

The Crest

Current Issues in Coastal Ocean and Estuarine Science

VIMS Named World Reference Laboratory for Shellfish Diseases

The Virginia Institute of Marine Science has been designated as the only world-wide reference laboratory for two groups of pathogens (*Perkinsus* and *Haplosporidium*) that cause disease in shellfish all over the world. Dr. Eugene M. Bureson, VIMS Director of Research and Advisory Service, was named the Reference Expert. The designation was announced

by the Office International des Epizooties (OIE), a Paris-based international advisory organization on infectious animal diseases. OIE is the official arbiter of the World Trade Organization for issues involving living animal products, including wild or aquacultured marine animals.

Species of *Perkinsus* and *Haplosporidium* are responsible for

the oyster diseases Dermo and MSX that continue to cause tremendous mortality in oysters in Chesapeake Bay. Species of *Haplosporidium* cause diseases in native and cultured abalone in Australia and New Zealand, while species of *Perkinsus* cause diseases in oysters and clams in Japan, Korea, France and Spain and in cockles in New Zealand. While these diseases have no effect on humans, they can decimate shellfish populations



Shellfish disease staff, left to right, Lisa Calvo Ragone, Nancy Stokes, Rita Crockett, Dr. Gene Bureson, and Dr. Kimberly Reece.

VIMS Scientists Receive 2001 Best Paper Award

VIMS scientists Dr. Eugene Bureson and Nancy Stokes and Dr. Carolyn Friedman, California Fish and Game, received the 2001 Best Paper Award from the American Fisheries Society. The Society has a tradition of publishing important research on aquatic-resource issues. The Best Paper Award recognizes the high quality of literature among aquatic professionals. The paper, "Increased Virulence in an Introduced Pathogen: *Haplosporidium nelsoni* (MSX) in the Eastern Oyster *Crassostrea virginica*" was featured in the March issue of the *Journal of Aquatic Animal Health*. The article detailed their work on the oyster pathogen responsible for the disease MSX that is prevalent in Chesapeake Bay oysters. The team developed DNA diagnostic tools that proved the parasite found in the Pacific oyster is the same parasite that has caused extensive and continuing mortality of Eastern oysters. The parasite does not cause significant mortality in Pacific oysters. Their work documented that the parasite was introduced to the Eastern oyster during importation of the Pacific oyster to the

East Coast in the 1950s. The parasite first appeared in the Chesapeake Bay in 1959. The work underscores the potential dangers of improperly introducing exotic marine organisms for aquaculture or resource restoration.

and cause economic havoc in both fisheries and aquaculture industries.

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Laboratory
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OIE recruited VIMS for reference laboratory status based on the Institute's long history of research on *Perkinsus* and *Haplosporidium* and because of current research and international collaboration on diagnosis of diseases caused by these organisms. The shellfish pathology and histology skills of Burreson, Ms. Lisa Ragone Calvo and Ms. Rita Crockett are widely recognized. Molecular diagnostic (DNA) tools for identifying these disease agents developed at VIMS by

Burreson, Dr. Kimberly Reece, and Ms. Nancy Stokes are being used worldwide.

"This is a real honor, in recognition of the significant breakthroughs we have made at VIMS in the diagnosis of these shellfish pathogens that occur worldwide," Burreson said. "It will also mean some additional work, but we have a great team in shellfish pathology and we are glad to be of service to the international community."

Reference laboratories serve as an advisory resource for the OIE and as an identification resource for researchers around the world. The labs are also obligated to develop and standardize diagnostic protocols for relevant

disease agents and to provide a diagnostic service for researchers around the world. OIE has been responsible for promoting and coordinating research into the surveillance and control of animal diseases throughout the world since 1924.

Serious diseases that should be contained from accidental geographic spread are designated "notifiable" by OIE. This designation can restrict the export of animal products from a country that has the disease.

Perkinsus and *Haplosporidium* are found worldwide and cause notifiable diseases. "We are already receiving requests and samples from around the world," Burreson said.