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Daniel Pauly's Three Big Moves to Save the World's Threatened Fisheries

If the UBC expert was global fisheries minister for a day, here's what he'd do.



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What can the world do right now to restore its depleted fish stocks? Daniel Pauly didn't hesitate to answer. Photo by Robert F. Bukaty, AP Photo.

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THE RUN

Daniel Pauly, one of the world's leading fishery scientists, has spent decades documenting global overfishing. We [profiled him](#) Friday on The Tyee.

In the last 60 years, globalization has transformed largely sustainable, small-scale local fishing enterprises into something very different.

Now “largely corporate-owned and controlled” fleets subsidized by taxpayers roam the world's oceans, depleting fish stocks either legally or illegally, Pauly says.

Pauly's pioneering and often provocative work has shed light on what the scientist calls “the toxic triad of fisheries” — the under-reporting of catches, overfishing and the tendency to blame depleted catches on “the environment.”

So what would Pauly do if he became a sort of global fishery minister? Just how would he renew the globe's depleted fisheries?

The scientist, who has a reputation for bluntness, doesn't hesitate for a minute, rattling off three major reforms.

Everything hinges on [going back to the future](#), says Pauly.

1. End government subsidies for industrial fishing fleets

“First, I would try to abolish subsidies,” he says. “It would have a huge effect globally. All the fishery scientists and free marketers would be happy with me.”

The major global fishing companies receive some \$20 billion to \$30 billion a year in government subsidies, he said, which encourages them to continue fishing even as stocks are depleted.

Industry subsidies in countries such as Spain and Russia support large trawling fleets, mainly by assisting with their fuel bills.

That's resulted in such overcapacity that the global fishing fleets have twice the capacity required for all the fisheries on Earth.

Ending the subsidies would mean they wouldn't fish in areas where catches are falling and profits shrinking. “It would eliminate all marginal fisheries,” Pauly says.

Reducing the size of the world's industrial fleet would bring a wide range of benefits and few disadvantages.

The ships employ lots of horsepower and technology, but few people. Their fuel use per tonne of fish landed has been increasing, Pauly notes.

The industrial fleet also generates 10 million tonnes of waste fish every year. And one-third of its catch goes to animal feed for intensive livestock operations on land or sea.

Pauly says multilateral action is needed to end harmful subsidies.

In other words, all fishing nations must end or reduce subsidies that encourage overfishing at the same time, under the same rules.

The World Trade Organization is probably best equipped to manage the process, Pauly says.

2. Create fishing reserves for small, local fisheries

Next, Pauly would focus on creating exclusive zones for small fisheries.

“I would create a zone of 30 to 40 kilometres around every country, reserved for small-scale fisheries that don’t drag nets over the ocean bottom.”

Small fisheries employ large numbers of local people. They use less fuel per pound of fish caught. They tend not to waste fish. And they provide local food for local people.

“We should encourage carefully managed, owner-operated, small-scale fisheries operating in home-country waters,” he says.

“Industrial fisheries shouldn’t operate inshore. All they do is destroy things,” adds Pauly.

3. Establish no-go zones to protect fish

Last but not least, Pauly would establish large marine reserves where no fishing is allowed. “I would set up a network of large protected areas,” he says.

He says a [ban on fishing](#) in the high seas — the ocean far from coasts — should be considered.

“It wouldn’t decline the catch too much,” he says. But it would ensure there were places where fish were protected from commercial predation. Tuna, for example, could still be caught in coastal areas. But the open ocean would provide a protected space.

The research on marine reserves shows conclusively that by every measure — the number of fish, their size and diversity — they allow stocks to rebound even after overfishing.

A [2017 study](#) reported that the biomass of fish in marine reserves is “on average 670 per cent greater than in adjacent unprotected areas.”

Although marine reserves aren’t immune to the effects of climate change, protecting their complex ecosystems help them remain more resilient than unprotected areas.

Canada, which has the world’s longest coastline, has committed to protecting only 10 per cent of its oceans. To date, only five per cent of the Arctic coastline has been protected.

“We need protected areas where big fish can roam. You cannot have giraffes in a network of potato fields. High seas could be closed, and technically it would be easy to monitor by satellite.”

After that, says Pauly, he would rest on his laurels.

“Each of these things is feasible and will probably have to be done if we want a global fishery within 50 years,” Pauly says.

These changes wouldn't entirely solve the fishery problem, he says, "but provide the architecture" for recovery

The world has a stark choice, he says. "You can rebuild abundance, or you can sustain misery."

Most countries now simply seek to sustain stocks that are badly depleted, rather than take action to rebuild them.

"I would encourage all countries to have an explicit program to restore stock health," Pauly says.

He notes that Canada has nothing like the [Magnuson–Stevens Fishery Conservation and Management Reauthorization Act](#). It was passed in 1976 in the U.S. to stop overfishing. It created regional management councils and specifically mandated that overfished populations be allowed to rebuild to their former abundance.

Pauly views it as one of the best pieces of legislation for protecting fish stocks because its execution is clear, rule-based and penalties are set. It does not allow for "ministerial discretion" as is common in Canada and Europe.

In Canada, too many decisions about fisheries are based on political considerations and ignore science and catch data.



The Odyssey of Daniel Pauly

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A [recent decision](#) boosting cod quotas on the east coast and herring quotas on the west coast, for example, came directly from a federal minister's office.

Canadian politicians routinely intervene in decisions on quotas and fisheries management, Pauly says. The decisions should be based on science, he adds.

“The minister interfering is like having the attorney general interfering in a court case,” Pauly says. In the legal system, judges and jury do their thing, he says. And in fisheries management, scientists should be allowed to work with real data and make decisions.

For a fisheries minister to intervene and set a quota is equivalent to an attorney general recommending to a judge that the accused should be given 10 years in jail “because I don’t like them,” says Pauly. “It is conflict of interest and absurd.”

The whole point of the reforms, says Pauly, is to stop giant, government-subsidized corporations from continuing to exploit badly depleted fisheries and allow fish populations and ecosystems to rebound back to health.

That will only happen if politicians quit serving industry and allow science to drive fishery policies, he says.

And if they work for the coastal communities that care about fish. 🐟

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