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July 22, 2011 6:11 AM

To: naen@aces.edu

[naen] Follow-up to Time magazine article on Aquaculture

Greetings,

In response to the Times Magazine Story on the Future of Aquaculture "The End of the Line"

<http://www.time.com/time/health/article/0,8599,2081796-1,00.html>

The National Aquaculture Association offered these clarifying comments. They are well worth reading and provide some excellent sources for additional information. It is important to get both sides of any story, especially this one.

Cheers,
David

July 15, 2011

NAA Responds to
Time Magazine Article

In response to the recent Time Magazine article "End of the Line" published July 7, 2011, NAA sent the following letter.

July 15, 2011

Richard Stengel
Managing Editor
Time Magazine
Letters@time.com

In order to provide a more accurate and balanced perspective of American aquaculture, we would like to clarify some of the points raised in Bryan Walsh's recent cover story "The End of the Line." The article reflected the author's personal opinions and, to justify those opinions, some points were not clearly articulated and may have left the reader with misperceptions. In the interest of accuracy, we have provided citations from unbiased sources to support our position.

Efficient and sustainable food production systems are vital to the very survival of the human race. As world population grows at an alarming rate and hunger becomes a more pervasive problem, farming has advanced to meet those challenges. In the United States, rules and regulations have been implemented to help ensure that those farming practices are sustainable and environmentally sound. Most livestock production in the developed world has shifted from the small family farm to larger production systems. This has not been the case for U.S. aquaculture, which remains primarily a network of small family farms. Shifts in production practices have made high quality, nutritious food available to a larger segment of the population at a price that consumers can afford to pay.

Aquaculture product safety and environmental sustainability standards around the world differ country by country. It is a much more complex issue than is presented in this article, especially when we are dealing with a global ocean. In the United States, a vast regulatory network operated by an alphabet soup of federal, state, and local agencies armed with the mission of ensuring the sustainability of both wild harvest fisheries and aquaculture production is in place. The author neglects to mention the existence of these regulatory systems and, instead, uses a nebulous quote from Peter Bridson.

The author goes on to say that "the Monterey Bay Aquarium's Seafood Watch program mostly discourages consumers from choosing farmed fish..." In reality, many of the best seafood choices are farm-raised fish and the list often goes on to specify "U.S. farmed". The Monterey Bay Aquarium Seafood Watch clearly recognizes the steps that are being taken in the United States to help ensure sustainability and maintain environmental integrity. We would urge your readers to visit the Aquarium website themselves. (<http://www.montereybayaquarium.org>).

As to the comparisons between wild and farm-raised salmon, wild salmon can often have a gamier flavor and most Americans prefer the milder Atlantic salmon, which was actually brought back from the brink of extinction by aquaculture. Many people tend to focus on the omega-3 content of fish when the most important nutritional attributes of fish are that they contain high quality protein and are low in saturated fats, calories, and cholesterol. Farmed salmon and wild harvest salmon are virtually identical in their nutritional content.

The pigment used to color farmed salmon is astaxanthin, which is added to the feed. This is the same substance that many health-conscious consumers regularly use as a nutritional supplement because of its antioxidant properties. In the wild, salmon and shrimp absorb astaxanthin from the foods that they eat.

The Washington State Department of Health website has some interesting comments comparing wild and farmed salmon (<http://www.doh.wa.gov/ehp/oehas/fish/farmedsalmon.htm>). The website addresses concerns about escape of farmed salmon. "While some Atlantic salmon have escaped and reproduced, no known sustained runs have been documented despite the fact that the U.S. Bureau of Fisheries attempted to establish Atlantic salmon in the Pacific Northwest for over 50 years until the practice ceased in the 1980s."

In the U.S. and Canada, regulations require that farmed salmon are regularly monitored for the presence of sea lice. If the presence of sea lice reaches

certain limits, government authorities must be notified and action taken. Notification is also required by the World Organisation for Animal Health (OIE). Fish growers in order to preserve their profits must be concerned about the presence of sea lice and their effect on their livestock.

Fish are truly efficient protein producers. Unlike terrestrial animals that often expend large quantities of energy maintaining body temperature and building supportive bone structure, fish can convert more of their feed into muscle. Conservation International estimates that it takes approximately 5 times more feed to produce a pound of beef and 3 times more feed to produce a pound of pork than it does to produce a pound of fish. In 2008, the average U.S. per capita availability of beef was 61.2 pounds, pork was 46 pounds, and fish and shellfish was 16.0 pounds. In the United States, fish consumption figures remain dismally small although government and health organizations routinely recommend increased consumption.

<http://www.ers.usda.gov/Data/FoodConsumption/>

Because fish contain an ideal balance of essential amino acids, many domesticated animals including chickens, swine, fish, dogs, and cats consume fishmeal and fish oil in their feeds. Recognizing the environmental concerns about use of forage fish, U.S. fish growers and scientists have been working to improve feed conversion ratios and feed formulations to limit the amount of fishmeal and fish oil used in aquaculture feeds. In many cases, fishmeal and oil is being replaced by easily renewal plant proteins. According to Naylor in "Feeding aquaculture in an era of finite resources," Proceedings of the National Academy of Sciences (<http://www.pnas.org/content/106/36/15103.abstract>), "the ratio of wild fisheries inputs to farmed fish outputs has fallen to 0.63 for the sector as a whole". Because wild fish have to hunt their prey, expend energy avoiding predators, and utilize energy for reproduction, the fish input ratio for wild fish can be as high as 10 to 1.

Shellfish aquaculture actually provides positive environmental impacts. Because mussels, clams, and oysters are filter feeders, they remove organic matter from the water column. Presence of high levels of organic matter can compromise the oxygen levels in the water and negatively impact other marine organisms. Because of the three dimensional structure of their shells, these shellfish also provide habitats and hiding places for marine organisms. This adds to biodiversity, which is a cornerstone of a healthy ecosystem. In many communities, there are active groups of environmentalists who are working to restore shellfish populations and help improve the health of our coastal waters.

As early as 1973, Jacques Cousteau recognized the importance of aquaculture, when he said, "With earth's burgeoning human populations to feed we must turn to the sea with new understanding and new technology. We must farm it as we farm the land." It is sound advice that we should follow today.

Sincerely,
Mike Freeze
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President
National Aquaculture Association

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