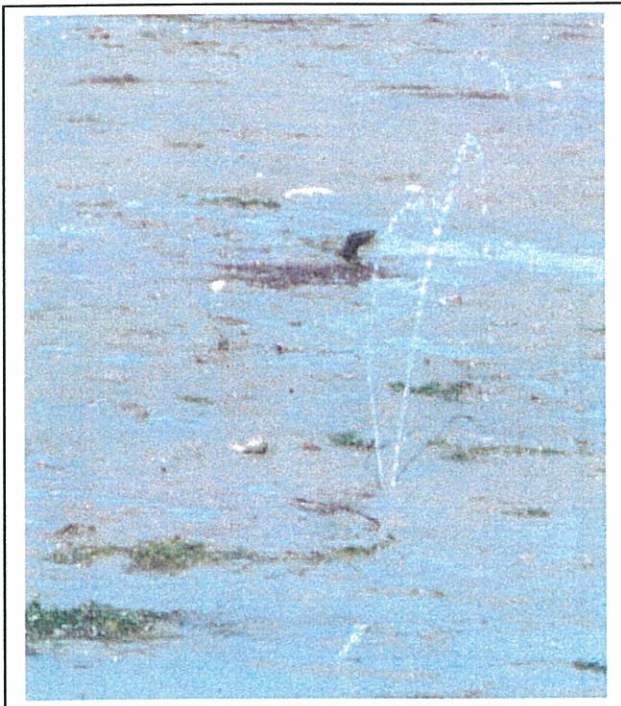


## Farm Management

Farms are periodically checked to ensure adequate growth of the geoducks.

Additionally, unnatural debris from the farm is picked and prevented from littering the waters and the beaches.

Depending on growing conditions, the PVC pipes are removed after approximately 12 to 24 months. After the tubes are removed, the beach is visually the same as it was prior to planting.



*Above and left: Planted geoduck beaches after PVC pipes are removed.*

## Harvest

The length of time to harvest may range between 4 and 7 years depending on planting density, substrate quality, tidal elevation, and market conditions.

Generally, geoduck clams weigh approximately 2 pounds at harvest time, but that can vary depending on market demand.

Geoducks can be harvested above the water line at low tide or by divers below the water line.

Both methods utilize water jets to liquefy the sediment where the geoducks are buried. The pumps used to power the water jets are mounted on small boats or barges anchored off-shore. Water-cooled diesel pumps with housing units covering them are used to reduce noise.

Harvest times and duration are dependent on the farm size, crew size, and market demand.



*Top left: Harvesting geoduck. Top right: Geoducks harvested and ready for market.*