WASHINGTON SEA GRANT AWARDS GEODUCK RESEARCH PROJECTS

Washington Sea Grant (WSG) announced today it will award grants for three major research projects to examine the possible environmental effects of geoduck aquaculture in and around Puget Sound, including the Strait of Juan de Fuca.

WSG Associate Director Raechel Waters outlined the projects today for members of the Washington Shellfish Aquaculture Regulatory Committee in Olympia.

The projects are the result of House Bill 2220, passed by the State Legislature in 2007, directing WSG to commission research studies to examine current geoduck aquaculture practices and inform future decisions about the management of on-bottom shellfish aquaculture activities. The legislation provided an initial appropriation of $750,000 for the 2007-2009 biennium for the projects and their administration. The geoduck research program could continue for up to six years, and additional projects may be selected in 2009 and 2011, depending on program progress reviews and the availability of funds.

Based on the recommendations of peer-reviews and a specially convened panel of experts, WSG has selected the following three projects:

**Geochemical and Ecological Consequences of Disturbances Associated with Geoduck Aquaculture Operations in Washington.** A large, integrated team, drawing on expertise from Washington and Maryland, will examine the environmental effects of commercial harvesting and related structures. This project will form the basis for the six-year comprehensive research program.
Cultured-Wild Geoduck Interactions. This five-year study will provide baseline data on disease prevalence in wild geoduck populations (first two years) and use of sterile triploid geoducks (years three through five).

Resilience of Soft-sediment Communities after Geoduck Harvest in Samish Bay, Wash. This four-year study will examine the unique conditions in Samish Bay, where a new eelgrass meadow has been established since geoduck were planted in 2002. The project will investigate the effects of harvest and planting activities on eelgrass and infaunal communities.

Geoduck aquaculture is a potentially valuable industry for the state. Geoducks exported to Asia can fetch prices of up to $30 per pound, fueling a market currently estimated at about $80 million annually in Washington and British Columbia. But geoduck farming has raised concerns. These include the possibility that seed from a single hatchery broodstock could reduce the genetic diversity among wild populations, making them less resistant to disease and the range of conditions in Puget Sound.

Another consideration is the effect of geoduck farming and harvesting on intertidal and subtidal communities of animals and plants. Today’s geoduck farmers use short segments of PVC pipe and plastic netting to exclude clam-eating predators during the young geoducks’ early years of growth. Harvest methods include liquefying the sand around geoducks with high-pressure hoses -- measures that could affect eelgrass beds and other nearshore habitats.

“Washington Sea Grant is working to pull together the best scientists, identify key research needs and disseminate findings to the people who need them,” WSG Director Penny Dalton said. “We are committed to marine habitat protection and sustainable use of ocean resources. Our goal is to ensure that people understand geoduck issues, and that good scientific information is available to manage geoduck aquaculture.”

“There’s been a tremendous surge in interest in geoduck aquaculture,” said Waters, who is coordinating the geoduck research. “But we just don’t have enough information to assess the potential benefits and drawbacks to the ecosystem, or whether there are measures that can be easily taken to offset any disruption of the natural systems in Puget Sound.”

WSG’s process for developing a research program included several steps:
- A survey of research and information needs, made available to scientists, property owners and other interested individuals
- A scientific workshop conducted last fall on the current state of knowledge regarding on-bottom intertidal aquaculture and its interactions with the environment
- A published review synthesizing current knowledge about geoducks and their farming and harvesting
A solicitation of research projects, intended to examine key uncertainties relating to the ecosystem and community effects of geoduck aquaculture and its implications for the health or existing wild geoduck populations.

A WSG-convened scientific panel to review all submitted proposals.

The geoduck is North America’s largest burrowing clam. Wild geoducks are harvested from subtidal areas by scuba divers. Over the past decade, geoduck aquaculture in intertidal areas has augmented the harvest of wild geoducks. By planting geoduck seed from hatcheries, shellfish farmers can produce market-sized geoducks in about four to seven years. Washington’s geoduck farms are presently producing about 875,000 pounds of the clams per year, compared to about four million pounds per year of wild geoducks.

More information about geoducks and WSG geoduck research is available at http://wsg.washington.edu/research/geoduck/current_research.html.