



Time for the United States to Sign the Law of the Sea Treaty?

SADLY, the United States is not a party to the UN Convention on the Law of the Sea, a treaty it rejected in 1982 after having taken a key role in the years of negotiations leading up to a consensus text. In the nearly four decades since, the accord has been agreed to by most nations and has become customary international law, in many ways obligating or restricting the United States despite its outsider status.

This DEBATE addresses implementation of the UNCLOS accord's environmental and natural resource provisions. It takes place 40 years after the incoming Reagan administration in March 1981 tipped its hand over that language by abruptly dismissing the U.S. delegation to the treaty talks. Elliott Richardson, the former attorney general famously fired by President Nixon and recently head of the American UNCLOS team, called the episode "a second Saturday Night Massacre."

The new White House was bothered by provisions designating the seabed in Areas Beyond

National Jurisdiction "the common heritage of mankind" and providing for an international Enterprise that was to mine the deep ocean bottom and funnel proceeds to parties. Reagan wanted to better secure rights of private U.S. firms to the resources. .

With another new administration taking over, joining this critical worldwide accord would help it ensure rights of passage for military and commercial vessels under the U.S. flag, rights for private parties to mine the seabed — and achievement of the convention's natural resources and environmental mandates that would benefit all Americans.

Meanwhile, the ocean faces worsening threats, including acidification and temperature changes due to greenhouse gas emissions, overfishing and biodiversity collapse, and an increasing load of pollution. Ongoing talks and possible action on UNCLOS could open the door to achieving these goals and those of related treaties like the Biodiversity Convention and the Basel Convention on ocean dumping.



“Protecting marine ecosystems and their biodiversity is a means toward conserving the common heritage of mankind”

Maria Amparo Alban

Founder

InterAmerican Institute for Justice and Sustainability



“Regulatory arrangements for fishing and seabed mining are not as well developed as those enjoyed by shipping”

Simon Bennett

Deputy Secretary General

International Chamber of Shipping



“Cooperation focuses on management of key species rather than for the protection of the overall marine environment”

Xiao Recio-Blanco

Director, Ocean Program

Environmental Law Institute



“Without diluting the conservation objective of Marine Protected Areas, there may be need for multiple-use in addition to strictly protected areas”

Anders C. Jessen

Deputy Director, Head of Unit,
Regional Fisheries Management
European Commission



“An agreement needs to require environmental impact assessment for activity having significant effects outside the 200 mile zone”

Cymie R. Payne

Associate Professor, Department of
Human Ecology and School of Law
Rutgers University



“The convention provides a legal foundation to address CO₂ emissions and plastic as pollution to be prevented”

Mark J. Spalding

President

The Ocean Foundation

Can UNCLOS Do More for Biodiversity?

By Maria Amparo Alban

Many small countries rely on international law to make progress in domestic policy and regulatory matters. Sometimes it is the easiest way to generate a framework for action when domestic negotiations fail. This is especially true in environmental protection.

For a tiny country such as Ecuador, the relevance of marine resources was imprinted in the early years of the republican era. Following independence, Ecuador annexed the Galapagos Islands. Just a few years later, in 1835, Charles Darwin arrived at the Enchanted Islands.

Due to currents and a volcanic origin, the Galapagos' marine ecosystem unites unique conditions that create a vast endemism, or restriction to an area, and a high oceanic biodiversity at the same time. Since 1979 the islands have been one of the world's protected natural heritage sites under UNESCO. Ecuador ratified the Convention on Biological Diversity in 1995, and three years later formally established the Galapagos Archipelago as a national protected area with a special regime.

In 2012, Ecuador ratified the UN Convention on the Law of the Sea. Following accession to UNCLOS, the country began to abide by the 12 miles of territorial sea and the 188 miles of Exclusive Economic Zone beyond that. With that, the possibility arose to take advantage of the fish resources found therein but also to exercise Ecuador's duty regarding the management and protection of marine biodiversity within the jurisdiction of 200 miles. But, is that distance enough to protect such a sensitive ecosystem?

That question was raised recently by the presence of more than 260 Chinese-flagged large industrial fishing

vessels carrying out operations in the limits of the Galapagos marine reserve. This raises once again the issue of the current difficulties faced by the parties of several multilateral environmental agreements in protecting their marine ecosystems under the current status of international law and its various provisions and agreements.

The case of the Galapagos Archipelago is confusing. There is a non-jurisdictional area allowing intensive exploitation, including foreign industrial fishing, and permitting the capture of threatened migratory species that transit back and forth between the unprotected areas and the archipelago's reserve. This has allowed some national and international organizations to wonder about how UNCLOS can help guard sensitive marine areas protected by other multilateral agreements.

UNCLOS distinguishes between two geographical zones in what are termed Areas Beyond National Jurisdiction. They are called the *Area* and the *high seas*. The *Area* is defined as "the seabed and ocean floor, and subsoil thereof, beyond the limits of national jurisdiction." The *Area* and its mineral resources are considered the "common heritage of mankind." All this, bearing in mind that activities in the *Area* must be conducted "for the benefit of mankind, irrespective of the geographical location of states."

Acting under UNCLOS Article 76, which regulates exclusive rights on the continental shelf, recently Ecuador and Costa Rica filed a binational document before the UN Commission on the Limits of the Continental Shelf. The purpose was to establish sovereignty over adjacent continental shelf beyond our jurisdictions. This in turn would create a binational marine corridor that can connect the Galapagos Archipelago with Isla de Cocos in Costa Rica. Numerous studies have determined that many protected marine mammals, sharks, and other migratory species cover that route regularly.

It is well known that UNCLOS

establishes the rights and obligations of states regarding the use of the oceans, their resources, and the protection of the marine and coastal environment. Nevertheless, it does not expressly refer to marine biodiversity within the water column in areas beyond national jurisdiction.

However, UNCLOS does declare important environmental duties that should be taken into consideration to support initiatives such as the one Ecuador and Costa Rica are proposing. These duties arise from considering that both the high seas and the *Area* should be subject to obligations to conserve and manage the living resources and the marine environment. States are already obligated to prevent, reduce, and control pollution of the marine environment. They must take the measures necessary to protect and preserve rare or pristine or fragile ecosystems as well as the habitat of depleted, threatened, or endangered species. Moreover, it is the duty of all states to cooperate with other states, both at the regional and global levels.

In order to improve marine governance, it is crucial that UNCLOS supports other multilateral environmental agreements, such as the Biodiversity Convention in the Galapagos context. Ecuador must also push to strengthen the Food and Agricultural Organization, regional agreements on fishery management, and International Maritime Organization conventions.

Then states can protect endangered species that don't spend all their time in protected areas with a new intergovernmental framework. The purpose is to limit illegal, unregulated, and unreported fisheries that threaten protected marine ecosystems in high seas adjacent to the limit of national protection, zones where countries are executing ecosystem-protection and conservation measures. After all, protecting marine ecosystems and their biodiversity is a means toward conserving the common heritage of mankind.

Maria Amparo Alban, an environmental lawyer and university professor, is founder of InterAmerican Institute for Justice and Sustainability.

For Shipping, Be Careful What You Wish For

By Simon Bennett

Shipping is a global industry requiring global rules. Otherwise there would be chaos. From the perspective of shipowners, who collectively transport about 90 percent of global trade, the UN Convention on the Law of the Sea is eminently fit for purpose.

But in response to the degradation of the sea by other human activities, a diplomatic conference has been convened by the United Nations, with a final session expected this year. The objective is to adopt a new global agreement to allow, within the framework of UNCLOS, the development of regulations to protect biodiversity in sea areas beyond national jurisdiction — environmental regulation that can be enforced on the high seas.

Unlike most other ocean activities, however, the shipping industry is not operating in a regulatory vacuum. If a ship sails from Baltimore to Buenos Aires, the same rules already apply at both ends of the voyage and on the ocean in between. As with regulations governing safe navigation, for example, there are already global rules, with a robust system of enforcement, governing virtually every aspect of a ship's environmental performance.

This is because, within this framework under UNCLOS, shipping is comprehensively regulated by the International Maritime Organization, the specialized UN agency, based in London, whose authority is derived from UNCLOS and its predecessors.

Over the past 60 years, a highly successful system to ensure maritime safety and pollution prevention, comprising over 50 diplomatic conventions and protocols, has been de-

veloped by the world's governments under IMO's auspices. Although the United States may not yet have ratified UNCLOS, Washington has acceded to the vast majority of these IMO instruments and takes an active role in all their discussions.

There are around 80,000 commercial ships engaged in international trade, which must all adhere to IMO regulations throughout each and every voyage. Importantly, this includes strict adherence to the International Convention for the Prevention of Pollution From Ships, known as the MARPOL Convention, which enjoys almost universal ratification worldwide (including the United States) and addresses just about every potential environmental impact from commercial shipping.

The IMO regulatory system, within the framework of UNCLOS, thus already successfully ensures that a ship's activities are never beyond the national jurisdiction of its flag state, even when the vessel is operating on the high seas beyond the territorial waters or Exclusive Economic Zones of coastal states.

As well as being overseen by a rigorous system of flag-state enforcement, compliance with IMO regulations is also subject to oversight by a sophisticated regime of port state control inspection, coordinated via regional agreements within the global IMO framework.

As a consequence of this impressive IMO regime, the number of serious oil spills is a fraction of what it was at the time of the *Exxon Valdez* disaster — about two per year (comprising over 700 tonnes) during the past decade compared to about 40 in the 1980s, despite a tripling of maritime trade in the same period.

Noting that climate change presents the greatest threat to the ocean, the principal focus of IMO's current environmental protection agenda is its ambitious strategy to eradicate CO₂ emissions from shipping completely, signed-up to by virtually all of the world's governments (with

the current exception of the United States).

MARPOL already includes binding regulations to reduce CO₂ emissions from ships. These were the first ever to be adopted globally for a single industrial sector, it having been recognized by the UN Framework Convention on Climate Change that CO₂ emissions from shipping cannot be attributed to national economies, and that the mandate for addressing these should sit with the IMO.

Assisted by new carbon efficiency standards mandated by MARPOL, the global fleet today emits about 30 percent less CO₂ per tonne of cargo transported one nautical mile than it did as recently as 2008. Moreover, within the framework of MARPOL, IMO is now discussing a radical proposal from the industry to establish a \$5 billion global fund, to be financed by mandatory contributions from shipowners, to accelerate research and development of zero-carbon technologies such as hydrogen to enable shipping to decarbonize completely.

However, regulatory arrangements for other ocean industries — such as fishing and seabed mining — are not so well developed as those enjoyed by shipping. And this potentially presents a threat to the regime provided by the IMO.

The final session of the UN session to address the regulation of the high seas within UNCLOS has been delayed due to COVID-19. But in discussion with governments, including the United States, it will be vital to ensure there will be no unintended consequences, particularly with respect to implications for the continuing authority of IMO and its very effective system for regulating the environment impacts of international shipping.

Simon Bennett is deputy secretary general of the International Chamber of Shipping, the global trade association for shipowners, whose members include the Chamber of Shipping of America.

A Forward-Looking Promise — Yet Unfulfilled

By Xiao Recio-Blanco

As a unique, natural resource-focused international treaty, UNCLOS has a key role in the advancement of rule of law at sea. However, much of its forward-looking promise remains unfulfilled. Thinking about UNCLOS, one tends to focus on its more evident consequence: the assertion of national jurisdiction over large swaths of ocean and seabed. Over the decades after the convention's entry into force, coastal countries have enacted a plethora of statutes declaring spaces of maritime jurisdiction and entered into hundreds of maritime-boundary agreements.

But next to the UNCLOS provisions on the allocation of maritime space, there are a number of equally relevant provisions on international cooperation for conservation that have not enjoyed the same level of domestic-level development. Today's vulnerability of our shared ocean is not as much a failure of the UNCLOS text but an observation of what countries have done to implement it.

As we swiftly enter into a new time of unprecedented ocean industrialization, countries should re-invigorate efforts to secure adequate implementation of UNCLOS on, among others, the following three areas: securing environmental conservation, achieving cross-boundary ocean management, and ending pirate fishing.

UNCLOS declared an unequivocal mandate on the conservation of living marine resources, requiring countries to cooperate to protect the marine environment, and to conserve and manage living resources in the high seas. The UN Fish Stocks Agreement reinforced this approach with additional conservation measures. It

introduced the concepts of precautionary and ecosystem management, calling for the establishment of conservation and management measures to maintain or restore marine species. Fishing nations and coastal states have focused on the creation of regional fisheries management organizations for key commercially valuable species like tuna.

Cooperation seems to have focused mostly on the management of key species and not so much on securing ways of cooperating for the protection of the marine environment. The current process for the development of a legally binding treaty for the conservation and sustainable use of marine biodiversity in Areas Beyond National Jurisdiction will open the door for expanding the implementation of the convention's promise of ocean conservation.

At the same time, although UNCLOS focuses on one shared natural resource (the ocean), the regulatory response has been extremely fragmented. Cross-boundary management of marine resources, and a much more detailed integration of ocean connectivity from the governance standpoint, should be a main focus of ocean governance in the coming years.

In the same way countries have agreements to clarify jurisdiction, they should also have specific legal procedures for cooperation on issues that need a coordinated response. These include harmonized rules for cross-boundary assessments of key commercial species and shared stocks, endangered migratory species, marine protected areas, marine litter and coastal pollution, and environmental impact assessments for ocean-related projects.

Most of these cross-boundary challenges demand a high level of governance coordination that, for the most part, is missing. Fulfilling the mandate of ocean conservation means achieving better integration of ocean governance approaches and regulatory frameworks across jurisdictions. Now the reality of climate

change complicates things further and constitutes yet a more pressing call for cross-boundary management of ocean resources. In addition to other benefits, the harmonization of ocean governance frameworks would help seafaring industries with achieving regulatory compliance. I hope that innovative and targeted legal research, such as ELI's Regulating Blue Growth project, will be useful to provide some guidance in this process.

Finally, updating the way some elements of UNCLOS are interpreted and implemented could reinforce actions to eliminate illegal, unreported, and unregulated fishing. One of them concerns the interpretation of UNCLOS Article 111 on the right of hot pursuit. These requirements should be interpreted in a way that takes full advantage of the use of 21st century technology.

Coastal countries can adopt provisions that allow for the use of remote monitoring to fulfill the requirements of legal hot pursuit. International agreements such as the Australia-France Agreement on Cooperative Enforcement of Fisheries Law encourage a more updated, flexible interpretation of the concept of hot pursuit by enabling its exercise through the use of "technical means." The broad concept of technical means allows the coastal states to use vessel tracking devices or satellite imagery as valid instruments to ensure the uninterrupted pursuit of foreign vessels, and to gather evidence of their illegal actions.

As more states see the economic and human security of thousands of fisheries-dependent communities threatened by pirate fishing, coastal countries could develop regulations to limit the access of illegal fishing vessels to their waters by developing the provisions of UNCLOS Articles 21 and 22, which allow the coastal state to limit the right of innocent passage due to a series of national security concerns.

Xiao Recio-Blanco is the director of the Ocean Program at the Environmental Law Institute.

Environmental Protection's Biggest Act Yet?

By Anders Jessen

The state of Earth's marine environment continues to face an array of threats ranging from pollution from land-based sources to overfishing to climate change. Some 60 percent of the world's major oceanic ecosystems have been degraded or are being used unsustainably. This imposes welfare costs on current and future generations. A growing awareness of the problems has put the conservation and sustainable use of the marine environment firmly on the international agenda. In this context, marine protected areas have been receiving increasing attention from policymakers as an instrument to achieve that goal.

Indeed, MPAs have been turning into a coherent global conservation strategy. The first key event was in the text of the UN Convention on the Law of the Sea, which in 1982 declared that the idea behind terrestrial protected areas could be applied to the continental shelf. While UNCLOS established general obligations to safeguard the marine environment, arguably it also created a legal obligation for states to create MPAs.

In 1992 the Rio Earth Summit established the Convention on Biological Diversity. Target 1.1 calls for "at least 10 percent of each of the world's ecological regions [to be] effectively conserved." In 2010, the CBD reported that not only had the area target not been met, but that there was also worrying evidence of a continuing decline of various marine habitats. The strategic plan of the CBD revisited the 10 percent target, establishing that by 2020 at least 10 percent of

the world's coastal and marine areas should be conserved through "effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures."

The 2030 Agenda for Sustainable Development, adopted by all UN members in 2015, also addresses marine ecosystems in its Sustainable Development Goals. Target 14.5, for example, states: "By 2020, conserve at least 10 percent of coastal and marine areas, consistent with national and international law and based on the best available scientific information." The omission of a reference to "effective management" in Target 11 can be seen as a reflection that some saw the initial target as too ambitious and also the general tension between achieving both conservation and exploitation goals.

Interest in MPAs as a management instrument has increased, with more than 18,416 in place across the globe. According to the World Database on Protected Areas they cover about 7.6 percent of the ocean area but with substantial variation in coverage between different regions and, more importantly, their effectiveness and ecological representativeness.

While some progress has therefore been achieved toward meeting the CBD target for MPAs, considerably more needs to be done.

The urgency of the threats to the Southern Ocean and the need for protection has never been more critical. The Southern Ocean is one of the least altered marine ecosystems on Earth, and it is home to more than 8,100 unique and diverse species. In 2009, the Commission for the Conservation of Antarctic Marine Living Resources pledged to establish a network of MPAs by 2012.

MPAs account for about 4.6 percent of the CCAMLR area, with the Ross Sea being the world's

largest international MPA. Three further MPA proposals are currently being considered. These are the East Antarctic MPA, originally submitted by Australia and the EU and its member states in 2012, with Norway and Uruguay joining as co-proponents in 2020; the Weddell Sea MPA, which would become the world's largest, officially submitted by the EU and its member states in 2016, joined by Norway in 2019 and by Australia and Uruguay in 2020; and the Antarctic Peninsula MPA, proposed by Argentina and Chile in 2018.

Although there is widespread support for the proposals, China and Russia continue to block progress. Attempts by the EU and the co-proponents to engage Moscow and Beijing in meaningful discussion have so far not yielded tangible results.

Global targets call for protected areas to be ecologically representative. With the addition of these proposed MPAs, roughly three-quarters of the benthic ecoregions and almost all pelagic clusters would be represented as 10 percent protected.

Discussion will continue this year. And as the European Commission president declared in her 2020 State of the Union address, the EU will use its diplomatic strength and economic clout to broker an agreement to designate MPAs in Antarctica, as this would represent one of the biggest acts of environmental protection in history. Negotiations will no doubt be difficult and will require finding the right balance between conservation and exploitation. Without diluting the conservation objective of MPAs, there may be need for these to be zoned into multiple-use and strictly protected areas.

Anders C. Jessen is the European Commission's deputy director and head of unit for regional fisheries management. The views expressed here should not be taken as official positions of the European Commission.

Time for the U.S. to Step Up Commitment

By Cymie Payne

With implications for the marine environment, the new U.S. administration reinvigorated national climate change policy on its first day. Constructive U.S. participation in governance is indispensable to mitigating the damaging effects of greenhouse gas pollution, including acidification, deoxygenation, and warming for the 70 percent of Earth's surface that is ocean. Policy innovation for natural resource management is a strength of the United States, and it serves U.S. national interests well when the government implements tools like environmental impact assessment and the establishment of protected areas.

The United States is a maritime power with extensive coastlines and an important military and commercial presence on the seas. U.S. negotiators contributed significantly to the decade of talks concerning zones, rights, and duties commencing in 1973 as the Third Conference on the Law of the Sea. Yet in 1982 the United States voted against adoption of the text it produced, the UN Convention on the Law of the Sea, because President Reagan wanted to protect the claims of private companies to property rights in ocean minerals in Areas Beyond National Jurisdiction.

The logic of not becoming a party to UNCLOS has proved faulty in two respects. No company was willing to take the commercial risk of exploiting seabed minerals outside the legal framework of the treaty. Meanwhile, by rejecting the convention, the United States excluded itself from the treaty bodies that validate claims to the extended continental shelf; shape the law of the sea; and set the rules for deep seabed mining.

Moreover, scientific and techno-

logical advances revealed fragile but valuable living natural resources in the ocean that were unsuspected in 1982. The commercial value of marine genetic information, the social value of ocean food resources, and the intrinsic value of the most diverse life on Earth greatly exceed the profit that can be made from mining seabed minerals.

It is not too late for the United States to join in cooperative stewardship of the ocean by acceding to UNCLOS and by supporting strong provisions in the new implementing agreement to conserve and sustainably use marine biodiversity in Areas Beyond National Jurisdiction, known as BBNJ. Outside 200 nautical miles, most regulation of activities that might damage living ocean resources is left to the registry state of the ship conducting the activity, and many open registry states do the minimum.

At the same time, shipping, submarine cable laying, fishing, and, soon, seabed mining join with land-based human activities to pollute and damage ocean ecosystems, with little coordination and often no oversight. To fill this gap, nearly every member of the United Nations is working to write the terms of a treaty that will provide for environmental review and management tools to protect vulnerable and valuable ecosystems, to clarify the rules for access to genetic resources, and to support the capacity of all states to participate effectively.

An effective agreement concerning BBNJ will require environmental impact assessment for any activity that may have significant effects outside the 200 mile zone, including evaluating climate-forcing impacts and using baseline conditions that consider the cumulative effects of climate change. For the United States, that would merely clarify the obligation that already exists under the National Environmental Policy Act. U.S. activities that would be subject to the new agreement would usually already be subject to NEPA. The obligation to conduct EIA is also a treaty duty binding on UNCLOS parties, and both the

International Court of Justice and the International Tribunal for the Law of the Sea have found assessment binding on all states as a matter of customary international law.

Although some delegations to the negotiation, including the United States, have taken the position that EIA should only be required for activities in the high seas, the obligation not to cause transboundary environmental harm, another widely accepted principle of customary international law, can only be observed if the EIA obligation applies to activities that occur within national jurisdiction that may have significant external effects.

The United States has promoted the use of legally protected areas and other area-based management tools within its EEZ and beyond. Protecting vulnerable ecosystems from other human impacts is one of the few ways available to partially offset the negative effects of greenhouse gas pollution on the marine environment. Important maritime industrial sectors such as shipping and fishing are regulated by a multitude of international instruments that are neither comprehensive nor coordinated.

The legal conundrum to be solved is how to authorize regulation of all sectors, without overlaps or conflicts. This is primarily a matter of conflicting interests, not laws: the industries involved are resistant to additional regulation and the treaty secretariats are leery of the added complexity.

The United States can no longer free ride on other nations' efforts. The success of the Arctic Ocean fishing moratorium, the Fish Stocks Agreement, and the Antarctic treaty regime demonstrate the scale of the U.S. ocean agenda. Remedying the failure to join UNCLOS by acceding to the convention and taking on leadership for an effective agreement on BBNJ is the next step.

Cymie R. Payne is an associate professor in the Department of Human Ecology and the School of Law at Rutgers University. She participates in the BBNJ negotiation with the IUCN delegation.

Need To Address Instability in the Balancing Act

Mark J. Spalding

The primary objective of the Law of the Sea Convention is to codify a careful balance. On one side is coastal state sovereignty, sovereign rights, and jurisdiction in their maritime zones. On the other are the flag-state rights and duties in such zones, such as the rights of innocent passage through territorial seas and the freedom or right to fish in the high seas.

The negotiators of the convention at UNCLOS III — the third meeting of the parties under UN auspices — were addressing the tension of the over-exploitation of fish and seabed minerals through recognition of a new 200 nautical mile Exclusive Economic Zone, and new provisions regarding the marine environment, fisheries in the high seas, and seabed minerals in the regulated area. Unfortunately, the economic importance of commercial fisheries, particularly in the high seas, has continued to trump concerns about marine conservation.

My organization works on two existential threats to the ocean: acidification and plastic pollution. Neither of these is specifically mentioned in the convention. The treaty does not itself provide for the details for taking the collective action needed for a significant reduction in CO₂ emissions leading to higher pH levels and of plastic that enters waterways. Why? Because the convention is more akin to a “Constitution for Ocean Governance” that sets out rights and duties that nations respect in negotiating more specific agreements. Unfortunately, these threats are growing concurrently with the ocean-harming effects of climate change, which is also not mentioned in the treaty text. To articulate solutions for a coordinated approach, we need new stand-alone agreements, or

the incorporation of ocean acidification and plastic pollution into existing instruments.

I would argue that the sea treaty recognizes the legal duty of states to address these threats. This convention framework identifies the duties and responsibilities of conservation in managing living marine resources — and thus the protection of the integrity of the ocean environment — and establishes an expectation for national, regional, and international action and cooperation. As such, looking back we can see it was visionary, even if limited to the knowledge of the time — because we now know the ocean is not too big to fail, that its health is adversely affected by anthropogenic impacts, and those activities continue to reduce its abundance.

Like climate change, ocean acidification is caused by humanity’s carbon dioxide emissions, a third of which have been absorbed by the ocean over the past century. The resulting change in marine chemistry adversely affects every part of the food web, and thus both ocean productivity and its capacity to produce life-giving oxygen.

Plastic pollution is ubiquitous in the global ocean — from its deepest depths to the salt spray from the waves, as well as on every beach, and in every coastal marsh and mangrove forest. Microplastic has been found in virtually all forms of sea life. The threat posed by plastic to the integrity of the ocean has been established, as has the threat to the economic and social well-being of coastal communities.

In regard to international agreements, progress on plastic is much more advanced than ocean acidification. The 1972 London Dumping Convention prohibits the discharge of plastics (and other synthetic material) that will persist in the environment. Annex V of the International Convention for the Prevention of Pollution From Ships, or MARPOL, prohibits the discharge of all plastics into the ocean. These two instruments help get at the 10-20 percent of plastic in the ocean that comes from ships, but not

the 80 percent that may be outside the scope of the ocean convention.

We have seen that action can be taken quickly when needed, as in the January amendment to the Basel Convention. The amendment governs the transboundary movement of plastic waste as a means of making the global trade in the material more transparent, and better regulated in regard to safety, human health, and the environment. It also recognizes the need for assisting developing nations, especially Small Island Developing States, from the effects of such plastic pollution.

The advent of a formal proposal for a global agreement to address the full lifecycle of plastic and prevent marine litter and microplastics pollution similar to the Paris climate agreement is supported by two-thirds of UN members, and is thus perhaps inevitable.

Ocean acidification may not be directly addressed under the existing climate change measures of the UN climate convention, the Kyoto Protocol, or the Paris Agreement. However, the 2019 Intergovernmental Panel on Climate Change report on the ocean and the cryosphere made the case for doing so. The Ocean Foundation and its partners have taken the lead on the development of legal and policy measures to address acidification at the subnational, national, and regional level. It is just a matter of time before this is inserted into existing instruments. Or, if it turns out we can articulate why a separate accord would be necessary and appropriate, or perhaps easier, the policy work could become a separate accord on ocean acidification.

Fortunately, the Law of the Sea Convention provides a strong legal foundation to address excess CO₂ emissions and plastic as pollution to be prevented. The continuing strength of the treaty lies in its prioritization of the well-being of the global ocean. Thus, it provides the basis and framework for addressing future issues of concern that we have not yet envisioned.

Mark J. Spalding is the president of The Ocean Foundation.