



American Fisheries Society

Organized 1870 to Promote the Conservation, Development and Wise Utilization of the Fisheries

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The Honorable Barbara Boxer
112 Senate Hart Building
Washington, DC 20510

July 24, 2007

Dear Senator Boxer:

The American Fisheries Society (AFS) the oldest and largest organization of fisheries scientists and managers, with 9,000 members worldwide, suggests that comprehensive legislation, such as the National Aquatic Invasive Species Act (NAISA), is needed to prevent the introduction and spread of exotic species in our aquatic ecosystems. We recommend legislative initiatives to

- (1) prevent ship-vectored introductions in the Great Lakes and other ports,
- (2) prevent ill-considered import of new species, and, where possible, to
- (3) contain or reduce any negative impacts from introduced species.

To prevent ship-vectored and ill-considered introductions, and to contain and reduce their harm, we advocate science, cooperation, and accountability. For example, in implementing legislative initiatives, government agencies should

- work with concerned countries and states;
- report publicly on targets, issues, actions, and timelines;
- report annually on progress in the water as well as in programs;
- establish science-based task forces to identify issues and needed actions, to report on effectiveness of past actions, and to identify program and information needs; and
- partner with public and private sectors to meet program and information needs.

(1) Prevent ship-vectored introductions in the Great Lakes and other ports

Although individual citizens are widely prohibited from introducing exotic organisms into U.S. waters without authorization, ships arriving at coastal and Great Lakes ports have routinely discharged large quantities of ballast water, thereby releasing thousands of species of exotic marine and freshwater organisms. As a result, exotic species have become established in North American waters, displacing native species, populations, and biomass in ports such as San Francisco, Coos Bay, Chesapeake Bay, and in the Great Lakes. Once established in North America, marine invaders expand their ranges along coastlines. Likewise, freshwater invaders such as the zebra mussel are now found a thousand miles from their original point of invasion in the Great Lakes.

Ballast water management was first required in the Great Lakes in 1993 by the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, and nationally in 1999 under the National Invasive Species Act (1996). However, ship-vectored introductions continue, evidence that either oceangoing vessels are not complying with required ballast water management measures, or, that such measures alone—or as implemented—are not sufficiently effective.

We recommend the adoption of ballast water standards that produce zero introductions, i.e., zero discharge of viable organisms. In addition to effective ballast water standards, we recommend deadlines that move us as quickly as humanly possible (e.g., within five years) toward 100% effective

- ballast exchange and treatment for incoming ships,
- technology to address potentially problematic releases by the coastal trade and by ships declaring no ballast on board (NOBOB), and
- designs that will prevent introductions by ships not yet built.

Until a fully effective program is in place, the probability of introductions should be held to a minimum. Therefore we recommend initiatives—such as sampling and inspection of all incoming ships—to detect and prevent any discharge of untreated/unexchanged ballast water. The collective harm from ship-vectored introductions—over time, beyond the initial site of introduction, for various users, and to our children's heritage—are such that a program of comprehensive inspection and sampling is cost-effective and warranted.

In the interim, special attention should also be given to ballast water from particularly risky sources, as well as to vulnerable receiving waters here in the U.S. For example, many new introductions to the Great Lakes originate in the Black, Caspian, Baltic, and North Seas—and thus ships originating in these waters and bound for the Great Lakes should be intensively sampled and managed. Likewise, particularly vulnerable receiving waters—such as bays, estuaries, and connecting waters, which provide a variety of habitats in a restricted area that may receive multiple discharges—should be studied and managed with the objective of protecting particularly vulnerable waters from invasion.

(2) Prevent ill-considered import of new aquatic species

We also recommend a system for screening proposed imports of new species: prohibiting import of potentially injurious species (such as Largemouth Silver Carp) is more likely to be effective than reacting to species already in our waterways. All import proposals should be systematically scrutinized for risk, and decision-makers should seek the consent of potentially exposed jurisdictions before authorizing imports, transfers, or other activities that might result in an introduction.

Fishery managers are increasingly wary of importing or permitting culture of new species. However, there will be instances in which a case can be made to proceed: to repair aquatic communities, to protect human health, for health of the fishery, and for use in private culture. Our hope is that all such proposals will be thoroughly scrutinized for unintended impacts, prior to approval.

Authority exists in both state and federal governments to vet proposed imports, transfers, or other activities which might result in an introduction, e.g., APHIS's action to contain the virus that causes the fish disease Viral Hemorrhagic Septicemia (VHS) and the USFWS's listing of zebra mussels under the Lacey Act. We look for the new legislation to leverage and support existing authorities with science and with a framework for consultation across borders and disciplines.

The AFS policy regarding introduction of aquatic species is to:

- a) Encourage fish importers, farmers, dealers, hobbyists, (and ship owners) to prevent the accidental or purposeful introduction of aquatic species into local ecosystems.
- b) Urge that no city, county, state, province, or federal agency introduce, or allow to be introduced, any species into any waters within its jurisdiction which might contaminate any waters outside its jurisdiction without official sanction of the exposed jurisdiction.
- c) Urge that only ornamental aquarium fish dealers be permitted to import such fishes for sale or distribution to hobbyists. The "dealer" would be defined as a firm or person whose income derives from live ornamental aquarium fishes. Aquarium hobbyists should be encouraged to purchase rare ornamental fishes through such importers.
- d) Urge that importation of fishes for purposes of research not involving introduction into a natural ecosystem, or for display in public aquaria by individuals or organizations, be made under agreement with responsible government agencies. Such importers should be subject to investigatory procedures currently existing or to be developed, and species so imported shall be kept under conditions preventing escape or accidental introduction. No fishes should be released into any natural ecosystem upon termination of research or display.
- e) Urge that all species considered for release be prohibited and considered undesirable for any purposes of introduction into any ecosystem unless that species has been evaluated upon the following bases and found to be desirable:
 - Rationale. Reasons for seeking an import should be clearly stated and demonstrated. It should be clearly noted what qualities are sought that would make the import more desirable than native forms.
 - Search. Within the qualifications set forth under Rationale, a search of possible contenders should be made, with a list prepared of those that appear most likely to succeed, and the favorable and unfavorable aspects of each species noted.
 - Preliminary Assessment of the Impact. A preliminary assessment should go beyond the area of Rationale to consider impact on target aquatic ecosystems, on game and food fishes or waterfowl, on aquatic plants, and on public health. The published information on the species should be reviewed and the species should be studied in preliminary fashion in its biotype.
 - Publicity and Review. The subject should be entirely open and expert advice should be sought. It is at this point that thoroughness is in order. No importation is so urgent that it should not be subject to careful evaluation.
 - Experimental Research. If a prospective import passes the first four steps, a research program should be initiated by an appropriate agency or organization to test the import in confined waters (experimental ponds, etc.).

- Evaluation or Recommendation. Complete reports should be circulated among interested scientists and presented for publication.
- Introduction. With favorable evaluation, the releases should be effected and monitored, and the results should be published or circulated.

f) Urge that international, national, and regional natural resource agencies endorse and follow the above stated AFS policies.

g) Encourage international harmonization of guidelines, protocols, codes of practice, etc., as they apply to introduction of aquatic species.

h) Urge fisheries professionals and other aquatic specialists to become more aware of issues relating to introduced species.

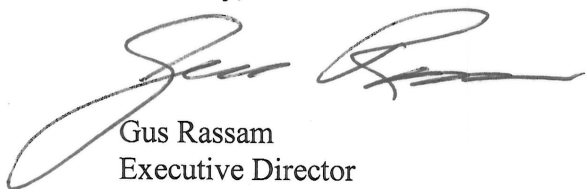
(3) *Contain or reduce the impact of introduced species*

We believe that avoiding import or transfer of potentially injurious exotic species (or activities likely to effect import or transfer) is more cost-effective than reacting to species already in our waterways. However, some efforts to contain or to minimize damage are warranted. These are more likely to be successful if accompanied by resources committed to research, to monitoring and detection, and to a national program in cooperation with the states for rapid response and eradication of incipient populations, wherever possible.

Closing the artificial connection between the Great Lakes and the Mississippi River (at Chicago) would help to contain and minimize the damage caused by exotic species already in North America. Great Lakes invaders such as zebra mussels and round goby have already accessed America's heartland via the Chicago Canal, and exotic species such as the Viral Hemorrhagic Septicemia virus, ruffe, and the bloody red shrimp are poised to follow. Unless the artificial connection is closed, three species of Asian carp will, sooner or later, invade the Great Lakes from their current range in the Mississippi River.

In conclusion, we are grateful to Congress for leadership in introducing and sponsoring comprehensive legislation, such as NAISA, to prevent ship-vectored introductions in the Great Lakes and coastal ports, to prevent ill-considered import of new species, and, where possible, to contain or reduce any negative impact from introduced species. We ask that this Congress act to protect the biological integrity of our natural resources and the interests of all those who enjoy and benefit from their riches.

Sincerely,



Gus Rassam
Executive Director

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