

October 31, 2002

Colin Nash
NMFS/WASC
P.O. Box 130
Manchester, WA 98353

VIA FACSIMILE: 206.842.8364

RE: Comments on the National Marine Fisheries Service Draft Code of Conduct for Responsible Aquaculture in the U.S. Exclusive Economic Zone

Dear Dr. Nash:

SeaWeb would like to submit the following comments in response to the National Marine Fisheries Service (NMFS) publication of the Draft Code of Conduct for Responsible Aquaculture in the U.S. Exclusive Economic Zone (EEZ). SeaWeb encourages NMFS to refer to specific problems that offshore aquaculture can cause and the potential for properly directed aquaculture development to be an environmental asset. The Code should set the scene to promote only aquaculture that has neutral or positive environmental impacts. To accomplish that goal, the government will ultimately have to enact and enforce strict regulations and extensive monitoring programs. The Code, however, can inspire innovations for ecologically sound designs and provide incentives for facilities that help sustain ecosystem integrity.

General Principles

- The principles for the development of responsible aquaculture that are set down in the FAO Code of Conduct for Responsible Fisheries, Article 9 Sections 1 and 2 (9.1 and 9.2), should be adopted in the US Code of Conduct. As stated in section 6.5 of the Draft Code, the precautionary approach should be adopted as the guiding principle for development of aquaculture in the EEZ. According to the FAO Code of Conduct for Responsible Fisheries, Article 7.5.1, nations should apply the precautionary approach widely to conservation, management and utilization of living resources in order to protect them and conserve the aquatic environment. The absence of adequate scientific information should not be used as a reason for postponing or failing to take conservation and management measures.
- As general principle, the US Code of Conduct should promote only aquaculture development which incorporates a diversity of native species, grows low trophic-level species, integrates well into natural ecosystems, uses ambient food supply rather than feed produced from wild-catch, does not harm wild fisheries, enhances natural ecosystems that support wild fisheries, and provides food for local communities and for hungry people (not just lucrative export markets).

- The US Code of Conduct should provide for public participation in all phases of government planning for aquaculture in the EEZ, including permitting decisions, and in the review of monitoring information and decisions to revoke or extend permits.

The Legal Framework

- All aquaculture development in the US EEZ must be in accordance with current national and international laws regarding activities in the EEZ. Aquaculture development must not supersede any existing laws or regulations and aquaculture activities should not be exempt from any relevant legal provisions. Individual states must be consulted regarding proposed offshore aquaculture operations (even in areas outside state jurisdiction) under the Coastal Zone Management Act (CZMA). The CZMA not only requires consultation, but also a finding that the proposed activity will be consistent with state coastal environmental and economic policies.

The Administrative Framework

- The US Code of Conduct should ensure that the responsibilities for regulating and promoting the new industry should not be designated to the same authority, and possibly even different departments.

The Policy Environment

- If public waters are leased to the private aquaculture industry, it is essential that the public maintain ownership and the right to evict. Furthermore, lease fees should reflect the value of the resource being used and any public costs incurred for monitoring and maintaining the environment.
- If damage to the ecosystem, endangered or threatened species, fisheries or other resources, protected areas, or human health should occur as a direct result of a private aquaculture system, the company should be held responsible for the cost of restoration.
- Public review must be an integral part of the permitting process from inception to closure of the facility. Because these are public waters, all documents, including financial, that relate to the business should be public record.
- Private ownership of waters and sea bottoms where facilities are placed should be prohibited, although the physical structure and the aquaculture organisms may be privately owned. There should be a mechanism for resolving disputes with other users of public waters occupied and affected by the aquaculture.
- Permits should be good for an economically and environmentally reasonable initial period (e.g. 5-10 years). Once that period of initial development has elapsed, review and renewal of the permit should be done at relatively short intervals (3-4 years). There should be regular environmental and stock health monitoring from the onset

and formal assessments made annually. All permits should be revocable or suspendable immediately if significant negative impacts are discovered. Suitable compensation for closure or time allowance to install corrective measures could be provided.

- There should be substantial fines imposed for the violation of permit provisions.
- Appropriate locations for aquaculture should be determined on the basis of physical suitability for facility construction and maintenance, sensitivity of the ecosystem, potential for integration into the ecosystem, other uses of the area that might conflict with aquaculture, potential for restoration of a damaged ecosystem, potential for promoting recovery of wild fisheries species, and economic suitability. The best available scientific and sociological information should be used in the process.
- Aquaculture development should be permitted only in designated areas and there should be limits on the intensity of development. Size, number and proximity of facilities and density of organisms within the facilities should be consistent with conservative models of carrying capacity and ecosystem integrity.
- The EEZ should be zoned for appropriate aquaculture locations; zoning should incorporate stipulations regarding the character of aquaculture that can be tolerated in each particular zone. Designation of such areas should be done on a progressive timetable -- i.e. only a few areas would be designated initially and more added only after the impacts of initial development have been assessed, and only if and where they are consistent with these assessments. (Perhaps 1-2 locations per regional fishery management council region would be an appropriate starting point.)
- Zoning should be part of the development of "master plans" for coastal waters and should involve all stakeholders and be subject to periodic public review.
- The FAO Code (9.1.4) directs that the livelihoods of local coastal communities should not be negatively affected. It is important that the US Code include the need for local citizens to be involved in decisions as to whether to permit offshore aquaculture, how their activities in the area will be accommodated, and what, if any, benefits the community should reap. The local communities should be kept fully informed throughout the permitting and operation of offshore aquaculture ventures.
- The FAO Code (9.2.4) calls for establishing mechanisms for sharing information with other countries that could experience transboundary impacts of aquaculture development in the EEZ of the home country (in this case the US). We believe it should also be part of the Code of Conduct that information be shared with the US public. In fact, since these are public waters, it is essential that all government and private industry information concerning the design and operation of the facility, the organisms grown, the results of all monitoring, and the financial accounting for each facility be a matter of public record.

- Potential conflicts with other uses, such as fishing, commercial navigation, boating, and research should be resolved to the satisfaction of all parties and subject to public review.

The Fiscal Environment

- The Code should address the issue of subsidies and other economic incentives. Careful thought has to be given to when incentives are appropriate and when they are not. Subsidies can lead to over-development and to a false sense of the real cost of growing the product. That cost should be reflected in the market so the public and businesses can decide the economic viability of the industry based on real numbers.
- However, it might be appropriate to provide economic incentives for environmentally protective technology or system design because that can represent extra up-front costs that pay off only in the long run.

Managing Risk and Uncertainty

- With respect to genetic resources used for aquaculture, the concerns expressed in the FAO Code (9.3) should be reflected in the US Code, but we believe the provisions in the US Code should be stronger and more specific, as elaborated in the next four points:
 - Only native species should be allowed, and there should be a prohibition on introducing non-native genetic strains unless it can be proven that they pose no threat to the native population. All farmed fish should be marked or tagged to determine the source and accountability for damage when escapes occur.
 - Genetically-engineered organisms should be unconditionally prohibited in open waters. We are concerned that a more lenient approach, which reviews each proposed organism for its likely impact on the ecosystem, would favor allowing such organisms in the absence of strong proof that they would threaten wild populations. Because of the costs of research and development of genetically engineered organisms and the cost of permit applications, there could be undue economic pressure to be lenient in permitting such organisms once they have been developed. Prohibiting introductions into open water facilities would mean that research money would not be wasted and researchers would understand that any genetically engineered organisms they develop would be allowed only in facilities that are totally isolated from the environment, which is often prohibitively expensive.
 - The use of wild brood stock should be strictly regulated so that over-exploitation does not occur. Hatcheries for aquaculture brood stock are often appropriate, but there need to be standards that address concerns related to the potential effects on the genetic pool and, consequently, the potential impact on wild populations by escaped aquaculture organisms.
 - Aquaculture for the purpose of enhancement of wild fisheries populations should be evaluated and stringently regulated with consideration for the potential impact on the genetic pool of wild populations.

- The US Code should recommend stringent standards regarding the prevention and treatment of disease, punishments for the introduction of disease, and methods for minimizing the spread of an introduced disease. The Code should provide for disease-free certification of seed stock; require continuous monitoring for disease; and recommend removal of stock and/or closure of facilities when disease is found.
- The FAO Code (9.1.5) calls for environmental assessment and monitoring to minimize adverse ecological changes and economic and social consequences. The US Code should specify that the environmental monitoring include enough ecological parameters to adequately assess the integrity of the surrounding ecosystem. Economic and social evaluations should emphasize effects (positive and negative) on local economies and the traditional occupations of coastal communities, including fisheries.
- The US Code of Conduct should establish effective procedures for mandatory environmental monitoring, evaluation and enforcement. Voluntary compliance and self-regulation by the industry are not sufficient means of safeguarding the environment and human health.

Responsible Aquaculture at the Production Level

- The US Code of Conduct should direct the appropriate federal authority to develop best management practices (BMPs) in cooperation with states, industry, non-governmental organizations, and the public to ensure sustainable development. In the case of net pen or cage aquaculture of finfish, BMPs have been developed by the U.S. Environmental Protection Agency [see EPA Permit Number ME0036234, Acadia Aquaculture Inc., Blue Hill, Maine]. While these BMPs were developed for salmon producers in Maine, they can and should be adapted for use by all finfish producers in marine waters.
- The FAO Code (9.4.2) suggests that fish farmers and their communities should participate in the development of responsible aquaculture management practices. The US Code should provide for public review of these practices.
- The US Code should promote a diversity of species within and among aquaculture facilities. It should encourage system designs in which the primary culture species (i.e. the higher profit species) are accompanied by secondary species that feed the primary species, cleanse the waters, contribute to ecosystem maintenance and/or restore endangered species in an ecologically sound way. The permitting process should favor systems that incorporate a variety of species that interact positively with each other and the habitat (integrated aquaculture). Economic incentives may also be appropriate.
- The US Code should emphasize the importance of selecting aquaculture species for their advantages in farm systems (e.g. low trophic levels), not for their price in the

market. The Code could also establish a policy of government assistance for market development for new aquaculture-appropriate species.

- Predator control should be based on exclusion and/or avoidance of interactions. Harassment of predators, such as through the use of acoustic devices is likely to harm the predators and “bystander” animals (such as endangered species of whales). Lethal methods of predator control are unacceptable.
- Antibiotic treatment should be discouraged or prohibited unless absolutely essential and for as short a time as possible. Vaccines are preferable to antibiotics.
- Pesticide use should be prohibited except for short-term emergency treatment. Toxic anti-fouling chemicals should be prohibited, since these chemicals threaten the quality of the aquaculture product as well as the environment. Materials used in facility construction should be assessed for chemicals that could leach into the water.
- Wastes from the aquaculture facility, other than those wastes excreted by the animals themselves, should be collected and appropriately handled on land.

Research and Development

- It is reasonable for some of the research on less profitable but more ecologically sound species, to be born by the government and therefore the public. It may also be appropriate for the government to pay for the initial marketing of new aquaculture-appropriate species until the public has accepted them.

Public Outreach, Education, and Information Dissemination

- Public outreach and information dissemination will be vital to the development of aquaculture in the EEZ. Information addressing issues of concern to the public should be provided on a timely basis and by means that are likely to reach all interested stakeholders.

Thank you for this opportunity to comment and we look forward to working with you and others to ensure that our country develops the strongest Code of Conduct possible for the ecological health of the oceans. We will be sending a hard copy of these faxed comments in the mail.

Sincerely,

Bill Mott
Director, SeaWeb Aquaculture Clearinghouse