A CONVERSATION WITH:

HAUKE KITE-POWELL

Where Will We Get Our Seafood?

Unlike the rest of the world, the U.S. has not embraced aquaculture

Tom Kleindinst, WHOI

By 2030 or 2040, most seafood bought by Americans will be raised on a farm, not caught by fishermen. Unless policies governing aquaculture in the United States change, the vast majority of seafood eaten by Americans will be farm-raised in another country, possibly one that has less stringent health and environmental regulations than the U.S. does.

With wild fisheries in decline, the world has turned to aquaculture to provide protein to feed Earth's rapidly growing human population. But not the U.S. While aquaculture already produces half the world's seafood, U.S. aquaculture production has been declining since 2003, and today, the U.S. produces only 10 percent of its seafood by aquaculture, said Hauke Kite-Powell, an aquaculture policy specialist at Woods Hole Oceanographic Institution (WHOI). As a consequence, the U.S. imports 80 percent of the seafood it consumes, creating a seafood trade deficit.

The U.S. could provide much of the seafood its population needs via aquaculture, he said, but a host of economic, environmental, health, and policy issues has muddied the waters. The fishing industry has economic concerns about retaining jobs in traditional commercial fishing. While conservationists fight to protect overfished fisheries and endangered species, they also have ecological concerns about fish farms and about antibiotics, chemicals, and feeds used to raise fish.

"For a number of years, bills have been introduced in Congress to set up a streamlined permitting mechanism to facilitate aquaculture in federal waters, but those bills have never gone anywhere, mainly because of opposition from fishing communities and environmental groups," Kite-Powell said. "Seafood consumption is rising more quickly abroad than it is here in the United States. Should we take active steps to prepare for a future when international supplies may not be as readily available as they currently are?"

To explore these issues, Kite-Powell gathered scientists and representatives from the seafood industry, the National Oceanic and Atmospheric Administration, the United Nations, and conservation groups to a colloquium at WHOI in May 2011. It was the seventh Elisabeth and Henry Morss Colloquium—meetings that bring experts to WHOI to exchange and foster ideas on important issues that confront human society today. Kite-Powell elaborated on aquaculture issues in an interview.

What do you hope people glean from the colloquium?

Kite-Powell: The main message is that we can do things to increase seafood production in the U.S. that are ecologically and economically sound, and that the seafood and fishing industries and the environmental community can find common ground on this issue. It's not a black-or-white situation where all seafood farming is environmentally harmful. If it's done right, it's a good thing. Whether we like it or not, aquaculture will become more and more important in the future. There's just no getting away from that.

Why did you bring this group together for a colloquium?

Kite-Powell: The main motivation for me was the stalemate in the U.S. over aquaculture in federal waters. It's a question of thinking about future international competition for food production resources. We're starting to hear a lot about impending constraints in water and land-based agricultural resources in many parts of the world. Seafood is likely to play a more important role in the global protein supply in the future than it does today.

People here in New England like the quaint lobster boat, and there's nothing wrong with traditional fisheries if they are well-managed. In many places around the world, they're a key piece of the local social fabric. But that's not where the solution to the world's food supply problems is going to come from.

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Could we as a country meet all our domestic seafood needs with aquaculture?

Kite-Powell: There's no ecological or environmental reason why we couldn't match our consumption with production. We would probably still export some kinds of seafood and import others, but the balance could be much more favorable.

What stands in the way?

Kite-Powell: There needs to be a meeting of minds among fish farmers and the people who have concerns about expanded seafood farming, and that's starting to happen. Environmental groups are starting to describe approaches to seafood farming that they consider acceptable, and there's a growing recognition that farmed seafood is here to stay.

Do you think the growth of aquaculture is bad for the fishing industry or for environmental groups?

Kite-Powell: No, I don't. Wild fisheries are exploited so heavily today that there really isn't room for more production or economic value from "capture fisheries." So if we want to increase employment in the seafood industry and increase the whole fisheries value chain in the U.S., it will have to come from farmed seafood. Many environmental groups understand the value of seafood in the human diet, and there's a strong argument for farming seafood in a sustainable way.

We had fishermen at our meeting comment on this. They see their future and the future of their colleagues as being a mix of wild-capture fishing, maybe six months out of the year, and fish farming the other six months, probably shifting more to farming over time. Historically, that's how it's gone with land-based food.

Does the U.S. have to worry about other nations "doing it wrong" when it comes to aquaculture, in terms of public health and environmental damage?

Kite-Powell: If we rely on food farmed in other places, it requires us to have partnerships with, or presence in, other countries to ensure that the food consistently meets the standards we would like to see. Growing it here requires supervision too, but regulations are largely in place in the U.S. already.

If other countries can produce high-quality seafood much more efficiently than we can, it makes sense for us to buy it from them. There are species that we may *not* want to grow in large quantities in the U.S.—possibly shrimp, which comprises a big chunk of our seafood trade deficit. Shrimp are farmed most efficiently in coastal ponds, and we don't have a lot of spare coastal real estate for ponds in the U.S. So it may not make sense to try to become self-sufficient in shrimp.

Would it be more environmentally sound to meet the world's growing protein needs by increasing aquaculture, even if it takes some coastal or land areas?

Kite-Powell: I think that's right. Based on numbers that were presented at our meeting, it is ecologically more efficient to produce fish in a farm than it is in the wild. It's also less energy-intensive and less carbon-intensive. And it is much more efficient ecologically than producing protein from red meat.

But it has to be done in a way that doesn't create excessive side effects. And just like in agriculture, we know how to do it right, and we know how to do it wrong, and we can make those decisions.

Will wild fish become a specialty item?

Kite-Powell: To some degree, that's already happened. You see wild-caught salmon marketed as "wild-caught," and people distinguish it from farmed fish. We have similar distinctions in marketing with meat and poultry.

Some people think there's a taste difference between farmed and wild seafood—for instance, salmon.

Kite-Powell: I think that's true, in the same way a Butterball turkey tastes different from a wild turkey. The food constituents that go into them are different. Wild salmon eat a lot of little crustaceans, and that's not in the feed given to farm-bred salmon. But lots of people like eating farmed salmon (and turkeys). And there will be continuing innovation in feed, in order to produce a product that people like.

—Kate Madin

Illustrations by E. Paul Oberlander, WHOI