Summary

AFS Policy Statement #2:
AFS Overview Policy on Man-Induced Ecological Problems
(Abbreviated)

Advances in technology have increased human survival and life span, and worldwide human population growth has been exponential. Along with this increase has been a growing demand for food, minerals, and living space. This growth has been at the expense of aquatic and other natural resources with the end result being that natural systems have been replaced by human dominated or human-influenced systems. Limitation to human population growth and increases in technology are considered necessary and desirable.

The AFS policy regarding human population growth and technology is to:

1. Encourage development and implementation of methods to control human population growth.

2. Discourage human dependence on technological modification of the environment.

3. Encourage maintenance of unmodified habitat conditions.

4. Insist on impact evaluations for ecological problems related to any proposal or threat that would modify the environment.

5. Encourage environmental tests on a local or watershed basis to determine if:

• the subject action will act to increase population density, intensify energy use and technological dependence, or generate further modification to affected ecosystems;

• the subject action will contribute to the above phenomena, and then how much such modification is desirable or tolerable, and if cumulative impacts are being assessed;

• a watershed, or part of one, is being given over to some short-run beneficial use. If so, if there has been a margin for error set aside among a jurisdiction's watersheds (i.e., has there been an adequate buffer reserved so that the larger ecosystem's integrity is assured);

• after the short-run beneficial use has served its purpose, if it is practicable or possible to restore the area to its original uses and functions.

The Society also seeks to assist government agencies in fulfilling international treaty obligations of the United States, Canada, and Mexico with respect to aquatic species and their habitats and threatened and endangered aquatic species; to the extent consistent with the forgoing purposes, the Society seeks to promote the public's appreciation and understanding of the aquatic world, its biological diversity, its fishery communities, and its ecological processes.

Article I. Jurisdiction of Fisheries

Living aquatic resources belong to the public, and any government grant to private enterprise should have minimal and temporary impact on public trust rights and access to common property and resources. Each nation has jurisdiction over the living aquatic resources and fisheries in its internal waters, its territorial sea, and any internationally recognized fishing zones contiguous to its territorial sea; but jurisdiction may remain with internal government units or be delegated to international agencies or private interests as appropriate.

Summary

Any aquatic resource exploited for recreational or commercial harvest and managed by two or more jurisdictions (i.e., federal, state, provincial, or tribal) or nations should be studied and managed as common units. Any transboundary aquatic resource not now subject to study and management should be brought under agreement as soon as possible.

Article II. Administration

Fishery administrators need complete and accurate information on the status of aquatic resources to:

• Balance aquatic resource and human needs;

• Administer commercial fisheries to ensure long-term sustainability of target, nontarget, and bycatch populations of aquatic resources and their habitats; and

• Administer sport fisheries to ensure the long-term sustainability of aquatic populations and habitats, and the diversity of recreational opportunities for a wide range of public interests and uses (consumptive, nonconsumptive, religious, and subsistence).

Sustainability of aquatic resources should be considered foremost. When sustainability is met, allocation should be considered to meet diverse public demands. Management's goal should be to avoid the need for protection under special legislation such as the Endangered Species Act. Management or regulations should be based on informed scientific judgement. Where informationis incomplete, the best available information should be used so as to not delay needed management. Fishery administrators should be selected for their technical experience, administrative backgrounds, and demonstrable competence in working effectively with people.

Article III. Research

Effective management requires continuous updating of scientific information on fish population status and habitat conditions. This includes monitoring of all utilized populations. Data should be generated by a variety of disciplines and research interests, and validated by peer review and scientific replication. Administrators and researchers should communicate and work together to ensure that research needs are understood and supported. The multidimensional and interconnected nature of aquatic resource communities and habitats needs to be understood to support ecosystem based management. Good laboratory practices should be used and should consider humane treatment of study animals, as embodied in all relevant legislation at federal, state, provincial, and tribal levels.

Article IV. Management of Fisheries

Agencies are responsible for preserving biodiversity, concomitant with maintaining long-term sustainability of utilized resources, and should coordinate their activities through an ecological approach including habitat and watershed perspectives, community interactions, and genetic and ecological processes. Managers should communicate their needs, coordinate their activities, and share natural resource data. They should also review alternative plans, assess the risks and environmental impacts of these plans on aquatic ecosystems, and provide mitigative measures as needed. Decisions need to made not only to conserve but, where possible, to restore or improve aquatic resources and aquatic habitats.

Management of food fisheries must be in the best interest of the fisheries and future generations of users, and require conservation of resources to promote the economic welfare of the fishing industry and the well-being of the consumer. Commercial fisheries should be conducted to the greatest extent possible with

minimal bycatch, and fishing gear should not damage the environment.

Habitat management should integrate biotic, chemical, and physical processes while considering the needs of all ecosystem components, including all life stages of involved species, during the planning, implementation, and monitoring of projects. Habitat management may involve active manipulation, or it may be left to the influence of natural processes. In either case, it may require preservation with no human use to ensure maintenance of biodiversity.

Fishery managers need to understand the effects of pollution on aquatic resources, including the potential effects of toxic substances that can bioaccumulate and be passed on to the consumer. They must also work together to conserve fish habitat, curtail pollution, and manage increasing, often conflicting, demands on diminishing resources.

Representative natural areas must be preserved for scientific, educational, subsistence, religious, and cultural values. The needs of consumers and fishers must be weighed against long-term sustainability of the fishery populations. As an alternative to harvest, the promotion of uses such as photography, viewing, and catch-and-release may be necessary to ensure long-term sustainability.

Access for public fishing opportunities should be acquired and developed for all interested publics. Equally important is the need to preserve some areas in their wilderness form, which will make access difficult or almost impossible. Fishing regulations should be simple, easily interpreted, and consistent with fishery management goals.

Article V. Aquaculture

Aquaculture facilities and practices should have minimal impact on natural aquatic environments and populations. Aquaculture must work closely with federal, state, and provincial regulators to control epizootic disease outbreaks, to prevent the release of exotic species into the wild, and to ensure that effluents from facilities are better than required by water quality regulations. State, provincial, tribal, and federal managers need to provide consistent regulations that will facilitate transport; prevent escape of exotics into the wild, or prohibit placement of aquaculture facilities where they will impact wild populations; and assist with disease diagnosis and treatment. Where possible, federal, state, and provincial managers will encourage the aquaculture industry to use indigenous species in its facilities.

Article VI. Transplantation of Species

All fish stocking should be part of an informed, well-developed management plan. When native species already threatened or endangered would potentially be affected, the use of cultured fishes should be carefully regulated and the ecological risks minimized. Before any stocking program is initiated, stocking entities should evaluate their stocking proposals using the AFS protocol concerning the introduction of species. All federal, state, provincial, and tribal regulations should be adhered to prior to initiating any stocking program. Potential effects on the immediate fishery as well as throughout the entire watershed, including the downstream areas, must be evaluated. In areas that will not maintain self-reproducing or self-sustaining populations, put-and-take stocking programs may be used to sustain the fishery. Such fisheries must be maintained such that they do not affect surrounding native fish populations.

VII. Professional Education and Training

Fishery scientists and managers must be highly trained in the biological sciences,

and be able to work in complex environments involving many issues including personnel management, dispute resolution, contracts management, and political influence. A bachelor's degree is considered a minimal educational requirement, and a master's degree is an increasingly frequent requirement. A doctorate is preferred and sometimes considered mandatory for most federal, state, provincial, and private institutions involved in research. Hiring policies should give priority and salary advantage to holders of advanced professional degrees in the fisheries sciences. Continuous on-the-job training is an important aspect of an agency's responsibility for managing its personnel and keeping them up to date on scientific progress. Employers who move biologists and scientists into administrative positions should provide additional training.

Article VIII. Public Information and Education

Information about fisheries, such as reasons for regulations and basic biology and ecology of the animals, must be available to the public in understandable, acceptable forms. Knowledge and understanding of ecosystem health is of fundamental importance to human health and well being, and therefore must be incorporated into school education programs. Fisheries professionals must play a key role in providing this kind of information, knowledge, and educational materials to schools and other educational programs.