



# Pathway risk analysis for nonindigenous marine and estuarine species in Florida's pet trade

## Introduction:

The Florida Department of Agriculture and Consumer Services, Florida Fish and Wildlife Conservation Commission and University of Florida are cooperatively managing a risk analysis focusing on the trade in nonindigenous marine species for the Florida aquarium market. The impetus for this work was a highly ranked research action item, "conduct a risk assessment on all commercially available exotic marine/estuarine animals in Florida's pet trade," prioritized in Florida's Comprehensive Wildlife Conservation Strategy

## Objectives:

Complete a pathway risk analysis consisting of:

1. Analysis initiation,
2. Risk assessment and
3. The first part of risk management: identifying risk mitigation options.

## Approach:

A group of 21 knowledgeable stakeholders from state and federal agencies; universities; commercial aquaculturists; marine ornamental fish import, wholesale and retail businesses and marine hobby aquarists were recruited. An initial workshop focused on describing the marine pet species pathway (i.e., species, sources, infrastructure and value) and becoming familiar with the risk analysis methodology. A second expert workshop

will complete a pathway risk analysis by identifying risks and the means to mitigate those risks.

Pathway risk analysis consists of three steps. The first, "Initiation," is a request to evaluate a pathway. The second, "Risk Assessment," consists of:

1. Identifying interested parties;
2. Listing nonindigenous organisms of concern;
3. Collecting pathway information (literature and investigation);
4. Assessing the risks associated with the
  - a. Probability of establishment by examining the probability that an organism is in a pathway and the potential for entry and colonization and
  - b. Consequences of establishment by examining the potential for economic, environmental and perceived (social and political) effects and
5. Recommendations.

The third, and final step is "Risk Management" to create:

1. A risk mitigation matrix consisting of policies, regulations and operational measures, and

2. An iterative and realistic risk management operational plan that includes a monitoring system to revise and update mitigation over time.

## Benefits:

Reduce the risk of introducing nonindigenous marine ornamental species to state waters; create and foster collaborative linkages between agencies, academics, producers, importers, distributors, hobbyists and environmental organizations; produce and distribute marine exotic pet keeping information via the Habitattitude™ web site and campaign partnership and deliver a pathway risk analysis report and project presentations to the Gulf and South Atlantic Regional Panel, American Fisheries Society, World Aquaculture Society, Florida Tropical Fish Farmers Association and Pet Industry Joint Advisory Council.

## Location:

Statewide

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