



## PREVENTING THE RISK OF INVASIVE SPECIES IN AQUACULTURE

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Aquaculture is one of the most important and fastest growing fisheries sectors, increasing at a rate of 7% per year since the 1970's and today accounts for greater than 50 % of the total fisheries production destined for human consumption. It is an important economic activity in the coastal areas of many countries around the world, offering opportunities to alleviate poverty, boost employment, assist in community development, enhance food security, and reduce overexploitation of natural coastal resources. The importance of aquaculture as a vector for the introduction and spread of aquatic invasive species (AIS) – species that have been introduced to an area outside of their natural range and cause harm – is also evident.

There are two classes of introductions that may result from aquaculture activities. First is the establishment and spread of invasive species that have been intentionally introduced for aquaculture purposes (i.e. the “target” species). Second is the establishment and spread of species that are associated with farmed species or facilitated by aquaculture activities. These may include both “hitchhiking” species (animals and plants that grow in association with the cultured species) and disease causing organisms that may impact target or other species.

The ICES Working Group on the Environmental Interactions of Aquaculture (WGEIM) has considered mechanisms to minimize the risks of invasive species in aquaculture using a risk assessment-based pest management framework. Identification of risk (based on relevant environmental, economic, social, and cultural values) is used to limit the introduction of AIS. If AIS are present, then Hazard Analysis and Critical Control Points (HACCP) principles are used to identify critical control points and potential control measures. A solid understanding of the biology/ecology of the species and ecosystems involved, including an appreciation of how these may change over time (e.g. with successive generations or global climate change), is essential.

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