



# Headliners

## Wampanoag Aquinnah Aquaculture Enterprise

By Rob Garrison

The Wampanoag Tribe of Gay Head Aquinnah (WTGHA) has cultural and historical roots closely tied to shellfish. Located on the western end of the island of Martha's Vineyard in the town of Aquinnah, the Wampanoag tribe has approximately 990 members, roughly 350 of which reside on or near their homelands on the island. Surrounded by water and a complex matrix of watersheds, the relationship with our community and our environment is paramount. Shell middens on Tribal Land surrounding Menemsha Pond dating back thousands of years attest to the long-standing importance of shellfish to the Tribe. Shellfish are traditional foods of the Wampanoag people and an important resource for all residents of Martha's Vineyard. As an island with a large tourist-based seasonal economy, Martha's Vineyard residents depend on shellfisheries as a source of income for the off-season winter months.

The Tribe is embarking on a program to restore shellfisheries in Menemsha Pond for the economic and environmental benefit of Tribal and island fishermen and the surrounding community. This program includes habitat restoration, water quality monitoring and remediation, and aquaculture. A major activity is the recent construction of the Wampanoag Aquinnah Shellfish Hatchery (WASH) and procurement of two shellfish growing sites in Menemsha Pond.

The purpose of the Wampanoag Aquinnah Shellfish Hatchery is to produce oyster (*C. virginica*), hard clam

(*M. mercenaria*), and bay scallop (*A. irradians*) shellfish seed for commercial growout by the Wampanoag Aquinnah Shellfish Hatchery Corp at its two sites in Menemsha Pond, for enhancement of native shellfish populations in Menemsha Pond, and for sale to towns or private growers. The hatchery is able to produce other mollusc species, such as sea scallops, soft shell clams, etc., as required.

The Hatchery works with Martha's Vineyard Towns, non-profits and private aquaculturists to advance aquaculture and protect water quality. We provide employment opportunities to Tribal and community members and conduct research towards our goals of commercial aquaculture and shellfish enhancement.

Primary efforts are focused on commercial oyster culture. In July 2003 the Wampanoag Tribe of Gay Head Aquinnah began commercial oyster culture operations with seed purchased from a hatchery in Maine. One million 1.5mm seed oysters were stocked into tidal upwellers constructed on site and deployed in Menemsha Channel. This channel is the outlet to Vineyard Sound for Menemsha Pond and experiences 4 knots of tidal flow. This extreme current provides excellent growing conditions for seed shellfish and we experience a doubling in seed volume each week.

As the oyster seed grows it is removed and placed into 1/4", 3/8", or 3/4" floating oyster bags. With the growth rates experienced in the tidal upweller we are able to move approximately 500,000

oysters into 1/4" bags, 400,000 oysters into 3/8" bags and 100,000 oysters directly into 3/4" mesh size bags. These bags are deployed on a 6-acre shallow water site in Menemsha Pond.

In April of 2003 (once the permitting issues were resolved – for more information on this see Tribe Immunity Upheld in this issue of Aquaculture Magazine) the Wampanoag Aquinnah Shellfish Hatchery (WASH) began operations and produced several million seed oysters, hard clams and bay scallops. We placed 1.5 million oysters in the tidal upwellers and provided oyster and hard clam seed to other growers on Martha's Vineyard. We also began bay scallop culture experiments on our 2-acre deep-water site using pearl nets and a cage system.

The oysters are routinely tumbled, graded mechanically and restocked at appropriate densities in the appropriate mesh bags. Currently we have well over 2 million oysters growing and are beginning sales of our Tomahawk Oysters. We are fortunate to have excellent water quality in Menemsha Pond. Local conservation groups and zoning laws have controlled development in the watershed and the Tribe has implemented projects to reduce harmful runoff effects from adjacent roads.

Our certified Wampanoag Environmental Laboratory conducts routine water quality monitoring, shellfish tissue sampling, and drinking water analysis.

Our next effort will focus on the bay scallop, a traditional fishery for Tribal



*AriGARYBags in Water - After growing for several weeks in the upweller the oysters are transferred to floating bags.*

members and the community. Towards this effort, the Tribe has already conducted a bathymetric survey and circulation study of Menemsha Pond. As funding allows, we plan to next conduct a benthic survey and then begin seeding

hatchery reared bay scallops in different areas of the Pond, at different sizes, and at different times of the year combined with a comprehensive monitoring program to determine the best methods for maximizing survival and eventual

population enhancement. Scallop seed will also be produced for other Town restoration efforts and for a demonstration bay scallop aquaculture project to sell live bay scallops to local restaurants.

All of our activities serve as a learning platform for Tribal and community students. A work-learn summer program has provided young members with training in marine biology, water quality monitoring, and aquaculture. Local students have assisted in advanced technology projects such as set-up and installation of a computerized weather monitoring station and development of new aquaculture systems. Future programs will provide opportunities in operation of state of the art laboratory equipment like our Atomic Absorption Spectrophotometer or Ion Chromatograph. The hatchery and laboratory are also open to the public for tours and special school projects.