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Q&A with Ted Danson

On climate, plastics, and his path from actor to ocean advocate

Oceana Turns 20

Senior staff revisit Oceana's most memorable victories over the years

Meet the Founders

Three founding board members share Oceana's secrets to success

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To help navigate Oceana's work, look for these six icons representing our major campaigns.



Curb Pollution



Protect Habitat



Stop Overfishing



Increase Transparency



Reduce Bycatch



Protect Species

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Dear friends,

Underneath the great dome of St. Paul's Cathedral in London, carved in a circle in the marble floor, are the words *Si Monumentum Requiritur, Circumspice* – “If you seek a monument, look around you.” In this issue we consider the first 20 years of Oceana's campaigns for ocean conservation, an anniversary that arrives later this year. While it's much too early to be talking about organizational legacy – even St. Paul's took 33 years to build – the recurring message from the interviews with some of our founders and campaigners is that what people are most proud of is winning policy outcomes that rebuild and protect an abundant ocean.

This focus on *outcomes*, on being accountable for delivering policy change, typically at national scale, is essential to Oceana. It was built into the blueprint that our founders – four of whom, Kristian Parker, Beto Bedolfe, Jim Sandler, and Ted Danson, are interviewed here – gave us. Winning these outcomes requires teams of amazingly skillful and hard-working people. And some of their work is really fascinating. Picture yourself alongside Jon Warrenchuk 1,000 meters below the surface off the coast of Alaska (page 20). It can be creative and funny – see Dr. Mike Hirshfield's account of our campaign against

Royal Cruises (page 18). Sometimes it is dangerous and adrenaline-packed – see Ricardo Aguilar's report on the time we were attacked in the Mediterranean by illegal driftnetters (page 22). And often it is the dogged and unglamorous work of legislative advocacy in governmental conference rooms, regulators' offices, and grassroots meetings that may remind some people of a remark often attributed to Otto van Bismark: If you like the laws or sausage, it's best not to see either one being made.

But what really matters is the outcome. Oceana has always known that “trying” to save the oceans is not our job. Our job is to actually deliver changes in policy that will put more fish in the water, stop pollution, safeguard endangered species, protect essential habitat, and deter illegal conduct. The science, the law, the advocacy, the communications, and the organizing are essential to our success, but they are means to a conservation end.

Our donors, and many of you reading this magazine, are loyal backers of Oceana who want results, not just passionate and sincere efforts. Our founders' blueprint required us to set measurable goals with deadlines. We don't “work on ocean conservation” with a vague hope that something good will happen, sometime. We start a campaign only when our board is convinced we have a reasonable chance of reaching the stated policy outcome within three to five years. That business-like, deadline-oriented accountability is another reason we now have more than 225 policy outcomes around the world (see oceana.org/victories). Our founders also told us to focus on a limited number of campaign objectives. They wanted us to win on a few important goals rather

than lose on everything, believing it's better to do something effectively than to spread ourselves so thinly that we end up doing just enough to lose on everything. This sounds so much like common sense that it should be easy. It's not, especially facing a world of serious ocean problems and a not always coherent set of ideas and expectations from funders, potential funders, and allies.

Another thing the founders gave us which was essential to our success is that our national teams are composed only of citizens of the countries where they campaign. We are one global organization, reporting to one board of directors, but we are an extremely diverse group of staff representing 20 different nationalities and containing experts from dozens of domains.

Our most difficult battles bring us right up against governments and ocean regulatory agencies that are captured by industrial fishing companies and ocean polluters. We therefore know that it is essential to guard our independence. To be effective advocates for the public interest, we need funders and backers whose business interests do not compromise our commitment to full-throated advocacy for abundant oceans. That means that you, our donors, deserve deep thanks for these 20 years of ocean conservation. Together, we have won more than 225 victories that are essential to a more vibrant and abundant ocean. Congratulations!

“If you seek a monument, look around you.”

Sincerely,

Andrew Sharpless
Oceana CEO

For the Win



© Oceana/Juan Cuetos

A *Polycera faeroensis* nudibranch – otherwise known as a sea slug – was spotted off of Aberdeenshire, Scotland during Oceana’s North Sea expedition in 2017.

New marine protected area in Scotland safeguards vulnerable marine animals



Scotland created a new marine protected area (MPA) off the country’s northeast coast that will help to protect minke whales, elegant sea pens, and tube anemones from harm. The Scottish Nature Conservation MPA covers the Southern Trench and is approximately 120 kilometers (75 miles) long and 250 meters (820 feet) deep. The newly protected area is one of the largest enclosed glacial seabed basins mapped in Scottish waters, and it’s also home to kelp forests, submerged caves, and large swaths of burrowed mud

that host commercially important Norway lobsters and other burrowing megafauna.

Using evidence collected during a 2017 expedition, Oceana built a compelling case for the Southern Trench’s protection. Throughout Europe, Oceana continues to campaign for measures that would strengthen protections for the Southern Trench and other important marine ecosystems, including banning destructive bottom-towed fishing gear in all MPAs. According to data published recently by Oceana, 68,000 hours of fishing with damaging towed gear took place in UK benthic MPAs in 2020 – a 10% increase from 2019.

Chile protects oceans from single-use plastics, mandates refillable bottles



The Chilean government unanimously passed an ambitious law reducing single-use plastic pollution from the food and beverage industries following campaigning by Oceana. The law prohibits all eating establishments from providing plastic tableware, such as cutlery, straws, and Styrofoam utensils. It also stipulates that any disposable tableware provided by delivery and take-out facilities must be made from materials other than plastic or made of certified plastic. Lastly, the law requires stores to actively display, sell, and receive refillable bottles, and will allow single-use bottles only if they contain recycled material that was collected in Chile.

Refillable bottle systems are a pragmatic and immediate solution to decrease the 21 to 34 billion single-use plastic bottles that pollute the ocean every year. This legislation would not have been possible without a report by Oceana and Plastics Oceans Chile which found that over 23,000 metric tons of single-use plastics

are used by restaurants, bars, cafes, and delivery food companies every year in Chile, as well as a report from Oceana on the benefits of using refillable bottles over single-use bottles. Most of these plastic items end up in landfills or pollute the ocean, where they can harm marine life and ocean ecosystems.



Research by Oceana found that a 10% increase in the share of beverages sold in refillable bottles around the world could reduce marine plastic bottle pollution by 22%. This would keep 4.5 to 7.6 billion plastic bottles out of the ocean each year.

Three U.S. states enact laws that reduce single-use plastics following campaigning by Oceana and allies



In the last six months alone, three U.S. states passed laws that significantly reduce the kinds of throwaway plastic that all too often end up in the ocean. First, Virginia enacted two laws that prohibit the use of polystyrene foam in food service containers – including takeout boxes and cups – and ban the intentional release of balloons into the environment. A 2021 report by Virginia Clean Waterways found that

balloons are among the deadliest and most common types of marine debris found on Virginia's beaches. A November 2020 report by Oceana reached a similar conclusion, identifying plastic packing straps, bags, and balloons with strings as the most common items that entangle marine animals.

Following Virginia's legislation, the state of Maryland enacted a law prohibiting intentional balloon releases. And on the West Coast, the state of Washington approved a law that bans the manufacture, sale, and distribution of certain expanded polystyrene foam products, including foodware, packing peanuts, and foam coolers. It also requires dining establishments to only provide single-use plastic utensils, straws, cold-beverage cup lids, and condiment packaging if requested by customers. Finally, the law establishes post-consumer recycled-content standards for plastic beverage bottles, personal care products, home cleaning products, and trash bags.


These states are leading the way to a future with cleaner and more abundant oceans. Oceana continues to campaign for policies that reduce the production, sale, and use of single-use plastics, while also calling on companies to provide consumers with plastic-free alternatives.



Marine animals can mistake balloons, plastic grocery bags, and other debris for food.

News + Notes

Brazil agrees to share vessel tracking data with Global Fishing Watch

 Brazil's vessel tracking data will be made publicly available, thanks to an agreement between the government and Global Fishing Watch. This is significant for the oceans, considering that Brazil is one of the 30 largest fishing nations in the world.

Approximately 2,000 vessels in Brazilian waters will be made visible on Global Fishing Watch, making it easier to monitor when and where fishing activity is occurring. This data will strengthen Brazil's fisheries management and help to stop illegal fishing.

The agreement came shortly after the launch of OpenTuna, a website that Oceana and Global Fishing Watch helped develop. OpenTuna publicizes the logbook (including catch data) and vessel monitoring system data for Brazil's tuna longline fleet. The project was developed with the help of fishing companies that voluntarily agreed to make their data publicly visible.

Valued at US\$4 billion a year in the South Atlantic alone, the tuna fishery supports about 6,000 direct and indirect jobs in Brazil. However, Brazil has had no official fishing statistics since 2011, making the management of tuna tricky.

"OpenTuna aims to improve fisheries management, which is currently hampered by a lack of data," said Martin Dias, Oceana's scientific director in Brazil. "Transparency in fisheries information will help the work of researchers and the government



Brazil's longline tuna fleet targets several species, including bigeye (*Thunnus obesus*), albacore (*Thunnus alalunga*), and – pictured above – yellowfin tuna (*Thunnus albacares*).

itself, thus helping to consolidate a more transparent and sustainable supply chain with high-quality seafood and total traceability of production."

Oceana report shows that billion-dollar fisheries subsidies from wealthy nations are hurting developing countries

 New research supported by Oceana shows that the world's top industrial billion-dollar subsidies to fish in other countries' waters, including least developed countries. China, Japan, Korea, Russia, the U.S.,

Thailand, Taiwan, Spain, Indonesia, and Norway are the world's top providers of harmful fisheries subsidies, spending a cumulative total of \$15.4 billion. Together, these countries spent \$5.4 billion in harmful fisheries subsidies in the waters of 116 other nations. If the European Union countries were counted as a bloc, it would be the third largest provider of subsidies, spending \$2 billion total.


Broadly defined, harmful subsidies are payments that allow fishers to travel farther or stay at sea longer than they normally would. Many of these subsidies are worth 20 to 40% of the catch's value, so it is unlikely that distant-water fleets would be profitable without

fisheries subsidies. An extreme example is that of Guinea-Bissau in West Africa, where subsidies spent by foreign fishing nations in its waters exceeded domestic subsidies by a ratio of 1,173 to 1.

“The mismatch between the cost and the benefits of fisheries subsidies has real moral and ethical implications,” said Oceana Board Member and report co-author Dr. Rashid Sumaila, who oversees the Fisheries Economics Research Unit at the University of British Columbia. “On average, twice the dollar amount of subsidies from foreign nations go toward enabling distant-water vessels to fish in Africa than what Africa provides to its own domestic fisheries. For some West African countries, fish account for up to 60% of their protein intake.”

Through its Transparent Oceans Initiative, Oceana illuminates the true global footprint of the world’s distant-water fishing fleet and works with partners to catalyze policy change.

More than a third of Amazon shareholders call on company to quantify its plastic footprint

 During Amazon’s annual general meeting in May, 35.5% of the company’s shareholders voted for a resolution to require Amazon to release a report by the end of the year detailing how much single-use plastic it uses.

Oceana analyzed e-commerce packaging data and estimated that Amazon generated 465 million pounds of plastic packaging waste in 2019. Amazon disputed those figures but has not publicly quantified its use of plastic materials, which includes mailers,

air pillows, and other packaging that is not typically recycled.


The resolution was presented by Conrad MacKerron, Senior Vice President of the non-profit As You Sow, and filed by both As You Sow and Green Century. These types of resolutions generally fail when opposed by management, but support for this resolution exceeded expectations. It received the second-most “yes” votes of the 14 shareholder resolutions that have been considered at Amazon’s annual general meetings. This was a significant step in Oceana’s Amazon campaign, explained Oceana Senior Vice President Matt Littlejohn.

“Getting the plastics issue on the company’s agenda is a milestone for our oceans,” Littlejohn said. “Pressure will mount as more investors learn about the company’s plastic problem, as more customers call for plastic-free alternatives, as more legislators pass laws to reduce single-use plastics, and as more environmental and other groups push Amazon to act.”



Plastic bags like these are not accepted by most curbside recycling services.

Sam Waterston delivers keynote remarks at UN World Oceans Day event

 Actor, activist, and Oceana Board Chair Sam Waterston spoke about the inextricable links between people and the ocean during the United Nations’ annual World Oceans Day event on June 8.

The theme of this year’s virtual event was *The Ocean: Life and Livelihoods*, with discussions highlighting the importance of healthy and abundant oceans to people and the planet.

Waterston stressed that billions of people depend on the ocean for food and livelihoods. Even though our oceans sustain human life, we often take them for granted, Waterston said.

“This World Oceans Day, let’s promise one another to keep alive the extraordinary hope and resolve it takes to make a difference: to restore ocean life – the life of our planet – and to safeguard the livelihoods and well-being of our neighbors,” Waterston said.

“An abundant ocean is a healthier and more biodiverse ocean. And by increasing ocean abundance, we can help feed a billion people a healthy seafood meal every day, forever. This is why we at Oceana believe that we must save the oceans to help feed the world.”

Waterston joined a line-up of over 40 distinguished speakers that included U.N. Secretary-General António Guterres, Ocean Futures Society President Jean-Michel Cousteau, and marine biologist Dr. Sylvia Earle.

To watch Waterston’s speech, visit www.unworldoceansday.org/2021.

Q+A



Most people know Ted Danson via their televisions – perhaps while watching *Cheers*, *Mr. Mayor*, *Curb Your Enthusiasm*, *Fargo*, *The Good Place*, or any number of feature films. But at Oceana, he's best known for his advocacy, whether he's penning an editorial about the environmental impacts of farmed salmon, visiting Alaska to testify against offshore drilling, or urging members of Congress to address the plastic pollution crisis. He has been fighting for our oceans since 1984, when he and Robert Sulnick, a local lawyer and activist, teamed up to stop 60 oil wells from being drilled along a beach near Santa Monica, California. They succeeded, and the organization they co-founded, the American Oceans Campaign, championed environmental protections for 15 years before merging with Oceana in 2002. Danson has been on Oceana's board ever since and previously served as Vice Chair. In a recent interview with *Oceana Magazine*, Danson spoke about his longtime involvement with Oceana, his views on climate change, and what *The Good Place* taught him about unintended consequences.

Ted Danson celebrates over 35 years of ocean advocacy

When your organization merged with Oceana, you considered ending your involvement there. What made you stay?

TD: After 15 years with the American Oceans Campaign, the merger was my exit plan. I didn't withdraw from Oceana – I just silently started walking backwards, hoping no one would notice. But I did end up attending an early Oceana board meeting and was excited by the level of scientists and family foundations involved. It truly was an international organization, or at least a budding one. It was amazing, and I was back in. I'm grateful that I could brainstorm with these people, but no longer be running the show. With Oceana, my role is to stand in front of the press and say, 'Thank you for watching my latest show, but let me point you to this marine biologist I'm standing next to. She has something really important to tell you.' One of the

great gifts of my life is to be part of Oceana. The science of ocean advocacy thrills me because it gives me a platform to care about everything. If you were to focus on just making the oceans healthy, you would actually be solving a lot of the world's problems.

Since the '80s, you have been working to prohibit the expansion of offshore oil drilling in U.S. waters. What gives you hope that permanently protecting U.S. coasts is a fight Oceana can win?

TD: What gives me hope is we've succeeded in several instances. When Barack Obama was president, he at one point announced a plan to open up the Atlantic Coast to offshore oil and gas leasing. We hired organizers to go up and down the coast and talk to anybody who had an interest in keeping their coastline beautiful.

“ With Oceana, my role is to stand in front of the press and say, ‘Thank you for watching my latest show, but let me point you to this marine biologist I’m standing next to. She has something really important to tell you.’ One of the great gifts of my life is to be part of Oceana. ”

We visited cities that depend on tourist dollars, or fishing, or all these other industries that would suffer if there were a catastrophic spill on their coasts. We got governors – both Republican and Democratic – to oppose offshore drilling, and persuaded hundreds of municipalities and businesses to sign a petition against it. We succeeded in changing that plan, and we did it again during one of the congressional elections. When you help people understand the impact that offshore drilling could have on their way of life and their livelihoods, they get it. So I feel pretty strongly that we will succeed with offshore oil.

You have been increasingly speaking out about the threat of climate change and its effect on the ocean. How have your views on this issue evolved over the years?

TD: I intellectually understood climate change and the hugeness of the problem, but I have to admit, I was thinking to myself, ‘Well, I’m focusing on oceans, so I don’t have to engage completely with climate change.’ That changed in the last couple of years. It was partly because I had an experience with Jane Fonda at a Fire Drill Friday protest – being arrested and standing up with her – that focused me.

I realized that climate change is the biggest conversation society should have been having – and is having, thankfully, at this point. With this new administration, we are genuinely having that conversation and oceans are a huge part of it.

You have spoken publicly about alternating between a vegan and pescatarian diet. In your view, how is it possible to eat fish and be an ocean advocate?

TD: I, living in America and being wealthy, have choices. I could become vegan – probably would be good for me. But I am in a small minority around the world. There are so many people, especially women in the Global South, who depend on the nutrition that a fish gives them or their children. Sure, the world would be a better place if we could all be vegan and not eat meat, but that feels like a rich, Northern Hemisphere argument. And by the way, there are also people in the United States who can’t afford to be vegan. So then the question becomes: How do you eat fish sustainably? If you get rid of the huge trawlers, and all the illegal and unregulated fishing, you could let the ocean feed a great many of us. If you did it correctly, you could provide a billion fish meals a day. You can eat small, local, wild fish, and you can do that sustainably for a long time – forever – if you manage your fisheries correctly.


Plastic pollution is another issue that gets framed as a personal failing, with consumers facing pressure to use less and recycle more. How can we best address the problem of single-use plastics?

TD: The simple answer is you have to stop plastic pollution at the source. You have to get rid of single-use plastic and find alternatives because, not only is it killing a lot of creatures in the ocean, but it’s also made from

fossil fuels. Plastic production is projected to quadruple in the next 30 years, and we cannot recycle our way out of that. Only 9% of every piece of plastic ever made has been recycled, and some of that is not even recycled – it’s downcycled. One way to approach this is to give customers a choice. So if you’re checking out at a supermarket or store, you would have a plastic-free option. The polls say, by huge amounts, that people will make use of that option. So it’s up to the packagers and the industry to make it happen.

The Good Place got a lot of people thinking about what it means to do the “right” thing. Do you see any links between the messages underpinning this show and your role as an ocean steward?

TD: Yes, I do. One of the messages in the show was that no one was getting into the ‘good place’ anymore because of unintended consequences. If you send your grandmother flowers, that’s X amount of ‘good points,’ but in doing so you pick up your phone that was maybe made in some sweatshop, and gas is used to deliver the flowers. So what I take away from that are the unintended consequences of our actions – like burning oil, for example. People say it will take away jobs, and while we do need to have some sort of relief for those workers, no one accounts for the jobs that will be lost and all the bad things that will happen if we don’t stop burning fossil fuels. We need to act responsibly and think about the world as a whole, and we can do that by letting science lead the way. ■



The Inexplicable Rise of Redfish

In Canada's Gulf of St. Lawrence, one fish, two fish – millions of fish – are redfish. Luck may have helped revive this once-endangered species, but will science keep them around?

“Luck” is not a word you hear often in fisheries management. And yet, it’s a word that Caroline Senay, a federal biologist with Fisheries and Oceans Canada (DFO), uses to explain the redfish bonanza in Atlantic Canada’s Gulf of St. Lawrence.

Much like Atlantic cod, redfish are a groundfish species that succumbed to overfishing in the mid-1990s and collapsed, forcing a fishery closure. They were even classified as endangered as recently as 2010.

Unlike cod, redfish rebounded. From 2011 to 2013, the Gulf’s redfish population had a massive recruitment, scientific lingo meaning more redfish than usual survived past the larval stage. They kept getting bigger and bigger, and by 2019, redfish accounted for 90% of the total biomass – or collective weight – of everything DFO caught in the northern part of the Gulf during its annual survey of marine life on the seafloor. Previously, redfish made up only 15%.

Researchers say environmental changes may have worked in their favor, like warmer temperatures (which redfish seem to prefer) or an abundance of zooplankton (which redfish eat). A redfish moratorium in one area of the Gulf – called Unit 1 – also set the stage, allowing redfish to recover when the conditions were right. The moratorium has kept fishing pressure low since 1995, allowing only limited amounts for research and monitoring purposes.

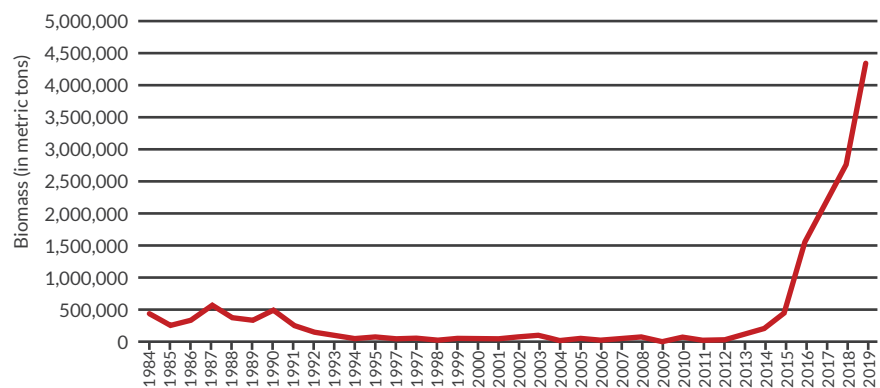
As redfish grow, so does interest in lifting the moratorium. However, Oceana and other groups are urging caution and proper planning. Senay compared the scenario to hitting the jackpot: The windfall is nice, but what happens if the money runs out?

“We’ve been lucky. We have this huge amount of redfish, and we don’t know when we’re going to win the lottery again,” Senay said. “We need to plan our harvest assuming

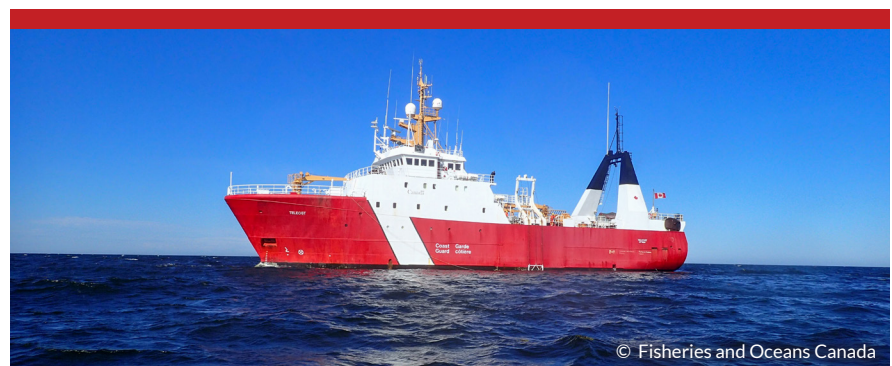
that we might not have another strong recruitment for 10, 15 years. And if we’re lucky again, we’ll reassess how much money we have in our bank account and we’ll be able to ‘spend’ more, or fish more.”

Luck may have played a role in rejuvenating redfish, but if we want to see a truly abundant and long-lived redfish fishery, proponents say science-based fisheries management is the best chance we have. ➤

Deepwater redfish



This graph, drawn from Fisheries and Oceans Canada data, illustrates the massive growth in biomass (or collective weight) of Deepwater redfish in the Gulf of St. Lawrence.



© Fisheries and Oceans Canada

Pictured is the *Teleost*, the vessel that Fisheries and Oceans Canada used to conduct a survey of marine life in the northern part of the Gulf of St. Lawrence.



A fishing boat is pictured in Souris, a town in Canada's Prince Edward Island (PEI). In 1993, a fire destroyed the Usen Fisheries plant, which processed redfish and was previously the largest employer in Souris. The plant's closure put 300 workers and 50 trawlermen out of work, according to the Prince Edward Island Government. Ultimately, the collapse of redfish stocks took a similar toll on processing plants across the Gulf of St. Lawrence. Dr. Kris Vascotto, executive director of the Atlantic Groundfish Council, said another former redfish processing plant in the Magdalen Islands has since been converted into lobster facilities.



From processing plant to parking lot

Redfish are sometimes called “ocean perch,” even though they aren’t perch at all – they’re rockfish. The name arose in the 1930s, when a fish cutter discovered that redfish were similar in taste and texture to freshwater perch, a popular species in some areas. Harvesters started rebranding redfish as ocean perch and offering it as a substitute.

So what exactly does redfish taste like? Dr. Kris Vascotto, executive director of the Atlantic Groundfish Council, likened its flavor to that of a lake trout or a Pacific ocean perch (another type of rockfish).

“It’s an oily fish with a very light-colored fillet. It’s not a cod, it’s not a halibut, and it’s not a haddock,” he said. “It’s not the type of thing that you’re going to batter or fry. Generally, what I’ll do is grill it in my pizza oven with some sesame oil and light soy sauce on it, and it’s absolutely divine.”

Despite Vascotto’s taste for redfish, it’s not a popular or well-known fish in Canada. In the ‘70s and ‘80s, redfish were primarily exported to the United States, and many fillets ended up being served in military cafeterias because they were a consistent size and fairly inexpensive.

Even though redfish didn’t win over Canadian palates, it did support local processing jobs, especially in the Gulf of St. Lawrence region. Many types of seafood – including lobster and other shellfish – are exported and processed abroad (often in China), then shipped back to North America. But redfish were historically processed in Canada, then exported to other end markets. When redfish collapsed, many of

those local processing plants shut their doors for good.

“A couple years ago I went to check out some of the old processing plant sites where the redfish fisheries were,” Vascotto said. “Now they’re basically just parking lots in these little communities that are now supporting lobster fisheries.”

Under most rebuilding scenarios, a redfish fishery would generate a higher landed value than the status quo, according to an Oceana-commissioned analysis by Dr. Rashid Sumaila and Dr. Louise Teh from the University of British Columbia. This, in turn, could help

boost local economies and bring back jobs that were previously lost.

Vascotto expressed “cautious optimism” that the Unit 1 moratorium will be lifted someday but said it should not be rushed. Redfish are more valuable once they reach a size that’s suitable for fillets – roughly around 30 centimeters – and the fish are currently around 23-24 centimeters. To ensure this fishery is both profitable and long-lasting, it needs to be sustainable, he said.

Of course, figuring out how to effectively manage redfish comes with its own set of challenges.



Caroline Senay is a fisheries biologist for the Canadian government.

Management status: It's complicated

Redfish, despite what Dr. Seuss may lead you to believe, are not so simple to identify. There are actually two species of redfish in the Gulf of St. Lawrence, and they look identical to the untrained eye. Deepwater redfish (*Sebastes mentella*) are healthy and flourishing. Acadian redfish (*Sebastes fasciatus*) are significantly fewer in number, relegated to the “cautious” zone.

DFO surveys found that there were 4.4 million metric tons of redfish in the Gulf of St. Lawrence in 2019 – the highest biomass for redfish on record. But if you break that down further, you'll see that Deepwater redfish dominate the landscape, accounting for 4.363 million metric tons.

This is great news for Deepwater redfish, but it poses a challenge. Oceana asserts that a sustainable fishery would be able to target Deepwaters while avoiding Acadians, but the main way to tell them apart is by counting the number of soft rays in their anal fin. This so-called “species split” takes some time to master, but onboard observers have been successfully trained in this technique.

The other obstacle is finding a highly selective gear that doesn't catch and kill a considerable number of non-targeted species, otherwise known as the bycatch rate. Ideally, the gear would avoid Acadian redfish and other depleted species, like white hake and cod, as well as commercially valuable species like halibut.

These are questions that Dr. Erin Carruthers, a fisheries scientist with the Food, Fish & Allied Workers union (FFAW-Unifor), has been



Acadian redfish (pictured here) look nearly identical to Deepwater redfish.

grappling with for some time. The union represents Newfoundland harvesters who catch redfish in the fisheries where it's permitted, including a three-year experimental fishery designed to test out different gears and tactics.

Midwater trawls, which avoid scraping the seafloor, have shown promise in reducing the bycatch rate to 2%. However, they really only work in the winter months, when redfish are higher up in the water column, Carruthers said. Newfoundland-based harvesters have also been testing ways to reduce impacts on the seafloor and other sea life, including a modified net that allows non-targeted fish to swim through escape vents before it's hauled up to the surface.

“What we're working on with the experimental fishery is how to fish sustainably and how to have a long-term redfish fishery,” Carruthers said. “I think it will take a couple more years for us to really square away this species split and the gear type.”

Slow and steady

Oceana has been advocating for science-based management of the redfish fishery and supports DFO's decision to keep existing redfish quotas low until a more robust plan is in place.

“The current redfish biomass boom is an incredible opportunity for a re-emerging and expanded fishery, but not if we don't have a good plan to manage the complexities of the bonanza,” said Devan Archibald, a fisheries scientist for Oceana Canada.

Archibald said that plan should include strategies to prevent bycatch of undersized Deepwater redfish and less abundant Acadian redfish, along with other species that are depleted or commercially valuable.

Attention should also be given to protecting sensitive benthic habitats in the Gulf of St. Lawrence, some of which Oceana identified during its 2017 expedition.

Pressure to raise redfish quotas or lift the moratorium will likely mount in the coming year as redfish mature and reach a more marketable size. However, this is our chance to take it slow and work out the logistics, Archibald said.

This species is slow-growing and incredibly long-lived, so there's even more of an incentive to make sure redfish stick around – for good this time.

“They can live 75 years,” Senay said. “If I do my job well, I'll retire and some of them will still be swimming happily in the water.” ■

Cheers to 20 YEARS of ocean protection

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You can't protect the world's oceans without weathering a few storms, and Oceana has seen its fair share of squalls – both literal and metaphorical – in the last 20 years. Through it all, Oceana has risen to the challenge, winning more than 225 victories that curb pollution, reduce bycatch, stop overfishing, increase transparency at sea, and protect habitats and marine species.

Oceana won its campaign to stop Royal Caribbean from polluting the ocean, despite having to take on the world's second-largest cruise company as a barely two-year-old organization. It successfully confronted and changed long-held views of bottom trawling, prompting a paradigm shift in habitat management that is still in use to this day. And it confronted illegal driftnet fishing head-on, even as fishers attacked Oceana's crew in French waters, lobbing objects at their heads.

In celebration of the organization's 20th anniversary this year, five longtime leaders at Oceana revisited victories that were particularly memorable or precedent-setting. Here's what they had to say about the obstacles they faced, the lessons they learned, and how they pulled it off to protect our oceans. ➔

Feature

Dr. Michael Hirshfield

Senior Advisor



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Oceana gets Royal Caribbean Cruises to stop dumping virtually untreated sewage and other waste into the ocean

“Oceana decided to focus on cruise pollution because it was timely, visible, could be explained simply, and had a solution: Stop dumping thousands of gallons of poorly treated human waste into the ocean. At the time, Royal Caribbean Cruises was the world’s second largest cruise company and had already been fined more than \$30 million for illegally discharging oil, wastewater, and garbage into the ocean. We decided to launch a corporate-focused campaign, and ultimately succeeded in getting Royal Caribbean to install real sewage and wastewater treatment facilities on all of its ships.

It wasn’t easy, though. Challenges during the campaign included aggressive pushback from the company. They sent letters to each of our board members individually, complaining about the staff and threatening litigation. It is a proud moment – especially so early in Oceana history – that the board stood behind our campaign, causing the company to back down from its threats. Timing was another challenge. The campaign was launched about a year after 9/11, which made approaching cruise ships for demonstrations significantly more difficult because of increased security.

Our campaign directed media and public pressure towards Royal Caribbean leadership. As a new organization, we relied heavily on activities that would generate press coverage (some might call them stunts), clever and humorous ads, and petitions and grassroots events. At one point, Oceana chartered a plane towing a banner that read, ‘Got sewage? Royal Caribbean dumps daily’ over the company’s headquarters in Miami (see page 28). We even had a toilet costume that was a big hit when volunteers wore it to protests in front of the company’s cruise ships. We later learned that a key reason the company’s leaders finally agreed to our demands was because they were receiving pressure from their own employees, who didn’t like feeling bad about the place where they worked.

Because this campaign was Oceana’s first major victory, it set precedents for decision-making to this day. It also affected our approach to corporate campaigns, in particular by emphasizing the important role of media and grassroots organizing, along with scientific reports and legal action. That said, it also showed how similar corporate campaigns can be to policy campaigns, which

often rely on the same tools. For example, following the success of our toilet costume, Oceana used costumes depicting a dolphin, a dusky shark, and a big red fish (named ‘Finley’) in subsequent policy campaigns.

This campaign taught us a few broader lessons, as well. Be prepared for everything you can imagine, but never think you really understand how your opponents will react. And finally: Novelty, surprise, and humor are invaluable elements that can be used to our advantage.”

The big picture

Thanks in part to Oceana’s Royal Caribbean campaign, then-California Governor Arnold Schwarzenegger signed a law that prohibited the cruise industry from dumping sewage into state waters.

Over the years, Oceana has won many other pollution victories, including stopping mercury polluters in the United States; tackling harmful salmon farms in Chile; securing an offshore oil drilling ban in Belize; and getting several laws passed around the world that reduce plastic pollution. 🐟

Jon Warrenchuk

Campaign Manager
and Senior Scientist



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| 2005:

Oceana protects cold-water corals and seamounts in Alaska from destructive bottom trawls

“In 2002, National Marine Fisheries Service (NMFS) scientists discovered the world’s most abundant and diverse assemblage of cold-water corals off the Aleutian Islands of Alaska. This is the same area where factory trawlers were dragging bottom trawls across the seafloor, removing corals by the ton. Cold-water corals grow slowly – only a few millimeters a year – and provide essential habitat to many marine species. Something needed to be done.

Oceana mobilized to alert the media, funders, decision-makers, and fishing industry that there were, indeed, corals in Alaska, and that NMFS had a legal obligation to protect them. We demonstrated that by ‘freezing the footprint’ of bottom trawling to a limited area and identifying sensitive habitat within that footprint, much of the coral habitat in the Aleutians could be protected.

This approach completely shifted the industry standard of ‘trawl anywhere unless someone can prove you are doing harm’ to ‘only trawl where you have trawled before unless you can prove you won’t do harm.’ It was a heavy lift, and the trawl industry initially

laughed off our habitat protection proposal.

In the midst of the campaign, I jumped at the chance to join a team of researchers who were surveying coral habitat on seamounts far offshore in the Gulf of Alaska. During those 21 days at sea, I spent six serene hours in a submarine 1,000 meters below the surface gazing at cold-water corals in the wild. When the expedition ended, we added the seamounts to our protection proposal and got to work engaging in an esoteric fishery management process like no other non-profit had done before.

We dug deep into the data and presented analyses of coral and sponge bycatch with more detail than the Fisheries Service would provide. When our requests for mapping and data overlays overwhelmed our geographic information system (GIS) contractors, I taught myself GIS so we could create these materials on the fly. We brought portable printers to meetings so we could print out maps in the hallway. We turned independent scientists into coral advocates and generated scientist sign-on support letters. We collected 32,000 public

comments of support to send to NMFS, which may have been a new record at the time.

In the end, we won one of Oceana’s largest and earliest habitat victories with the protection of 370,000 square miles (more than 958,000 square kilometers) of seafloor habitat in the Aleutian Islands and all the seamounts off Alaska. At the time, the action was credited as creating the largest marine protected area in the United States. Oceana has since used the same ‘freeze the footprint’ approach to protect vast swaths of habitat in other parts of Alaska and all over the world.”

The big picture

As of this year, Oceana has protected nearly 4 million square miles – or more than 10 million square kilometers – of ocean habitat. This includes areas closed to bottom trawling and marine protected areas created as a result of Oceana advocacy. Other significant habitat victories have included a law to ban existing bottom trawling in Rio Grande do Sul, Brazil’s southernmost state, and a nationwide ban on all trawling in Belize. ▶

Ricardo Aguilar

Senior Advisor and
Expedition Leader



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| 2008-2009:

After gathering damning evidence at sea, Oceana pressures France and Italy into cracking down on illegal driftnetting

“Fighting against illegal fishing activities it is not an easy or safe task. The ones involved in these activities are not always friendly towards those of us who work in marine conservation – and they are especially unhappy when they’re caught red-handed. These are the scenarios that unfolded in 2005 and again in 2007, when Oceana embarked on the *Ranger*, our 22-meter-long catamaran, to look for illegal driftnetters in the Mediterranean Sea.

Despite the fact that the European Union (EU) had banned driftnetting for large pelagic species in 2002 and paid up to 50,000 Euros per boat to support the transition to legal fishing gear, some reluctant fishers continued using driftnets up to 12 kilometers (7.5 miles) long to catch tuna and swordfish. Across the EU, these illegal nets were responsible for enormous amounts of bycatch each year, including as many as 15,000 cetaceans and over 100,000 sharks – according to estimates at the time – and an unknown number of sea turtles, sunfish, and other marine animals.

One day when Oceana was out on the water, we found what we were looking for: a group of driftnetters in Italian waters. Our crew quickly mobilized to start recording their activities and gathering data on the

fleet involved in this fishery. The fishermen realized that we were filming as they recovered their nets, some of which were heavy with non-targeted marine life. Many eyewitnesses were watching as they hauled in their wasted catch. They became furious and suddenly started chasing us and demanding that we hand over the video footage, but we managed to outrun them.

Two years later, the *Ranger* found half a dozen illegal driftnetters in French waters off the coast of Marseilles, and we came under attack. The driftnetters hurled potatoes, stones, discarded fish, and even rays (with venomous spines) at us, along with colorful insults and threats. They threw ropes in the surrounding waters to entangle our propellers and leave us incapable of fleeing. They even attempted to ram and board our vessel. Our captain radioed French maritime authorities, and just in time, a government helicopter arrived and scared the driftnetters away.

Over the next few years, Oceana continued looking for illegal driftnetters at sea and in harbors, and prepared several reports for the EU that finally forced Italy and France to take decisive action to stop this fishery. Oceana later

carried out similar research in Moroccan and Turkish waters, which resulted in agreements in those countries to phase out large-scale driftnets.

Our campaign succeeded in preventing thousands of whales, sea turtles, sharks, and other marine animals from dying as bycatch, and ultimately helped authorities better manage swordfish and tuna stocks.”

The big picture

Bycatch doesn’t need to be an inevitable and enormous side effect of fishing. Oceana supports responsible fishing, and one way of doing that is by helping fishers transition to more selective gear types, or jobs that don’t jeopardize ocean abundance. Following campaigning by Oceana and its allies, the government of Belize agreed to phase out harmful gillnets, with the condition that those fishers would be trained for alternate jobs.

A similar deal was clinched in California, where Oceana raised \$1 million from foundations, families, and individuals in 2020 – matched by government funds – to help drift gillnet fishers switch to a gear that is effective at catching swordfish while avoiding dolphins, sea lions, and other non-targeted marine life. ➡

Jacqueline Savitz

Chief Policy Officer,
North America



| 2014:

Oceana teams up with Google and Skytruth to create Global Fishing Watch and promote transparency in the fishing sector

“Imagine the impact of having eyes in the sky that could see every fishing vessel in the world, 24 hours a day, seven days a week, 365 days per year. On top of that, those eyes could see the name and flag state of each vessel and determine when and where each vessel is fishing. Well, in a partnership with Google and Skytruth, Oceana did just that. We created a tool called Global Fishing Watch, which provided – for the first time ever – a view of fishing vessels all around the world. Anyone with an internet connection can now access this information online for free.

It all began in late 2013, when Google let us know that global vessel tracking data might be available and asked what we'd do with those data. Previously, our illegal, unreported, and unregulated (IUU) fishing analyst painstakingly tracked one vessel of interest, point by point, to determine its path and analyze its fishing patterns. We realized that the availability of automatic identification system (AIS) data would make it possible to have a computer generate these fishing footprints for every vessel in every national fleet, globally, 24/7. We immediately shot off several examples of how we could use such a tool, along with an

approach to how we could identify fishing activities. Google brought in Skytruth, a savvy non-profit with technical skills, to develop a prototype. And in 2014, the three organizations joined forces to shed some light on global fishing.

When all the data were presented, the first observation most people made was that fishing was happening pretty much everywhere in our oceans. Vessels were fishing far from their home countries, and some nations had extremely large fleets. Every time we ran a demo for someone, more ideas for how to use this platform came to light. Once it was built and launched, Oceana, Google, and Skytruth stood Global Fishing Watch up as its own organization. It achieved all of our goals and more.

It exposed the massive size and global coverage of the Chinese distant-water fishing fleet. It helped us catch illegal fishers in Kiribati, resulting in a \$2 million fine. Oceana has adapted it to identify speeding vessels in areas where highly endangered North Atlantic right whales are present. We can see when vessels are avoiding detection and when they are potentially meeting up to transfer fish or other cargo – sometimes

illegally. We can even use it to determine where protected areas are needed most, ensuring that fish populations have the habitat they need for breeding, feeding, or nursing so that we can rebuild ocean abundance.

Just four years after its launch, Global Fishing Watch supports 50 staff and an \$8 million budget. Its value is continuing to grow and there is no end in sight. Playing a part in creating this extremely powerful tool has been one of the highest honors in my 19-year career with Oceana.”

The big picture

One of the biggest questions of transparency is determining just how many fish are being removed from the ocean. IUU fishing complicates this question, but tools like Global Fishing Watch make that task a lot more manageable. Oceana campaigns to get more countries to make their vessel tracking data available on the Global Fishing Watch platform, and Brazil and Belize have both recently agreed to do so. Oceana also advocates for increased transparency and traceability along the seafood supply chain, and has made significant strides in this area. ➤

Kim Elmslie

Campaign Director



| 2019:

Canada modernizes its *Fisheries Act* and starts requiring depleted fish stocks to be rebuilt

“In 2015, Canadian Prime Minister Justin Trudeau swept into power on a wave of optimism and made various commitments to environmental protection. One of his campaign promises was that his government would modernize the *Fisheries Act*, one of Canada’s oldest and most outdated pieces of legislation, and restore protections that had been removed by the previous government. At Oceana, we immediately identified an opportunity to bring Canada in line with what other progressive fishing nations were doing around the world.

As with any campaign, we faced multiple challenges along the way. For instance, there were three different Fisheries Ministers – the key decision-maker who enforces fisheries policy – in four years! The field was crowded, too. When the new law was being developed, every organization and industry member saw an opportunity to advance their cause, since the government had no definition of ‘modernize.’ We needed to make a strong case to this brand new government that modernizing the *Fisheries Act* meant requiring rebuilding plans for depleted fish stocks. Of course, we were ultimately successful in securing

this provision, as well as another important measure we campaigned for: a ban on the import and export of shark fins in Canada, which was incorporated into the *Fisheries Act*.

Two years have passed since the Act was updated, and the need to rebuild Canada’s fisheries has never been greater. Many of Canada’s wild fish stocks remain depleted decades after they collapsed, putting us in the vulnerable position of depending on a handful of species to support our fishing industry.

Canada’s marine fish populations have declined by 55% since 1970, and currently there are 33 stocks in the critical zone. Only a quarter of our fish stocks can confidently be classified as healthy. This is in spite of existing policies on rebuilding that have been in place for years. However, policies aren’t legally binding. As we often like to say at Oceana, ‘Policies are good, but laws are better.’

We are now working to strengthen regulations to support the rebuilding provisions in the Act. When depleted stocks are left to languish, Canadians miss out on the social, cultural, and economic benefits of healthy fisheries. Plus,

think of all the ocean wildlife that require fish to survive, such as whales, dolphins, and seabirds. Last year, we undertook an economic analysis of six depleted stocks and found that once fish stocks are rebuilt, they could support catches up to 18 times above the status quo catch level. This brings benefits to the fishers, as well as entire coastal communities who have food, cultural, and other connections to fisheries. I want this future for all Canadians.”

The big picture

Stopping overfishing was Oceana’s *raison d’être* when it was founded 20 years ago. While Oceana’s scope now includes other important issues – such as reducing plastic pollution, ending the shark fin trade, and protecting critically endangered North Atlantic right whales – restoring ocean abundance is a recurring goal across Oceana’s campaigns.

Studies have shown that rebuilding plans are the single best indicator of whether a fishery has a chance of rebounding. By advocating for sensible, science-based fisheries management around the world, Oceana has seen the fish come back time and time again. ■

As part of its first major campaign, Oceana flew banners over beaches, Royal Caribbean's headquarters, and several ports where the company's ships were docked. This strategy drew attention to the issue of cruise pollution and ultimately persuaded Royal Caribbean to properly treat its ocean-bound waste.

"It also cemented Oceana's focus on pollution as well as fisheries," said Oceana Senior Advisor Dr. Michael Hirshfield. Over the years, Oceana grew in scope, expertise, and geographic coverage. Oceana now operates in nine countries and the European Union and has won over 225 victories that stop overfishing, curb pollution, reduce bycatch, increase transparency, and protect important habitats and species. To see a full list of Oceana's victories over the last 20 years, visit oceana.org/victories.

**GOT SEWAGE ?
ROYAL CARIBBEAN
DUMPS DAILY**





Our victories over the last year

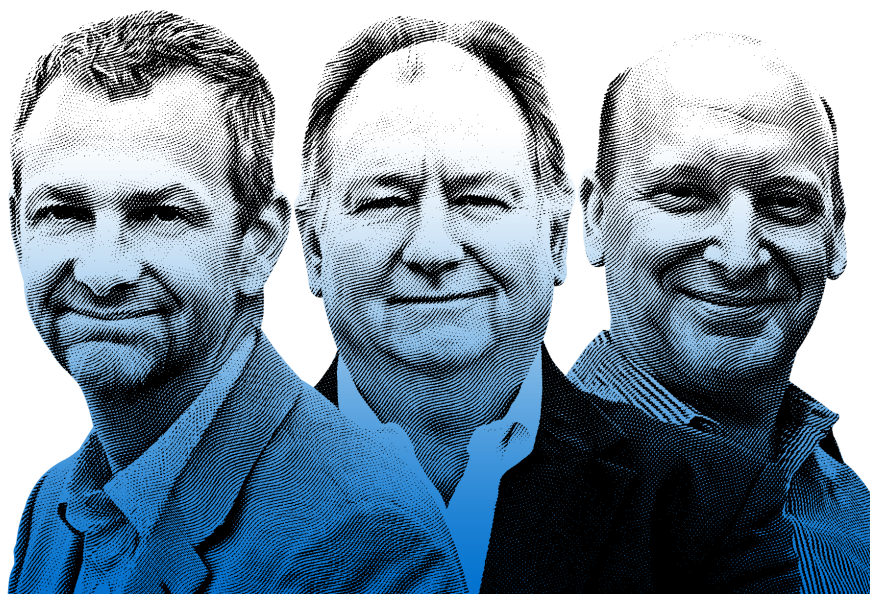
With the help of its allies, Oceana has won over a dozen victories in the last 12 months

- In the U.S., the National Marine Fisheries Service (NOAA Fisheries) protects over 25,000 square miles (65,000 square kilometers) of New England deep-sea corals from destructive fishing
- Belize agrees to publish vessel tracking data for its commercial fishing fleet
- The U.S. state of Maryland protects marine life from choking on balloons
- Chile protects oceans from single-use plastics and mandates refillable bottles
- The U.S. state of Washington bans polystyrene foam and limits ocean-polluting single-use plastic at restaurants
- The U.S. state of Virginia protects oceans from polystyrene foam and balloon pollution
- Scotland creates new marine protected area
- Spain's Supreme Court upholds the expansion of the Mediterranean's second-largest marine national park
- The U.S. Pacific Fishery Management Council takes measures on the West Coast to save critically endangered orcas from extinction
- The Philippines issues new rules to help stop illegal commercial fishing
- The U.S. state of California protects whales and sea turtles from entanglements in crab fishery
- NOAA Fisheries protects deep-sea corals in the U.S. Gulf of Mexico
- A suit filed in U.S. federal court by Oceana and a coalition of groups successfully delays seismic airgun blasting in the Atlantic
- The U.S. state of California begins phasing out deadly drift gillnets
- Former U.S. President Donald Trump withdraws the waters off Florida, Georgia, South Carolina, and North Carolina from offshore oil and gas leasing for 10 years
- Brazil launches online logbooks for its fisheries catch data
- Chile prevents the construction of harmful salmon farms in Patagonia
- Brazil agrees to publish vessel tracking data for its commercial fishing fleet
- Food ordering platform iFood commits to deliver plastic-free meals by 2025
- Fisheries Management Councils are restored in Brazil
- Chile's Environmental Court reinforces need for science-based management of southern hake following legal challenge by Oceana

≡ Supporter Spotlight ≡

An oral history of Oceana, as told by three of its founders

Oceana was established by a groundbreaking group of foundations – Oak Foundation, Marisla Foundation, Sandler Foundation, Rockefeller Brothers Fund, and The Pew Charitable Trusts – at a time when practically no one was doing ocean conservation on a global scale. Twenty years later, Oceana is the largest international organization dedicated solely to ocean conservation, and several of its founders are still active board members. In celebration of Oceana’s anniversary, we caught up with three of Oceana’s founders to find out what drives their passion and why they keep showing up for our oceans, year after year.



Dr. Kristian Parker
is a trustee of the Oak Foundation and oversees its environment program.

Herbert “Beto” M. Bedolfe, III
is executive director of the Marisla Foundation.

James Sandler
is in charge of the Sandler Foundation’s environmental giving.

feeling completely safe. Where else can you find yourself surrounded by wildlife, sometimes creatures the size of a bus (in the case of whale sharks), and just float past, feeling connected and at peace?

Beto Bedolfe: I grew up in a beach town in Southern California and spent a lot of time in the ocean – mainly body surfing, swimming, and some surfing – so that connected me. In the 1980s I became concerned, then horrified, when I learned that DDT had been dumped off the coast of Los Angeles/ Palos Verdes in huge quantities from the 1950s-1970s. That has caused disastrous health and environmental problems for many decades and led to me becoming more active in ocean conservation.

On falling in love with the ocean

Kristian Parker: I don’t remember an exact moment when I fell in love with the oceans, but let’s just say I was lucky enough to spend time in special places growing up, including the Kona Coast on the Big Island of Hawaii. I spent a lot of time snorkeling, body surfing, and just hanging out at the beach. I was in that sea water so much that I was once asked if I bleached my hair! When it came time to choose my subject for 10th grade, it seemed a

natural fit to combine my love of the biological sciences with the oceans. But it wasn’t until graduate school that I became truly aware of the challenges the oceans are facing.

James Sandler: I developed a deeper connection with the ocean when I started scuba diving. The ability to dive below the surface and spend large amounts of time exploring a world that is so completely foreign to what we experience on land was captivating. Here I was, swimming with so many beautiful and strange creatures and

On ocean conservation, then and now

Kristian Parker: When I started working in ocean conservation, it seemed to be a much-neglected field. When Pew came to me to propose the idea of Oceana in 1999, there was less than one-half of one percent of environmental funding going towards the oceans. The idea of conservation was decades old, but for some reasons the oceans – aside from the fate of marine mammals, especially whales – was out of sight and out of mind.

Beto Bedolfe: Twenty years ago, there were few ocean conservation organizations in relation to groups working on terrestrial issues. It wasn't that no one cared, but probably had a lot to do with how big the ocean is and how people thought it could never be ruined. As the deep problems of overfishing, bycatch, ocean pollution, and underwater habitat destruction became better known, it was obvious that an organization like Oceana would be crucial to restoring ocean health and abundance. It was clear that the problems were tough and complex because they were local, regional, national, and international; this led to Oceana becoming active and effective in many parts of the world.

On Oceana's secrets to success

James Sandler: There are two things that I believe were instrumental to Oceana's growth and success. The first is that it was founded by a group of passionate funders who committed to provide three important elements: large, long-term, and flexible general support funding. This gave Oceana's leadership the freedom to grow the organization and focus on the mission.

It also led to the second important element of Ocean's success: great leadership. I believe Oceana was able to attract the best possible team by letting them know that they had the resources to create and execute on their strategy. They had the flexibility to grow the organization and create campaigns with few constraints. This culture led to one of the most effective environmental organizations out

there. Fortunately, the leadership team and most of these funders are still involved with Oceana and have been able to attract new funders who also understand the power that flexible funding gives to an organization.

Beto Bedolfe: Oceana's staff, board, and supporters are really the most tireless, generous, and wonderful people in the world. At a time when things are extremely difficult on many fronts – including ocean destruction, climate change, geopolitics, and now the pandemic – I am truly touched by people who do what they can to make the world a better place. And, of course, Oceana is supported by people around the world who understand the gravity of the situation and want to save and restore the ocean for lots of different reasons: beauty, tranquility, environmental sustainability, and even to slow climate change.

There is another reason behind Oceana growing in a good way: Leadership has been great at scanning the horizon for new threats to the oceans or new opportunities. Things have changed in 20 years, with ocean plastics being just one example, and Oceana has always picked up the challenge and been successful.

On making a lasting impact

James Sandler: Every time I attend a board meeting and hear the reports from country leaders, I am floored. Sometimes we hear from a country where the government is amenable to following science and creating regulations that help preserve and enhance their ocean resources. These reports

are exciting because I can't believe how much we are able to get done. Other times we hear from a country where the government is indifferent or hostile to our campaigns. The campaigns in these countries are hard-fought, and the victories can feel incredibly sweet. I suppose I am just proud to be part of such an impactful organization that brings creativity, professionalism, and persistence to campaigning. Oceana takes chances and works on big problems that impact the quality of life for millions of people and, in some cases, has completely transformed the management practices of a country's ocean resources upon which much of the country depends for food and livelihood.

Kristian Parker: The oceans remain a source of food for many people around the world. The idea that Oceana could champion ocean biodiversity and its role in feeding vulnerable populations is a powerful one. With climate change bearing down on us, we must see the oceans as a lifeline for those in need, not a source of luxury seafood. We must give precedence to sustainable small-scale fisheries over the destructive industrial players, especially if they are focused on mining the seas to supply fancy sushi restaurants.

It has been a tremendous joy to participate as an Oceana board member over the last 15 years. The decisions we made really mattered. Whether it was an on-the-spot decision to campaign against coal plants on the coast of Chile, or a referendum to ban offshore oil in Belize, to witness Oceana staff go from a board decision to significant victories is something to behold. ■

Ask Dr. Pauly



Dr. Daniel Pauly is the founder and director of the Sea Around Us project at the University of British Columbia's Institute for the Oceans and Fisheries, and is a member of the Oceana Board.

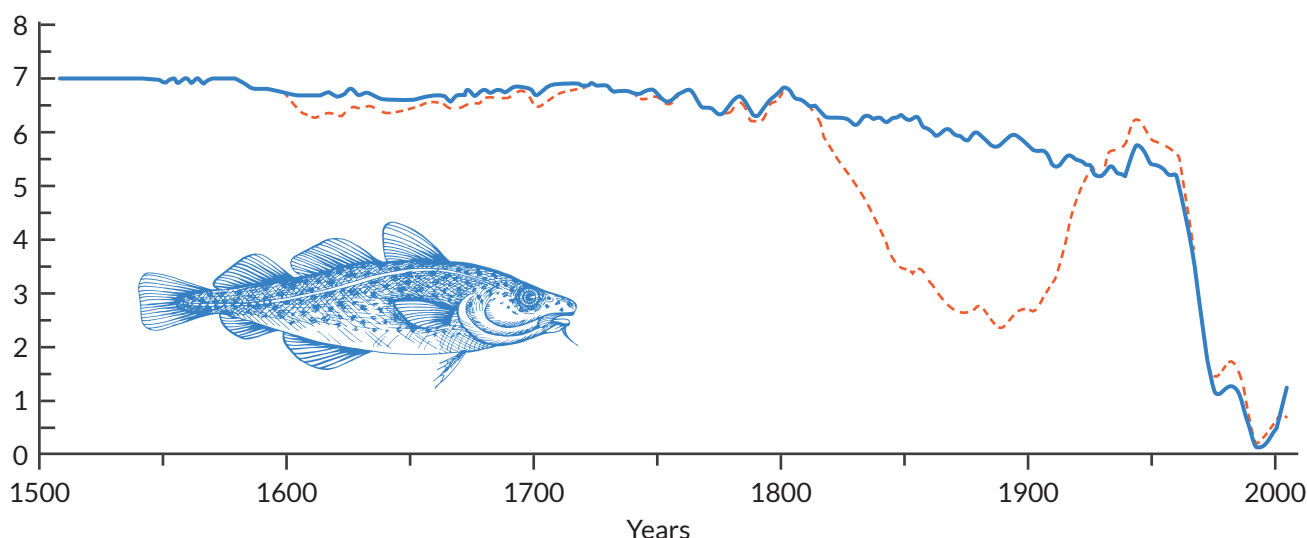
What is sustainability?

Nowadays, everything is supposed to be or become “sustainable,” and sustainability is viewed as inherently good. Indeed, the term sustainable has become so widely used that it has gradually lost most of its original meaning.

Sustainable means (or meant) that something can be maintained at a given level for a long time. Humans usually want to do more of the things they view as positive and fewer of the things they view as negative. Thus, the term “sustainable growth” was coined, which has various complex definitions (Google it!), but is irreparably oxymoronic because

nothing in this world can grow for a long time and remain what it is. Fisheries science and management has a concept of sustainability – called Maximum Sustainable Yield (MSY) – which has been surrounded by controversies¹. MSY was built on the notion that a fish population exploited by a fishery can, in principle, support a relatively high catch provided that its biomass (or abundance) is not reduced to less than half its unfished level. On this condition (and taking environmental fluctuations into account), a sustained yield can be taken, just as one can in principle, given a reasonably large sum in a bank, live off the interest forever.

Biomass (million tons)



This graph shows the biomass (or “abundance”) of cod in Eastern Canada since 1505, as reconstructed by Rose (2004) from historic catch records and a mathematical model of a cod population, taking account of temperature fluctuations (dotted line) and not (solid line). Since its collapse, the population has remained at very low levels to date, due to fisheries management emphasizing “sustainability” (i.e. continued strong exploitation) rather than rebuilding.

¹ Pauly, D. and R. Froese. 2020. MSY needs no epitaph – but it was abused. ICES Journal of Marine Science; doi:10.1093/icesjms/fsaa224.

However, in the real world, fisheries are not usually managed to maintain MSY, and most traditionally exploited fish populations have been depleted to levels much lower than that which enable MSY to be taken.

For example, the Northern cod of Eastern Canada, which was exploited by European and later Canadian fisheries from 1500 to 1950, yielded 100,000 to 200,000 metric tons per year. However, in the early 1960s, European industrial trawlers set to work on a cod population that had thus far only been exploited using handlines and traps. The catches increased tremendously, reaching 800,000 metric tons in 1968. Returning to our bank analogy, these trawlers were not just living off the interest: They had broken into the bank's vaults and were removing massive chunks of the cash.

Predictably, the vast cod population that had supported historic catches collapsed and so did the trawl fishery, which was closed in the early 1990s². The cod population is now so low (even lower than shown in the figure for the early 2000s) that catches as small as 5,000 metric tons per year prevent it from recovering to its previous abundance.

Where does sustainability fit into this conversation? Well, you can maintain a low cod population and a low catch through a “sustainable fishery,” which is what the Canadian fisheries ministry currently does. However, why maintain such a pitiful yield? In such a case, the goal of fishery management should be to rebuild the fish population to its previous abundance, not to sustain its depleted state.



According to an Oceana-commissioned study, a rebuilt cod fishery could provide 16 times more jobs and five times more economic value than today. But for that to happen, the cod fishery must be effectively managed.

The vast majority of commercially exploited fish populations throughout the world are being depleted. Most of these populations are not being depleted as strongly as the Northern cod, but so much of what we view as “sustaining” fish is actually just maintaining misery. As it happens, the United States is one of the few countries in the world where sustained overfishing is not acceptable. By law, fisheries must rebuild depleted stocks to the MSY level, a policy that other

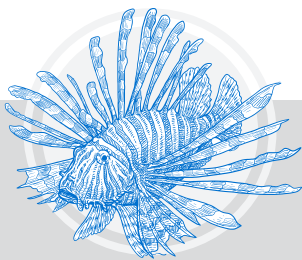
governments globally should emulate.

The book by Oceana CEO Andy Sharpless, titled: *The Perfect Protein: The Fish Lover's Guide to Saving the Oceans and Feeding the World*, is based on the logic of countries rebuilding diminished fish populations in their 200-mile Exclusive Economic Zones. This would indeed help feed the world; sustainability alone would not. ■

² Rose, G. A. 2004. Reconciling overfishing and climate change with stock dynamics of Atlantic cod (*Gadus morhua*) over 500 years. Canadian Journal of Fisheries and Aquatic Sciences, 61: 1553-1557. <https://doi.org/10.1139/F04-173>.

Lionfish

A tasty troublemaker



When life hands you invasive lionfish, you make a marinade. “Eat ‘em to beat ‘em” has been Belize’s answer to its pesky lionfish problem – and as far as problems go, few taste so sweet.

These spiky fish have been wreaking havoc on reefs in the Caribbean Sea, Gulf of Mexico, and along the southeast coast of the United States. They are native to the Indo-Pacific, where other predators help keep their numbers in check.

However, in the Atlantic, where they’ve been living and proliferating for several decades, few creatures seem willing to risk impalement for a taste of lionfish flesh. Given free rein, these voracious eaters will gobble up everything in their path, depleting other fish stocks, altering ocean ecosystems, and potentially hurting fishers’ livelihoods.

By hunting lionfish in their non-native range, locals are helping to restore order to the oceans. The meal that ultimately comes from this pursuit is a nice bonus, according to Belizean chef Sean Kuylen.

“As a chef, I can enjoy this gorgeous fish with mild palatable white flesh by simply removing the venomous spines, turning the lionfish into a delicacy and helping to protect the reef all at the same time,” Kuylen said.

And if lionfish haven’t found their way to an ocean near you, a white fish of your choice will do.

Sean Kuylen is a chef and restaurateur who specializes in “inspired Belizean cuisine,” or contemporary versions of classic dishes. After studying culinary arts and hospitality in San Francisco, he returned to the Caribbean – and ultimately to Belize – to resume work with the ingredients and recipes he first fell in love with. He has also supported policies that Oceana campaigned for in Belize, including nationwide bans on single-use plastics and offshore drilling.

Chef Sean Kuylen’s Grilled Lionfish with Whipped Papaya Butter and Green Mango Chayote Slaw in a Papaya Seed Vinaigrette

— Serves: 4 Time: 30 minutes —

Ingredients:

- | | |
|---|---|
| 4 whole lionfish, despined and cleaned | 1 cup lime juice |
| 1 medium ripe papaya, diced with seeds reserved | ½ cup apple cider vinegar |
| 1 small carrot, julienned | 1 cup olive oil |
| 2 medium green mangos, peeled and julienned | 1 tablespoon Dijon mustard |
| 1 chayote squash, peeled and julienned | 2 tablespoons honey |
| 3 radishes, thinly sliced | 1 tablespoon ginger |
| 1 small bunch of cilantro | 1 teaspoon nutmeg |
| ½ cup of panela or palm sugar | ½ teaspoon cloves |
| | Salt, black pepper, and cayenne, to taste |

Instructions

For whipped papaya butter:

1. In a saucepot, melt the panela or palm sugar until caramelized. Add the diced papaya and the juice of one lime and continue to cook to a bronze color or when the liquid has evaporated.
2. Season with salt, nutmeg, cloves, and cayenne to taste. Let cool for 15 minutes and blend whole cold butter until velvety smooth.

For papaya seed vinaigrette:

In a blender, combine the apple cider vinegar, papaya seeds, Dijon mustard, honey, salt, and pepper and blend on high speed until combined. Gradually drizzle 5 ounces of olive oil in the running blender until the dressing is fully emulsified. Adjust seasoning to taste.

For slaw:

Combine the green mango, carrot, chayote, and radish in a bowl and toss in the papaya seed vinaigrette. Finish with freshly torn cilantro sprigs.

For grilled lionfish:

Season the lionfish with salt, pepper, and the remaining 3 ounces of olive oil. Grill or pan sear on a hot griddle or skillet for about 6 minutes on each side.

For plating:

Ladle a generous amount of the papaya butter and set the grilled lionfish on top. Finish with the slaw. Enjoy!

Pascual Quinán Antillanca, a native of Chile's Bonifacio Cove, worked on or near the ocean his whole life. He did it all, from fishing to preparing longlines to moving heavy logs to secure boats in the cove. He was one of the fishers featured in photographer Claudio Almarza's book *Herederos del Mar (Heirs of the Sea)*, which highlighted people across Chile who depend on the oceans for their livelihoods, including some of the country's tens of thousands of artisanal fishers.



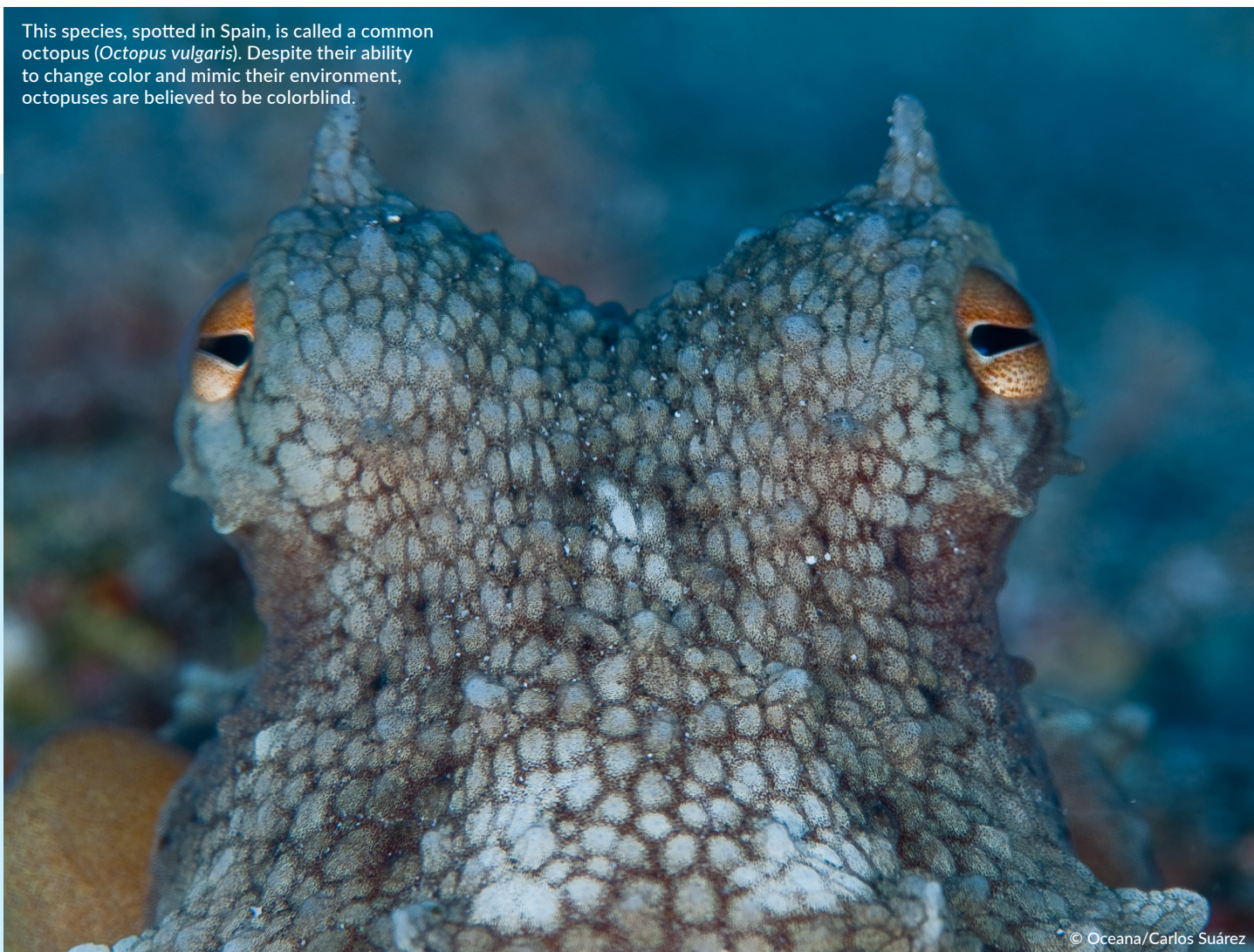


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This species, spotted in Spain, is called a common octopus (*Octopus vulgaris*). Despite their ability to change color and mimic their environment, octopuses are believed to be colorblind.



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