

Swimming Up

THE CHALLENGES OF MANAGING THE WORLD'S FISHERIES

An interview with James N. Sanchirico

Fisheries—organized efforts to harvest fish and other aquatic species—make up one of the world's oldest enterprises and have played important roles in food production and cultural identity throughout history. Today, marine species and the people who derive their livelihoods from fishing are at a crossroads, as fisheries face threats from overharvesting, land-based pollution, aquaculture, and climate change. By some accounts, overfishing alone affects about one-third of the U.S. fish populations that scientists have assessed.

The United States is considering proposals to overhaul its fisheries policy under the Magnuson-Stevens Fishery Management and Conservation Act, which is more than six years overdue for reauthorization. Getting it wrong will maintain the status quo of stressed ecosystems and the depressed livelihoods of all those dependent on it. At this critical juncture, Resources sat down with RFF Senior Fellow James Sanchirico, an expert on the economics of fisheries, to glean insights into how fisheries are managed and what might be done to improve their future.

Resources: As consumers, we're told every so often that another fish species is being overharvested and that we should avoid eating it. How is commercial fishing regulated in the United States?

It wasn't too long ago that we didn't manage fisheries at all. Instead, we thought of the seas as an inexhaustible resource.

Then we started to realize that they're not, that humans affect fish populations adversely. So we began to think about managing fisheries—and began to realize that geography and species needed to be taken into account. Management of the grouper and snapper fisheries in the Gulf of Mexico would need to be very different from management of the cod fisheries off New England and the salmon fisheries in the Northwest, for example.

As a result, when fishery management was getting started in the United States around the mid-1970s, it was set up with a regional perspective. We now have eight regional fishery management councils that decide how many fish can be caught each year, who can catch them, and what particular gear can be used. Each council is comprised mainly of commercial and sportfishing members nominated by the state governors within a particular council area and selected by the secretary of commerce. Councils also include representatives from the fish and game offices, the National Marine Fisheries service, and, in the Pacific region, Native American tribes.

Once fisheries management plans are devised for particular species at the regional councils, they go to the Department of Commerce, where the commerce secretary evaluates them against a set of nine standards put forth in the Magnuson-Stevens Act.

Resources: Why has it been so hard to reauthorize Magnuson-Stevens? Unlike last year's Energy Bill, which also took many years to come to fruition, no multinational corporations are involved, and Americans certainly are not addicted to fish.

Reauthorization of the act has been pending for more than six years now. There are four plausible explanations. First,

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fishery management is just not at the forefront of our political debates, partially because a fair number of senators and congressmen are not from coastal states. It also hasn't risen yet at a national level as an issue of concern. Although people understand that we're overfishing, they go to the beach or recreationally fish from a charter boat, and everything looks fine, so it's hard to make that connection.

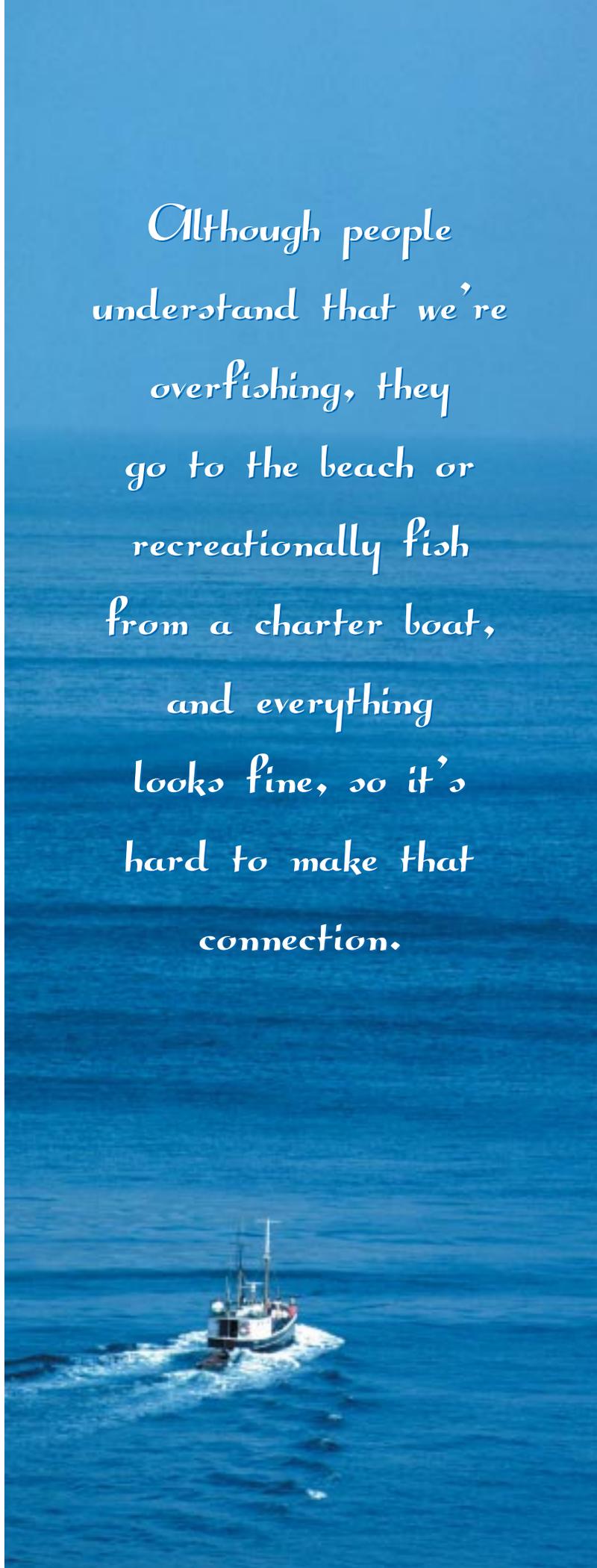
Second, we're trying to manage 256 major fish stocks in the United States, on top of three or four hundred others that aren't major in terms of their catch totals. And not only are fisheries diverse across ecology and biology but also across socioeconomic dimensions.

Large commercial operations are vertically integrated. They have boats that catch the fish and sometimes do the processing on board, or they bring it to an onshore processor owned by their company. The company might own seven or eight vessels. Some of these operations are even part of large food conglomerates and have a bottom line to meet for shareholders.

In comparison, think of the opposite extreme: third- or fourth-generation Portuguese or Italian fishermen in New England and other parts of the country, where the culture of fishing is embedded in their identities. I'm sure you can find individuals who aren't interested in making a dime, or at least will say that they're not. To them what is important is that they can fish when they want, where they want; some of them don't want to be regulated at all. To try to come up with an overarching regulatory framework that can encompass that broad spectrum is not an easy task.

Third, other countries that have overhauled their fisheries management policies have had a strong impetus to do so. For example, New Zealand had a "perfect storm" in the early 1980s, and some very important fish stocks collapsed. This caused a crisis, around which a constituency formed. In Iceland, which also has rationalized its fishery management, fisheries at one point made up about 45 percent of its gross domestic product (GDP). So there, fisheries are a dominant issue. None of these catalysts exist in the United States, where fisheries make up far less than 1 percent of the GDP.

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Finally, reauthorization of the Magnuson-Stevens bill is getting hung up on several sticking points. For instance, how do we design rebuilding plans; what kind of standards should we put in place? Typically it's now legislated that unless certain exemptions are met—for instance, the fish population is very slow growing—fisheries have to rebuild collapsed fish stocks within a 10-year horizon. A bill put forth by Representative Richard Pombo (R-CA) would relax this 10-year requirement, a motion that has some environmental groups up in arms because they think that doing so allows more overfishing. Ongoing research at RFF, however, shows that it is not clear that more flexibility in the 10-year horizon will allow overfishing. What we are finding is that the time horizon for an economically efficient rebuilding plan depends on the catch rate, rebuilding target, initial fish population, and other important biological and economic factors. Where that falls relative to 10 years is not clear.

Another sticking point is the issue of whether and how to allow for rationalization of fisheries through individual fishing quotas (IFQs) and development of cooperatives. The current debate also focuses on whether we should give processors quotas, a very contentious issue that has held up the entire debate on rationalization. Under a quota system, processors would be given the right to the amount of fish that are caught to guarantee they will be supplied a certain amount of fish every year.

Resources: The marketplace for fish is global, just as it is for oil. Can you talk about the interplay between U.S. fishery policy and the actions of other nations competing for the same fish?

While some fish stocks reside within the U.S. exclusive economic zone (the waters within 200 nautical miles of a state's coastline), some fisheries straddle countries. For example, the salmon in Alaska and Washington swim through Canadian waters. This raises issues of coordination. How do you determine the total catch and then allocate it? Which countries are going to catch what? And how do you monitor that within the country?

Then there are stocks that reside in international waters. These include very valuable bluefin tuna stocks, and other highly valuable pelagic fish that move across large expanses of the ocean. And they're very difficult to manage, because although commissions are set up that have representatives from many different governments, they often don't have much power behind them. Chilean sea bass—Patagonian toothfish—is an example of the difficulties of managing fisheries in international waters. The toothfish was overharvested very quickly because of a lack of coordinated management and enforcement. But it is not clear how to monitor and enforce out in the open ocean.

The global nature of the marketplace also gives rise to competition, sometimes to the benefit of the sea, and sometimes to its detriment. For example, Japan is a large consumer of fish, and many fishers compete for that market. But one of the nice things about competing in the Japanese market is that it's mainly based on quality. Typically, when you're fishing for quality, you're minimizing other impacts because you're not necessarily taking large nets through areas.

Other potentially competitive areas include particular species that are both raised by aquaculture and caught in the wild. Salmon is a good example. Because the market is being

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flooded with farm-raised salmon from countries such as Chile, Iceland, and Norway, the price of wild-caught salmon is generally lower than it would be in the absence of its farm-raised competitor. Fishers in Alaska try to get around this by marketing their fish as more sustainable and “organic” than the farm-raised fish. But, in general, lower prices translate into less fishing pressure.

Resources: What is the biggest threat to fish stocks?

That’s a very hard question to answer because a lot of things affect them, including destruction of habitat and issues of runoff and pollution. However, possibly the largest threat to fish stocks is that so many fisheries are still operating as if they are unmanaged. What I mean is that management focuses too much on treating the symptoms and not enough on the causes of overfishing, which are the perverse incentives that the fishermen face. Because fishermen don’t own the fish until they’re onboard their boats, a race to fish arises.

Here’s a classic example: In the Alaskan halibut fishery, regulators closed the fishing season down when the fishermen caught the target amount for the year. Over time, the fishermen started investing in faster boats because they wanted to catch as much as possible before the season was closed. But that resulted in shorter and shorter seasons, until all the halibut ended up being caught in two 24-hour periods. The race to fish still occurs in places like the Gulf of Mexico, where the snapper fishery has “derby fisheries.” This is a serious threat to fish stocks that we can do something right now about.

Resources: Can IFQs solve this problem?

IFQs would be one way to offset this race. With IFQs, individual fishermen are allocated a share in the total allowable catch that’s determined in a given year. It’s a privilege to have that right, and sometimes trading is allowed. So if a fisher doesn’t want to fish in a given year, or if he wants to leave fishing, he can trade out his rights for that year to somebody else.

IFQs have worked very well in places such as New Zealand, Iceland, and Alaska. In terms of adopting them on a fuller scale in the United States, it’s up to the regional councils and is typically applied to one species at a time. Some support IFQs and some don’t, because they change the whole fishing culture. With IFQs, fishers can no longer go out and catch as much as they want, or get that extra large catch. Instead, they

are restricted by quotas. Some have done very well under the current management system, and they’re afraid that under a new management system they might not do as well.

If you talk to fishermen who have done this, for example, in New Zealand, they initially experienced the same anxiety. But years later, they really see the benefits, and today it’s hard for them to think about not having these systems in place.

Resources: Earlier you said that we need to regulate each fishery differently, but then you just said that we need to address incentives through the use of IFQs or co-operatives. Is there an inconsistency here?

Good question. No, there is not an inconsistency. You are right that the impetus for regional fishery management was the fact that managing different species requires different tools. This perspective is a consequence of focusing your management on regulating fishing gear and controlling every aspect of fishing activities. But we also know that the need to address incentives is universal. And it does not depend on whether you are talking about a coral reef fish, sea urchins, pelagics, or groundfish. Places like Iceland and

New Zealand have realized this and have applied IFQs to a very broad spectrum of fisheries.

Resources: What else on the horizon could bring about change?

There are a couple of things. There is currently legislation on setting up national standards for offshore aquaculture operations. With safeguards in place, moving aquaculture offshore can remove some of the current impediments to more large-scale operations in the United States, such as visual blights and some pollution issues in bays.

Fishers also are watching the organic market in agriculture to understand how to develop their markets. A Marine Stewardship Council has formed to certify and label fisheries as sustainable. The Alaskan salmon fishery, for example, is now certified. Their hope is to charge a price premium for their product, much like organic agriculture.

This could lead to a positive feedback loop: If demand is developed for more sustainable fishery products, certification programs can arise. Fishers in turn will want to certify their fisheries, which means that they’ll be more inclined to keep the stock at healthy levels and engage in activities that have less spillover impact on the habitat. It is still too early to tell, however, how these demand-side programs will fare. ■



James Sanchirico