

Template for Economic Assessment of Aquatic Invasive Species
(Prepared by ANS Task Force Economics Committee)

Purpose: To communicate economic impacts of Aquatic Invasive Species (AIS) to various economic sectors (e.g., sport and commercial fishing, water treatment, power generation, recreational boating, marine operations, tourism). These sectors depend on ecosystems services; accordingly, biological invasion may force changes in operations and increase management costs which may also result in reduced employment, decreased earnings, diminished supplies of inputs and commodities, or higher prices of inputs and commodities to consumers.

Approach: There are dozens, if not hundreds, of existing economic studies detailing various aspects of AIS costs. These scientific papers have made a strong case for increased AIS management, including supporting prevention over control; yet, these arguments have not resulted in action. The committee concluded that a different approach is needed to communicating the costs of AIS, and is proposing a journalistic approach to convey economics impacts in a way that is easy to understand and relatable. The report will compile information from existing studies and conduct informant interviews and surveys to develop estimates of potential impacts by sector. A collection of these case studies will provide a broad picture of the costs of AIS to industries, their customers, and society.

Audience: The economic argument provided should be an effective tool for convincing legislators (federal, state, local) that AIS issues deserve greater attention and greater resources than they currently receive. The goal is to provide something to legislators that removes as much abstraction as possible from the economic argument—that demonstrates clearly that the costs of AIS are real and affect real people.

TEMPLATE (Outline) for each case study:

Cover Page: Dialogue from interview to be converted to print style story; within dialogue the following will be addressed:

- Types of impacts resulting for AIS and problematic species
- Changes of operation and associated cost
- Impacts to industry, customers, and/or society
- Need for products and actions (e.g. information, policy, research needs)

Page 2/3: Overview

- Description of AIS that are greatest concern within the sector
 - Invasion history and range
 - Pathways of introduction and spread
 - Impacts that result from introduction
- Overview of impacts to economic sector
 - General information (e.g., services provided, estimated number of facilities, number of workers employed; revenue generated)

- Range of operation and maintenance costs related to AIS control
 - Trends overtime of AIS control costs spent (graphics)
- Testimony or quotes from interviews inserted as side box (text box) to emphasize / personalize impact

Page 3: Conclusion

- **Summarize impact** to industry and impact this may have on workers, customers, or society
- **Lessons learned** from study (e.g., Prevention is less costly than control. Control costs escalate rapidly once invasive species are present)
- **Considerations going forward** (e.g., long-term approach to prevention and targeted control that includes monitoring and habitat restoration is essential to ensure success.)

Recommendation and request for input from the Aquatic Nuisance Species Task Force Economic Study Subcommittee

Following discussion and review of past economic studies regarding invasive species, the Economic Study Subcommittee of the Aquatic Nuisance Species Task Force proposes a new approach that would focus on anecdotal information and data cited from industry and other sector studies and reports. The completed product would include quotes and testimonials from industry leaders based on their respective sector studies. These testimonials would focus on incurred costs associated with mitigation or lost services, including costs passed on to consumers and taxpayers. Sector organizations might include

- boating,
- municipalities,
- infrastructure managers/engineers,
- regional watershed associations,
- chambers of commerce, and
- tourist associations.

These industry leaders, who typically do not address the impacts of invasive species, would be a powerful, collective voice when speaking with Congress, state legislatures, and other decision makers.

The finished product would include stories from industry leads and government associations as well as additional information from the media, peer-review literature, and other publications that focus on invasive species impacts and their costs to sectors. This approach avoids the complications of collecting extensive data or performing a comprehensive economic analysis. The objective of this approach is to produce a product that focuses on localized impacts, e.g., a particular habitat or industry. Over time, a collection of these stories can be developed that show the widespread, diverse manner in which invasive species impact the environment, economy, and human health.

A comprehensive account of the costs of invasive species, e.g. the Pimental et al analysis, necessarily relies on diverse data sources and models; all of varying quality. The uncertainty associated with the final estimate inevitably invites criticism or dismissal. By focusing on more defensible accounts of direct and specific costs at smaller scales, the proposed approach aims to provide an overall picture of economic impacts that, while impressionistic, could be more defensible and compelling. The Economics Subcommittee members believe that this product could reach key audiences by highlighting personal voices. The finished product could be packaged to provide information to users who scan as well as those who read in depth. The report could include a list of supporting or related studies or other publications.

Possible steps for the project

- Develop a list of relevant sectors and their trade organizations or associations
- Identify funding and in-kind support for the project
- Conduct literature search of organization and association publications and identify objective data and anecdotal information
- Draft list of possible interview or survey questions for sector leads
- Identify industry leads within the sectors that will be contacted for survey or interviews

Questions for the Aquatic Nuisance Species Task Force

1. What sectors should be included in the process?
2. What suggestions do the Task Force members have for industry and government associations that would be contacted for this project?
3. What studies or industry publications should be included in the initial literature search and serve as the basis for personal contact to schedule interviews?

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