

Sea beyond the Blue

A guide on the oceans for **philanthropists**
and **changemakers**



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How to navigate this guide

This guide has four main sections to help you make more informed decisions about your oceans-related philanthropy.

Understanding the challenges:

Provides you with a high-level understanding of the issues facing the oceans.

Getting started:

Aims at giving you advice to drive your oceans-related philanthropy more strategically.

Taking action:

Highlights solutions and real-life examples via short case-studies, editorials, and interviews with leading experts and philanthropists.

Collaborate effectively:

Gives you ideas on how to drive systemic change.

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Foreword

The oceans are the foundations of all life on Earth. They provide more than 50% of the oxygen we breathe¹, are the main source of animal protein for more than a billion people, and provide livelihoods for 200 million citizens worldwide². If the oceans were a country, it'd be the world's seventh-largest economy, contributing around 24 trillion US dollars every year³.

But our oceans are under threat. They face unsustainable pressure from the planet's growing population, CO2 emissions, and overfishing.

Now is the time to act. Protecting the world's oceans requires a better understanding of the issues affecting them. From there, we must commit to solving those issues – urgently.

Whether you are a philanthropist or an advocate for a better world, curious about the oceans and interested in protecting them, this guide is for you. We have a multitude of resources already at our fingertips, but making the time to digest all available information is demanding.

Whatever stage you have reached in your philanthropy, this guide will help steer your efforts. It's not exhaustive, but if you are at the start of your journey, you'll discover best practices and facts that help you become an informed and engaged advocate for the oceans. If you already have a foundation or provide grants, you'll gain insights that inspire your vision and approach. Or if you are further along on your philanthropic journey, this guide will enable you to compare your plans with those of peer philanthropists and find fresh ideas for solutions.

We look forward to helping you navigate the challenges facing the world's oceans and explore ways to protect them. We wish you a passion-filled, inspiring, and impactful journey.

Warmly,



Phyllis Costanza
Head UBS in Society
CEO UBS Optimus Foundation



Mara Harvey
Head UBS GWM Client Services

¹ NOAA. Ocean Exploration and Research. How has the ocean made life on land possible? Retrieved from <https://oceanexplorer.noaa.gov/facts/oceanproduction.html>. Last consulted May 25, 2020.

² FAO. (2018). The State of World Fisheries and Aquaculture 2018 - Meeting the sustainable development goals. Rome.

³ WWF. (2015). Reviving the Oceans Economy: The Case for Action. WWF International, Gland, Switzerland.



In a seashell

We must protect the oceans. Our lives depend on them.

Our oceans provide us with more than 50% of our oxygen⁴. They help regulate our global climate. They absorb around 30% of our CO₂ emissions and have absorbed more than 93% of excess heat since 1970⁵. They are home to millions of fish and marine life. They provide direct livelihoods for more than 200 million people living in coastal areas⁶.

In short, a healthy planet requires healthy oceans. Without them, all life on Earth would cease.

The oceans face many threats. Almost all are due to human activities.

These threats include unsustainable fishing, greenhouse gas emissions causing acidification and ocean warming, biodiversity loss, destruction of habitat, and pollution. The scale of the threats are increasing due to pressure from our growing population, and a lack of appreciation and responsibility for our oceans.

Achieving one goal will help us achieve many more.

The 17 Sustainable Development Goals (SDGs), include **Life Below Water** (SDG 14), which aims to ensure we 'conserve and sustainably use the oceans, seas and marine resources for sustainable development'⁷. By achieving SDG 14, we can help meet many others like **No Hunger** (SDG 2), **Decent Work and Economic Growth** (SDG 8) or **Climate Action** (SDG 13).

Efficient solutions are available – you don't need to reinvent the wheel

There are a number of solutions available from low-tech to high-tech ones. Taking the time to get informed and identify the gaps is critical. It will help you make the best use of your resources and define where you can add most value. It might be by piloting a new idea but it can also be by replicating something that has shown results or partnering with an existing initiative.

4 NOAA. Ocean Exploration and Research. How has the ocean made life on land possible? Retrieved from <https://oceanexplorer.noaa.gov/facts/oceanproduction.html>. Last consulted May 25, 2020.

5 IPCC. (2014). Climate Change 2014 Synthesis Report Summary for Policymakers.

6 FAO. (2018). The State of World Fisheries and Aquaculture 2018 - Meeting the sustainable development goals. Rome, Italy.

7 United Nations. (2020). Retrieved from <https://unstats.un.org/sdgs/report/2017/goal-14/>. Last consulted May 25, 2020.



It's not just about money

No doubt that funding is important and urgently needed, but there is more than money. You can bring your skills, your time, your network, be an enabler or influencer.

Strategic and collective philanthropy can address the complex issues

There is space for spontaneous initiatives to address local issues and raise awareness. But the issues facing the oceans are huge and complex. Addressing and driving systemic change requires commitment from various stakeholders – from governments to industries, local communities, Non-Governmental Organizations (NGOs), and the wider public. A strong focus, strategic collaboration, and careful planning and measurement are key for impact at scale.

Investing can bring sustainability and scale

There's much discussion about the 'blue economy'. Currently, not all fields in the blue economy are investable. But, in some areas, investments can bring rapid scaling and sustainable development.

For now, most investable organizations related to the oceans are linked to aquaculture (fish farming), sustainable shipping, renewable or aquatic energy, plant-based alternatives to fish, and infrastructure such as dams and barricades.

Understanding the challenges

Overfishing and destructive fishing

Overfishing

As the world's population has more than quadrupled over the past century, so has its demand for seafood. In 2016, global fish production peaked at around 171 million tons, with aquaculture (fish breeding and farming) representing 47%⁸. Fish currently provide around three billion people with almost 20% of their animal protein⁹.

This growing appetite for marine animal protein has put immense pressure on our oceans. Fish stocks are depleted and can't recover. Today, 90% of fish stocks are either fully fished or overfished at unsustainable levels. Additionally, one out of three fish caught never makes it to our plates¹⁰. The remainder of the fish is usually discarded or thrown back into the oceans – and most will die.

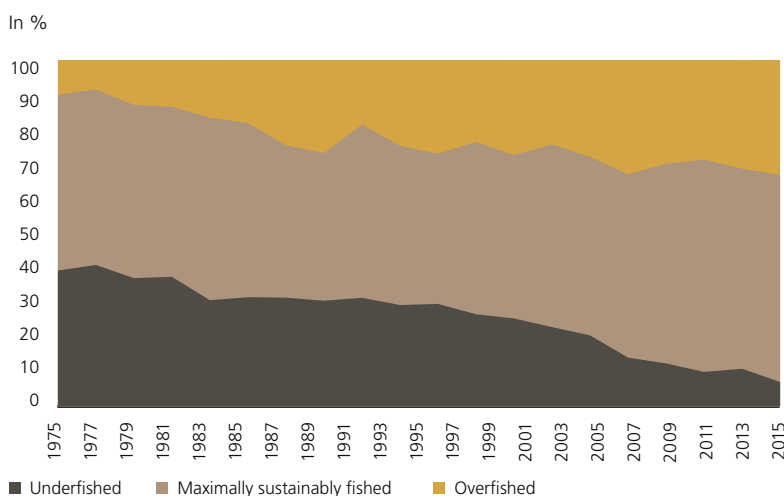
Some current fishing techniques are not fit for purpose, with a number being significantly more harmful than others. Dredging, for example, involves dragging large metal scoops along the seabed, which consequently digs up other animals, seagrass, corals and sediments, destroying seabed areas that don't get a chance to recover. Overfishing also harms ecosystems. For example, as sea predators like blue tuna and cod disappear, other species, such as shrimp, proliferate. Also, global bycatch (animals caught by accident) may represent up to 40% of a catch¹¹, adding species like turtles and sharks to the list of endangered species.

"The problem is that, just like any other species, fish need time to recover. However, we are fishing at a rate and scale faster than they can reproduce."

Giuseppe di Carlo, Director, WWF Mediterranean Marine Program (Italy)

90% of fish stocks are now either fully fished or overfished at biologically unsustainable levels (FAO)¹²

World fish stocks trends from 1974 to 2015



Source: Adapted from FAO. (2018). State of World Fisheries and Aquaculture. Rome, Italy.

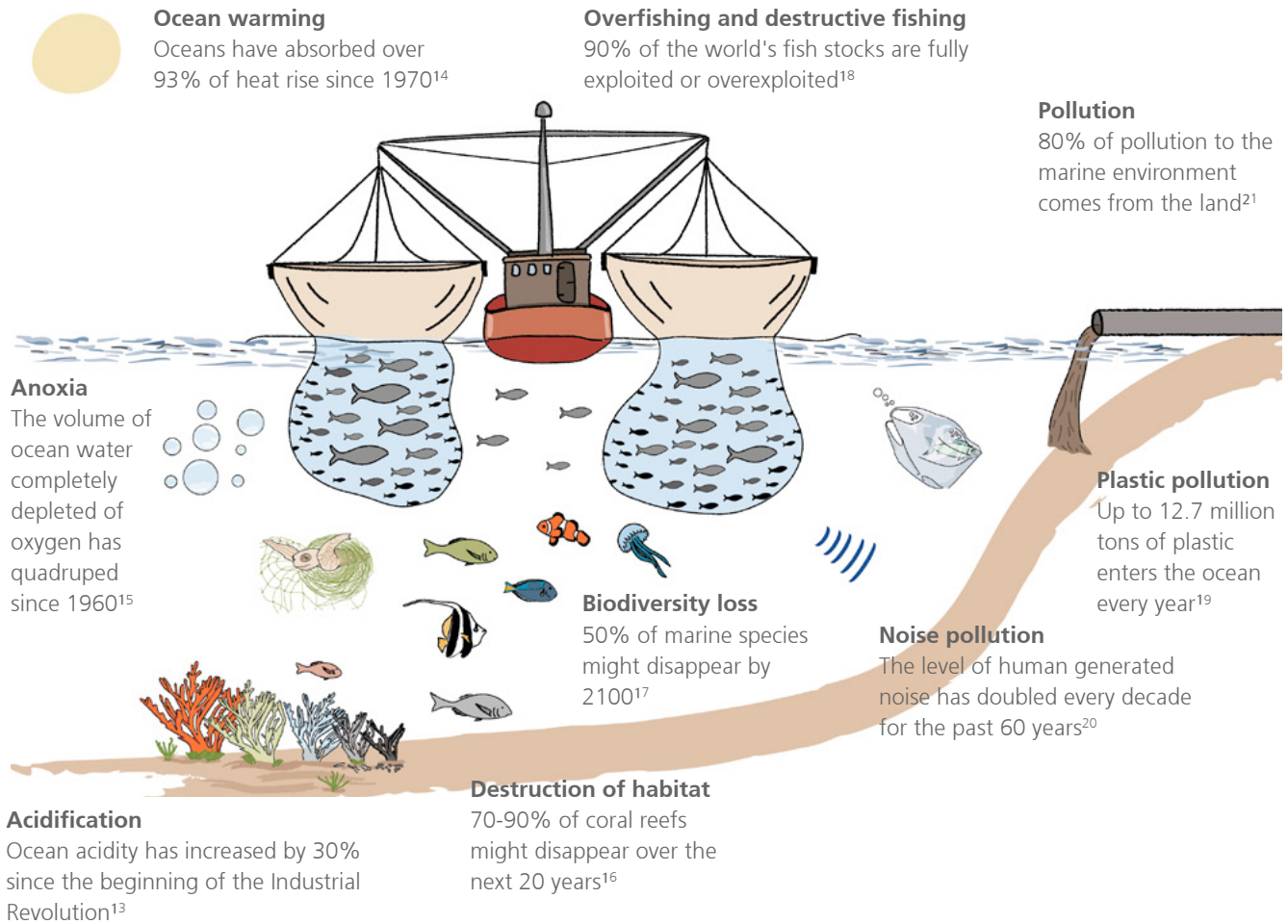
8 FAO. (2018). The State of World Fisheries and Aquaculture 2018 - Meeting the sustainable development goals. Rome, Italy.

9 Béné, C., Barange, M., Subasinghe, R. et al. (2015). Feeding 9 billion by 2050 – Putting fish back on the menu. Food Sec. 7, 261–274.

10 FAO. (2018). The State of World Fisheries and Aquaculture 2018 - Meeting the sustainable development goals. Rome, Italy.

11 Davies et al. (2009). Defining and estimating global marine fisheries bycatch. Marine Policy 33, Nr. 4 (2009), S. 661–72.

12 FAO. (2018). The State of World Fisheries and Aquaculture 2018 - Meeting the sustainable development goals. Rome, Italy.



Illegal, unregulated and unreported (IUU) activities

Mislabeled and trafficked fish may be found on our plates more often than we think. In the US, the Oceana organization found this is the case for 30% of all seafood tested²².

IUU activities represent approximately 20% of the global catch²³. But, according to recently published data, this figure may be as high as 53%²⁴. IUU activities represent an estimated annual financial loss of USD 23 billion, with around 26 million tons of seafood caught illegally each year²⁵. In addition to the negative environmental, social and economic impact, recent reports also link IUU activities to human trafficking, slavery, and the gun and drug trades.

13 Source Image: UNESCO. Retrieved from <http://www.unesco.org/new/en/natural-sciences/ioc-oceans/focus-areas/rio-20-ocean/blueprint-for-the-future-we-want/ocean-acidification/facts-and-figures-on-ocean-acidification/>. Last consulted June 6, 2020.

14 IPCC. (2014). Climate Change 2014 Synthesis Report Summary for Policymakers.

15 IUCN. Retrieved from <https://www.iucn.org/resources/issues-briefs/ocean-deoxygenation>. Last consulted June 6, 2020.

16 Setter, Renee and Mora, Camilo (2020) Impacts of Climate Change on Site Selection for Coral Restoration presented at The Ocean Meeting in San Diego on February 2020.

17 UNESCO. Retrieved from <http://www.unesco.org/new/en/natural-sciences/ioc-oceans/focus-areas/rio-20-ocean/blueprint-for-the-future-we-want/marine-biodiversity/facts-and-figures-on-marine-biodiversity>. Last consulted June 6, 2020.

18 FAO. (2018). The State of World Fisheries and Aquaculture 2018 - Meeting the sustainable development goals. Rome, Italy.

19 Jambeck, Jenna R., Geyer, Roland & all. (2015). Plastic waste inputs from land into the ocean. Science 13 Feb 2015: Vol. 347, Issue 6223, pp. 768-771.

20 Ocean Care. Retrieved from <https://www.oceancare.org/en/our-work/ocean-conservation/underwater-noise/silent-oceans-causes-underwater-noise/>. Last consulted June 6, 2020.

21 NOAA, What is the biggest source of pollution in the ocean? National Ocean Service website. Retrieved from <https://oceanservice.noaa.gov/facts/pollution.html>. Last consulted June 6, 2020.

22 Oceana.(2017). One Name, One Fish: Why Seafood Names Matter. Retrieved from http://usa.oceana.org/sites/default/files/4046/names_report_factsheet_final_high-res.pdf. Last consulted May 13, 2020.

23 Agnew, D.J., Pearce, J., Pramod, G., Peatman, T., Watson, R., Beddington, J.R. & Pitcher, T.J. (2009). Estimating the worldwide extent of illegal fishing. PLoS ONE, 4(2): e4570.

24 Pauly, D., Zeller, D. (2016). Catch reconstructions reveal that global marine fisheries catches are higher than reported and declining. Nat Commun 7, 10244.

25 FAO. (2018). Retrieved from <http://www.fao.org/fao-stories/article/en/c/1136937/>. Last consulted May 22, 2020.

Global warming, ocean acidification and anoxia

Every second breath we take comes from the oceans. The oceans are also an important climate regulator, as they capture and store over a third of carbon emissions and absorb more than 90% of excess heat from the air²⁶. Without our oceans, our planet would be vastly warmer.

But all this comes at a huge price.

Oceans are more acidic.

Storing carbon emissions is changing the chemistry of the water, making it more acidic. In turn, certain animals like shellfish and corals, can't build their natural hard bodies and protection.

Oceans are less oxygenated.

Changed water chemistry can lead to deoxygenation. This, coupled with the effects of runoffs from fertilizers, sewage and other pollutants of coastal regions, have caused 'dead zones', where most marine life can't survive.

Oceans are warmer.

Increasing ocean temperatures affect marine ecosystems and species, for example, through coral bleaching. Globally, about 75% of coral reefs are currently under threat. Without mitigation, this could rise to 90% by 2030 and expand to all corals by 2050²⁷. Yet about 25% of the oceans' fish depend on healthy coral reefs²⁸. Other consequences include melt of the ice sheets, rising sea levels, drought and floods.



"Oceans still have a chance if global warming is kept under control – that means an increase below 1.5 degrees."

Giuseppe di Carlo, Director, WWF Mediterranean Marine Program (Italy)

Oceans have absorbed over 93% of heat rise since 1970²⁹

Every second breath we take comes from the oceans³⁰

26 IPCC. (2014). AR5 Synthesis Report: Climate Change 2014. Retrieved from <https://www.ipcc.ch/report/ar5/syr>. Last consulted May 22, 2020.

27 Burke, L., K. Reytar, M. Spalding, and A. Perry. (2011). Reefs at Risk Revisited. Washington, D.C., World Resources Institute (WRI), The Nature Conservancy, WorldFish Center, International Coral Reef Action Network, UNEP World Conservation Monitoring Centre and Global Coral Reef Monitoring Network.

28 NOAA. (2019). Retrieved from <https://www.noaa.gov/education/resource-collections/marine-life/coral-reef-ecosystems>. Last consulted May 22, 2020.

29 IPCC. (2014). Climate Change 2014 Synthesis Report Summary for Policymakers.

30 NOAA. Ocean Exploration and Research. How has the ocean made life on land possible? Retrieved from <https://oceanexplorer.noaa.gov/facts/oceanproduction.html>. Last consulted May 25, 2020.

Pollution – beyond plastic

There is more pollution in the oceans than we can see with our eyes. While plastic has been a big topic in recent years, many other sources of pollution are also damaging the oceans and marine life.

Damage from extractive industries

Extractive industries include oil and gas exploration and deep sea mining activities.

Exploring the oceans for oil and gas involves prospecting, drilling and transporting raw materials to the surface and back to land. Spills at the surface and ocean floor harm marine and plant life in the immediate spill area and beyond, due to currents and winds. Cleaning up an oil spill requires technological solutions and chemicals. The chemicals and oil are toxic to marine life and eventually find their way into our food chain³¹.

Deep sea mining also negatively impacts plant and marine life by scraping the ocean bed. This causes sediment plumes to disperse, which can smother and kill organisms or disrupt feeding patterns. The deep sea is also poorly understood, with large gaps in knowledge of its biodiversity and ecosystems. Polluting this rich, unknown resource not only harms marine life, but the knowledge we can gain from it.



Did you know?

Since offshore drilling first began in 1942, up to 6,000 oil and gas structures were built in the Gulf of Mexico alone. Today, 3,400 structures remain and approximately only 3,200 are operational³². Since 2004, 300 to 700 barrels have been leaking every day into the Gulf of Mexico, just 12 miles off the shore of the US. This unresolved spill will likely overtake the Deepwater Horizon spill to become the largest ever³³.

³¹ The Gulf Oil Spill: Effects on Marine Life. Smithsonian Institutes. Retrieved from <https://ocean.si.edu/planet-ocean/tides-currents/gulf-oil-spill-effects-marine-life>. Last consulted May 22, 2020.

³² NOAA. National Centers for Environmental Information. Retrieved from <https://www.ncei.noaa.gov/maps/gulf-data-atlas/atlas.htm?plate=Offshore%20Structures>. Last consulted May 22, 2020.

³³ Fears, Darryl, (2018), A 14-year-long oil spill in the Gulf of Mexico verges on becoming one of the worst in US history. Washington Post.



Runoff

One of the biggest sources of pollution is 'nonpoint source pollution', which occurs as a result of runoff³⁴.

Runoff includes agricultural byproducts that pollute waterways, industrial wastewater discharge, storm water and sewer discharge³⁵. These pollutants often enter the oceans from freshwater rivers and streams, or are discharged directly into the oceans in coastal areas.

• Agricultural runoff

High concentrations of nitrogen and phosphorous fertilizer can trigger sudden explosions of marine algae capable of disrupting ocean ecosystems and even producing 'dead zones' in the sea. " ³⁶ The fertilizer causes algae blooms that proliferate quickly and reduce oxygen in the water, killing fish and plankton, and disrupting the marine food chain³⁷.

• Industrial runoff

This includes chemicals from industrial plant wastewater, which is discharged directly into waterways and eventually empties into the oceans. Runoff also includes sewage that is either directly or indirectly discharged into the oceans. Bacteria and ammonia in sewage are toxic to aquatic life.



Did you know?

In New York City alone, more than 20 billion gallons of feces-polluted water is flushed onto the city's coastline every year³⁸. London emits 39 million tons of sewage into the Thames each year, which then flows to the North Sea³⁹. In both cases, the key causes are aging infrastructure and a system that combines storm water with sewage water.

Around 80% of pollution to the marine environment comes from land⁴⁰

34 NOAA, What is the biggest source of pollution in the ocean? Retrieved from National Ocean Service website <https://oceanservice.noaa.gov/facts/pollution.html> June 25, 2018. Last consulted May 22, 2020.

35 Pal, P. (2017), Industrial Water Treatment Process Technology. Butterworth-Heinemann.

36 Schwartz, M. (2005). Ocean ecosystems plagued by agricultural runoff. Stanford Report.

37 Harrison, M. and Johnson, A. (2015). The Increasing Problem of Nutrient Runoff on the Coast. Scientific American.

38 Kensinger, N. February 20, 2020. NYC has a plan to clean its sewage-filled waterways. Does it go far enough? Curbed New York.

39 Varghese, S. December 2, 2018. London's super sewer won't solve the city's epic poop problem. Wired.

40 NOAA. What is the biggest source of pollution in the ocean? Retrieved from <https://oceanservice.noaa.gov/facts/pollution.html> June 25, 2018. Last consulted May 22, 2020.



Impact of shipping activities

Over 90% of all trade is carried on the world's oceans via more than 50,000 merchant ships. This pollutes the oceans in various ways, including operational or accidental oil and chemical discharges; transferring invasive species to coastal areas via ballast water; dispersing biocides into ocean water via anti-fouling paint on ships; garbage and sewage; and air pollution such as sulfur, nitrogen, and carbon dioxides⁴¹. The shipping industry also contributes to noise pollution.

Impact of coastal development and tourism

Many couldn't imagine summer without a trip to the beach or a swim in the sea. In fact, 40% of the global population lives within 100 km of a coast⁴². This creates demand for housing and infrastructure, which negatively affects the near-shore ocean habitat. For example, light pollution from coastal development disorients nesting sea turtles, which are an endangered species.

Chemicals found in many sunscreen lotions and cosmetics are highly toxic to juvenile corals and other marine life. The chemicals enter the ocean environment through wastewater effluent and directly from swimmers wearing sunscreen⁴³.

Underwater noise pollution

Noise might not be the first threat that comes to mind when considering dangers to the oceans. But, water is an especially efficient sound conductor. Research shows that levels of anthropogenic (human-generated) noise have doubled every decade for the past 60 years in some regions⁴⁴. This can be attributed to increased global shipping, oil and gas exploration, and recreational use, for example, yachting and jet skiing. The military is also a noise polluter, using active sonar systems with far-traveling low or mid-frequency sonar waves. What may be perfect for detecting enemy ships is damaging to a thriving marine ecosystem.



41 World Wildlife Fund. Retrieved from <https://wwf.panda.org/our-work/oceans/problems/shipping/>.

42 Muñoz, S., Norma, P., et al. (2019). Coastal Development: Construction of a Public Policy for the Shores and Seas of Mexico. Coastal Management.

43 NOAA. (2020). Skincare Chemicals and Coral Reefs. Retrieved from <https://oceanservice.noaa.gov/news/sunscreen-coral.html>. Last consulted May 22, 2020.

44 Ocean Care. Retrieved from <https://www.oceancare.org/en/our-work/ocean-conservation/underwater-noise/silent-oceans-causes-underwater-noise/>. Last consulted May 22, 2020.

Underwater noise – a neglected pollution

Nicolas Entrup, Co-Director International Relations, OceanCare (Switzerland)

The ocean is primarily an acoustic environment. All marine animals use their sense of hearing or feeling to survive. And sound affects all organisms. The question is, when does sound become noise?

Around 20 years ago, people were concerned that noise in the oceans would strand whales. Now, 20 years later, we know that of 140 species studied to observe the effects of noise on them, all were negatively impacted.

There are two types of noise in the ocean: impulsive noise, such as explosions, sonar radars, and seismic activities; and continuous ambient noise, which makes noise levels constantly higher.

Some types of impulsive noise are particularly damaging:

- Drilling for oil and gas is loud. But, before drilling, oil and gas companies use research vessels to find where there may be oil. This involves surveying entire ocean areas with air gun blasts that emit 215 decibels – the loudest sound human beings can generate. To put this into perspective, a jackhammer emits sounds ranging from 130 to 135 decibels. As sound is not linear, 215 decibels underwater are a million times louder. A study in 2017 out of Australia proved that just one operating air gun killed all juvenile plankton in the marine food web. It is the equivalent of creating a hole in the ocean.
- Pile driving for wind farms produces incredible noise levels in the underwater marine environment. While we agree that the energy transition is positive, some regulators realized that negative aspects should be addressed and imposed thresholds for this noise source. This pushed the industry to find innovative ways to reduce noise, through noise mitigation and by developing an alternative to pile driving.

The next type of noise is continuous noise, which comes largely from the shipping industry. 15% of the loudest container ships are responsible for 50% of the noise. There are a few options to make a difference in addressing continuous noise including:

- Technical improvements, such as improving and changing propellers
- Operational changes, such as reducing speed. If you reduced the speed by 10% of the global transport fleet, you would reduce greenhouse gas emissions from maritime traffic by 13% and noise pollution by 40%.

It's crucial that we don't ignore this important issue. There are solutions. Such as creating quiet zones (protected from intense noise) in waters that we know are important to species spawning and survival, and by monitoring and evaluating the impact that the noise reduction has. Other ideas such as monitoring the migratory and reproductive activities of whales, dolphins and other species and sharing that data with shipping companies, so they can avoid those waters – to keep them quiet and avoid collisions – are excellent places to start.

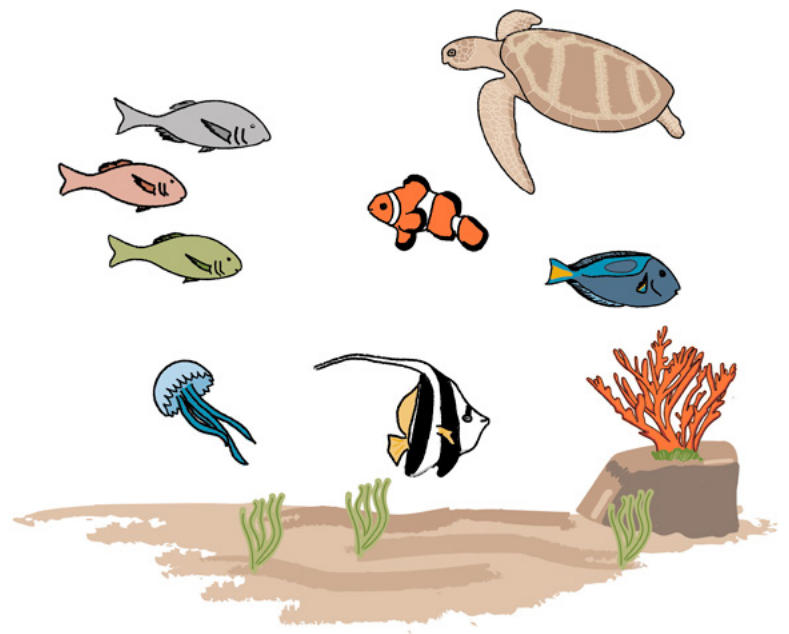
Biodiversity loss

Marine life is immensely diverse. It comprises at least 2.2 million marine species, of which only around 9% are known⁵⁰. Understanding and protecting marine biodiversity is critical for species and ecosystems. It's also vital for the economy, providing valuable resources to develop many different products, including food and medications.

Lack of knowledge and awareness

Today, 80% of the oceans are unmapped, unobserved and unexplored⁵¹. For 99% of habitable marine areas, science also can't meaningfully evaluate the cumulative effects of threats like climate change and pollution on our oceans' health⁵². The Global Ocean Science Report found that ocean science accounts for between 0.04% and 4% of total research and development spending worldwide⁵³. A lack of awareness about the issues reflects this gap in scientific knowledge.

Additionally, greater urbanization is causing people to disconnect from nature and the oceans. It's essential to build knowledge and awareness. Actions can only be effective when based on sound science-backed knowledge⁵⁴.



"We only protect what we love. Today, people have lost their connections to oceans. We need to re-establish our empathy for nature."

Hanli Prinsloo, Founder and CEO of I AM WATER Trust (South Africa)

50 Blasiak, R., R. Wynberg, K. Grorud-Colvert, S. Thambisetty, et al. (2020). The Ocean Genome: Conservation and the Fair, Equitable and Sustainable Use of Marine Genetic Resources. Washington, DC: World Resources Institute.

51 NOAA. <https://oceanservice.noaa.gov/facts/exploration.html>.

52 UNESCO (2019), The ocean we want for the future we need: Proposal for an International Decade of Ocean Science for Sustainable Development (2021-2030).

53 Intergovernmental Oceanographic Commission, UNESCO (2017). Global ocean science report: the current status of ocean science around the world. Paris, France.

54 Intergovernmental Oceanographic Commission (2019), The Science we need for the ocean we want: the United Nations Decade of Ocean Science for Sustainable Development (2021-2030).

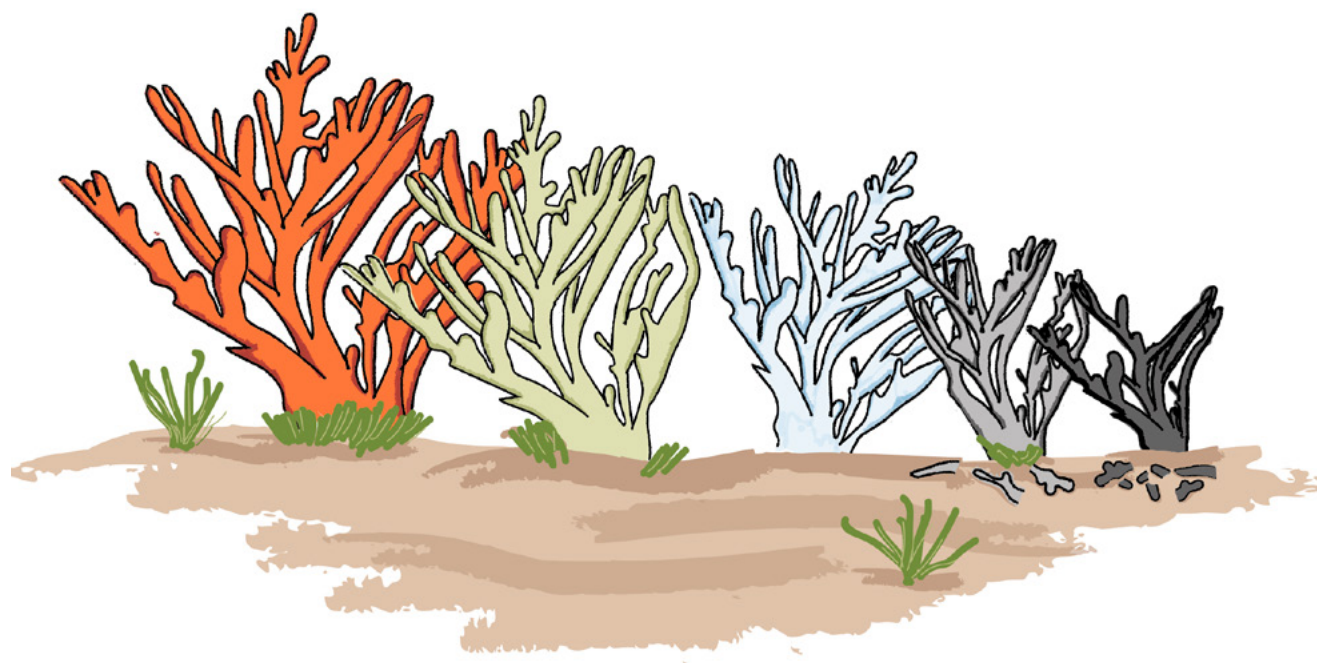
50% of mangroves
have been destroyed in
the last 50 years⁴⁵

Damage and destruction of habitats

Damage and destruction of habitats – as a consequence of human activities – directly threaten plants and animals, preventing them from supporting the ecological functions necessary to thrive. This affects the entire biodiversity of the oceans, from the coastal ecosystems, such habitats as coral reefs, sea grasses and wetlands (including mangrove forests); to the deep-sea habitat, which is the home of many species, such fishes, corals, crustaceans, jellyfishes, and worms.

For example, building in coastal areas is damaging and destroying mangroves and wetlands.

To develop coastal regions, rivers are often dammed, which reduces freshwater flow. This slows down nutrient runoff and prevents fish from migrating and reproducing. In turn, salinity in wetlands and estuaries increases, damaging the plants that purify water. This results in more silt in the oceans, blocking the sunlight coral reefs need to survive. The destruction of mangroves and coral reefs leads to land erosion, and a lack of natural protection from tidal and storm activity.



⁴⁵ The Mangrove Alliance. Retrieved from <http://www.mangrovealliance.org/>. Last consulted May 22, 2020.



Did you know?

Coral reefs are biodiversity hotspots that protect coasts from storm surges. They can reduce incoming wave energy by 97%⁴⁸. A one-meter loss in coral height can double the damage to coastlines.

Mangroves reduce annual flooding for more than 18 million people. Without mangroves, 39% more people would be affected by flood annually, and flood-related damages would increase by more than 16%, costing an extra USD 82 billion⁴⁹.

Coral reefs occupy less than 1% of the ocean floor but provide habitats for more than 25% of marine species⁴⁶

With a global economic value of USD 375 billion a year, coral reefs provide food and resources for more than 500 million people in more than 100 countries and territories⁴⁷

⁴⁶ State of the Planet. Columbia University. Retrieved from <https://blogs.ei.columbia.edu/2011/06/13/losing-our-coral-reefs/>. Last consulted May 22, 2020.

⁴⁷ *ibid*

⁴⁸ Ferrario, F., Beck, M., Storlazzi, C. et al. (2014). The effectiveness of coral reefs for coastal hazard risk reduction and adaptation. *Nat Commun* 5, 3794.

⁴⁹ Losada IJ, Menéndez P, Espejo A, Torres S, Díaz-Simal P, Abad S, et al. The global value of mangroves for risk reduction. Technical Report. Berlin; 2018.

Getting started



Passion and a sense of purpose typically drive private philanthropy. Philanthropists want to make a difference to the issues they care deeply about.

This can lead to expecting instantaneous results. But, issues related to oceans are complex and interrelated. There are few immediate rewards because nature takes time to recover. Committing to an issue for the long-term can feel overwhelming and people might struggle knowing where to start.

Finding the right focus for yourself in the oceans space, will require a deeper understanding. You'll need to consider external factors, take into consideration your passion, and identify the resources to guide your choices of “what to do” and “what not to do”.

Ocean funding facts

In philanthropy, it can be hard defining exactly how much money is spent, who is spending it, and who is receiving it. A recent effort led by the Packard Foundation has shown that:

- In the US, only 0.14% of all grantmaking in 2015 targeted the oceans⁵⁵.
- In 2016, grantmaking amounts relating to philanthropy and official development aid were almost equal (620 million US dollars versus 634 million US dollars)⁵⁶.
- Between 2010 and 2016, 20 funders represented 73% of all identified marine grantmaking, and five NGOs made up to 50% of the recipients⁵⁷.

55 CEA Consulting for the David and Lucile Packard Foundation. (2017). Our Shared Seas: A 2017 Overview of Ocean Threats and Conservation Funding.

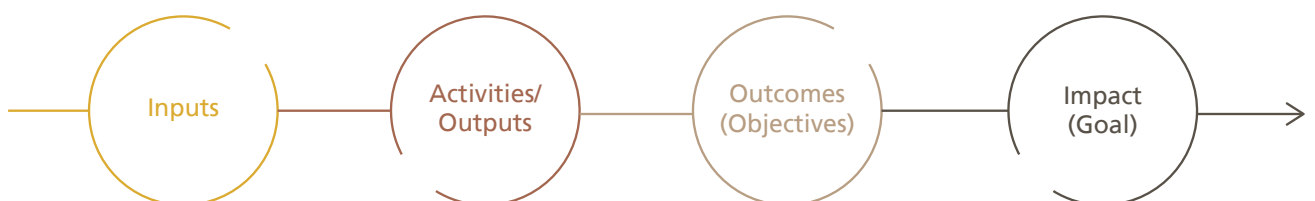
56 CEA Consulting for the David and Lucile Packard Foundation. (2019). Our Shared Seas: Global ocean data and trends for informed action and decision-making.

57 Giving USA Foundation. (2016). The Annual Report on Philanthropy for the Year 2015. Researched and written by the Indiana University Lilly Family School of Philanthropy.

10 tips for impactful philanthropy



1. **Take an “inside-out” reflection** about
 - your values and priorities – for example, your motivation for focusing on oceans
 - your assets and expertise you can use – for example, money, time, networks and skills
2. **Understand the issues and landscape.**
Think about the issues you'd like to address, where your contribution would be most needed, and who the other players in this area are.
3. **Define, refine, and focus.**
The philanthropists and organizations that make the biggest difference are those that have clearly identified a problem and focused most of their resources on developing a solution. Defining, refining and focusing will help shape your vision, and capture the what, who, where, how and why of your philanthropic effort.
4. **Translate your vision into a strategy and action plan.**
Make strategic choices that focus on maximizing your impact. Develop clear goals and a logic model to frame your strategy.



Inputs:

Available human, financial, organizational and community resources

Output:

What you'll do with the available resources – for example, building manager capacity in marine protected areas (MPAs)

Outcome:

Specific changes in program participants' behavior, knowledge, skills, status and more – for example, MPA managers become more efficient

Impact:

The fundamental intended or unintended change occurring in organizations, communities or systems resulting from your activities – for example, fishery stocks in the MPA are reviving



5. **Use the right charitable vehicle – if you need one.** There are many different types of vehicle available depending on where one sets up ones philanthropy. Foundations, charitable trusts, donor advised funds or even simply direct giving. Choosing the right method for you and your vision is crucial.
6. **Be courageous and think big – there are no rewards without risk.** Philanthropic capital is arguably the greatest risk capital. As a philanthropist, you are free to try new approaches and take risks, while learning from fast analytical feedback systems. This is even truer in oceans, where there is still much to discover and evidence to build to attract capital and achieve scale. Addressing this systemically is vital.
7. **Measure, learn, adapt and share.** The greatest philanthropists are those who understand the importance of asking smart and challenging questions about their efforts, and using qualitative and quantitative measurement systems that are ethically, culturally and cost appropriate. If you're willing to share your learnings, even better – your insights will help advance the sector.
8. **Collaborate and partner with others.** The issues facing the oceans are too large for any individual or organization to tackle alone. Collaborating will help you get the most from your resources, leverage expertise, learn many different skills, and achieve large-scale sustainable impact. Working on your own may, at best, only achieve an impact locally.
9. **Think beyond philanthropy.** There are many paths to making an impact, and they can reinforce each other. Grantmaking is one. One might also consider social financing in the forms of equity or loans, or look into personal engagement, entrepreneurial approaches, and investments.
10. **Enjoy the journey.** No one has ever achieved greatness without passion and enthusiasm.



The oceans and the Sustainable Development Goals (SDGs)

In 2015, the United Nations adopted the 17 Sustainable Development Goals. They are a call for action and provide a framework and priorities for us to achieve a “better and more sustainable future for all”⁵⁸. One of the 17 goals, SDG 14 – Life under water – focuses on oceans. It recognizes the critical role the oceans play for our planet and aims at ‘conserving and sustainably using the oceans, seas and marine resources for sustainable development’⁵⁹.

While your focus might be oceans, supporting the achievement of SDG14 will also contribute toward other key SDGs. For example, more sustainable fishing practices will help regenerate the fisheries and address hunger and improve nutrition (SDG 2) as well as foster sustainable economic growth (SDG 8). When supporting mangrove reforestation, you’ll also help make human settlements on the coast safer, more resilient and more sustainable (SDG 11) while addressing climate change (SDG 13).

⁵⁸ United Nations. About the Sustainable Development Goals. Retrieved from <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>. Last consulted May 22, 2020.

⁵⁹ *ibid*



Expert tips for philanthropists

Alejandro Litovsky, Chief Executive, Earth Security Group (UK)

Funding ocean conservation may be the ultimate and most challenging task for philanthropists. The challenges are big and complex – from curbing illegal fishing, limiting destructive fishing practices, and reducing an over-sized industrial fishing fleet, to improving ocean governance and achieving large-scale protected areas to save marine life from extinction. Pick your angle and define your level of ambition. The success of philanthropic programs will depend on their ability to influence the economic models and political incentives that are fueling the depletion of our oceans.

Clare Brook, CEO, Blue Marine Foundation (UK)

For any philanthropist wanting to support the oceans, I would say: "Congratulations – this is the most important choice for your funding because a healthy ocean is our biggest defense against climate change. Go with the best scientific advice and look for projects with big impact in securing marine protected areas or combatting overfishing. Because the extraction of life from the ocean is the biggest threat it faces."

Lea D'Auriol, Founder and CEO, Oceanic Global Foundation (US)

Instead of reinventing the wheel with environmental projects and approaches, we need to do in-depth analyses, build capacity and bring things to a larger scale.



Bradley Robertson, President and Co-founder, Save The Med Foundation (Spain)

Think outside the box and look for fresh ground-breaking opportunities.

Antha Williams, Global Head of Environmental Programs, Bloomberg Philanthropies (US)

Our ocean is vast and complex, but science and research has identified the key areas where work is required, and impact is greatest. Follow the data and look at the research to learn where your support can be scalable and achieve the biggest impact. Being an ocean advocate does not require you to be a marine biologist or an oceanographer. Taking a little time to learn more about the issues and asking for advice will help you direct funds that are critical for protecting our ocean.

Robert Weary, Deputy Managing Director, Blue Bonds, The Nature Conservancy (US)

The biggest thing stopping us from saving our oceans is money. It doesn't have to be. Whether you're interested in coral reefs, deep-sea mapping, overfishing, coastal resilience, or blue carbon, be audacious in your giving and think about scope and scale. The power to protect our oceans is in your hands. We hope you'll prioritize organizations with the greatest impact – organizations comprising partnerships and programs that address our planet's biggest challenges and focus on priorities that science shows us are most urgent. An ocean of opportunity awaits. But we need to act now.

Karen Sack, President and CEO, Ocean Unite (US)

The opportunities to get involved in Ocean issues are as vast as the Ocean itself, including protecting 30% of the Ocean by 2030 or tackling the effects of greenhouse gases and pollution, and the need for better science. Choose what's most important to you and engage with partners already working in the space, which will let you leverage their knowledge and experience, and exponentially amplify the impact of your investment.

Anne-Cecile Turner, Sustainability Director, The Ocean Race (Switzerland)

In my view, the best way to engage with the topic of the oceans is first to raise awareness about the fact that we are all connected to the oceans. Many people living far from the sea do not always grasp the impact of their daily actions on the oceans. We need to accelerate restoration and support regenerative initiatives for speed and scale. Some solutions we identified in our last Ocean Race Summit are: enforce and create nature-based legal rights; integrate ocean preservation actions in movies and TV series narratives; invest in a net-zero carbon emissions future; empower and support coastal communities; speed the transition to a circular economy; engage in science and education programs; and, protect at least 30% of the ocean by 2030.

Taking action

How to drive more sustainable fishing and alternatives

"To get to long-term sustainable behavioral change, you have to start hitting parity on four key drivers: taste, price, awareness and convenience. If you do, I believe people will start making decisions based on the environment and humanity."

Christopher Kerr, CIO, Unovis Asset Management/New Crop Capital (US)



Regulate, monitor and protect

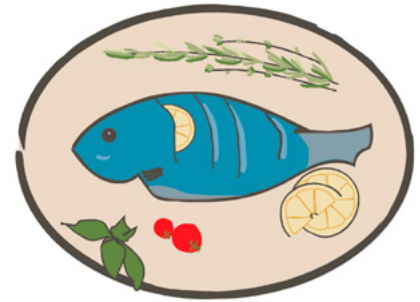
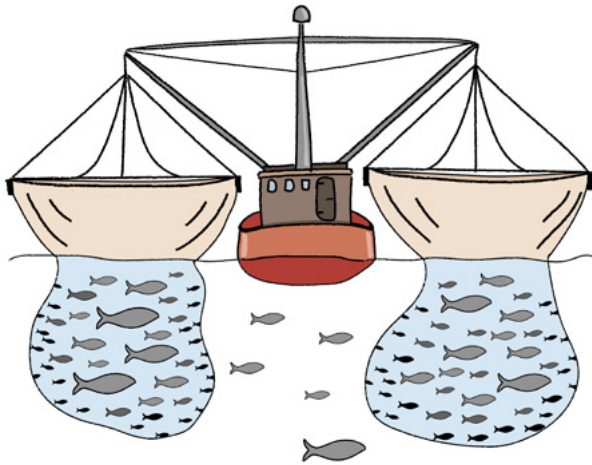
Strengthening global regulations on fishing practices, and rigorously monitoring the oceans with satellites and sea patrols, will be key in making fishing more sustainable. Satellite technology can also help trace resources and use data to establish a global communications web that provides useful information on activity on the oceans.

📍 **Tip:** You could look at the technologies addressing this issue, or join forces with NGOs to lobby government and fishing organizations for better policies and practices.

Another effective way to rejuvenate resources is to establish more marine protected areas (MPAs). We will address this later in the guide.

Example: Global Fishing Watch

Global Fishing Watch is an organization that promotes ocean sustainability through greater transparency. The organization uses cutting-edge technology to visualize, track and share data on global fishing activity for free and in near real-time.



Greater transparency and accountability

The world needs more transparency and accountability to combat illegal fishing and overfishing, and to ensure fisheries are managed more sustainably. This can be achieved by improving regulations, introducing better tracing of seafood from catch to plate, and punishing all illegal, unregulated and unreported (IUU) fishing.

- 📌 **Tip:** As a philanthropist, you can:
- raise awareness about this issue, for example, by convincing wholesalers and restaurants to only buy and sell sustainable and traceable fish
 - make seafood more traceable through better supply chain management and appropriate technologies
 - addressing the social issues by joining forces with anti-trafficking and human rights organizations.

Changing our eating habits

There are further opportunities to encourage behavioral changes in eating habits and explore alternatives to fish, such as plant-based protein businesses.



Fish without fishing – can it save our oceans?

Christopher Kerr, CIO, Unovis Asset Management/New Crop Capital (US)

What are your thoughts about today's seafood?

Seafood has healthy attributes like protein and healthy fats, but increasingly comes with inherent problems and consequences like mercury, dioxins, by-catch, overfishing, ghost-gear and workers' rights issues.

What are the alternatives?

At its core, consumers are looking for a rather simple need - namely an enjoyable and healthy culinary experience. There are now other ways to create the same experiences without the unintended consequences that industrial agriculture brings. As an example, today we can create healthy, flaky tuna-like proteins that have algal-based oils – which is where fish derive their healthy oils. This begs the question: Do we have to go through all the animal and human suffering and environmental consequences, just to serve a very short-term need in the form of a tuna melt? For me, the answer is no. We can get there now with plants, and in the future with cellular aquaculture.

What is cellular aquaculture and why is it more sustainable?

Cellular aquaculture is the process of growing seafood products, like finned fish, from cells instead of an entire sentient being. We grow only what is to be consumed (e.g. a filet) and skip what is not needed (eyeballs, bones, tails, fins, gills, scales, etc.). This results in a more environmentally friendly process using fewer resources. And the products are without harmful substances (e.g. mercury, parasites, dioxins, etc.). It leaves fish in their oceans and keeps these waters healthy while giving consumers what they are looking for – protein, fats and, most importantly, a tasty experience. Notably, it will allow consumers to experience seafood that may not even be economically or commercially viable – including species that are endangered or collapsed – because the fish get to stay in the oceans.

Unless a miracle happens, our traditional seafood industry faces massive-to-impossible hurdles as the clock ticks – from ocean acidification to fish stock depletion to parasites and mercury. For plant-based and cellular aquaculture, we face none of these externalities, allowing us to focus on innovation, improvements, and scaling.

What about coastal communities that rely on fisheries for their livelihoods and food?

First, we are talking about decades of global transition here, so we need to start with that perspective. Something like 40% of the global population includes seafood as part of its core protein consumption. There is simply no way we can snap our fingers and have the production switch overnight to an alternative. Today, the entire plant-based fish industry's revenue is below USD 30 million. It isn't realistic to think that solving this problem lies solely with entrepreneurs. Climate change and rising oceans will destroy these communities long before plant-based seafood becomes dominant. That said, farmers have changed crops for millennia. They do this because the environment and demand changes. This falls into the same pattern. Solutions might include transforming people in these communities into algae farmers, as this will be a key ingredient for a plant-based fish future. It is noteworthy that there is more to the seafood industry than catching fish. Once a protein is attained – be that a fish or a plant-based fish – it is only the start of the process, not the end. Processing, forming, packaging, storing, shipping, and creating dishes are still the same whether it is fish or plant. Most of the process, and those jobs, still exist – with a slight twist in the base protein. Traditional aquaculture has been doing this for decades – replacing the fishing boats with ponds and tanks. Plant-based proteins follow a similar path.

How can we change people's eating habits globally?

Virtually all eating decisions are made through the highest efficiency of four key drivers – what we call The Food PACT: Price, Awareness, Convenience and Taste. We always start with taste; failing here will make the rest of the equation nearly moot. You have to be aware that alternatives exist and know where to get them and how to use them. They need to be priced right and readily available. Our thesis relies on an assumption of "intended goodwill" when making consumer decisions, whether food, clothing or other any purchase. In short, all four of these key drivers being equal, a consumer will buy the products that are better for the world, for humans, for animals, for the environment. But "being equal" is critical. Any deviation from parity, and the consumers will start chipping away at their aspirations of goodwill. As entrepreneurs, we are driven to not just bring these alternatives to parity but make them better than what we are replacing. If we accomplish this, everyone can win: people, animals, earth.

The importance of local communities in restoring fisheries

Alasdair Harris, Executive Director, Blue Ventures (UK)

Why is it important to engage with local communities to restore fisheries?

More than 100 million people in the global south rely on inshore subsistence and artisanal fishing for their livelihoods and food. These small-scale fishers land 39% of the world's total catch and, in strong contrast to industrial fishers, 95% of what they catch is for human food. The waters they fish daily harbor the greater part of Earth's marine biodiversity. Fishing (the capture of this wild biodiversity) and marine conservation (protecting it) are inextricably linked. But throughout the coastal tropics, climate change and overfishing are decimating high biodiversity tropical marine ecosystems. The extraordinary marine life of coral reefs, seagrass meadows and mangrove forests is being irreversibly lost, and with it the food and livelihoods of some of the world's most vulnerable and marginalized people.

What is your approach?

Conventional conservation solutions are wholly inadequate because of the unprecedented scale and speed of change. We can only turn the tide by making marine conservation make sense for small-scale fishermen and coastal communities. Our approach is to preserve tropical marine life by working with the people for whom it is most vital – smallscale fishermen.

We make conservation work for people, demonstrating powerful benefits for both marine biodiversity and coastal livelihoods. We work alongside fishing communities throughout the tropics, designing and implementing practical measures that will protect our oceans for future generations.

Our story started in 2003 on the remote southwestern coast of Madagascar. Local traditional fishing communities were facing deepening poverty due to steep declines in their fisheries. To allow stocks to recover, we helped one village close off a small part of its fishing grounds for a few months. When the fishery reopened, fishers reaped a huge increase in landings and income.

Neighboring communities soon adopted this approach, sparking interest in more ambitious marine and fisheries management efforts. This led to the creation of the country's first locally managed marine area, governed by a small network of fishing villages. The approach has since gone viral, being replicated by communities, NGOs, and government agencies at hundreds of sites along thousands of kilometers of coastline. Today, communities manage over 18% of the island's inshore seabed. These communities are also working with the state to reform fisheries legislation to secure rights for small-scale fishers, and protect the country's globally important marine biodiversity from destructive industrial fisheries.

Which other solutions can address the issue?

Other models we're pursuing to catalyze and sustain local engagement range from new sustainable community-based aquaculture approaches, for example, for high-value sea cucumbers or seaweed, to developing blue carbon mangrove conservation projects. Beyond Madagascar, we help dozens of partners from twelve coastal states across the tropical Indo-Pacific visit, learn from and replicate this approach to grassroots conservation.

How to mitigate the impact of climate change

Philanthropists and changemakers sometimes see climate change as such a big issue that they simply don't know where to start. The Paris Agreement set a target of limiting the global temperature increase to 1.5 °C above pre-industrial levels. Solutions are now available to combat global warming, including adaptation strategies, approaches and technologies. But, we now need greater awareness of the solutions, opportunities and resources – and a strong political will to make it happen.

📌 **Tips: How you can engage:**

- **Use your network.** Money isn't the only resource available to you. Your network and time can be just as vital. For example, you might use your network and influence to increase pressure on governmental institutions, and lobby for implementing the Paris Climate Agreement and reducing greenhouse gas emissions.
- **Support innovative approaches.** As a philanthropist, you are well placed to take calculated risks. For example, you can test new ideas, measure their impact and make the case for scaling them.
- **Help projects scale up.** Some blue carbon projects, such as those focusing on mangroves, are proven to positively impact our environment and capture carbon emissions. You might want to collaborate with organizations working in this area to help their projects scale up.
- **Help develop large marine protected areas (MPAs).** This will help rebuild numbers of marine species and coral reefs.
- **Support innovation and climate friendly technologies.** Such projects might include renewable and clean energy developments, and researching climate-friendly food. You can also invest in many of these fields. Your work doesn't have to begin and end with philanthropy.
- **Be a role model and an activist.** Philanthropists can raise awareness and lead by example by becoming responsible consumers and promoting best practices, especially in such areas as transport, food, consumer goods, household energy, and tourism.
- **Join a think tank.** For example, the think tank might explore giving the oceans a monetary value so economies, governments and investors can more easily understand their importance.



📍 **Expert tips**

Alejandro Litovsky, Chief Executive, Earth Security Group (UK)

The most rewarding philanthropic strategies on climate change are those that focus on systemic change. What are the entry points? You may be funding a social movement to change the game of climate politics; support an NGO to build a legal case and precedent against polluting governments and industries; fund a think-tank to produce groundbreaking analyses of stranded carbon assets to influence large institutional investors to finance the energy

transition; or breakthrough technologies in the energy, transport or food sectors that could radically change the emissions in our global production and consumption models. A few small grants in the right places may also give you access to many of these systemic paths. Climate change philanthropy may well be a journey, but that shouldn't hold you back from thinking big.



We must rebuild nature’s defenses at the frontlines of climate change

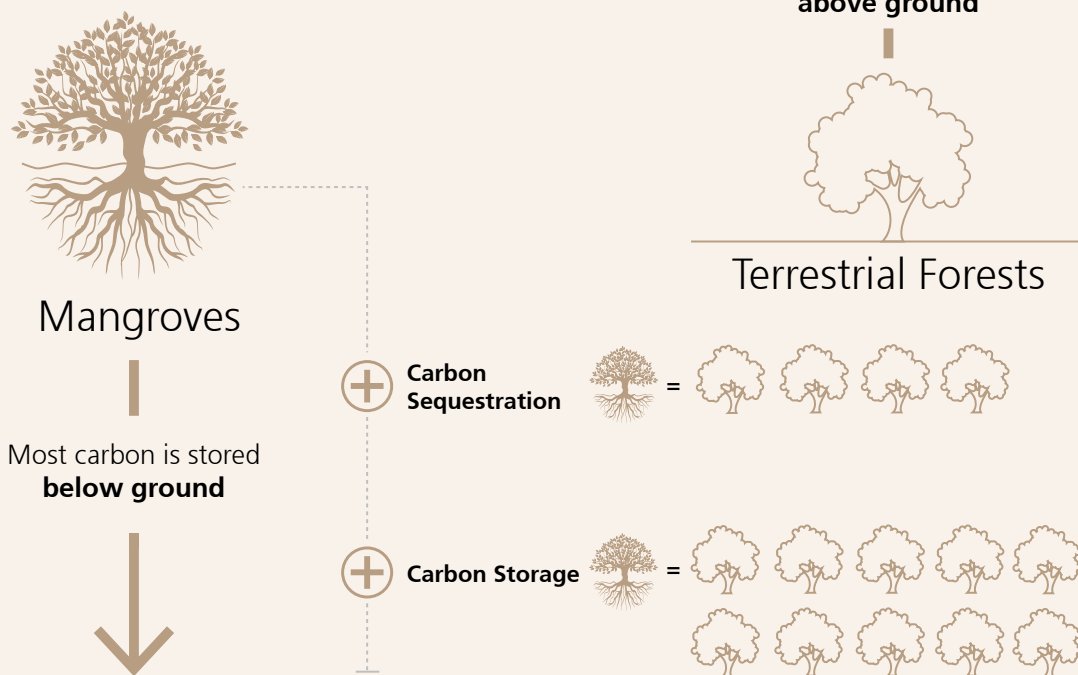
Alejandro Litovsky, Chief Executive, Earth Security Group (UK)

Coastal ecosystems are the first line of defense against climate disasters. They soak up carbon dioxide at an extraordinary speed, and provide shelter and food for more than 120 million vulnerable people in coastal communities. But, from mangrove forests to coral reefs, they are being pushed to the brink of collapse. Reversing this trend and making the Earth more resilient to climate change are tasks where philanthropists can achieve a planet-wide impact.

Mangrove forests are among the most undervalued and threatened ecosystems on Earth. But they are also among the world’s most powerful natural solutions for carbon sequestration and climate adaptation.

Two years ago, the leader of a coastal conservation project in the Philippines told me, “Think of the value of mangroves as a holy trinity – carbon sequestration, climate protection and local development.” Their roots can store vast amounts of carbon dioxide underwater (hence the term ‘blue carbon’) at an astonishing speed. In fact, they can absorb up to four or five times more carbon dioxide than land-based tropical forests, and 40% faster. However, rapid mangrove deforestation rates are resulting in an estimated one billion tons of CO2 being released annually.

Mangroves vs. Terrestrial Forests



Source: Adapted from Conservation International. Carbon sequestration in mangroves vs. terrestrial forests. Retrieved from <https://reefresilience.org/blue-carbon/blue-carbon-introduction/>.

Mangroves protect against storms, sea level rises and coastal erosion. They can slow down the force of a tidal wave from a tsunami by up to 80%. An engineering firm has also found that mangroves and coral reefs are 50 times more cost-effective than building a cement seawall as defense.

For local development, mangroves provide important nursery grounds for many commercial fish. They are a habitat for over 3,000 fish species. However, for all their value, we have lost half of all mangrove forests in the last 50 years. Southeast Asia is a major hotspot due to the rapid expansion of shrimp farming, where project investments are converting mangroves into aquaculture ponds. Other drivers are agriculture, coastal real-estate development (think Florida), infrastructure projects, and local use of wood for fuel and construction.

In our race against climate change, mangroves offer an immediate and attractive opportunity. However, it is not clear how to sustain such largely grant and government-funded restoration projects amid looming economic pressures. Only a handful of philanthropic foundations focus on mangrove and coastal ecosystem conservation projects.

While one challenge is to increase funding for conservation projects, a more important one is to increase their scale – taking what works locally and adapting it to impact the planet. Philanthropists can do three things to increase the scale of these solutions:

1. Plan for impact on a continental scale

In Senegal, the NGO Océanium and the company Danone partnered in 2009 to launch one of the world's largest mangrove regeneration projects. So far, the project has replanted 10,000 hectares with 79 million mangrove trees, mobilizing 350 local villages and 100,000 people. The new trees will store 500,000 tons of carbon over the project's 20 years. Danone, and other companies investing through the Livelihood Fund, can use this to reduce their global carbon footprint while achieving a significant impact locally.

Philanthropists can help take these approaches to a continental scale. For example, they might fund

larger partnerships where corporate-facing platforms, such as the Livelihoods Funds, standard-setting NGOs, and regional economic agencies or development banks, work together to expand these models across a wider coastline and neighboring countries.

2. Scaling blue carbon finance

Philanthropists are already experimenting with new financial models to invest in blue carbon. For example, the Climate Finance Lab, pools philanthropic funding to enable the piloting of early-stage financing concepts. These prototypes include the Restoration Insurance Service Company (RISCO), led by Conservation International to mobilise insurance companies to invest in mangrove restoration; and the Blue Carbon Resilience Credit, developed by The Nature Conservancy, to enable corporations to invest in coastal regeneration in exchange for carbon credits. Philanthropists interested in financial markets as a force for change can help these models become more central to the climate investment plans of investors and companies. Creating pathways to scale these models will require strategic partnerships with a wider pool of financial intermediaries and companies.

3. Creating blueprints for future coastal cities

Imagine a future where investments in coastal infrastructure, construction, real estate, agriculture and aquaculture projects accounted for the value of ecosystem services in their designs. Regenerating mangrove forests and other ecosystems would enable future cities to rely on natural carbon sequestration, smarter climate adaptation, and local development based on healthy ecosystems.

However, this will require a fundamental shift that unites architects, urban planners, municipality mayors, project developers and investors in working together on new urban development concepts. Philanthropists have a critical role to play in kick-starting this movement, supporting pilots, partnerships, education and exhibitions, and disseminating blueprints that coastal cities worldwide can replicate.

Building more resilient ocean ecosystems in the face of climate change

Antha Williams, Global Head of Environmental Programs, Bloomberg Philanthropies (US)

As part of the Vibrant Oceans Initiative, you are focusing on protecting coral reefs. Why do you see reefs as key to building ecosystems that are more resilient to climate change?

At Bloomberg Philanthropies, we apply our mission – to ensure better, longer lives for the greatest number of people – directly to our work protecting our ocean ecosystems, and the billions of people and marine species that rely on them.

More than a billion people depend on fish to survive which, in turn, depend on healthy coral reefs, yet it's estimated that 90% of coral reefs will die by 2050 from climate change. Protecting our fish supply – and the coastal communities that depend on the ocean economy – requires us to protect coral reefs and make them more resilient to climate change and pollution. There's limited time to act and a lot of work to be done, so we knew global coral reef resilience would be a key focus of our Vibrant Oceans Initiative.

How did you decide where to direct your efforts? And what does success look like to you?

We partnered with one of the world's leading coral research teams at the University of Queensland to identify the reef geographies most resilient to climate change. Such corals can survive increased temperatures, rising ocean acidification, and other impacts of climate change. We used this data to build a program focused on conserving and protecting the most resilient corals through targeted investments and key partnerships with local and international partners.

To cover the 50 key reef geographies identified, our Vibrant Oceans program now operates in 10 countries and supports local actions to address the top threats each reef faces. The threats to coral reefs are many: overfishing, industrial development, pollution, habitat destruction and warming ocean temperatures. But our efforts to engage local communities, strengthen reef protections and develop other localized solutions make us hopeful that reef ecosystems will continue improving in these regions, allowing for revitalized, healthy reefs worldwide for years to come.

Another important aspect of Vibrant Oceans' work is policy advocacy and passing science-based policies in its target countries. How do you drive changes nationally and engage with policymakers?

Consistent with the Bloomberg Philanthropies approach, we support policy advocacy within countries to achieve the scale of changes needed to meaningfully protect the environment and public health. We work to empower local communities to protect and manage their resources because local players are often the most effective advocates, and community-level policy change is most impactful. Our excellent non-profit partners help us collect evidence and recommend policies that will make the biggest difference. We also engage policymakers through advocacy and media campaigns, which help raise awareness and highlight the public's main concerns. Some of our greatest successes have come from working with leagues of mayors to advocate for change and support policy reforms.

You work with partner organizations and other philanthropists. Why did you choose to collaborate with them and what are the results?

One person or group alone cannot solve the numerous threats facing our ocean or the global challenge of climate change, which is why we work with philanthropists, NGOs, and governments aligned with our mission to protect lives and combat the climate crisis. We also recognize our own distinctive strengths and expertise, and where joining forces with our counterparts will best create new capacity and ideas to help us meet our goals. A great example of this is our partnership with Dalio Philanthropies' OceanX Media. Our joint project has allowed us to reach new, broader audiences through visual storytelling initiatives that bring the wonders of ocean exploration to life. Bloomberg Philanthropies is also a member of Oceans 5, an international funders' collaborative that has enabled us to support bigger projects in more countries. By reaching out to others, we've been able to share our knowledge and networks and leverage resources for greater impact. The threats to our ocean are vast and ever-changing, which is why we'll continue to grow the program and our partnerships.

How to fight pollution

Addressing pollution in the oceans requires will and commitment. Solutions exist that can reduce ocean pollution, regardless of where it originates.

Regulatory and governance

Regulatory and governance solutions are often the starting point for fighting pollution resulting from, for example, extractive industries, runoff and the shipping industry.

For example, such solutions can:

- restrict exploration and drilling in particularly vulnerable marine areas
- introduce more stringent environmental regulations and enforcement mechanisms
- mandate reduced use of pesticides and fertilizers
- strengthen regulations related to industrial waste disposal
- deliver more responsible coastal developments based on serious environmental impact assessments.



"Philanthropists can play a great role in building capacity in the waste management field because they can help to fill the extremely large funding gap where financing and multilateral aid is not available. Corporates, on the other hand, have the biggest opportunity to scale impact, as they have the power to undertake research and development and spread the message."

Doug Woodring, Founder and Managing Director, Ocean Recovery Alliance (Hong Kong)

📌 **Tip:** Philanthropists can help NGOs or other civil players push these issues to the top of the social awareness agenda and influence policy to drive change.



Infrastructure

Communities require proper recycling services that capture waste and return it to the value stream. This includes services that encourage a circular economy (using resources sparingly and recycling continually) and zero-waste mindset.

- 🎯 **Tip:** Philanthropists can engage with their communities or city government to support feasibility studies that assess how infrastructure improvements can reduce ocean pollution downline. From there, philanthropists can also support the study and development of infrastructure-based solutions that improve the health of oceans and cities.

Technological innovation

Innovations that reduce industrial pollution should be explored, incentivized and scaled. Alternatives to chemicals-based plastics are appearing more frequently, for example, with biodegradable plastic starting to appear on shelves. Even innovations in food we eat, such as fish produced without catching actual fish, reduces the food industry's pollution footprint.

- 🎯 **Tip:** Philanthropists can help innovators and organizations generate ideas and implement technological innovations that reduce environmental harm to the oceans. Small ideas that need testing, researching and developing often fall below the radar of philanthropic funding. But this is exactly where philanthropic funds can help innovators pursue unique and untested ideas creatively, freely and without fear of failure.

Commitment

Solving pollution issues is an important mindset to develop. As a consumer or investor, every time we choose a service or product, we have the opportunity to make a difference.

- 🎯 **Tip:** By engaging as a philanthropist, you can encourage others to take action. For example, you can become an advocate for the oceans by supporting educational campaigns and curricula development.

"It's behavior we need to change using things properly instead of banning them."

Trish Hyde, former CEO of Australian Packaging Covenant and founder of The Plastics Circle (Australia)



Addressing plastic pollution: three perspectives

Plastic pollution has gained a lot of attention in the past years, leading to number of initiatives ranging from beach clean-ups to single-use plastic bans. No doubt that plastic pollution is bad for the environment. We should change our behaviors and create solutions to the plastic pollution problem we have created.

While plastic is an issue we must address, we shouldn't get distracted from addressing the bigger and more complex challenges impacting the oceans like climate change, habitat loss or population growth.

Looking at scientific data, evidence-based solutions, and sustainable approaches is crucial to long term success.



Viewpoint

Jo Royle, Founder and CEO, Common Seas (UK)

Solving the ocean plastic crisis requires a systemic solution. The result is Clean Blue Alliance: a methodology that turns the theory of systems change into practical action – delivering on-the-ground demonstrations of the plastics circular economy.

Clean Blue Alliance has been running projects for just over a year and is active in three locations: Greece, the Maldives and Indonesia. We work with island communities because they pose difficult challenges to learn from and can deliver visible progress. As microcosms of larger human settlements, we can use island breakthroughs to inform, inspire and influence geographies with more complex material flows.

We deliver impact through three phases:

1. Investigation. We build a complete picture of a community's plastic ecosystem to identify the best leverage points for change. This includes exploring how local people perceive plastic, how it flows around a community, and which items are found where. These insights allow us to design the most effective portfolio of solutions.

2. Intervention. We partner with stakeholders to deliver creative joined-up interventions that remove problem plastics from the economy and prevent plastic from becoming waste. We support local entrepreneurs to pilot systems that phase out single-use plastics, and work with local waste management to create or optimize resource management systems.

3. Influence. We demonstrate the impact of our interventions and create the right conditions for them to attract investment, inform government policy and scale rapidly. For example, we showcase effective policies to make governments more confi-

dent about implementing them.

Our work is built on the fact that systemic solutions must be tested in real-world laboratories before deploying them widely. This creates sustainable change and avoids risking investment without real impact.

Collaboration is key. Phase one identifies which combination of decision-makers will best help our chosen community shift from a linear to a circular economy. This circular network includes product designers, NGOs, academics, brands, community groups, local business owners, waste services and policymakers. For example, in Indonesia, we partner with the Governor of East Java, waste managers, two universities, diaper brands, and Muslimat – the country's largest women's network.

Because Clean Blue Alliance uses feedback loops, we measure impact at every phase. Having identified the right metrics, we set baselines and create simple data-gathering protocols. Different projects require different metrics. In Greece, we measure bottled water use and the number of businesses involved. In East Java, we measure the use of single-use diapers, the number of jobs created, and the percentage of the population with access to waste management. We also celebrate other outcomes of our work, such as the Maldivian government's commitment to completely phasing out single-use plastics by 2023.

Clean Blue Alliance is a living, breathing, growing and improving demonstration of how to address ocean plastic, and is already inspiring and informing other communities. Demand is high. Around the world, communities are ready to do what it takes to break free from plastic.



Viewpoint

Marco Simeoni, Entrepreneur and Founder, Race for Water (Switzerland)

Without healthy oceans, there would be no life on earth. As an entrepreneur, it is in my DNA to try to understand and build solutions that make sense. So naturally, I bring that into my philanthropic work. Ten years ago, I created Race for Water to learn, share and act against plastic pollution in the ocean. This modern material represents one of the biggest threats to our planet.

In 2015, our first worldwide odyssey helped us realize that we had to take the fight to the land. Once in the ocean, plastic degrades into microplastic and 99% will sink. So it's impossible to clean the ocean. We must stop plastic reaching water in the first place!

Plastic pollution is everywhere, from the deepest part of the oceans to the most isolated islands. How did we reach this critical point? Plastic has invaded our lives, particularly since we decided it was the best material for single-use products and hygiene. And all despite plastic comprising toxic chemicals and taking a hundred years to degrade.

The exponential trend of plastic production was not accompanied by the infrastructure needed to manage the waste it generates. What's more, most plastics are difficult, and sometimes impossible, to recycle. Western countries are failing to manage their plastic waste and exporting some of it to developing countries which lack proper waste management facilities.

So what can we do? Our organization raises awareness about why and how we can detoxify ourselves from plastic dependence.

We are also promoting new models for managing plastic waste, which can incentivize people to collect plastic rather than throw it away. As recycling is not always possible, we are in favor of small and medium-sized decentralized plastic waste-to-energy facilities where revenues from the energy produced can remunerate plastic waste collectors. We identified high-temperature pyrolysis as a promising technology for that purpose. This process uses mixed types of plastic (e.g. PET or HDPE) to produce gas or electricity. It has the volume capacity to process the waste of an entire city district or some islands. It reduces plastic waste mismanagement globally by creating value locally, and benefiting the population and oceans.

We are always building project teams with local companies, governments and NGOs to create these local value chains for plastics. Our aim is to develop a few proof of concept projects in coastal cities and on islands. This will ensure the projects can be replicated in the coming years as the world moves to a more circular economy.



Viewpoint

Cyril Gutsch, Founder and CEO, Parley for the Oceans
and a UBS Global Visionary (US)

Why did you start working for oceans?

In 2012, I met Captain Paul Watson, an activist for marine conservation. I discovered there is a deadline – a point where all life in the oceans will pretty much collapse and that if the oceans die, we die. I couldn't accept that. I converted from a design company to an environmental organization pretty much overnight – that was the start of Parley for the Oceans.

What is your vision and approach to driving change?

Our vision is to inspire and empower leaders to drive change. We believe in collaboration. We engage with creators, thinkers and leaders from the creative industries, brands, governments and environmental groups. But, we also created a space where even opponents can come. Ultimately, we want to raise awareness about the beauty and fragility of our oceans, and collaborate on projects that can end their destruction.

I'm a designer and strategist originally. We felt we had to develop a formula that was simple to create awareness and help end marine plastic pollution and other harmful materials, which is the AIR strategy: AIR means: Avoid. Intercept. Redesign.

- **Avoid** plastic and other toxic materials wherever possible
- **Intercept** plastic and other materials before they reach landfill, rivers, lakes and oceans
- **Redesign** and support the use of eco-innovative materials

With Adidas, you designed a sports shoe made from recycled plastic from the ocean. Can you tell us more about this partnership?

Adidas Group became a founding member of Parley. Together, we developed Ocean Plastic® – a catalyst material made from intercepted marine plastic waste to replace virgin plastic – while raising awareness and funds for longer-term solutions. We also rolled out communication and education programs, and research and development.

Meanwhile, we have formed other partnerships, for example with Corona (ABInBev), to create the first 100% plastic-free six-pack ring; and with American Express to launch the first card made with Ocean Plastic®. Each partnership is a unique opportunity to explore new solutions and raise awareness.

How do you raise awareness?

We believe fashion and art have the power to change people's minds. They speak to desire and beauty, and allow us to convey a serious message about the planet's fragility. We have collaborated with leading artists, designers and fashion brands to create global awareness for our cause. Every product made with Ocean Plastic® tells a story. It makes people think about the problem. That inspires and empowers people to drive material change. Ultimately, the solution is new materials. We believe we have to learn from nature and drive the 'material revolution' to end this toxic age.

How to create and support marine protected areas

Protected areas are one of the most effective tools for conserving natural habitats and enabling species to thrive and reproduce successfully⁶⁰. They are: “a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.”⁶¹ Well designed and highly protected areas also provide resilience against climate change, protect infrastructure and properties from natural disasters, and improve the livelihoods and well-being of local communities and society⁶².

The amount of ocean in marine protected areas (MPAs) has grown more than five-fold since 2004⁶³. But, still today, only around 7.5% of the world's oceans are protected⁶⁴. Achieving basic goals for conservation, such as representing the full spectrum of species in MPAs, and helping enhance surrounding fisheries, requires more, according to the science. Protecting just 30% of ocean habitats could help marine biodiversity recover significantly, producing multiple co-benefits to human well-being⁶⁵. What's more, achieving this ambition globally is expected to generate significant economic benefits that outweigh costs by a factor of at least three to one⁶⁶.

"The science is clear. When just 30% of the ocean is fully protected in marine protected areas (MPAs) – zones where all extractive and destructive practices are excluded – marine life flourishes with increases in the numbers, the weight and the diversity of species"

Karen Sack, President and CEO, Ocean Unite (US)

- 📌 **Tip:** Creating an MPA requires a strong partnership between the donors, NGOs who implement the program on the ground, governments and authorities, and local communities.

- 60 IUCN. (2017). Global shift in Marine Protected Area analysis and reporting. Retrieved from <https://www.iucn.org/news/protected-areas/201709/global-shift-marine-protected-area-analysis-and-reporting>. Last consulted May 22, 2020.
- 61 Lewis, Nai'a, Day, and all (2017). Large-scale Marine Protected Areas: Guidelines for Design and Management. Best Practice Guideline No. 26. 148 pp. IUCN, Gland, Switzerland. p.2.
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- 65 O'Leary, B. C., M. Winther-Janson, J.M. Bainbridge, J. Aitken, J.P. Hawkins and Callum M. Roberts (2016) Effective Coverage Targets for Ocean Protection. *Conservation Letters*. doi: 0.1111/conl.12247.
- 66 Brander, L., and all (2015). The benefits to people of expanding Marine Protected Areas. VUUniversity, Amsterdam in Reuchlin-Hugenholtz, E. and E. McKenzie, E. 2015. Marine protected areas: Smart investments in ocean health. WWF, Gland, Switzerland.



You can support developing sustainable MPAs in four main ways:

- Helping establish more and larger marine protected areas. Beyond providing financial support, you could work with NGOs and foundations campaigning for change and new sites, raising awareness through the media, and engaging with influential stakeholders.
- Exploring long-term sustainable financing mechanisms. On top of the one-off cost of setting up an MPA, managing it effectively requires reliable long-term financing. Costs to cover include operating expenses for conservation and enforcement programs, staff wages, and opportunity costs for local fisheries and communities. It could be prudent to contribute to, set up or fund endowments; take part in collective innovative financing mechanisms like debt swap for nature; or help develop new sustainable financing mechanisms.
- Building capacity. To work at their best, MPA staff, managers and researchers need access to continuous learning, best practice, and exchange opportunities.
- Supporting research. Researching and sharing best practice to set up and manage the MPA will help make it more effective and enable replication at scale.

Restoring ocean habitats

MPAs provide an effective way to let nature restore ocean habitats. Under some conditions, it is possible to speed up the process by reintroducing species (e.g. plants, shellfish or corals). This can involve, for example, planting mangrove forests, creating coral nurseries and transplanting them onto reefs, restoring shellfish reefs or cultivating and planting seagrass.



📌 Tips

1. When reintroducing animals or plants, make sure:

- they are native to the area being reintroduced;
- procuring them does not damage habitats in other places;
- they are resilient enough to cope with new or changing conditions;
- that the drivers of decline have been reduced or removed – for example, there is less pollution in the area; or
- that an isolated event caused the damage – for example, accidental damage of a reef.
- Ultimately, if you are not addressing the root cause of the problem, your efforts might be in vain.

2. Check your method has a proven track record in a similar context – and if not, check whether the program has a research component for tracking and measuring its success.

3. Collaborate closely with local communities and authorities.

Protecting Ascension – what does it take to create and manage a marine protected area?

Clare Brook, CEO, Blue Marine Foundation (UK)

Why is protecting Ascension so vital?

Ascension lies halfway between Brazil and Africa, as the turtle swims. Although the island is only 10 kilometers across, its exclusive economic zone extends to 441,000 square kilometers: an area nearly the size of France. Ascension's waters teem with unusual marine life, including sharks, tuna, swordfish, some of the largest recorded blue marlin, and endemic fish species found nowhere else on Earth. Scores of green turtle also nest on its beaches.

Until recently, a longline tuna fleet was fishing Ascension's waters. This fleet, suspected of human rights abuses and shark finning, was delivering up to a third bycatch, which included endangered fish, turtles and seabirds. Closing these waters to off-shore industrial fishing represents a significant prize for global conservation.

What challenges did Blue Marine Foundation (BLUE) need to overcome?

We have been working for six years to secure an MPA around Ascension, through a combination of diplomacy and engagement. It involved persuading the British government to be ambitious in its marine conservation plans, and to persuade the people of Ascension that an MPA would better serve the island's long-term interests than allowing long-liners to plunder their waters. Ascension's residents (numbering around 700) are keen to close their waters to commercial fishing, but need reassurance that they will not lose out financially.

How did BLUE successfully set up this MPA?

We know that to protect significant amounts of the ocean, we need the buy-in of local people. A key breakthrough came when a long-term supporter of BLUE, Peter Lürssen, pledged GBP 2 million to establish a conservation trust fund for the island. This means that the islanders will receive income to support vital community projects in return for their commitment to host an MPA in their waters.

What will success look like?

The head of conservation on Ascension, Diane Baum, has said she wants Ascension's MPA to be 'the best in the world'. This means that not only should its monitoring and enforcement be exemplary – but the island should also benefit from becoming a hub of scientific excellence. As such, BLUE is working to establish a trust fund, and ensure the Ascension Islanders receive international recognition for being on the front line of protecting our oceans.

Debt swap for nature: an innovative solution for more sustainable MPAs

Robert Weary, Deputy Managing Director, Blue Bonds, The Nature Conservancy (US)

Can you explain a little about Blue Bonds for Conservation?

The Nature Conservancy (TNC) developed Blue Bonds for Conservation to help governments finance much needed ocean conservation efforts that benefit nature, people and local economies. Their financial innovation involves buying a portion of a country's debt, often at a discount, and restructuring it to create cash flow for the country to invest in nature. For example, if a country's debt can be purchased at 85 cents on the dollar, this would allow TNC to purchase USD 10 million of debt for USD 8.5 million, freeing up USD 1.5 million for nature.

How can this work for oceans?

Oceans are a vital resource for island and coastal nations, where climate change, pollution and over-fishing are taking a serious toll. But ocean protection and management are notoriously under-funded. Our Blue Bonds model brings science and finance together, creating cash flow to help better manage the ocean and incentivize governments to commit to expanding their MPAs. For example, as part of TNC's debt conversion with Republic of Seychelles, they agreed to place 30% of their ocean into MPAs. This figure was less than 1% before concluding the deal. The result is 400,000 square kilometers of new MPAs – an area larger than Germany.

What were the key ingredients to success in Republic of Seychelles?

First and foremost, a government that was willing to participate and commit to expanding its marine protected system. These transactions require time and energy on all sides. Second, sovereign debt that could be purchased at a discount to face value. Other options exist, but discounted debt is very effective. And finally, a combination of third-party loans and grant capital funding helped TNC purchase the debt.

What role did philanthropists play?

Seychelles was the world's first debt conversion for ocean protection. Because this approach was untested, philanthropists played a crucial role, providing TNC with USD 5 million in grant funding to help purchase the debt. We also needed USD 500,000 to support developing a marine spatial plan and design Seychelles' MPAs.

How can your work be scaled up?

Based on our success with Seychelles, we have the process down and now have an ambitious goal to conclude 20 transactions worldwide in the next five years. This requires a lot of financial and scientific expertise from our staff. Thankfully, donors of all sizes – from a major Wyss Foundation grant to small individual contributions – have brought us very close to our USD 40 million fundraising goal to support this work. We're working hard on around USD 700 million worth of transactions in the Caribbean and Africa that could come to life in the next six to twelve months.

Philanthropists provide catalytic funding enabling negotiation and planning



Negotiate

The Nature Conservancy brings together key-players including the World Bank, commercial investors, the coastal nation, and public funders to negotiate the debt-for-ocean deal.



An agreement to protect 30%+ of ocean area in exchange for restructured debt – leading to lower interest rates and longer repayment periods which generates savings that can be used to fund the new marine protected areas and the conservation activities.



Plan

TNC provides scientific advice and planning support to national governments and works with local partners to identify activities that combine conservation and sustainable economic opportunities, such as restoring reefs for tourism and improving fisheries management to help ensure buy-in and compliance from all stakeholders.



Established goals, activities, and roles for protecting the ocean.



Support conservation

TNC supports the local trust to manage ongoing conservation work.



A healthier ocean



Source: Adapted from The Nature Conservancy (TNC) Australia. Retrieved from <https://www.natureaustralia.org.au/what-we-do/our-insights/perspectives/audacious-plan-to-save-the-worlds-oceans>.

How to build knowledge

Ocean observation and research are essential for understanding how oceans respond to pressures, and predicting the consequences of change. The more we understand the oceans' ecosystems, the better we can design and deliver mitigation and adaptation measures. This scientific approach is fundamental for sustainable development.

In 2017, the United Nations announced that 2021 to 2030 would be the Decade of Ocean Science. By drawing attention to the topic, the UN aims to mobilize the scientific community, policymakers, business, and civil society around a program of

interdisciplinary research efforts and technological innovations⁶⁷.

There are many fields of research in the ocean space. Funding research, and collecting and analyzing data, are crucial for better understanding the issues to make more effective decisions. To scale up, it's also important to pilot innovative solutions and measure their impact.

⁶⁷ UNESCO. (2017). United Nations announces Decade of Ocean Science (2021-2030). Retrieved from <https://en.unesco.org/news/united-nations-announces-decade-ocean-science-2021-2030>. Last consulted May 22, 2020.

“If you can't measure it,
you can't manage it.”

Peter Ducker





Ocean science accounts for only between 0.04% and 4% of total research and development spending worldwide⁶⁸

📍 Tips: What to look for when funding research

Identify the needs in the research agenda. Following an established research agenda will help you prioritize.

Read reports and publications in your field of interest. This will help you identify a long list of potential scientists and research partners you could talk to. Don't hesitate to reach out to them.

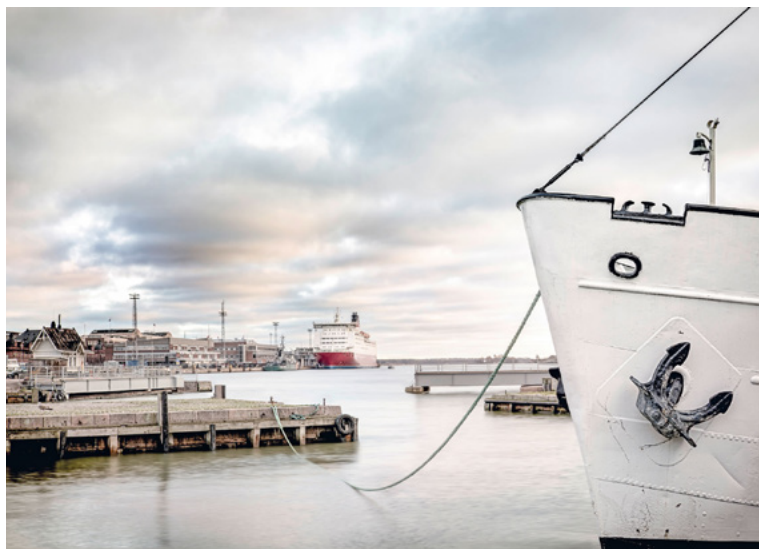
Network, network, network. Finding the right scientist or research team means talking to people, foundations, philanthropists and NGOs working in that area. Remember to cross-check the information. Some names might stand out.

Consider interdisciplinary research and supporting consortiums. A diverse team of researchers with different backgrounds, home countries and specialties will bring different perspectives to an issue. Working together in a consortium towards a common goal will enable them to share knowledge and resources efficiently, tackle issues from different angles, and challenge innovative ideas.

⁶⁸ UNESCO. (2020). Why we need a United Nations Decade of Ocean Science for Sustainable Development. Retrieved from <https://en.unesco.org/news/why-we-need-united-nations-decade-ocean-science-sustainable-development>. Last consulted May 22, 2020.

How can philanthropists support research?

Research is crucial to learning about and understanding the challenges and opportunities related to the global oceans. Philanthropists have many opportunities to support the marine sciences and related research that can lead to actionable, impactful approaches and solutions.



Viewpoint

Dr. Douglas McCauley, Director, Benioff Ocean Initiative, UC Santa Barbara (US)

How can philanthropists best match their goals with the needs and priorities of the marine sciences community?

Find out if your community needs help, such as your alma mater or local university. We have a real need to train younger scientists and create a strong pipeline for them. Investing in early career marine scientists helps them bridge the study to practice phase. It makes sure we have a reliable pipeline of talented researchers that will continue addressing key issues in ocean science and health. Specific investments that promote diversity in marine sciences also ensure solutions reach more and varied communities, and help us broaden social fluency about ocean issues.

As a philanthropist, you could also consider supporting field work, for example, through grants or even infrastructure gifts, such as research vessels. Research vessels are expensive to purchase, maintain and run, and can require a long-term commitment. But, 'ship time' is indispensable for doing actual research and gathering crucial data on the oceans.

While purchasing and running a research vessel may not be possible for everyone, funding expeditions or operating costs, or endowing a research institution with funds to lease ship time, are some ways philanthropists can support this work.

It can be difficult identifying the best experts and trusting information about scientific work requiring support.

What advice would you give philanthropists who are seeking scientists or researchers to support?

It is not easy to identify the best experts to work with, that is true. There is no central, frequently updated, unbiased list of experts and their emails and telephone numbers.

Some foundations and individuals hire their own internal chief scientist, often from academia, to help them understand the discipline and possible areas needing support, and to identify up-and-coming talent.

Philanthropists can also grow the marine sciences by supporting open access to research and data, which fosters the researchers' work and the wider field of ocean science. Open access data helps the whole discipline and creates shorter pathways between pure and applied science.

What is the difference between pure and applied science?

Pure science is when scientists seek to discover new knowledge for its own sake. For example, how far do white sharks travel? How do ocean currents flow differently at the very bottom of the sea? This is important because it helps us build a foundation of knowledge on how the oceans work. Applied science is applying knowledge to find solutions to issues – like climate change or species extinction.

Perhaps counterintuitively, it can be hard for ocean scientists to secure funding for highly applied research. While traditional funding (such as government funding) is not always available, it is easier to secure philanthropic funding for applied research (for example, research solutions to prevent the extinction of dolphins, or restore a coral reef). Sustaining and increasing these philanthropic investments is important because applied sciences enable solutions to go to scale and meaningfully improve ocean health.

In addition to supporting applied research in the world of universities, philanthropists could also support applied sciences by funding science-based NGOs working directly on solutions, and stimulating more collaboration between the academic and NGO communities.



Viewpoint

Fil. Lic. Carl Gustaf Lundin, Principal Scientist – Global Marine and Polar Programme, The International Union for Conservation of Nature (IUCN) (Switzerland)

How can philanthropists learn more about issues facing oceans?

Philanthropists can explore their affinity or passion for the oceans in many ways. For example, they might visit an area of the world they like, focus on a species that is important to them, or meet with someone they admire who is already active in the space. It is important to start educating yourself about the oceans before narrowing your focus too quickly. Give yourself some time to gain knowledge about the issues before jumping in.

What impact can philanthropists have?

Philanthropists can inform and change the landscape. Through their monies and focus on measurable results, they have the opportunity to increase their impact in the field.

A second area where philanthropists can make an impact is by bringing science to education through quality and up-to-date materials, or developing science curricula for children who are aware of the issues.

Philanthropists can provide hope through their engagement. For example, the marine biologist and explorer, Sylvia Earle, created Hope Spots through her foundation, Mission Blue. Hope Spots are scientific areas that are identified as crucial to the future health of oceans globally. Philanthropists have a unique ability to create something positive and hopeful for the future.

Another area where philanthropists can be instrumental is supporting exploration of the oceans. They can fund the quest to find something new or enable more insights into what is happening in nature. So much of the ocean is yet to be discovered. Exploration sounds like a big topic. But it is possible to take small steps in this direction, for example, by collaborating with another philanthropist or a group of philanthropists.

Research vessels are essential to exploring the oceans but they are very expensive to run. Financing time on these ships is critical to researchers and their work. If you are a philanthropist with a yacht moored in harbor for part of the year, you may like to consider donating time on your vessel to researchers who need time at sea. To better inform your philanthropy, you could even join an expedition and learn more about the issues affecting oceans.

How can philanthropists find researchers to support?

Network, network, network. Start talking to peers working in the oceans space, speak to experts they recommend or you admire, talk to other foundations, and look at what NGOs are doing.

Which areas are underserved by philanthropic support?

There are certainly many governance related areas where philanthropists are not yet very active, such as international waters and the laws governing the high seas. Governing this area effectively is vital for the oceans. Another area where philanthropy can lead to tangible gains is helping develop area-based management tools, such as MPAs. Additionally, philanthropic money can help develop a common set of standards for environmental impact assessments, which determine mining and gas exploration rights. A topic with growing importance is looking at who owns the genetic resources of the high seas.

How to raise awareness

There is great potential to gain widespread attention about the threats facing oceans – individually and collectively. Changing behavior is an important part of the equation. One of the first steps towards achieving this is to increase awareness.

Awareness can be increased on different levels: locally, nationally and globally.

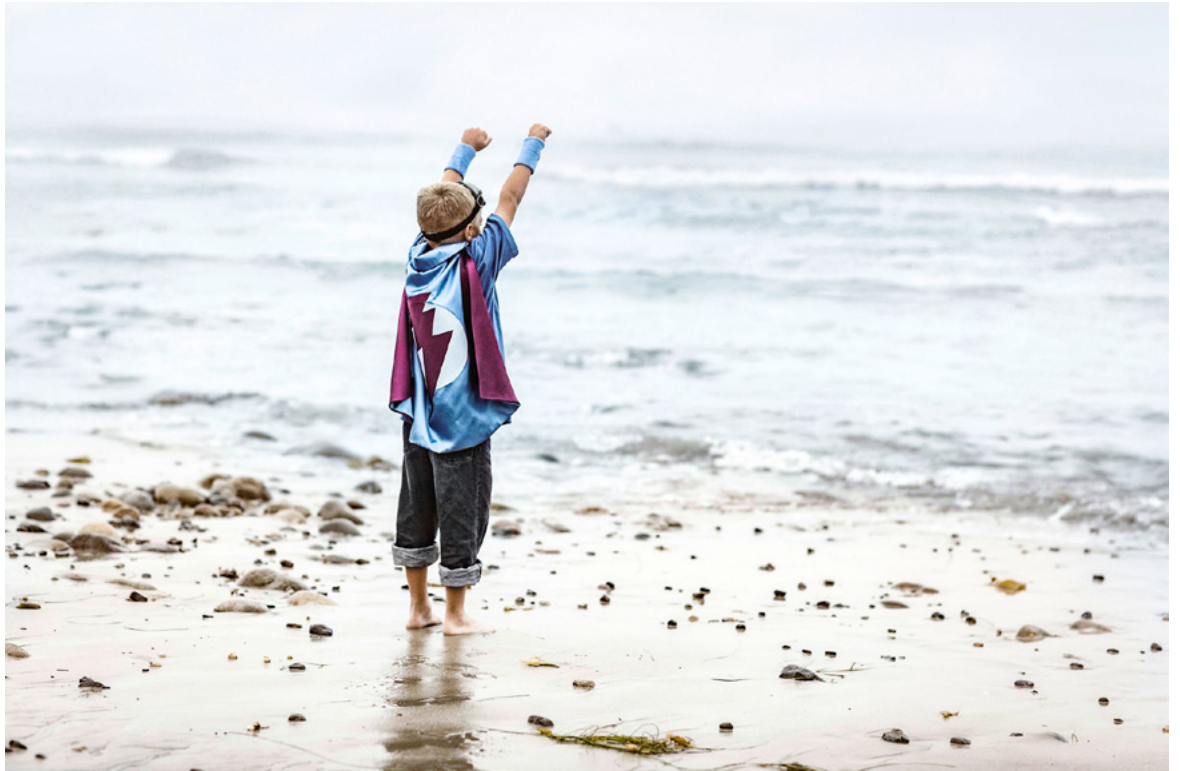
“People need to go below water and experience the beauty and issues firsthand. It is only by changing the mindset of people that we will change the system.”

Bradley Robertson, President and Co-founder, Save The Med Foundation (Spain)



📌 Tips

- **Always use scientifically based facts.** When raising awareness it is crucial to look for the underlying scientific evidence. Looking for and using accurate scientific data from recognized sources will help you make your point and avoid the risk that you spread an "incorrect" message to advance your agenda.
- **Help deliver content through various media.** Financing the production of a documentary, cartoon, or publication about environmental problems can help educate the public, while attracting media attention. A well-planned distribution and media strategy will also help increase attention.
- **Empower the young.** Funding programs targeted at children can help connect them with the ocean, physically or through virtual reality. Such programs are even more impactful when part of an official school curriculum. The earlier children are encouraged to take action, the more good habits they develop. Children are also great at bringing those good habits home.
- **Partner with a celebrity or a brand.** A great way to capture people's attention is through popular brands and celebrities. Celebrities have cultural capital and can influence and engage people. For example, Parley for the Oceans joined forces with Adidas to develop sports shoes made from plastics recovered from our oceans. While this alone won't solve the issue, it raised awareness, caught the media's attention, and gained popularity with the wider public.



Tip: How to build an awareness campaign

Step 1:

Define your desired outcomes and goals. Having a clear idea of what success looks like will help you stay focused and measure your progress. Before the campaign launches, establish key performance indicators (KPIs). These may be based on such factors as awareness, social media engagement or even a fundraising target.

Step 2:

Identify your strength and resources. Some campaigns require a lot of resources. Money is not the only resource you will use. For example, you may need access to specific media, sources of expertise, and, importantly, time. Mapping your resources and budget will help you identify your gaps and potential needs, for example, funding. At this stage, you might start identifying a partner who can complement your efforts.

Step 3:

Identify your audience. The most effective campaigns gain awareness by focusing on a narrowed-down group to start the movement. Segmenting the audience will help you adapt your messages and activities to your target group, for example, members of a certain age, demographic or income bracket. You may also segment your audience by certain interests or professions. Be prepared to adapt your audience according to certain macroeconomic or social trends. To stay ahead of the curve, you need to be reactive and observe your competitors.

Step 4:

Build a network around you and map out their roles and responsibilities. In most cases, you will not be able to do everything on your own. Depending on your budget, you may have to rely on staff, suppliers and agencies. If you have staff at your disposal, make sure everyone is clear about their roles and responsibilities. Communication is key, and managing stakeholders is a big part of maximizing your return on investment.

Step 5:

Think about the activities you can undertake. Make sure your planned activities (for example, events and social media campaigns) will get the attention of your target audience while staying within your means. Putting on events is one route if you value interpersonal relationships, but may be limiting due to travel restrictions or health measures. Be prepared to consider other options, such as digital approaches or public relations (PR), and rely on your network to activate the right platforms.

Step 6:

Be tactical with your targeting. Keep a close eye on your activities' results. If, for example, you are looking for a qualitative (measurable) audience, be prepared to reduce your targeting pool. Look at the people who have already engaged with the campaign and aim to replicate the same approach, targeting similar profiles. Alternatively, you might want to reach a mass audience but need to start small. Observe trends and adapt accordingly. Trial and error is sometimes key. You will soon discover what works and what doesn't.

Step 7:

Launch only when you are ready and at the right time. Make sure your campaign launch does not clash with other major events, or it will be dwarfed by competitors. Share of voice is paramount for a campaign to gain momentum. Make sure all components are in place and don't launch too soon. If you appear underprepared, you may damage your reputation and lose credibility.

Step 8:

Monitor your progress and measure the outcome and impact. Establish a reporting system that shows regular and accurate results. Specific vendors and tools can help, providing quantifiable metrics, such as a media valuation. They may also help you build a real-time dashboard for digital activities, displaying social media and website metrics, for example.

Your monitoring and measurement can be in the form of a tool, an agency or a stakeholder – as long as they have access to relevant data. Compare the data to your KPIs and benchmarks. Be prepared to adapt and optimize your campaign, if necessary.

Example:**#TOGETHERBAND campaign**

- **Partnership for a purpose:**

The #TOGETHERBAND campaign is an example of cross-industry collaboration that leverages celebrities and experts. UBS co-launched the campaign with the sustainable fashion brand, BOTTLETOP, to raise awareness and support for the United Nations' 17 SDGs.

- **A strong symbol:**

The campaign revolves around 17 bands made from 100% recycled ocean plastic and decommissioned firearms. The bands are handmade in Nepal by women saved from human trafficking. Proceeds from sales support projects, such as the WWF Tanzania Marine Program.

- **Multiple touch points to engage the audience:** #TOGETHERBAND runs across a series of touchpoints, including social media, events, PR and UBS internal communications.

- **A network of renowned ambassadors:**

Sixteen #TOGETHERBAND ambassadors front the campaign, while more than 350 secondary ambassadors and twelve experts each represent one of the goals. For SDG 14, Life Below Water, the world-renowned oceanographer and expert, Sylvia Earle, joined the campaign together with supermodel and ocean lover, Alessandra Ambrosio. The Australian singer-songwriter and UNDP ocean advocate Cody Simpson is also using his voice to raise awareness. UBS ambassadors and experts promote the campaign within their network and in the media.

What can you do beyond philanthropy

While the 'blue economy' (using the oceans sustainably to improve economic growth, livelihoods and ecosystems) and the oceans are gaining increasing attention, we have barely scratched the surface on investment opportunities. Growing concerns regarding ocean conservancy and, more broadly, climate change, have the potential to influence industry and consumer behaviors globally. This will lead to new business models and, in turn, investment opportunities.

Investors interested in making a difference, particularly for oceans, may best achieve their goals by targeting investments that can directly or indirectly improve our oceans' health.

This can potentially be achieved through impact investing – typically private equity, private debt, or direct investments that generate intentional, measurable and verifiable positive impact.

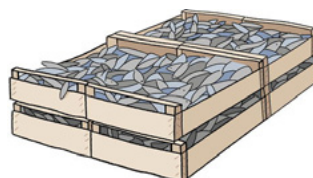
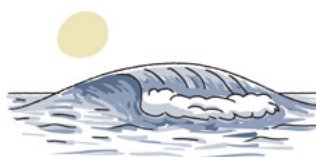
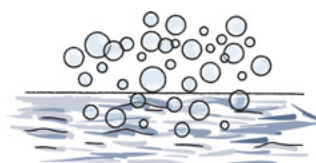
“Investors can play a huge role in rescuing our oceans and we are seeing more and more investors wanting to understand what positive impact, socially and environmentally, their invested capital is generating. Investors who indicated a preference for ocean conservancy can be best served by targeting investments that can improve oceans' health, whether directly or indirectly”

Andrew Lee, Global Head Sustainable & Impact Investing, UBS Global Wealth Management (US)



Investable themes that can address ocean-related issues:

- **Investing to reduce CO2 emissions.** This can involve renewable energy, clean air and carbon reduction, smart mobility, or engaging with companies to help reduce their use of fossil fuels.
- **Climate change is one of the biggest threats facing oceans.** The oceans absorb excess CO2 in the atmosphere, so reducing emissions is critical to safeguard their future.
- **Investing to address plastic and other water pollutants.** This embraces water treatment equipment, waste management and recycling, and incentivizing companies to use less or reuse plastic.
- **Investing for more sustainable fishing, aquaculture and fish alternatives.** This includes sustainable aquaculture, and companies providing alternatives to fish protein. Food production must become more efficient while respecting the environment. Alternative and plant-based fish could substitute animal protein staples. Certain methods, such as sustainable fish farming, could alleviate some of the shortages caused by overfishing.
- **Investing in marine transport innovation, including marine equipment suppliers.** The International Maritime Organization (IMO) and national authorities have recently established more stringent regulations that should lead to clean tech investment. From January 2020, all ocean-going ships must reduce their sulfur emissions. They can do this by using low-sulfur fuel or exhaust scrubbers.



Investing in the blue economy

Max Gottschalk, Founding Partner, Ocean14 Capital (UK)

What role can investments play in protecting and restoring our oceans?

Investment vehicles, such as impact funds targeted on oceans, will play an integral role in sustaining our oceans and fighting climate change. Today, only a handful of funds take advantage of the convergence between sustainability and financial drivers affecting ocean businesses. The growth of ocean businesses is governed by the same secular trends that make them positive agents of change. Supply chain efficiency, lean manufacturing and brand differentiation are the flip side of resource conservation, clean production and environmental certification.

How investable is the blue economy?

The oceans represent roughly \$3 trillion in annual output of products and services, which is currently at risk due to habitat destruction. The oceans also play a critical role in providing food security to our planet and represent roughly 80 million tons of food production annually, which compares to 342 million tons of meat produced by the terrestrial livestock industry. Additionally, more than 80% of the oceans' food production still originates from wild caught fisheries. The projections from the High Panel for a Sustainable Ocean Economy indicate that the ocean has the potential to sustainably produce up to 360 million tons of food, depending on investment and innovations in marine aquaculture, the reduction of fish meal as an ingredient of its feeds and the optimisation of wild fisheries. These strong secular trends, in our opinion, translate into enormous investment opportunities.

What are the barriers to investing more in our oceans?

The ocean has been greatly underinvested over the previous decades which has resulted in a lack of knowledge from investors therefore requiring meaningful education. Knowledge and expertise remain fairly concentrated providing barriers to entry for investors. We believe these barriers give specialised funds exceptional opportunities to access growth companies at still very attractive valuations.

What insights would you like to share with people interested in the issues?

Protecting and restoring oceans will not only provide solutions to climate change but will also play a critical role in providing food security to humanity. It may be currently overlooked, but hopefully investment firms will give investors access to great opportunities while providing solutions that tackle the world's rising challenges.

Collaborating to solve the issues

Traditional efforts to solve the issues facing oceans are often fragmented and short-term. Only by working collectively will we shift the system to tackle complex problems.

Systems change is a way of understanding an issue, by sourcing its true root causes, evaluating them, and setting out the parameters for achieving total change and eliminating the issue in its entirety. Unless we deal with the root causes of problems, we will only mitigate the consequences of malfunctioning systems – we will not create change.

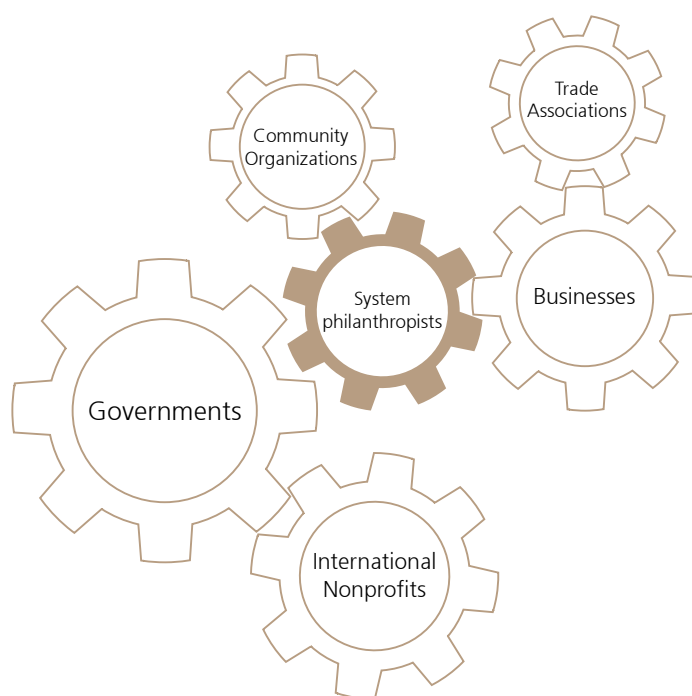
🎯 Tips to drive impact at scale:

1. Start by redefining issues from a broader, systemic perspective. This requires you to:

- identify the key players or structures that can work together as an interconnected network (in the system), and their main activities and resources
- assess how each player's relative influence can maintain or change the system
- explore whether their beliefs compel them to maintain or change the system
- check if someone has already successfully piloted a response to the problem, which could be replicated and scaled.

2. then initiate and drive change by:

- bringing players within a larger system together to co-create a strategy and coordinate action
- envisioning how a more reflective approach and set of activities could achieve a greater impact
- learning and adapting processes to achieve intended outcomes along the way
- being jointly accountable for achieving goals and advocating what works.



Collective impact is the commitment and collaboration of key players from different sectors working on a common agenda to solve issues at scale.

Joining an existing collective effort

Starting a new collective is not always the best solution. In the ocean space, many platforms and alliances already exist.

Joining an existing collective enables you to:

- **leverage resources and expertise** in a collaborative coalition of peers
- invest in **scaling approaches that have already proven impactful** for systemic change.

What are the benefits of collective philanthropy?

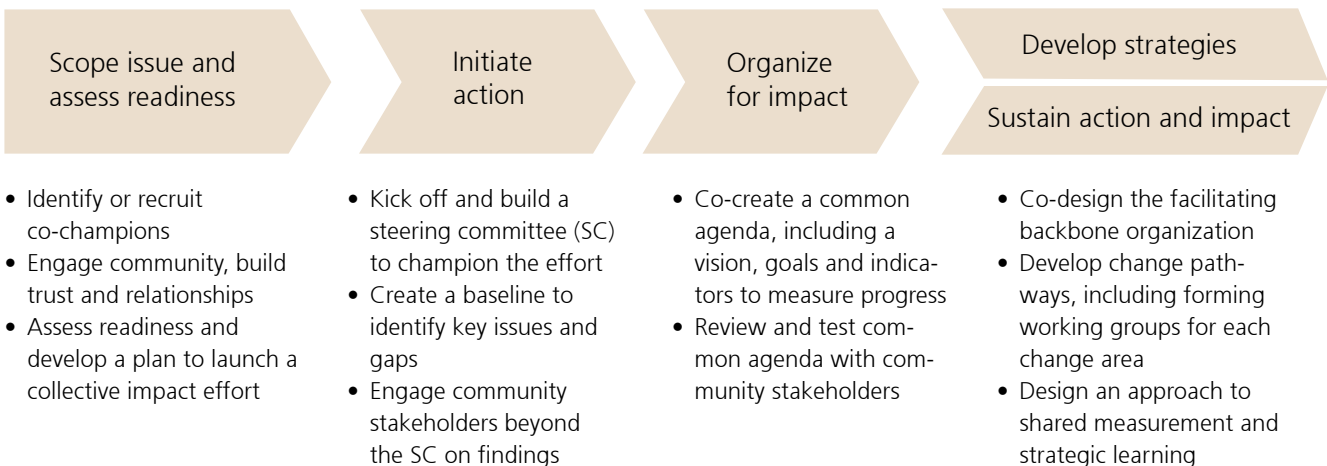
- Increased impact through **pooled funds** with longer-term or larger-scale grants, reducing reporting duties for grantees and increasing operational effectiveness
- **Joint due diligence and measurement of impact and learning** for course correction, and peer exchange on best practices to inform future giving strategies
- **Better risk management** compared to acting alone in a new sector or geography, and less tendency to duplicate efforts
- **Joint accountability** among partners to achieve the intended outcomes of the shared vision

The five key ingredients to success

1. **Common agenda** – shared understanding and narrative of the issue
2. **Strategic learning** – shared measurement and collective decision-making based on on-going learning
3. **Mutually reinforcing activities** – leveraging the strength of each participant
4. Strong trust-based **stakeholder engagement**
5. **Backbone support** – dedicated staff who can challenge mental models and coordinate the different participants

Championing a new initiative

As a funder, you may want to champion a new effort to tackle a complex issue in a location where other collective impact efforts don't yet exist. Here is how you can initiate collective impact:



Sources: FSG, the San Diego Trafficking Prevention Collective homepage

Towards collective impact – Global Mangrove Alliance

Emily Landis, Coastal Wetland Strategy Lead, The Nature Conservancy (US)

What is the Global Mangrove Alliance?

The Global Mangrove Alliance (GMA) brings together more than 20 organizations with operations in every mangrove country to work towards a coordinated global mangrove conservation and restoration agenda. This agenda ensures good science, sound environmental policies and practices, and sufficient funding. By working together, the alliance members draw on their respective strengths, both professionally and geographically, to focus the world's attention on mangrove conservation for maximum impact.

Why is collaboration so important?

Curbing mangrove loss and restoring them provides a unique opportunity to simultaneously address carbon emissions and help millions of people adapt to the impacts of climate change. Recognizing this, governments, institutions, communities and individuals are starting to mobilize to protect this critical ecosystem. While this rapid progress spells hope, it's still rare to see mangroves integrated into climate strategies and policies. Most mangrove conservation and restoration projects have been implemented locally. These isolated efforts often fall to communities who lack the tools to effectively restore and protect their mangroves.

GMA provides a foundation for all members to leverage funding; strengthen scientific research; improve coastal management, education, climate mitigation, and adaptation-related policies; and accelerate mangrove conservation and restoration. This collaboration allows GMA to achieve scale above and beyond the capacity of any one organization.

What challenges did you have to overcome to set this up?

Aligning a global conservation agenda and ensuring inclusivity meant that initial progress was slow. We had to build trust among the organizations, develop a structure that allows for increased coordination among experts, and establish an administrative body that supports program development and drives accountability.

What are the key ingredients for making this successful?

GMA's success is built on collective action to:

- build the scientific basis for policy and management recommendations
- work with governments to integrate mangroves into international and local decision-making
- build local communities' capacity related to sustainable livelihoods and sustainable mangroves use.

We also consider sustainable financial mechanisms for all projects, and promote management decisions that fully account for all the ecosystem services that mangroves provide.

What does success look like?

Our goal is to increase global mangrove cover by 20% by 2030, focusing on 10 target regions around the world. Success will mean we have strengthened coastal resilience, stored millions of tons of carbon, protected ocean habitats, and improved food security and the well-being of coastal communities.

Blue Nature Alliance – a bold partnership to save the ocean

Matthew Rand, Director, Marine Habitat Conservation Program, The Pew Charitable Trusts (US)

Aulani Wilhelm, Senior Vice President, Center for Oceans at Conservation International (US)

What is the Blue Nature Alliance and how did it get started?

In the last decade, world leaders have prioritized ocean conservation. But the pace and scale of action have failed to meet the urgency of this global challenge. We can turn the corner on ocean health, but we must work together to do so.

The Blue Nature Alliance (Alliance) is an ambitious and innovative partnership that brings together philanthropic visionaries, leading ocean conservation experts and community champions to conserve 5% of the global ocean (more than twice the size of Australia) by 2025. This effort, founded by Conservation International (CI), The Pew Charitable Trusts, and partners, is a significant step towards reaching the worldwide scientific goal of protecting 30% of the world's oceans by 2030. This recognized target is key to helping oceans rebound.

Why is collaboration so crucial to reach this 30% goal?

With just a decade left, the world is woefully behind to reach 30%. Currently, approximately 5% of the planet's waters are safeguarded in robust marine protected areas: an effective management tool that prohibits destructive activities in designated areas. Reaching the 30% target will require a scope and scale of collaboration never seen before; the political will to act; and local community engagement and support for actions such as permanent bans on seabed mining and unsustainable fishing. Philanthropic investment will also be key. According to a 2017 study from the Packard Foundation, most of the world's ocean philanthropy concentrates on projects in developed regions, leaving the leaving other biologically rich areas of the ocean vastly underfunded.

What can a collaboration achieve that one philanthropist could not?

Scale, shared learnings and better use of resources. We are seeking opportunities that have the greatest potential to catalyze long-term impact. We are also aiming for unprecedented new scales of conservation by establishing new conserved areas, as well as expanding, upgrading and improving existing ones. The Alliance is scoping opportunities in more than 15 countries. The Alliance welcomes the opportunity to work with additional investors and partners interested in joining this global effort to save the world's oceans. By bringing together philanthropists, governments, local leaders and the world's top experts in conservation and sustainable finance, the Alliance is sending a powerful signal to the global community that bold action on ocean conservation is critical to our future.

What would you say to a philanthropist who wants to engage?

Time is precious. We need to innovate and invest rapidly to save one of the most vital resources on our planet. Find and invest in the entrepreneurial, creative and strategic leaders that have proven experience. And then trust those leaders by giving them the freedom to deliver the impact you are seeking.

What next?

Our oceans are nothing less than the lifeblood of our planet. Without them, every living organism on Earth would cease to exist. When it comes to leaving the world a better place, what about protecting and restoring these priceless reservoirs of life?

That's where you come in. As a philanthropist or an investor, you can help turn the tide, rolling back the damage of decades of pollution, overfishing and climate change. Start by discovering what resonates with you. Explore the issues. Talk with others. Find like-minded people and forge alliances. Put your plans into action. Then take your mission to the world.

Your efforts won't change things overnight. The issues are varied, complex and global. You'll face many challenges along the way. But with time, patience and passion, you'll succeed. And rest assured, there will be many like-minded souls keen to help you on your journey.

Imagine, just for a moment, how you might help revitalize the world's oceans and, in turn, protect all life on Earth.

Surely that's a cause worth fighting for.

To find out more about how you can help protect and restore the world's oceans, please contact sh-philanthropy@ubs.com.



The biggest challenge facing the oceans is that people take it for granted. There is a profound complacency, the idea that the ocean is too big to fail, that it always has taken care of itself without special care from humans... We need to respect the oceans and take care of them as if our lives depended on it. Because they do! The most important thing for individuals to save the ocean is to realize what the problems are, and then reflect about 'what can I do, what capacity, what talent do I have to make a difference'. This is real. The time is now. The next 10 years will shape the next 10 thousand years. So, let's do it!

Dr. Sylvia Earle, Marine Biologist, Oceanographer and Founder of Mission Blue (US)



Thank You

We want to express our thanks to our clients, the experts and the UBS colleagues who shared their insights and perspectives for this publication.



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Driving change in the world needs leadership. As one of the world's largest wealth managers, we have a responsibility to take a leading role in shaping a positive future – for all of us and the generations to come.

At UBS, we are convinced that this interest in sustainability and driving impact will continue to accelerate during the coming years as we see a continually growing interest by our clients in sustainable finance and philanthropic solutions.

Our UBS Philanthropy offering is recognized worldwide and builds on over 20 years of experience. We partner with individuals and families to manage their philanthropy and maximize their impact locally, nationally and globally. We provide comprehensive advice, insight experiences, and execution solutions to address pressing social and environmental issues. Our philanthropy experts can help you bring your philanthropic vision to life.

We were also among the very first banks that shone a light on the importance of the SDGs – and specifically on what it takes to make them investable for clients, recognizing the major investment gap associated with their achievement. We are keen to help develop solutions in this regard, building on our successful and sometimes pioneering work aimed at mobilizing private and institutional capital towards the Goals.

Because we acknowledge the vital importance of the oceans, we have built a relevant offering from giving to investing. In this context UBS Optimus Foundation has recently expanded its focus to include environmental and climate philanthropy. By offering direct access to these opportunities and networks, we enable you to tap into cutting-edge advice, practical support and a community of like-minded peers.

Whatever your passions and philanthropic goals may be, we can help you understand how and where your resources can be the most effective, giving you more confidence in your giving and make the philanthropic journey even more rewarding for you and your family.

For more information visit:

ubs.com/insociety

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