

NATIONAL
Aquaculture
ASSOCIATION

May 3, 2019

Margaret Spring
Vice President of Conservation and Science and Chief Conservation Officer
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RE: Comments Seafood Watch Standard for Aquaculture

Dear Ms. Spring:

Please accept the following comments from the National Aquaculture Association regarding the Seafood Watch Standard for Aquaculture. The National Aquaculture Association (NAA) is a U.S. producer-based non-profit association founded in 1991 that supports the establishment of governmental programs that further the common interest of our membership, both as individual producers and as members of the aquaculture community. For over 27 years NAA has been the united voice of the domestic aquaculture sector committed to the continued growth of our industry, working with state and federal governments to create a business climate conducive to our success, and fostering cost-effective environmental stewardship and sustainability.

Our comments are provided from the perspective of the US aquaculture farming community. We request that U.S. farms producing aquatic animals (fish or shellfish) that are included in the Seafood Watch program be recognized for their environmental stewardship practices created and supported by public and farming community investment in education, extension, research and regulation.

The NAA has been supporting current research to document the impact of state and federal regulations upon US farming of fish and shellfish. Published papers for baitfish, gamefish and salmonid farms have documented that current regulatory costs prevent small farms from starting and add a considerable financial burden to existing farms (van Senten and Engle 2017; Engle, van Senten and Fornshell 2019). Relative to the salmonid farm analysis, the authors reported (internal citations omitted):

These study results are important to U.S. aquaculture and to those who design regulatory implementation programs because they suggest that the overall set of regulatory requirements may have had the unintended result of forcing U.S. salmonid farms out of business in spite of the strong domestic demand reported by many respondents (including many small-scale producers). The Census of Aquaculture data show a 5% decrease in the volume of food-sized trout produced, a 41% decrease in the volume of stocker trout produced, and a 13% decrease in the number of salmonid farms from 2005 to 2014. Increased regulatory costs on farms and operating at reduced

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production levels further would be expected to reduce the competitiveness of U.S. salmonid products compared to imported products. [National import data] show that the average volume of trout imports has more than doubled from 2012 to 2016 (the years for which the most recent import data are available) in spite of increasing evidence that U.S. consumer preferences are trending toward more locally produced food. Thus, it appears that the negative economic effects of the regulatory monitoring and compliance system are contributing to the decline in the numbers of U.S. salmonid farms, supporting similar findings for the U.S. baitfish/sportfish sector. This is a concern in several states given the importance of aquaculture industries to local rural economies (Engle, van Senten and Fornshell 2019) (page 23).

Ongoing research in 2019 and 2020 will document the regulatory cost burden for shellfish, catfish, tilapia, hybrid striped bass, and ornamental fish farming.

Rust et al. (2014) concluded for U.S. inshore marine sea cages that:

Advances in technology and regulation over the last few decades now allow net-pen marine fish farms to produce significant amounts of seafood sustainably. Fish are very efficient converters of feed into human food, but as with other animal farming, care must be exercised to avoid harming the environment. In the United States, the Salmon farming industry and the government agencies that regulate aquaculture have had decades to develop the science, technology, management options, and regulations to successfully address key environmental concerns.

Progress over the last four decades has been significant. Research has produced feeds that contain reduced amounts of fish meal and fish oil, opening the door for carnivorous fish farming systems to become net producers of fish oil and fish meal. Vaccines, improved nutrition, and better health management have greatly reduced the need for antibiotics and the risks associated with diseases. Proper siting and feeding have greatly reduced negative impacts of nutrients on ecosystems. Escapement has been reduced by improved net-pen engineering and management, and our understanding of the genetic consequences of escaped fish has advanced to the point where models can be used to identify and manage the risks.

Marine fish farms are required to comply with regulations similar to those of other food producing and marine industries. Existing U.S. regulations address the environmental effects of net-pen aquaculture effectively. Technological progress, better monitoring, and adaptive oversight of the U.S. net-pen aquaculture industry have resulted in sustainable, affordable, and domestically produced seafood (pages 519-520).

Regulatory costs and outcomes are derived from an estimated 1,300 state and federal laws applied to aquaculture in the United States. Laws and regulations primarily focused on: 1) environmental; 2) food safety; 3) legal and labor standards; 4) interstate transport of aquatic products; 5) fish health; 6) culture of commercially harvested species as well as the increased

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record-keeping and compliance burden that are backed up by farm monitoring, inspections and enforcement. There at least 20 major federal statutes that regulate U.S. farms (Engle and Stone 2013).

We describe these regulatory impacts and provide the cited papers to emphasize a needed change to how Seafood Watch ratings are developed and assigned for the United States and similar countries that invest considerable public funds for education and extension programs, environmental protection, legislation and regulations, and enforcement of those environmental standards. There must be recognition in your rankings that U.S. farm siting, construction, operation, habitat conversion, effluent treatment, escape prevention, protection of native and at-risk native species, and sourcing of wild stock are regulated by state and federal agencies. Within the United States no commercial production occurs in freshwater waterbodies that are publicly owned and in marine waters 21 of 22 coastal states lease submerged lands or water column for shellfish production (mussels, clams, oysters, scallops) under strict regulatory regimes. The state not granting a lease utilizes a permit.

Only a handful of antibiotics and other compounds are approved by use by the Food and Drug Administration (FDA) and antibiotics may only be prescribed through a Veterinary Feed Directive or prescription (<https://www.fws.gov/fisheries/aadap/aquaculture.html>). Alternatively, a criteria that focused on a reduction in the use of FDA approved antibiotics (medicines whose effectiveness and environmental safety is assessed to a standard of diligence that is the same for human use) increases the likelihood of sick fish entering the human food marketplace, reduces the tools needed to improve aquatic animal welfare, and encourages the illegal, unreported use therapeutants and chemicals that may have greater adverse environmental impacts. We recommend eliminating quantitative reduction requirements and, instead, focusing on the judicious use of antibiotics reviewed and approved by a governmental agency. As an example, use of antibiotics in the United States can only occur through a Veterinarian Feed Directive or state licensed veterinarian prescription.

We mention these regulatory topics because in conducting species reviews there are no opportunities to rank concerns as “low” for antibiotic use or escape or certain other production practices, because they are prohibited. Essentially, there is no data for the United States to prove such practices do not occur because they do not occur.

A research team led by The Nature Conservancy and Florida Keys Community College is finishing up a two-year project entitled, *Comparative Analysis of U.S. Aquaculture Management to the FAO Certification Guidelines: An Assessment*. The purpose of this research is to compare the U.S. regulatory framework for aquaculture to international guidelines developed by the United Nations. The intent of this study is to provide an analysis that could be utilized by producers to communicate the level of conformance to international criteria on sustainability. We recommend that you reach out to them to discuss their findings and conclusions. The research is led by:

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The utilization of fish meal and fish oil in farm-raised aquatic animal diets is a key parameter within your ranking system. Within the United States considerable public and private research investment has been made with the goal of reducing the amounts of either ingredient in diets that will yield excellent animal health, growth and final products with desirable human nutritional benefits. The National Oceanic and Atmospheric Administration and U.S. Department of Agriculture support a research initiative to:

“...identify and prioritize research to develop feeds that will allow the aquaculture industry to increase production in a sustainable way that does not put additional pressure on limited wild fisheries, that maintains the human health benefits of seafood, and that minimizes negative environmental effects of the use of alternatives (Rust et al. 2011) (page 1).

An example of the progress made in fish feed through private investment is the recent announcement by the Illinois Soybean Association describing the successful incorporation of a plant-based ingredients in a tuna feed. Please see <https://www.ilsoy.org/article/pioneering-soy-based-tuna-feed>.

Turchini et al. (2019) authored an in-depth review paper examining the progress to replace fish meal and fish oil in compounded feeds, aquatic animal nutrition, feed manufacture, nutrient complementarity and functionality, and related advances in research and application. The authors report:

“...fish nutritionists have endeavored to develop aquaculture feed (aquafeed) formulations that support or enhance growth of cultured fish while controlling costs. Much of this effort has been focused on reducing reliance on limited marine resources. Whereas cultivation of herbivorous and omnivorous species has readily transitioned to feeds containing little to no fish meal (FM) or fish oil (FO), such formulations have been more difficult to implement in the feeding of carnivorous fish and crustaceans. Despite the various challenges, these efforts have been successful in a broad sense. Fish meal and FO inclusion rates have dropped steadily over the past 20 years, and feed prices—while increasing—are not as volatile or as high as they would be if the old formulations were sold today (page 13).”

They also note that:

“...one could argue that this approach [testing alternatives to fish meal and/or fish oil] has reached (or will soon reach) the point of diminishing returns. Most raw materials

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that could feasibly serve as protein or lipid sources in aquafeeds have now been tested in at least one if not more cultured aquatic species. The search for alternatives yielded substantial insight when so many raw materials had yet to be evaluated in aquafeeds. As the number of truly novel resources dwindles, testing of raw materials as direct substitutes for FM/FO is less likely to yield advances beyond marginal, incremental progress (page 16).”

The goal of their paper is to convincingly argue that a change in direction is needed. Feed research should refocus for a “...greater emphasis on nutrients, including those not considered strictly nutritionally essential ... to encourage further evolution of the industry and to efficiently move aquaculture nutrition beyond the incremental advances achieved in recent years (page 33).”

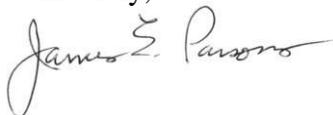
We recommend that the nutrition-centric direction proposed by the authors be adopted in your rankings to recognize the on-farm utilization of feed formulations that strive to achieve appropriate nutrition rather than focusing on fish meal or fish oil as an indicator for sustainability. Farms should be recognized for utilizing compounded feeds appropriate for their aquatic animal and production system.

From our perspective the Seafood Watch ranking process does not recognize and account for societal investment, in this instance U.S. private, state and federal government investment, in research, education, extension and regulation. The ranking is a simple broad-brush approach that fails to recognize that the majority of U.S. aquaculture farmers are experienced professionals having undergraduate or advanced graduate degrees in aquaculture, fisheries, or ecological sciences. U.S. farm designs, animal or plant selection, production systems, site selection, chemical availability and terms of use, escape, and other operational practices have been developed and are constantly being assessed and managed to eliminate or reduce environmental or human health risks.

We request a review of your rankings in terms of whether they are yielding appropriate sustainability measures, informed consumer guidance or supporting these invaluable investments. Assigning rankings without considering these factors discounts public and private investment of money, time and effort and damages U.S. farmer capacity to compete against imported products that may not be similarly supported.

Thank you for the opportunity to comment. If there are questions, comments or interest in receiving copies of the cited references, please do not hesitate to contact us.

Sincerely,

A handwritten signature in cursive script that reads "Jim Parsons".

Jim Parsons
President

References

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