

EXOTICS

Should non-indigenous species be used in aquaculture?

5th Annual SABS/AAC Workshop

**17-19 October 2006, St. Andrews Biological Station
St. Andrews, New Brunswick, Canada**

Each year, the **Aquaculture Association of Canada** and the **Sustainable Aquaculture Section of the St. Andrews Biological Station** sponsor a workshop on a topic of importance to the aquaculture industry in Canada. Previous workshops have been held on: Early rearing of haddock; Integrated multitrophic aquaculture; Biotechnology in aquaculture; and Oceanography and aquatic animal health.

The 2006 workshop will be held on 17-19 October on the **Use of Exotic Species in Aquaculture**. Why exotic species? Because a significant portion of the world's annual aquaculture production is based on non-indigenous species. This is also true in Canada, especially on the Pacific coast, where the exotic Atlantic salmon represents 87% of finfish product from aquaculture.

The culture of non-indigenous species has resulted in major successes as well as major disasters around the world. A serious concern associated with the use of exotics is the spread of catastrophic disease. The validity of this concern was demonstrated by the destruction of native European crayfish by the "crayfish plague," introduced to Europe with the North American signal crayfish. Another oft-cited example is the parasite *Bonamia*, introduced to Europe with the reintroduced *Ostrea edulis* (the European flat oyster). The flip side of the coin is that some of the world's most productive culture fisheries have resulted from exotics. Cultivated Pacific oyster, *Crassostrea gigas*, comprise 80% of the total world production of oysters, the majority of which are exotics in the location at which they are cultured. Another bivalve mollusc - the bay scallop, *Argopecten irradians* - produced a 50-thousand-tonne fishery only five years after it was transplanted to Shandong Province in China. Among finfish, introduced Atlantic salmon has had a huge impact on global aquaculture production in both the Northern and Southern Hemispheres; *Salmo salar*, cultivated as an exotic species in Chile, currently contributes more than half a million tonnes to world production of this species.

Given the magnitude of the potential benefits as well as the hazards of introducing exotics for culture, it is reasonable to ask whether the introduction of exotics can be justified in the development or socioeconomic stabilization of an aquaculture industry. Or, in the words of T.V.R. Pillay: "expanding aquaculture may find it very difficult to avoid the introduction or transplantation of species, or selected strains of local species, for experimentation or commercial production".

Participation in this Workshop may have to be limited due to seating capacity of the venue. In the Workshop we will explore the historical record as regards both the benefits and the hazards of such introductions and review existing guidelines for incorporating exotics into the aquaculture product mix to determine whether, given current knowledge and reasonable care, exotics can be utilized in aquaculture without incurring unacceptable risk.

The scientific program of this Workshop will explore contemporary research on the benefits and the hazards of introduced species and whether there is a "safe" way to introduce an exotic species for aquaculture production. As in the past, the proceedings of this Workshop will be published by the Aquaculture Association of Canada. If you are interested in participating in the Workshop or contributing to the program and would like to receive additional information as it becomes available, contact: **Aquaculture Association of Canada, 16 Lobster Lane, St. Andrews, New Brunswick Canada E5B 3T6; tel 506 529 4766; email aac@mar.dfo-mpo.gc.ca.**