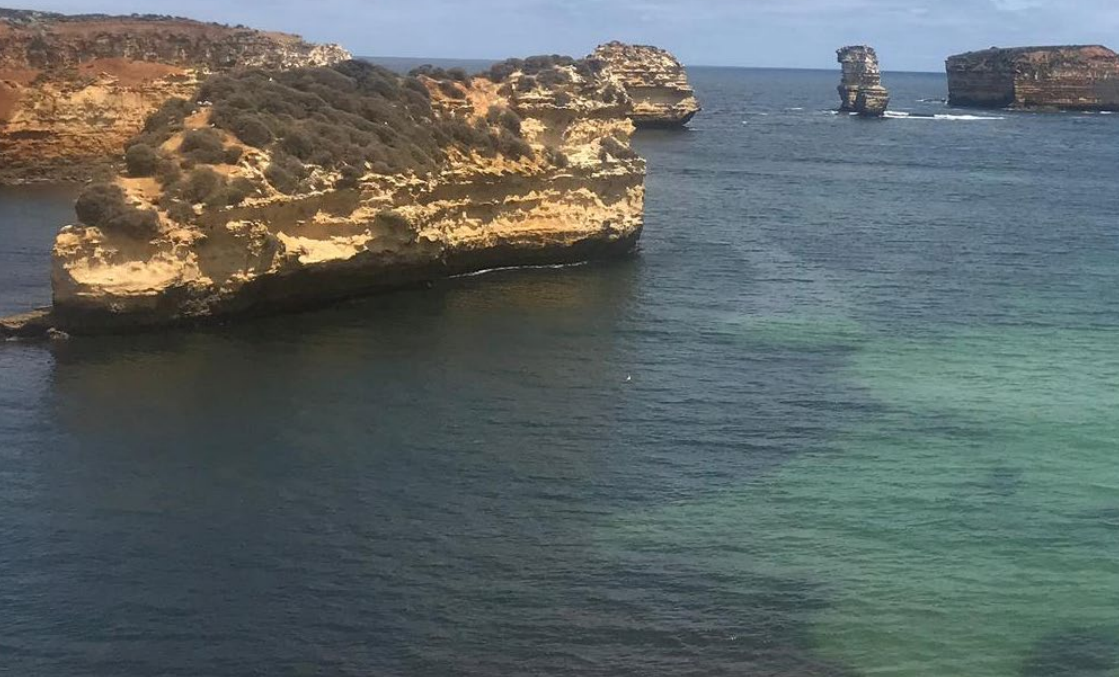
From Blue Food for Thought to Blue Food for Action

March 2022

By **Rémi Parmentier**,
with **Kelly Rigg**.



The VARDA GROUP

www.vardagroup.org

Photo cover:
Australian coastline
©Hugo Parmentier

Table of contents

Acknowledgements

We have been able to complete this report with the generous support of Dona Bertarelli through Ledunfly Philanthropy, Fondation Tara Océan and MedPAN.

DONA BERTARELLI PHILANTHROPY
donabertarelli.com

Fondation tara océan explore and share
fondationtaraocean.org

MedPAN
medpan.org

With the collaboration of Fondation Prince Albert II de Monaco

FONDATION PRINCE ALBERT II DE MONACO
fpa2.org

> "We are glad that the Monaco Ocean Week serves to explore and incubate such innovative ideas for protecting the ocean."
>
> OLIVIER WENDEN, VICE-PRESIDENT AND CEO OF THE PRINCE ALBERT II OF MONACO FOUNDATION

Authors

Rémi Parmentier
Kelly Rigg
Contact: bluefoodforaction@gmail.com

Contributions

The authors are veteran ocean advocates and campaigners with more than 40 years of experience each. We are grateful for comments made on a first draft by Tom Pickerell, Executive Director of the Global Tuna Alliance; Gemma Parkes, Communications Lead at Friends of Ocean Action; Julien Rochette, Director of the Marine Programme at IDDRI; Raphaël Cuvelier, Vice-President of the Ocean & Climate Platform; Sylvie Goyet, Adviser to the Vice-President of the Prince Albert II of Monaco Foundation; Karen Sack, Executive Director of the Ocean Risk & Resilience Action Alliance; Jim Barnes, Board Chair of the Antarctic & Southern Ocean Coalition; and Isabel Leal Maldonado, environmental communication specialist. The views expressed herein are the sole responsibility of the authors.

Cabrera Archipelago Maritime Terrestrial National Park
©Xisco Avellà

From Blue Food for Thought to Blue Food for Action

BY **RÉMI PARMENTIER, WITH KELLY RIGG,**
THE VARDA GROUP MARCH 2022
TWITTER: @REMIPARMENTIER @KELLYRIGG

2022 Foreword

During the Monaco Ocean Week of March 2021, we published Blue Food for Thought, a paper written by the Varda Group principals Rémi Parmentier and Kelly Rigg introducing new ideas for protecting the ocean. Namely:

1. Making ocean protection the norm rather than the exception, by a reversal of the burden of proof whereby ocean users would have to plead for the designation of Marine Exploitable Areas;

2. Numerical management of large fish populations (tuna, swordfish, marlin, sharks, etc.), as an alternative to current weight-based management;

3. Fishing fleet disarmament agreements whereby certain countries chasing the same fish would coordinate the downsizing of their respective fishing fleets; and,

4. Treating micro-plastic particles like radioactive substances, by seeking to isolate them from the biosphere.

The paper triggered numerous comments from a wide range of stakeholders, mostly positive ones and two sequels were published in the following months, respectively

by the International Institute on Sustainable Development (IISD) under the title *Blue Food for Thought: Four New Ideas for Protecting the Ocean*, and by the journal Idees under the title *Marine Exploitable Areas: Shifting the Burden of Proof for Marine Protection*[1]. More recently, some of these ideas were referenced in an editorial piece, *Brest Wishes for the Ocean in 2022* written by Rémi Parmentier before the One Ocean Summit hosted by the French Government in February 2022, and presented at that meeting.

On the occasion of the 2022 edition of the Monaco Ocean Week (20-25 March 2022) and four months before the High Level UN Ocean Conference (27 June-1 July 2022, Lisbon), the Varda Group is now publishing an updated version under the title *From Blue Food for Thought to Blue Food for Action.* One additional proposal, Regional Ocean Management Organisations, has been added.

The aim is to start a conversation on whether and how some of the ideas proposed might be brought to scale, and by whom. With this in mind, and with support from the Tara Ocean Foundation, MedPAN, and Dona Bertarelli through Ledunfly Philanthropy, we are organising a series of webinars in April, May and June 2022 to discuss the merits of each proposal. The outcome of these conversations will be presented at the UN Ocean Conference in Lisbon.

Seven years after the adoption of the Sustainable Development Goals by the UN General Assembly in 2015, we are at the equator with only seven years left to comply with the 2030 UN Agenda. Now is the time to consider some of the next tangible steps to rebuild a safe and sustainable world.

> “Effective protection, sustainable management of our ocean, and marine food security will require innovative and bold solutions. Now is the time to act if we are to achieve UN SDG 14, and ensure a healthy ocean, for our own health, and for the billions of people who depend on the ocean’s resources for their livelihoods.”
>
> DONA BERTARELLI, PHILANTHROPIST
> OCEAN ADVOCATE

1. Idees also published the also published the paper in Spanish and in Catalan.

Brijuni National Park Croati
©Brijuni

Introduction

Forced confinement during the pandemic presented us with an opportunity to sit back and reflect on past campaigns we have run and present efforts we support, and to consider out-of-the-box ideas for the future of ocean protection. These ideas stem from our own decades of experience working on ocean policy, and campaigning for fundamental changes in how the ocean is used.

Everyone working to protect marine biodiversity has at least one thing in common: a deep and abiding love for the ocean. In this spirit, we took the opportunity to share our thoughts with the ocean community, and were grateful to receive feedback – and also to hear other ideas.

Issues addressed in our original paper included: an alternative approach to Marine Protected Areas (making marine life and habitat protection the rule rather than the exception, at least in the high seas); reform of the management and conservation of large fish species and populations; financing the replenishment of marine life (via bilateral, regional and multilateral Subsidies Elimination Agreements rechannelling government fisheries subsidies); and stopping the flow of

plastic into the environment. As a complement, we are also discussing in the 2022 edition a proposal to create Regional Ocean Management Organisations (ROMOs) to supervise existing fisheries and other regional arrangements.

"After criss-crossing the planet Ocean on board the Tara schooner and witnessing international talks on it protection and governance in the last 19 years, it is obvious that we are failing short to preserve ocean life. We strongly believe that thinking out of the box is timely, to invent new and more effective approaches for the sake of the ocean."

ROMAIN TROUBLÉ, CEO,
TARA OCEAN FOUNDATION

The schooner Tara in Antarctica, January 2022
©Francis Latreille/Fondation Tara Ocean

Ocean of hope

With the end of the emergency phase of the pandemic in sight, ocean advocates hope that the international decision-making gatherings postponed in 2020 and 2021 will take place in 2022: the Conference of the Parties to the Convention on Biological Diversity (CBD COP15) in Kunming, China, the fourth and maybe the fifth sessions of the Intergovernmental Conference on an international legally binding instrument on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ), the Twelfth Ministerial Conference of the World Trade Organization (WTO), and the second High-Level UN Ocean Conference in Lisbon, Portugal. These have the potential to unlock key conservation objectives for the next decade. A first gathering of ocean advocates, the One Ocean Summit convened by France's President Emmanuel Macron already took place at the beginning of February 2022 in Brest, France, and the 5th UN Environment Assembly held in Nairobi, Kenya at the beginning of March 2002 agreed to launch negotiations for a legally-binding instrument to address plastic pollution.

In order to maintain momentum in 2020 and 2021, some multilateral meetings took place online, but limitations inherent to virtual meetings prevented reaching agreements sought by ocean advocates. For example, in October 2020 and 2021, at the virtual meetings of the Convention for the Conservation of Antarctic Living Resources (CCAMLR), the Russian Federation and China said more in-depth consultations were needed before they would consider lifting their opposition to the designation of three marine protected areas in the Southern Seas around the Antarctic continent, a goal that requires a consensus agreement and which all other CCAMLR Parties have been striving towards for years.

Likewise, the WTO has failed to stay on course to comply with its Sustainable Development Goals (SDG14 Target 6) mandate to eliminate by 2020 fisheries subsidies that contribute to overfishing, overcapacity and IUU (illegal, unreported, and unregulated) fishing. The pandemic has taught everyone to meet and talk online, but multilateral negotiations require informal "corridor consultations" that rely on physical presence to build trust and reach deals. We shall certainly continue to travel less for meetings and conferences in the post pandemic days, but the experience of the last couple of years has shown that physical meetings are necessary, even if virtual and hybrid formats will remain.

Gokova SEPA Turkey
©Zafer KIZILKAYA

Progress nonetheless?

To kick-start 2021, in the month of January last year, the Government of France hosted in collaboration with the UN, the World Bank and other countries, the third edition of its One Planet Summits, which was focussed this time on biodiversity, including the ocean. A High Ambition Coalition (HAC) for Nature and People was launched there, made up of more than 45 countries. The coalition is co-chaired by Costa Rica and France, and by the UK serving as Ocean Co-Chair for the marine aspects of the initiative. Its purpose is to champion a global deal to halt the growing loss of species and vital ecosystems on land and seas. HAC members are signing up to the so-called 30x30 goal which consists in pursuing the protection of 30% of our planet – land and seas – by 2030. One year later, the One Ocean Summit in Brest provided an opportunity for ocean advocates to regroup and start preparing for the second High Level UN Ocean Conference on the implementation of SDG14 now scheduled to take place on 27 June-1 July 2022 in Lisbon, Portugal. With another one envisaged in French Polynesia in 2023, the One Ocean Summit may become a recurring event similar to the Our Ocean Conferences, which have been held under the leadership of US Secretary John Kerry since 2014.

Cabrera Archipelago Maritime Terrestrial National Park
©Miguel Carretero

Ocean of distress

Looking in the rear-view mirror, however, on the one hand we find it hard to get excited by this new pledge, because 30x30 is a new iteration of a failed 2010 CBD commitment known as Aichi Target 11 to protect within 10 years 17% of the land and 10% of ocean and coastal areas. And that 2010 commitment itself was also preceded by another pledge to "end biodiversity loss by 2010" made at the World Summit on Sustainable Development in Johannesburg in 2002 (Rio+10). It is thus tempting to disqualify it all as just so much "blah-blah," as the young Swedish activist Greta Thunberg did on the day of the One Planet Summit in 2021. Why should we believe governments this time, when we know they did not put their words into action when their stated ambition was even lower? The granting of 61 new licences for offshore oil and gas exploitation by the Government of Norway just a few weeks after its Prime Minister Erna Solberg had launched at the end of 2020 the report of the High Level Panel for a Sustainable Ocean Economy which she chaired, also raised questions inevitably about the true level of ambition of its members.

On the other hand, however, looking further into the rear-view mirror, the first UN Conference on the Human Environment (Stockholm, 1972), which triggered the genesis of the modern environmental movement, looms large. The contemporary environmental laws and multilateral regulations that stemmed from that Conference created a safety net that bought us time by limiting or delaying environmental damage. The global environment is undeniably in a very deep crisis, but it is hard to overstate how much worse it could have been without that safety net. In other words, just because efforts do not accomplish everything we would wish, it cannot be said that those efforts have been wasted. Achievements can be strengthened over time. While this notion is not new to anyone working in the policy community, we would like to provide a historic example as it shapes so much of our thinking about campaigning for policy (and we pick up this example again in further detail later in the paper).

A few weeks after the 1972 UN Conference, the first global treaty for the prevention of marine pollution was adopted, known at the time

as the London Dumping Convention, and a year later the so-called MARPOL Convention to prevent pollution from shipping was also enacted. After these treaties entered into force, dumping or discharging wastes from ships would soon no longer be regarded as acceptable. The 1972 Conference also marked the creation of the UN Environment Programme (UNEP) at the origin of a Regional Seas Programme started in the mid-1970s, whereby coastal states and their scientists started to work together to protect their shared seas beyond borders. Some great achievements indeed, in the context of half a century ago.

The problem is that the holes in the post-1972 safety net were too wide to stop the flow. And the London Dumping Convention still allowed the dumping at sea of barrels of radioactively contaminated wastes. It took years of sustained high-profile public campaigning combined with behind-the-scenes political advocacy before the Parties to the LDC adopted in 1993 a binding amendment banning the deliberate dumping of industrial waste at sea. Three years later, in 1996, the "London Protocol" was adopted to modernize the convention, and then replaced it – the convention is now simply called the London Convention, after the word "dumping" was dropped as we had proposed in recognition of the need to shift away from ocean dumping[2].

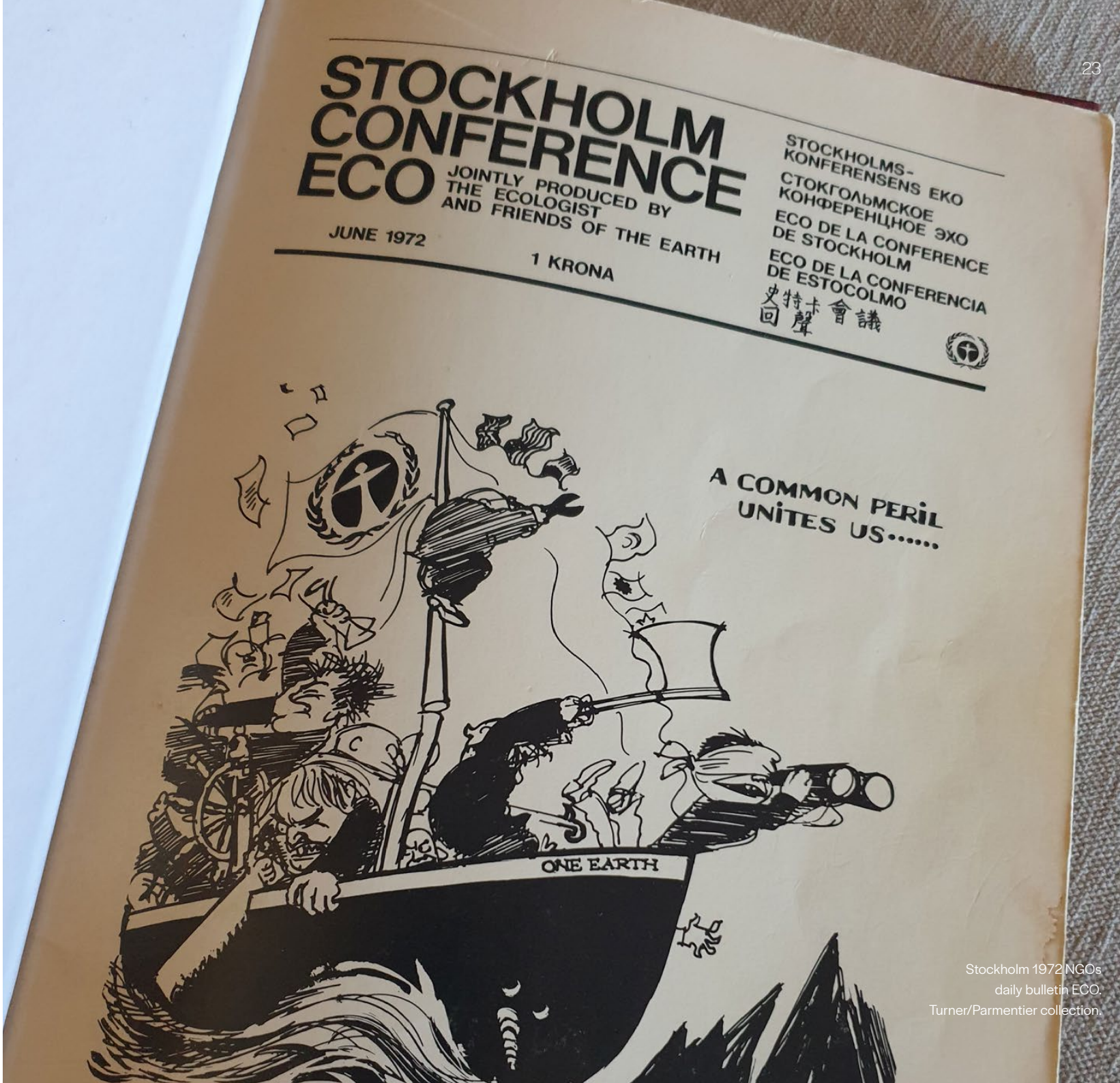
But despite a number of notable successes (the protection of Antarctica from mining in 1991; the ban on incineration of wastes at sea in 1990; or the ban on nuclear weapons testing in 1996, to name a few), the safety net has become increasingly fragile over time, as environmental problems have become more intractable, for reasons everyone is aware of and that won't be repeated here.

> "Moving away from conventional practices is necessary at this point if we are to achieve internationally-set goals to protect our Blue Planet. We have a short window of time to collectively scale-up efforts and ensure future generations don't bear the cost of our inaction."
>
> LORELEY PICOURT, SECRETARY GENERAL, OCEAN & CLIMATE PLATFORM

2. See Paragraphs 4.24 and 4.25 of the Report of the 15th Consultative Meeting of the Parties to the London Convention, 1992: https://bit.ly/3rAktgk

This year marks the 50th anniversary of the 1972 UN Conference which took place half a century ago in Greta Thunberg's home city of Stockholm. The anger and concern of young people for their future is more than justified and we owe it to them to plug the holes in the safety net and modernize environmental policy and law – adapting it to the dire times our planetary environment and the natural world are going to experience according to the findings of the Intergovernmental Panel on Climate Change (IPCC) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).

This is of course what the ocean community is striving to do. Here are a few of the "out of the box" ideas we have been thinking about for some time.



Stockholm 1972 NGOs daily bulletin ECO. Turner/Parmentier collection.

Make Ocean Protection the Rule rather than the Exception

As ocean advocates continue to fight an uphill battle which is taking years to seek the designation of an increasing number of Marine Protected Areas (MPAs) around the world, let alone their proper management, would it be worthwhile to explore another option that would consist in designating *marine exploitable areas* instead? A reverse listing approach whereby extraction would be the exception rather than the norm?

Accordingly, those seeking a licence to exploit ocean space and resources would have to demonstrate to competent authorities that their activities cause no harm to marine biodiversity and habitats, or put remedial measures in place. Instead of ocean advocates having to demonstrate that protection is feasible, industry advocates would be required to demonstrate that exploitation is environmentally safe, with a negligible or acceptable environmental footprint. This new approach would effectively shift the burden of proof to prospective fishing corporations, shipping companies or mining conglomerates, who would also need to show the absence of alternatives to their proposed extractive activities.

Aichi Target 11 and now the 30x30 campaign are reflecting a growing consensus on the need to build effective networks of MPAs. But implementation is always a very long journey. Even in a country like New Zealand that one would think is very much inclined towards protecting its marine territory and has the means to do so, it is taking years to declare an ocean sanctuary within one of its most pristine marine biodiversity hotspots, the waters around the Kermadec Archipelago. And even the designation of a marine protected area does not automatically mean species and habitats are protected. In December 2020, the specialized NGO Oceana estimated that 96% of European marine parks allow destructive activities within their boundaries. The expression "paper parks" has become common place in environmental policy literature.

According to the World Database on Protected Areas, which records information submitted by countries, more than 15,000 MPAs protect more than 27 million square kilometres of ocean. In other words, nearly 7.5% of the ocean, an area the size of North America, is under some kind

of protection. But MPA designations can mean many different things. The International Union for the Conservation of Nature (IUCN) has traditionally recognised six different categories of MPAs, ranging from strict nature reserves to protected areas with "sustainable use" of natural resources. Lubchenco *et al* (2018) have shown that fully or highly protected areas are the most effective tools to restore marine biodiversity, but currently they make up only just 2% of all MPAs. The existence of insufficiently effective MPAs can thus be due to a lack of capacity by a country to enforce its own intentions or laws, as it had been said for example of the Phoenix Islands Protected Areas (PIPA) in the Republic of Kiribati in the South Pacific, a country with an Exclusive Economic Zone larger than the continental United States, before the establishment of a partnership and trust fund in 2015 to improve management and control. It can also be due to deliberate *laisser-faire* as in the case of certain marine parks failing to ban industrial fisheries or even seabed mining.

"The Blue Food for Action initiative is an opportunity for MedPAN to bring its expertise on MPAs in order to apply it more widely: the new vision proposed by Blue Food for Action will help progressing faster toward the objective of a protected ocean."

PURIFICACIÓ CANALS, PRESIDENT, MEDPAN MEDITERRANEAN PROTECTED AREAS NETWORK

Ongoing conversations and negotiations on the conservation and sustainable use of marine biodiversity beyond national jurisdiction (BBNJ) could serve as an opportunity to explore whether (and if so how) such a reverse listing approach could apply to the high seas. Areas beyond national jurisdiction, also known as the high seas, represent 64% of the world ocean's surface, which is equivalent to 45% of the Earth's surface and 95% of the ocean's volume. Ocean advocates have invested considerable energy and resources in the BBNJ negotiations over the last decade.

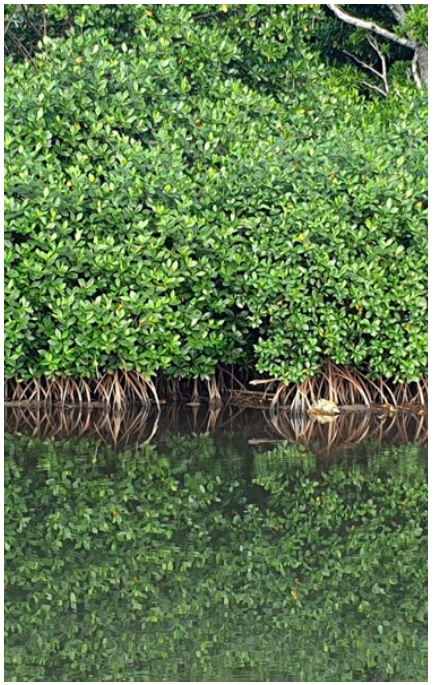
But even if the multilateral agreement they seek under the UN Convention on the Law of the Sea (UNCLOS) to improve high seas governance and conservation is adopted this year, it will take considerable additional efforts to reach consensus on the area-based management tools needed to implement it, such as high seas marine protected areas. Even after its adoption and its entry into force (which will also take some time), the Parties to the BBNJ agreement are unlikely to reach consensus overnight on where and how to

designate and manage MPAs in the high seas.

"We need to look to what's needed to urgently restore and regenerate ocean life and coastal resilience for the rest of this century, focusing on biodiversity positive and climate positive outcomes that reduce risk, increase equity, and building resilience. In the Antarctic and High Seas, maybe it's time to reverse assumptions and fully protect these waters, with exceptions allowing for specific activities requiring consensus decisions."

KAREN SACK, EXECUTIVE DIRECTOR, OCEAN RISK AND RELIANCE ACTION ALLIANCE

If it could be agreed from the outset that it is the responsibility of the users of ocean space and resources to prove that their action would not cause undue harm to marine biodiversity, it would set a powerful, game-changing precedent. If we imagine the future BBNJ agreement as the chessboard on which the international community's efforts to improve the conservation and sustainability of high seas biodiversity will play out, ocean life would be in a much better position if the departing point was protection rather than exploitation. While Regional Fisheries Management Organisations (RFMOs) manage ongoing fishing operations, a reverse listing approach under the BBNJ agreement could also serve to identify which fishing operations are acceptable and which ones are not. For example, under the BBNJ agreement, reverse listing could become an effective tool to secure that the obligation to conduct Environmental Impact Assessments (EIAs) enshrined in the draft agreement, is fully implemented and EIAs' conclusions taken into account.



Blue forests enhances coastal protection against climate change impacts
©Remi Parmentier

Alternatively, or in addition, reverse listing could also be envisaged in the framework of certain regional agreements. For example, at last year's One Planet Summit, the Union for the Mediterranean announced that it would draw an Action Plan for Exemplary Mediterranean by 2030 that would revolve around four pillars, including raising ambition for the preservation of marine biodiversity, ending overfishing by 2030, redoubling efforts against marine pollution and the greening of the shipping sector. Applying the reverse listing approach in the Southern Ocean under the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR) could also be a solution to the obstacles to designating MPAs in that region. Rather than fighting to reach agreements on the designation of MPAs, ocean advocates would watch industry fighting to reach agreements to designate marine exploitable areas. And all areas not designated as marine exploitable areas would by definition be protected.

> "Reversing the burden of proof so that prospective fishers have to justify their plans and carry out ongoing research to prove it is safe, would restore the original spirit of CCAMLR. The science is clear and compelling that most of the Southern Ocean should be fully protected in MPAs."
>
> JAMES BARNES, FOUNDER AND BOARD CHAIR OF THE ANTARCTIC AND SOUTHERN OCEAN COALITION

In October 2021, on the occasion of the 30th anniversary of the Madrid Protocol (the international agreement whereby it was agreed in 1991 that the entire Antarctic continent would be a nature reserve, another landmark campaign we ran with Greenpeace in the 1980s and early 1990s) during a commemorative event organized by the Spanish Government, and again at the recent One Ocean Summit, we proposed that a high-level *Antarctic Life Summit* be held to resolve the stalemates in the negotiations for marine protected areas in the Southern Ocean. Together with the Arctic Ocean, the Southern Ocean is the maritime area that is experiencing the most rapid and severe environmental changes caused by the climate crisis. Such a summit could be the opportunity to agree to designate all the waters surrounding the Antarctic continent an MPA.

This approach may seem far-fetched, given the roadblocks to achieving more modest protections. But as the London Convention, the Madrid Protocol and other past examples show, having powerful aspirational goals (combined with

high-profile public campaigning) can be key to generating the kind of public support and demand for action that protecting the ocean entails. All the more so when governments have already gone on the record committing to reverse the loss of biodiversity and so forth. There is no crisis without opportunity, and there may be a precedent in the International Agreement to Prevent Unregulated Fishing in the High Seas of the Central Arctic prompted by climate change and signed in 2018 by Canada, China, Denmark, the EU, Iceland, Japan, the Republic of Korea, Norway, the Russian Federation and the USA, which prevents commercial fisheries until science-based management and control are in place.

NGOs, Scientists, Governments, and Intergovernmental organisations could:

- Push to shift the burden of proof through a reverse listing approach whereby prospective extractors and users would be required to apply for licences in Marine Exploitable Areas to use ocean space and resources. Seascape outside of these areas would by definition become Marine Protected Areas.
- Address this proposal within the context of the UN Decade of Ocean Science for Sustainable Development under the auspices of UNESCO's Intergovernmental Oceanographic Commission (2021-2030), the BBNJ negotiations and regional fora.
- Plan to discuss consideration of this precautionary approach at the High-Level UN Ocean Conference to be held in Lisbon in 2022, taking into consideration deliberations on the 30x30 MPA proposal by the Parties to the Convention on Biological Diversity at their 15th Conference of the Parties.

Antarctica ©Marin Le Roux / PolaRYSE / Fondation Tara Océan

Numerical Management of Large Fish Populations

Has the time come for large fish fisheries (tuna, sword fish, sharks, marlin...) to substitute quotas and catch limits currently established by weight (tons of fish), with numerical management whereby quotas would be set by number of fish ("heads or tails")? If properly monitored and controlled (with modern technology such as CCTV, sensors and artificial intelligence this can be done), such an approach could have considerable conservation benefits:

- Moving away from the consideration of fish as mere commodities;
- More rigorous knowledge of the number of fish caught, hence better estimates of population levels;
- Better enforcement of catch limits (especially for certain tuna species that are caught when they are juvenile, including to be fattened in ponds); and,
- Easier policing of fishing operations and fish trade.

In 2003, a study published in Nature by Myers and Worm of Dalhousie University estimated that 80% to 90% of the biomass of large fish – tuna, swordfish, and marlin – had vanished in recent decades, essentially due to overfishing by industrial fishing fleets. While the 80%-90% figure has been disputed, even if a more accurate figure were – say conservatively – 50% or 40%, the loss could still be a cause for concern given wider ecosystem impacts and the role large predatory fish play in the marine food chain, and consequently for human food security. There is no question that fish stocks have continued to shrink in the last 19 years since that paper was published, and that the world's fisheries are at far from sustainable levels.

Indeed, we are nowhere near the goal agreed two decades ago at the World Summit on Sustainable Development, to put an "end to the loss of biodiversity," let alone the Sustainable Development Goal to "by 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible [...][3]."

3. Abstract from SDG14 Target 4, 2015.

The Myers and Worm study was one of many signals calling for action against overfishing at the beginning of this century. Between 2004 and 2006, the OECD Roundtable on Sustainable Development hosted a ministerial task force on illegal, unreported and unregulated (IUU) fishing in the high seas, which, in its Closing the Net report, recommended measures to improve monitoring and reporting. Separately at the same time, the UN General Assembly (UNGA) discussed a proposal originally tabled by Costa Rica, to establish a moratorium on high seas bottom trawling, a non-selective and destructive fishing method that had been expanding within areas beyond national jurisdiction[4]. One major problem in tuna fisheries management is the increased capture of juveniles, which is affecting the sustainability of populations. According to a report on juvenile tuna fisheries commissioned by the Global Tuna Alliance, a consortium of companies and organisations seeking to improve the sustainability and traceability of tuna fisheries, in 2019 50.5% of the catch in weight of yellowfin tuna in the Indian Ocean was below the optimal length. In some areas like the Mediterranean, Bluefin tuna is caught at a young age to be fed in ponds; the smaller the fish, the more that get caught if weight is the management unit. The capture of juveniles can also be enhanced using Fish Aggregating Devices (FADs), which are proliferating around the world as a way to mitigate the rarefaction of the resource. Research commissioned by the Global Tuna Alliance indicates that around 77.8% of yellowfin tuna caught with Purse Seine FADs in the Indian Ocean are juveniles. Pole and line take the highest number of juveniles (98.8%), and gillnets are also fishing gear with considerable impact on juvenile yellowfin tuna.

4. No consensus was reached in favour of a moratorium, but instead in 2006 the UNGA adopted a resolution calling upon Regional Fisheries Management Organisations (RFMOs) to conduct Environmental Impact Assessments (EIA) to avoid irreversible damage from high seas fisheries to vulnerable marine ecosystems.

> “I was inspired by the Blue Food for Thought paper. Reversing the burden of proof and numerical management are especially powerful ideas, bringing a bowl of fresh air in the ocean policy debate.”

FRANÇOISE GAILL, PROFESSOR EMERITA, NATIONAL CENTRE FOR SCIENTIFIC RESEARCH (CNRS), FRANCE

In a recent study, Creech and Gunasekera (2020) highlight how the Indian Ocean Tuna Commission (IOTC)’s management focused on the Maximum Sustainable Yield

framework (MSY) which does not take into account the fundamental fact that one ton caught by a given gear or fishing modality that captures mostly juvenile tuna will contain a vastly larger number of individual fish than one tonne caught by a gear that captures mostly mature tuna. According to preliminary calculations that Tom Pickerell, Executive Director of the Global Tuna Alliance shared with us, putting a numerical example, one tonne of yellowfin caught by the FAD-based purse seine fishery would include 175 individual tunas, based on the average weight of 5.7 kg estimated from Báez et al. (2018). In contrast, one tonne of yellowfin in the Maldivian hand-line fishery would include just over 29 individuals, based on a theoretical average weight of 34 kg for 2019.

Numerical management would allow control over the size (and therefore the age groups) of individual fish, currently made difficult as long as management remains weight-based. Numerical management would require technical adaptation on board fishing vessels: scales used to record weight of harvest fish would have to be replaced by CCTV, sensors and other IT devices. As world governments are committed to eliminating subsidies contributing to overfishing, overcapacity and IUU fishing, in accordance with SDG14 Target 6 (see below), public money could be rechannelled to develop state-of-the art numerical management tools and equip fishing fleets chasing large fish.

> “Numerical management of large fish stocks is an intriguing concept that deserves further scrutiny; particularly on the practicality dimension of ensuring accurate record keeping – especially for the smaller tunas like skipjack. Automated fish counting systems are used in aquaculture operations, and therefore this could be an avenue to explore. It would also require a paradigm shift in terms of RFMO management processes, but may have attractions in terms of allocation discussions.”
>
> TOM PICKERELL, EXECUTIVE DIRECTOR, GLOBAL TUNA ALLIANCE

History shows us that it was the adoption of numerical management by the International Whaling Commission (IWC) in the mid-1970s, in response to the call for a moratorium on commercial whaling by the 1972 Stockholm conference, which saved the great whales from extinction.

Before 1975, the IWC was implementing a commodities approach to whale "stocks" very much like RFMOs do today with large fish "stocks"; the unit of measurement was the "Blue Whale Unit" (BWU) equivalent to one blue whale, two fin whales, two and a half humpback whales or six sei whales (based on the relative amount of whale oil that each species yielded). As the catch per unit effort to take "one unit in one shot" made economic sense (only one harpoon gun, only one chase, less fuel consumption, etc.), the whaling industry gave priority to blue whales, and this is how these were brought to near extinction. This changed when the IWC was forced to allocate catch limits specific to whale species and identified separate populations, in accordance with a new management procedure that was put in place in 1974-1975. Nearly fifty years later, a similar shift by RFMOs to the numerical management of large fish, given their shrinking populations ("stocks") – comparable to the decline of the great whales in the 1960s and 1970s – could replenish the ocean and help restore marine ecosystems.

Many of the large fish are similar in size to dolphins. To understand the absurdity of the current system, just imagine describing incidental catches of dolphins or porpoises in terms of "tonnes of dolphins." Even in the case of directed catch, like those taking place in some areas of Japan or in the Faroe Islands (pilot whales), the unit of measure is the number of animals killed, not their weight. As tuna, swordfish and shark populations continue to shrink to unsustainable levels, we should learn from the experience acquired with the contemporary management of marine mammals.

Co-author Rémi Parmentier with a Bluefin tuna at Tsukji fish market, Tokyo.
©Rémi Parmentier

Governments, UN FAO, or individual RFMOs could:

- Commission a technical paper considering the case for numerical management.
- Organise and host scientific workshop(s) to consider large fish numerical management and seek views from fisheries scientists and regulators and private sector organisations.
- Present the workshop's recommendations in relevant fora, including the UN Decade of Ocean Science for Sustainable Development and the IOC, the UN Ocean Conference, IUCN, FAO's Committee on Fisheries, and RFMOs.
- Consider the adoption of numerical management i.e. by one or more RFMOs, for example as a pilot project to begin with.

Frozen Bluefin tuna at Tsukji market, Tokyo
© Rémi Parmentier

Bluefin tuna at Tsukji market, Tokyo
© Rémi Parmentier

WTO SEA and SEA SALT to Stop Funding Overfishing

Should fishing nations chasing the same fish consider bilateral or/and regional "fleet disarmament" agreements to decrease the intensity of their fishing operations on vulnerable fish populations (known as "fish stocks" in conventional fisheries management)? Subsidies Elimination Agreements – let's call them SEA SALT by analogy to the Strategic Arms Limitation Talks between the USA and the USSR during the Cold War – could be a useful complement to the efforts of the World Trade Organization (WTO) to rationalize fisheries subsidies.

According to SDG14 Target 6, in 2015 the UN General Assembly agreed to "by 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported, and unregulated fishing and refrain from introducing new such subsidies [...]." The WTO was mandated to draft and negotiate the agreement, "recognizing that appropriate and effective special and differential treatment for developing countries should be an integral part of the WTO fisheries negotiation."

Three WTO Directors General, two WTO ministerial conferences, countless drafts and one pandemic later, to date WTO members continue to fail to reach consensus on the details of the agreement they were mandated to reach by 2020. Momentum toward reaching agreement had built up at the end of 2021 before the 12th WTO Ministerial Conference (MC12) was postponed sine die at the end of November 2021, only 48 hours before the meeting was meant to commence, due to the emergence of the Omicron SARS-CoV-2 variant.

Among the remaining roadblocks there are disagreements (entertained especially by India, suspected to want to subsidise a new distant water fishing fleet now that its coastal fisheries have largely collapsed) on how and for how long special and differential treatment to developing countries should apply, and how should small-scale artisanal fishers be considered in that context. Another issue is the fact that the People's Republic of China is still considered a developing country by WTO standards. Yet it is the largest fishing nation, with a con-

siderable environmental footprint in virtually every part of the ocean. To address this issue, in his latest draft Agreement on Fisheries Subsidies the Chair of the WTO negotiations, Ambassador Santiago Wills from Colombia has proposed that there be no exemption for WTO Members whose annual share of the global volume of marine capture production is at or above 10 per cent as per the most recent published FAO data[5]. Recurring reports on a Chinese armada of fishing vessels in waters surrounding the Galapagos archipelago in Ecuador, and terrifying photographs taken by night by Argentine coast-guard spotter planes 201 miles from Argentina in the South, of a fleet which is so large that it looks like a city by night, have set off alarm bells around the world. Africa, both East and West, already confronted with numerous food security issues, also faces severe challenges due to the presence of distant water fleets, many of which come from Asia.

The status of subsidies to high seas and long distant water fisheries – especially fuel subsidies and rebates that make them artificially profitable – also remains unresolved despite an intense negotiating timetable facilitated by an able secretariat and chair.

5. WTO draft Agreement on Fisheries Subsidies, 24 November 2021, Footnote 12. Document WT/MIN(21)/W/5

Against this backdrop, there is also the wider reform agenda for the WTO, with the trade war between China and the US, which was particularly intense under the Trump Administration and which has not eased up much under the Biden Administration.

Work at the WTO was interrupted for several months in 2020 and it continued to be affected in 2021. Postponed in 2020 and in 2021, the Twelfth WTO Ministerial Conference (MC12) is now scheduled to take place in Geneva in the week of 13 June 2022, just two weeks before the High-Level UN Ocean Conference to review SDG14 implementation takes place in Lisbon. It is hoped that the concomitance of the two meetings will resolve the current deadlock.

> “The thoughts and actions contained in this proposal are exactly what we need to put our Ocean on the road to Infinity Fish, i.e., the idea that we (the current generation) pass on a healthy ocean to our children and grandchildren so they too can have the option to do the same.”

DR. RASHID SUMAILA, PROFESSOR OF OCEAN & FISHERIES ECONOMICS, THE UNIVERSITY OF BRITISH COLUMBIA

The appointment in 2021 of Dr. Ngozi Okonjo-Iweala as WTO Director General re-energized the talks. As an African woman, Dr. Okonjo-Iweala knows how small-scale artisanal fishers suffer from subsidized large industrial fleets *stealing* the fish from them. Livelihoods are at risk in Africa and elsewhere, and throughout 2021 and 2022 she has said many times publicly that fisheries subsidies discipline is high on her priority list.

We hope for and have continued to actively work toward a multilateral WTO SEA – Subsidies Elimination Agreement even during the pandemic. However, given that the WTO adopts its decision by consensus of its 164 members, in the best possible scenario the agreement reached will reflect the lowest common denominator of the membership. Under these circumstances, additional bilateral and/or regional fleet disarmament-types of agreements among fishing nations chasing the same fish – SEA SALT – would be a welcome addition to reinforce the sustainability of fisheries and the replenishment of marine life.

It should also be noted that according to OECD figures, SDG14 (the ocean sustainable development goal, to combat marine pollution, ocean acidification, overfishing and the destruction of marine biodiversity) is among the least funded SDGs by both Official Development Assistance and philanthropic development funding. Harmful fisheries subsidies monopolize considerable resources that would be better spent elsewhere, as shown in reports by the World Bank and the OECD. According to research by the University of British Columbia, as much as USD 22 billion are wasted each year in harmful fisheries subsidies, with 80 to 90% going to large industrial fleets, depriving small-scale fishers of access to resources and markets. This is huge. Rechannelling these considerable resources into environmentally and socially beneficial subsidies – for example into scientific research, monitoring and control, and management reform such as numerical management of large fish (see above) – would fill the finance gap that stands in the way of achieving SDG14 targets.

WTO Director General Dr. Ngozi Iweala Okonjo with the Stop Funding Overfishing coalition, March 2021 ©WTO

WTO members should:

Conclude expeditiously the WTO fisheries negotiations and adopt a Subsidies Elimination Agreement by June 2022 at the very latest (WTO SEA).

Fishing nations chasing the same vulnerable fish populations could:

Subscribe to bilateral or/and regional Subsidies Eliminations Agreements to decrease/disarm in a coordinated manner the intensity of their fishing efforts (SEA SALT).

Governments that dedicate funds to fisheries subsidies that contribute to overfishing and overcapacity should:

Redeploy these funds into support to SDG14 Targets and into coastal protection and sustainable jobs.

Industrial foreign fleet fisheries off West Africa. ©Pierre Gleizes

Treat Micro-plastics Particles like Radioactive Substances

Should plastic litter policy mimic the policy successfully developed in the 1980s and early 1990s for radioactive wastes which has consisted in moving from a "dilute and disperse" paradigm to permanently isolate artificial radionuclides from the biosphere?

In its early days in the late 1970s, Greenpeace deliberately chose to oppose the dumping at sea and discharge of wastes from the nuclear and chemical industries, because these wastes building in the marine environment and the food chain were invisible to human eyes. Their presence in the environment was perceivable to humans only when it was too late, once effects on human health could be felt, as had happened in the Bay of Minamata, Japan, in the 1950s and 60s. We were aware that marine litter – especially plastics – was increasing as well, of course, but our thinking was that society would naturally come to address this problem as it was clearly evident. We therefore considered "out of sight – out of mind" attitudes as the greater threat, thus for us radioactive and chemical wastes were the priority. We did not think there would be a need to give visibility to litter, floating, drifting and sinking plastics. Obviously we were wrong in retrospect, but another lesson can be drawn.

The Greenpeace toxics and nuclear campaigns were back-end strategies to prevent the externalisation of environmental costs – wastes – of industries whose environmental impacts are not limited to waste generation. Security risks to labour and the environment are associated with the routine operations of both chemical and nuclear installations, not to mention in the case of nuclear power risks associated with nuclear weapons proliferation. Dispersing and diluting hazardous wastes into the environment – into air, rivers, coasts and the open ocean – was a convenient way to dispose of inconvenient wastes, as long as no-one knew it was happening. But things changed once Greenpeace shone a spotlight on purpose-built dumping vessels operated by chemical or nuclear companies, or their regulators, or at pipes discharging liquid noxious waste from shore. The nuclear industry's response was that dumping at sea was only allowed for low- and me-

dium-radioactive wastes but it turned out that this classification existed for the purpose of waste handling, not in the light of wastes' radiotoxicity in the environment. If you added enough inert materials to high-level radioactive wastes, they could end up being classified as medium or low.

A temporary moratorium on dumping low- and medium-level radioactive wastes was first adopted in 1983 by the Parties to the London "Dumping" Convention (again, one of our favourite historical examples), but soon thereafter Greenpeace uncovered ongoing plans to dispose of high-level radioactive wastes *under* the seabed, with suppository-shaped canisters and drilling platforms. This form of disposal was not dumping at sea, the OECD nuclear agency was arguing, as it was *under* and not *on* the seabed. It was at that point, in 1985, that by resolution the Parties to the London Dumping Convention required for the first time the nuclear industry to prove that any dumping on or under the seabed would guarantee a permanent isolation of their wastes from the biosphere. Finally in 1993, the Convention was amended to ban permanently all dumping at sea of radioactive and liquid noxious (chemical industry) wastes (*on* and *under* the seabed), and their incineration at sea. The ocean dumping ban, and severe regulation of land-based discharges under the OSPAR, Helsinki, Barcelona, Noumea and other regional seas conventions, has not caused the collapse of the nuclear and chemical industries, but it is largely keeping them at arm's length from the ocean and from the natural environment.

Now that we know that plastic litter decays into micro-plastic particles which enter into the food chain, and find their way into human bodies and even human foetuses, shouldn't we say that plastic particles are the 21st century equivalent of radioactive wastes, and there are objective reasons to believe that they should be treated as such? Moreover, plastics are derived from fossil fuels and have a massive carbon footprint. It took a campaign of some twenty years to reach a universal consensus which is legally-binding on all 87 Parties to the London Convention and all 168 Parties to the UNCLOS. But there is no reason that it would need to take so long in the case of plastic litter, because – contrary to nuclear and chemical wastes – no-one, even those who produce them, argues that it is a good idea to dump them into the environment.

Since plastic litter has risen on the political agenda, there have been multiple policy debates: Do voluntary partnerships work better than regulation? Is the plastic industry getting away with the focus on consumer guilt? Do voluntary commitments and partnerships with industry work? What is the role of the petro-chemical industry? Is leaving plastic litter unabated a hidden

subsidy to the fossil fuels industry? Who should be held liable? Is a global convention as discussed in the framework of the UN Environment Assembly a good idea? Should efforts be placed regionally and at the national level instead? And so on. In the "End Plastic Pollution" resolution adopted on 2nd March 2022 by the UN Environment Assembly to launch negotiations, by 2024, on a convention to address plastic pollution, the words "binding" and "voluntary" are used four times each, thus anticipating tensions between two different approaches during the negotiations and presumably also later after the convention enters into force.

Some may object that the volumes involved in plastic wastes are nowhere comparable to radioactive waste volumes in the 1970s and 80s. But this is exactly the point: if governments had acted early in anticipation of future plastic wastes arising, as happened with radioactive wastes, they would not be faced now with such a chronic plastic waste management crisis. Based on our experience, we would say that a global common playing field is a good idea because floating plastics know no frontiers.

> "The Blue Food for Thought's reflections on plastic litter, and the parallel drawn with radioactive particles, are particularly timely as States will start negotiating a dedicated legally-binding agreement."

JULIEN ROCHETTE, DIRECTOR OF THE MARINE PROGRAMME, INTERNATIONAL INSTITUTE ON SUSTAINABLE DEVELOPMENT AND INTERNATIONAL RELATIONS (IDDRI)

Marine debris
©Rémi Parmentier

NGOs should:

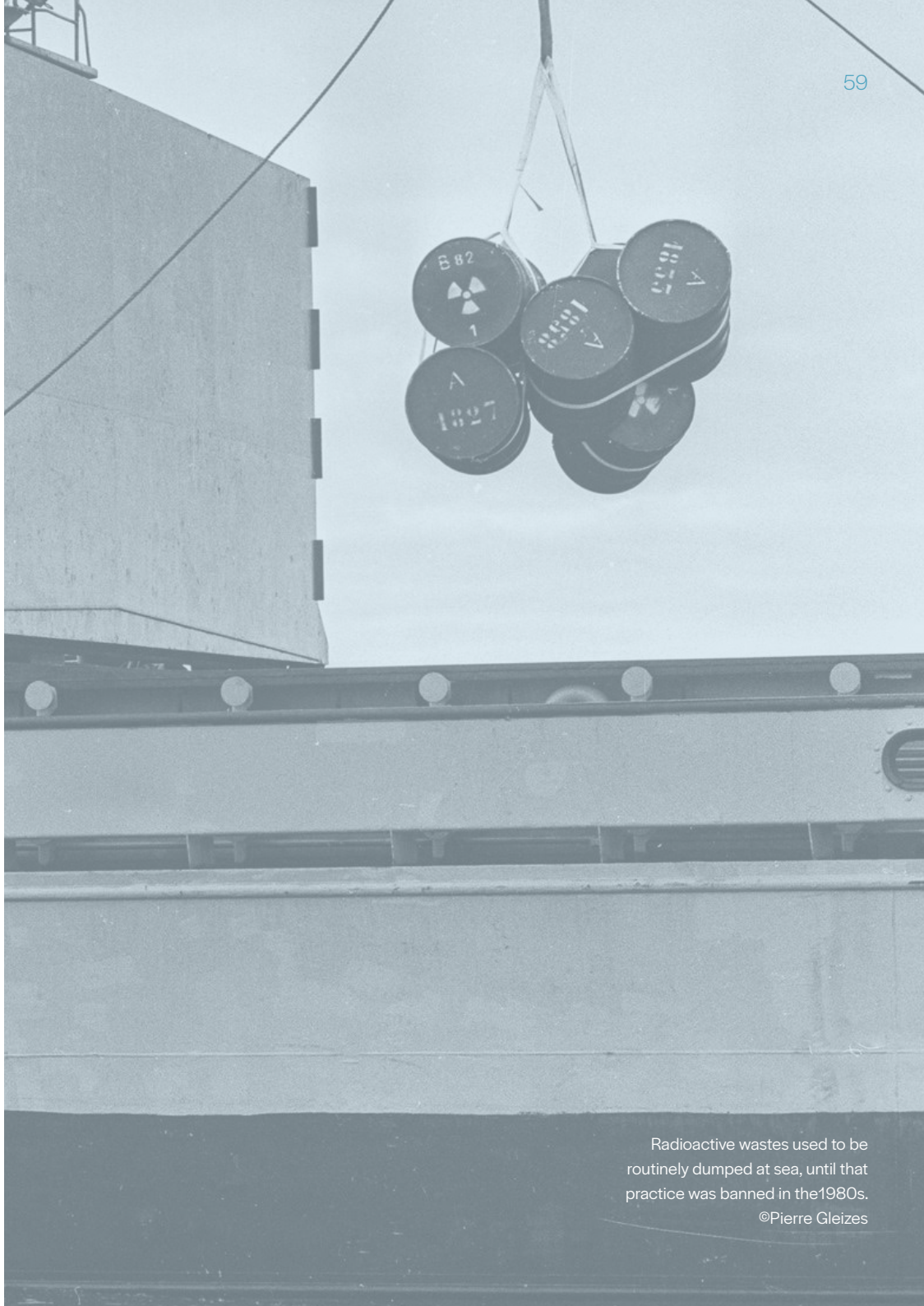
Complement their ongoing campaign on single use plastics avoidance, with a focus on industrial responsibility and liability at the national, regional and international level, with strong focus on elimination of wastes at the source, demanding that plastic waste be isolated permanently from the biosphere.

UN Environment Assembly could:

Develop legally binding instruments (stand-alone as agreed in February 2022, and/or through the Basel Convention on the Transboundary Movements of Hazardous Wastes) to establish producers' liability and obligations to manage micro-plastics like radioactive wastes (permanently isolate them from the biosphere), thus increasing pressure on manufacturers to minimise or abandon plastic in their production.

Donor Agencies should:

Increase support to policies and infrastructures for the elimination of marine pollution from land-based activities, including the discharge and loss of plastic wastes.



Radioactive wastes used to be routinely dumped at sea, until that practice was banned in the1980s.
©Pierre Gleizes

Regional Ocean Management Organisations

The issues and proposals covered above provide a good illustration of the flaws of the fragmentation of global ocean governance by too many specialized bodies and agencies, none of whom have the oversight necessary to take into account the various needs of oceanscape and use as a whole. The mandates of RFMOs for example are far too narrow to take entire marine ecosystems conservation into account, and so are the mandates of other sectoral bodies such as the International Maritime Organization (IMO) tasked with the regulation of shipping or multilateral agreements regulating the discharge of wastes into the marine environment, etc.

In 2014 already, the report of the Global Ocean Commission outlined that "even though UNCLOS enshrines in its preamble the notion that all "problems of ocean space are closely interrelated and need to be addressed as a whole, the regime is essentially sectoral in nature, based around the siloed regulation of industries and activities such as fisheries, shipping and seabed mining. A large number of agreements and institutions are mandated to regulate these sectoral activities, but there is little interplay between the various sectors."

One of the Global Ocean Commission's proposed responses to address the fragmentation of ocean governance and "break down the siloes" was the creation of Regional Ocean Management Organisations to promote ecosystem-based management in the high seas. "Even with a comprehensive [BBNJ] agreement in place, conservation and sustainable use will require effective regional implementation," the Global Ocean Commission said in its report. "Precautionary ecosystem-based management is best delivered at a regional scale in order to strike a prudent and pragmatic balance between global-scale commitments and the scale of individual ecosystems or bioregions [...] As presently constituted, however, RFMOs represent a sectoral approach to ocean management that fails to take into account other ocean uses and interests – and several only focus on the management of certain types of fish species. Most RFMOs continue to manage fisheries from a single-species perspective and have largely

failed to deliver ecosystem-based management."

The Global Ocean Commission recommended "a move from RFMOs to Regional Ocean Management Organisations (ROMOs), where more integrated management can take place." It said that "a transition from RFMOs to ROMOs would be consistent with an increasing trend in a number of countries to merge the administrations dealing with fisheries and environmental matters with a view to transforming 'fisheries' departments into 'ocean' departments with a broader marine ecosystem-based vision and mandate." One of the justifications would be to take into account cumulative impacts of various stressors including climate change and marine pollution: "Adapting fisheries management in an age of climate change requires not only a change in the process of management but also a change in the culture around fisheries management. ROMOs could move towards requiring prior 'integrated ecosystems assessments' as part of their remit." The emergence of seabed mining, especially plans to start deep seabed mining with unknown consequences on large portions of the ocean would also justify the establishment of ocean management organisations with clear conservation mandates.

"Marine Exploitable Areas are novelle and intriguing. Whether we like it or not, every part of the ocean is being exploited by humankind, and the only way to protect the most vulnerable areas may be to call out this exploitation. On plastics, this paper goes far beyond what we have agreed to do under the UN Environment Assembly. It points to production as the source of the problem, and calls to address both production and the current dispersal of microplastics into the environment. Plastic pollution is not just an eyesore- it is an unquantified threat to human health and the environment."

TALLASH KANTAI, INTERNATIONAL INSTITUTE ON SUSTAINABLE DEVELOPMENT (IISD) AND STRATHCLYDE CENTER FOR ENVIRONMENTAL LAW AND GOVERNANCE

The international community's response to the Global Ocean Commission ROMOs proposal was shy

to say the least. Maybe this was because the proposal was framed as a "conversion of RFMOs into ROMOs," and "their transition to organisations capable of delivering sound conservation outcomes by reorganizing and broadening their mandates," which was felt as a direct attack against RFMOs. A different approach whereby ROMOs would only *supervise rather than replace* existing organisations might stand a better chance.

Ocean advocates have been struggling for a decade or more to agree on how to address the fragmentation of ocean governance. For example, during the recent One Ocean Summit in Brest, proposals to establish an international panel on ocean change were discussed, and these discussions are likely to continue in the run up to the UN Ocean Conference in June 2022 and beyond.

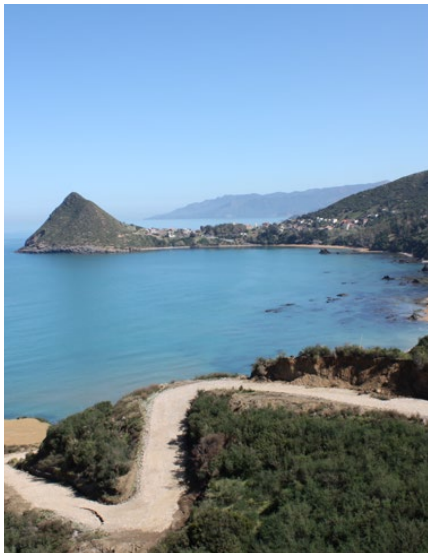
Mangrove Moon Reef in Fiji
©Rémi Parmentier

Planet Ocean

Ocean advocates frequently say that the ocean is climbing up the political agenda in the same way that climate change has done over the last decade. While it is true that awareness of the large-scale changes taking place in the ocean is growing, especially the impacts of CO2 emissions and climate change, the ocean has always been an important engine for raising public environmental awareness and mobilisation.

From Jacques-Yves Cousteau's pioneering underwater films in the 1960s and 70s, to the first ever concerted international campaign of the WWF that was called "The Sea Must Live" in 1977-1978, followed by the Greenpeace campaigns rooted at sea, the mystery and beauty of the ocean has always served a wider environmental agenda.

For many if not most people, the ocean inspires a sense of beauty, wonder and tranquillity, which perhaps explains their heightened concerns when ocean environmental emergencies arise. This is true even for people who live far away from the scene of an accident or event impacting the ocean, or even from the ocean itself. Think for example of the Minamata fish poisoning from mercury in the 1950s; the Torrey Canyon super tanker accidental oil spill in 1967 (the first of its kind); the Stella Maris midnight ocean dumping operation, which triggered the adoption of the first regional and global legal instruments for the prevention of marine pollution in 1972 – the Oslo and the London Conventions on ocean dumping; the campaigns against the dumping of radioactive wastes at sea, offshore oil and gas drilling and for the protection of the great whales in the 1980s; the legal consequences in the 1990s of the



Taza National Park
©Y. Belhimer PNT

Exxon Valdez disaster (1989), or the campaigns to ban driftnet fishing and to protect Bluefin tuna in the 2000s; and the Deepwater Horizon blowout in 2010.

Presently also, the intimate relation between the planetary climate system and the ocean now mobilises hundreds of scientists and activists. As John Kerry, now John Biden's Presidential Climate Envoy said at the Ocean-Climate Ambition Summit held in January 2021, "when we meet about the climate, we're meeting about the ocean, and when we meet about the ocean, we're meeting about the climate." When we started addressing this relationship, first in the secretariat of the Global Ocean Commission (2013-2016) and then with a group of countries and partners when we launched the Because the Ocean initiative at the 21st Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC COP21) in Paris in 2015, an initiative we continued to coordinate until COP26 in Glasgow in November 2021, little attention was paid to the ocean-climate nexus. Only a few experts working on "blue carbon" (the capacity of marine and coastal ecosystems to absorb CO2) and ocean acidification (changes in the chemical composition of the ocean due to increased CO2 concentrations) were begging for attention at the UNFCCC at the time. But now the ocean has found its place in the climate negotiations to the extent that the Chilean Presidency of COP25 held in Madrid in December 2019 dubbed it "the Blue COP," and two years later at COP26 in Glasgow the Parties to the UNFCCC agreed to hold an Ocean and Climate Dialogue on an annual basis from now on. A few years ago, we would have dedicated a separate section of this article to ocean-climate action. But now there is not so much need, because the ocean has become a mainstream topic in climate discussions: harvesting the blue energy from the ocean (offshore wind energy of course, but also waves, tidal currents and tidal range, thermal energy conversion and salinity gradients); protecting and restoring "blue carbon" ecosystems and the rest of the ocean to make it more resilient to climate impacts; and the greening of the shipping sector, for example with hydrogen or the wind engine. Ocean protection and responsible utilisation is a part of climate protection; it is not a substitute for climate change mitigation.

The power of the ocean to inspire, unite and mobilise is such that it can often serve as a vector to promote environmental actions which are not specific to ocean conservation, or only partly so. For example, the current campaigns and political initiatives to end plastic proliferation and promote the circular economy are using the ocean to mobilise the public, but of course the real objectives

are wider than simply cleaning the ocean - just like when we opposed the dumping and discharge of toxic and radioactive wastes in the 1970s and 80s.

Looking back at some of the landmark environmental achievements of the last decades, which required visionaries working at the highest levels of government to put aside political differences to achieve a common good, it is fair to ask whether in today's polarised world the ideas described above could ever be achieved. But one thing is certain, if we can't provide visionary solutions to some of the most intractable problems facing the ocean, we are unlikely to sufficiently inspire a new generation of activists to demand change. It is in this spirit that we have offered our ideas, and now look forward to working with like-minded individuals and organisations in the run-up to the UN Ocean Conference in Lisbon to explore whether and how they could be shaped into effective actionable campaigns.

Australian coastline
©Hugo Parmentier

www.vardagroup.org

With the support of

DONA BERTARELLI PHILANTHROPY

donabertarelli.com

Fondation tara océan explore and share

fondationtaraocean.org

MedPAN

medpan.org

With the collaboration of

FONDATION PRINCE ALBERT II DE MONACO

fpa2.org

Contact us

bluefoodforaction@gmail.com

THE VARDA GROUP for environmental and sustainability

Design batweb.es