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The bottom line is that fisheries around the world are in trouble. [Fish] populations in every corner of the world's oceans are depleted. This is bad for nature. It's also bad for the people who depend on these fisheries.

For a lot of us we like to eat seafood, it's great healthy food. And as these fish populations are depleted, some of the fish that we like are becoming harder and harder to find. Some of the people that we deal with around the world aren't as fortunate as we are. They are poor and they depend on fish as a principle source of protein and for those people the depletion of fisheries is a much more serious matter and poses real food security risks.

Cod fish are used as the poster child for bad fisheries management in the United States. It's the fishery that really supported some of the original settlers in New England and over the past several decades as a result of mismanagement and over-fishing, that population has been whittled down pretty seriously to the point where it can no longer support many of the fishermen who have depended on it. The decline of the cod fishery in the 1980s and 1990s has cost the New England region hundreds and millions of dollars a year and tens of thousands of jobs. So the point is that these fish populations aren't just important to nature, which they are, but they're also important to people. The mismanagement of fisheries is not only bad for nature, but it also undermines the really important resource that a lot of people depend on. And the connection between that and Africa is that we see the same phenomenon occurring there. Fisheries in Africa are being depleted just as they are in some cases in the United States. When that happens in Africa, we're dealing with some of the poorest communities in the world, communities who have depended on these fish populations for livelihood and as sources of food for millennia in some cases. So we see fishermen in places like Mozambique no longer being able to catch the fish that they need to live.

Fishing, [when measured by] the number of people and the size of the boats, around the world has mushroomed over the past half century. The power of the global fishing fleet has increased ten-fold and so we have too many boats chasing too few fish today. In the case of Mozambique, we see fisheries that once were only utilized by small fishers in coastal communities now being utilized by boats that come from all over the world, by competing industrial fleets from other parts of Mozambique. And some effect of all that fishing pressure has been very bad for the fish populations in these places and again for the people that depend on them.

There are some success stories out there. There are lots of sore spots in the world's oceans, but there are also places where governments and people in the fishing community have done the smart thing. And it's really pretty simple in some ways. You need to use good science, you need to have a political will to do it; and in Mozambique, for example, one of the places that we work is near the [Quirimbas National] Park. It's the biggest marine park in Africa. We created it together with local people in those communities and

when the park was created many of the people we work with in those villages and the local fisheries were telling us that it's much harder to catch fish and the fish they are catching now are smaller.

As a result of the creation of this park and the cooperation of the [local] people, they are catching more fish today and they are catching bigger fish. I think that shows it can be done, and we see other stories like that. Not very far, but probably ten blocks from where we are sitting here today in Washington, D.C. [is] the Potomac River. One of the fish that's popular in this region is the striped bass. Now back in the 1980s, the striped bass population had declined to the point where authorities had to shut down [bass fishing] completely. But as a result of smart management, that fishery has come back and you could walk ten blocks from here right now and catch one if you wanted to. And lots of people who depend on that fishery are doing much better today than they were a couple of decades ago. Again, it's a matter of being prudent, listening to the scientists, and having a political will not to think just of the short term, not to kill the goose that laid the golden egg, but to sort of maximize the value of these fish populations over time.

Good question it was worth preserving because this region in general is one of the most biologically rich ocean areas on earth and that's why we focused a lot of our work there.

What we have done is we have worked with individual villages in [Mozambique] as part of the marine park to establish "no take areas" or fish sanctuaries. Within those sanctuaries, which are actually policed by the community themselves, the fish have an opportunity to grow and reproduce. And as they do that, they produce more fish and bigger fish and those fish spill over outside the boundaries of the protected area. The fishermen are seeing that as being documented and they are telling us you know we are seeing the results that we want to see to the point where we are actively being approached by lots of other villages throughout the region to do the same thing with them.

They are a success story [in Mozambique], but they are a small success story and I think that's a key point. If you look around the world right now, less than half the world's oceans [have] protected areas. And one of the things we're trying to do in Mozambique and other biologically important areas is to expand marine parks, to make that number bigger but do it in a way that works for local communities and for the people who fish for a living.

The area off of Mozambique, Tanzania and Kenya has some very important coral reefs, reef fish, and other animals. It also has remarkable mangroves and other types of ecosystems. It really is a cool place to go. It's a place where you can go and see elephants on a beach. I recommend it to you.

I think in some African countries fish is a critical source of food, of animal protein. In some cases [it is] the single most important source of protein for local people. And these are people who don't have the wherewithal to go out and buy protein someplace else. So if you undermine the local resources that they depend on, you are really posing a critical risk to the well being of those communities. We see that throughout Africa – West Africa

and Southeast Africa in particular where these fisheries resources are critical. At the same time, these are countries that don't have the resources that we do to manage fisheries and that are to some extent being preyed upon by fleets from richer countries around the world. I think it's the same problem with depletion that we see in other places, but the social and political dimensions of it are more serious.

In some cases, we see increased competition for dwindling supplies of fish. We see boats that come from China and the European Union that are fishing in these waters today, that weren't there a few decades ago. In some cases, we see those vessels fishing illegally within the waters of the [Quirimbas National Park] itself. So you know it's not hard to see how those sorts of actions can threaten the very livelihoods of the poor people that live in these areas.

If we have seen examples of [poaching] in Africa — again you are dealing with poor and sometimes desperate people. If you take one source of food away, they're going to find another source someplace else. So in some communities where we work in Africa we see places where the fish populations have begun to disappear and those people who depended on them are hunting for what's called bush meat, basically mammals and so there's a connection between what happens in the sea and what happens on land and these wonderful natural places.

It's a problem in a lot of different ways, but in terms of fisheries we see climate change having similar effects to nature in the oceans that we see on land. I'll give you an example. We were working with a scientist a couple of years ago, a salmon expert from British Columbia, who predicted that increases in ocean temperatures associated with global climate change could have a dramatic effect on salmon populations in British Columbia. Those populations have probably more a part of the sense of place and people that live there than any other wildlife resource that there is and we can see the numbers decline dramatically as a result of climate change and changes in ocean temperature. Now similarly, climate change may be the single most serious threat to coral reefs around the world and the fish population that depend on that and all the people to catch those fish. So I think it's pretty clear that that is a serious problem for oceans and for the people [who] use them.

We see some of these animals disappearing and if we don't do something about it over the next couple of decades, we'll see cases of extinction. We're already seeing them. We'll also see fisheries that people have depended on — could depend on if they are managed wisely — disappear at a point where we will really be under producing economically not feeding the people that can be fed with them and undermining nature at the same time.

Aquaculture is a piece of the problem. First, we need to manage ocean resources wisely and at the same time we need to manage aquaculture wisely. Aquaculture can feed people. It certainly produces a lot of food today and it will be producing much more fish in the future than it does currently. At the same time, poorly managed aquaculture can have adverse effects on oceans. [For example,] poorly sited shrimp farms that wind up in

eliminating mangrove stands. All sorts of other problems [can occur], so there is a right way to do it and a wrong way to do it. Aquaculture is not an answer in itself. We need to make sure we manage our fisheries resources wisely. If you are concerned about people and economies why not manage them both in a smart way? You're going to be doing the most that you can if you do that.

When I was younger, I worked as a fisherman on the Chesapeake Bay. The little town that I worked in depended on what was at that time a really vibrant oyster resource. There were a couple of oyster shucking houses, several canneries, and dozens of other little businesses that together employed several hundred of the best people I've ever known. But we didn't manage that resource wisely and as a result – within a decade – just about every one of those businesses and every one of those jobs was gone. And that's a story that I have personally seen replicated all over the world in my work with WWF and the shame of it is that it just takes good science and a little bit of political will to turn that situation around, to protect those resources and to protect the people who in the end benefit from it.

Some people say it's like the last buffalo hunt — that's one of Carl Safina's lines. We need to make sure that we don't replicate the sad story of the buffalo and that we use these resources in ways that sort of maximize their value to nature and to people.

I grew up near Annapolis, Maryland and I worked fishing on the eastern shore for a couple of years. It was locally called "the watermen."

I think individuals can think about what they are eating. They can work to collect the information that they need, which is readily available today, and try to buy fish from places that are well-managed. It's hard for people to do that alone. Fortunately we see major businesses, companies like Wal-Mart, that are working with fisheries [to ensure] that they buy from, pushing them to fish [in a more sustainable way] and identifying for the people that shop at their stores which fisheries are coming from well-managed resources. So I think there are a lot of opportunities in that area and individual consumers can help. But I think more importantly the businesses that buy fish can make a big difference and this is an area where the conservation community is beginning to partner actively with the businesses in order to arm consumers with the information that they need to make smart choices.