



## **Alaska Trollers Association**

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Dr. Michael Rubino, Manager  
NOAA Aquaculture Program

Dr. Jeffrey Silverstein, National Program Leader for Aquaculture  
USDA Agricultural Research Service

Dr. Gary Jensen, National Program Leader for Aquaculture  
USDA National Institute of Food and Agriculture

C/o National Oceanic and Atmospheric Administration  
Aquaculture Program  
Alternative Feeds Initiative  
1315 East-West Highway, Room 13117  
Silver Spring, MD 20910

Comments submitted at: [www.aquaculture.noaa.gov](http://www.aquaculture.noaa.gov)

Dear Drs. Rubino, Silverstein, and Jensen:

The Alaska Trollers Association (ATA) appreciates the opportunity to provide comments on *The Future of Aquafeeds* (Report).

Though the Report identified a number of key issues of concern, it was lacking in detail, particularly when it comes to any downsides of the alternatives. Hopefully this means that the agencies were seeking early advice regarding the public's concerns and intends to continue its research and evaluation process. That is our recommendation, and we hope to see a more insightful document in the future, that better lays out past, ongoing, and future studies and the pros and cons of the various feed replacement options.

While ATA supports efforts by the agencies and aquaculture industry to reduce reliance on wild fisheries resources for aquaculture feeds, the prospect of various alternatives brings a new set of issues and questions; many of which are touched upon in the Report. It is our hope that your agencies, and in particular NOAA Fisheries, do not rush the timeline on this important topic simply to meet the deliverable.

ATA's concerns about aquaculture feeds are consistent with our past positions on aquaculture. Our members seek to maintain healthy marine fisheries resources and dynamic ecosystems; safeguard human and animal health; and sustain jobs in coastal fishing communities.

The success of our industry is built on a foundation of sustainable resources. The growth of the aquaculture industry could easily impact our fisheries in a variety of ways, particularly given the current system that favors open net pens; the lack of policy, regulation, monitoring, and enforcement; and variable husbandry practices between farms. The food fed to these fish, and the condition of farmed fish in the pens or of those that may escape into the wild, could pose unique risks to wild stocks. Any negative implications for human health would be cause for great alarm and could reverberate across the entire seafood industry.

### **Forage Fish and Bycatch**

ATA supports full utilization of bycatch where practicable, but encourages NOAA to deny any initiative that would provide incentive to unsustainably increase a directed fishery or encourage additional bycatch to meet the demand for aquaculture feeds.

### **Krill**

*Krill are the foundation for a healthy marine ecosystem. Protecting this vital food resource will help protect and maintain marine resources and put federal regulations in line with West-Coast states.*  
(Mark Helvey, NOAA, Science Daily, July 30, 2009)

ATA requests that NOAA consider banning the use of krill in aquaculture feeds. In 2009, at the request of NOAA, the Pacific Fisheries Management Council banned the harvest of krill off the coasts of CA, OR, and WA through Amendment 12 to the Coastal Pelagic Species Fishery Management Plan. While we can easily see how desirable krill could be as an aquaculture food source, its value to the ecosystem is far too important to turn it into a marketable product.

### **Soy**

While chemically a very promising alternative, the jury appears out on the safety of large amounts of soy in the diet. Phytoestrogens and other chemical components of soy may, or may not, be a health issue for fish and the humans that eat them, but we encourage the agencies to conduct more specific studies before reaching the conclusion that this is a safe bet.

Are there ramifications for the marine environment? Have studies been conducted on the use of soy in the ocean and its impact on marine flora and fauna? For instance, what do you anticipate with respect to eutrophication? Crustaceans are often drawn to ocean netpens and eat the remains of leftover food and feces - how do soy and other unutilized chemicals and foodstuffs affect them?

Husbandry questions regarding soy and different fish species will no doubt be examined by the industry itself, but it goes without saying that you would want healthy fish in the net pens. Those that aren't will be subject to disease and put wild stocks at risk.

The type of soy delivery appears to be important. Atlantic salmon have been found to be more susceptible to furunculosis when fed soymeal (Krogdahl, et al, 2000). Wild stocks passing by may eat food drifting in the water, in addition to being exposed to caged fish. Again, any health issues that increase risk to wild stocks is considered unacceptable to ATA.

And while the Report, in some cases, downplays the need for substantial increases in soy crop production, this will obviously be driven by demand. The vision of many aquaculturists and agency divisions seems quite grand. Questions should be raised regarding the cumulative impact of increased soy (and other grain) production, both with traditional and GMO crops.

## **Algae**

Algal feeds is an interesting concept, particularly given other timely areas of research, but what are the sourcing options and what is the impact of removing algae in large quantities from the wild? If farmed, where is the bulk of the production likely to be raised? Great care would have to be taken to avoid toxic algae and not feed it to fish or release it in nearshore environments. Toxic algal blooms have been a source of consternation in many marine areas. Are algal blooms well enough understood to control any potential impacts from growing and using this product in a food mixture fed in nearshore areas?

## **Toxins**

How will NOAA address the issue of toxins in feeds, either naturally occurring, or due to the processing of aquaculture feeds? Will there be increased monitoring and certification programs?

## **Genetically Modified Organisms**

Given what some believe is a potential for genetically modified organisms (GMO) to resolve problems that may exist with some feeds options, it is not surprising that the Report identifies them as a possible solution. However, it is unfortunate that the agencies appear to advocate GMO use, particularly altered fish, when the Food and Drug Administration (FDA) has not yet even ruled on GMO salmon. As identified by FDA's own advisory committees, and some within the agency itself, there are significant questions regarding human and animal health that surround GMO products, which must be resolved before this discussion advances.

In sum, we recognize that the impacts of various aquaculture feeds is could be different depending on species of fish raised, the container it's cultured in, the location of the farm, and whether it's in salt or fresh water. ATA thinks that no matter what the circumstances, NOAA and the agencies should rigorously test and analyze alternative aquaculture feeds for any negative effects and cumulative impacts, in order to avoid long term consequences to human health and the nation's marine and freshwater resources.

We look forward to reviewing additional findings and reports as NOAA and the agencies continue to search out alternative protein and other nutritional sources for aquaculture feeds.

If ATA can be of assistance on this or other issues of concern to our industry, please don't hesitate to contact me.

Best regards,

Dale Kelley  
Executive Director