



The Sargasso Sea Commission: An Evolving New Paradigm for High Seas Ecosystem Governance?

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The Sargasso Sea is to be found within the North Atlantic Subtropical Gyre. Its borders are the major ocean currents. These boundaries shift with these currents, but there is a core area that covers approximately 2 million square nautical miles situated around the Bermuda archipelago, the majority of which is beyond the national jurisdiction of any State. Ten governments have now signed the 2014 Hamilton Declaration on Collaboration for the Conservation of the Sargasso Sea, which mandated the Government of Bermuda to appoint the members of the Sargasso Sea Commission—the first such body to take on a stewardship role for a high seas ecosystem. The Commission has committed to working with the existing international organizations with jurisdictional competences over a myriad of high seas activities. This paper will examine the work of the Commission and lessons learned over the past decade; it will discuss its possible role as a “boundary spanning” organization and look forward to its future in the light of recent grants from the Global Environment Facility (GEF) and the *Fonds Français pour l’Environnement Mondial* (FFEM).

Keywords: ocean governance, Law of the Sea Convention, Sargasso Sea Commission, boundary spanning, GEF, FFEM

INTRODUCTION

In June 2014, five governments—the Azores, Bermuda, Monaco, the UK and the US met in Bermuda and signed the Hamilton Declaration on Collaboration for the Conservation of the Sargasso Sea (Freestone and Morrison, 2014; Hamilton Declaration, 2014). This was the culmination of a two year negotiation that involved representatives of 14 governments, plus the Canadian Senate and the EU Commission; representatives of seven international organizations also attended one or more of the meetings. Although at the last minute the EU and its Members States decided not to sign, the representatives of a number of other governments attended the 2014 meeting and spoke in support—the Bahamas, British Virgin Islands, Netherlands, South Africa, Sweden and the Turks and Caicos Islands. Puerto Rico and Trinidad and Tobago sent messages of support.

The 2014 Declaration expressly authorizes the Government of Bermuda to establish the Sargasso Sea Commission (“the Commission”) to act as “a steward” of this extraordinary part of the ocean and to “keep its health, productivity and resilience under continual review.” (Annex II para a). To date, five additional governments have signed the Declaration—the British Virgin Islands, the Bahamas and Canada in 2016, the Cayman Islands in 2017 and the Dominican Republic in 2018. The Commission and the Government Signatories to the Declaration have undertaken a number

of steps to promote conservation of the Sargasso Sea, including through interactions with other regional bodies, such as regional fisheries management organizations, and sectoral organizations, such as the International Seabed Authority.

The Declaration itself was negotiated under the auspices of the Sargasso Sea Alliance, established in 2010 and led by the Government of Bermuda. The Alliance had three aims—to draw international attention to the importance of the Sargasso Sea as a unique high seas ecosystem; to seek to work with existing international and sectorial bodies to put conservation measures in place for the Sargasso Sea; and to demonstrate what does and does not work in this context. The idea of developing a political declaration on the conservation of the Sargasso Sea arose in the early days of the Sargasso Sea project (Balton, 2021). After the development of a preliminary text by a working group, two negotiating meetings were held in Tarrytown, New York, in November 2012 and December 2013 (Freestone, 2016). The choice of a declaration, rather than a binding international agreement, was essentially pragmatic, in that it was seen as a more effective way of developing initial support from concerned governments than attempting a treaty negotiation. Binding agreements can take a long time to negotiate and then to enter into force. Moreover, governments may tend to negotiate softer language to reflect their commitments in a text that will be legally binding. Those involved in the early days of the Sargasso Sea project also recognized that it might be possible to start with a political declaration and move to a binding agreement in the future, a scenario that has worked well in other contexts, such as the North Sea (Freestone and IJlstra, 1990), dolphin conservation in the East Pacific (Hampton, 1998) and more recently in the Arctic (Schatz et al., 2019).

Having chosen to develop a political declaration rather than a binding agreement, those involved next turned their attention to the *content* of what was to become the Hamilton Declaration. Once again, they chose to begin with a gentle approach, in hopes of attracting maximum support from relevant governments. This approach emphasized voluntary cooperation between governments in protecting the Sargasso Sea, working within the accepted framework of the 1982 United Nations Convention on the Law of the Sea (LOSC, 1982), and engaging with existing regional and sectoral regimes such as the regional conventions for the conservation of the environment of the North East Atlantic (OSPAR, 1992), the Wider Caribbean (Cartagena Convention, 1983) and West Africa (Abidjan Convention, 1981), regional fisheries management organizations, and the International Seabed Authority, among others. The Hamilton Declaration would not establish a new international organization with the authority to adopt binding measures, nor would it include mandatory financial commitments. The Commission to be created would have an essentially custodial and educative role, would have legal status under Bermudian law rather than international law, and would receive support solely through voluntary contributions.

The Declaration envisages a light institutional structure with a regular Meeting of Signatories, a Commission and a Secretariat “to assist the Commission and the Signatories.” The Hamilton Declaration structure is unusual in that not all the Signatory

governments represent autonomous States and that the Sargasso Sea Commission is not composed of representatives of the participating governments. Instead, the Declaration envisages that the Government of Bermuda, after consultation with the Signatories and Collaborating Partners, will appoint the Commission “composed of distinguished scientists and other persons of international repute committed to the conservation of high seas ecosystems that would serve in their personal capacity.” Not only do the Commission members not represent the Signatory governments, they do not even need to hold their nationality. The role of the Commission members is set out in Annex II of the Declaration. It is to “exercise a stewardship role for the Sargasso Sea and keep its health, productivity and resilience under continual review.” The Commissioners serve three-year renewable terms, although the terms of the first Commissioners were staggered to ensure regular rotation. The first five Commissioners were appointed by the Bermuda Cabinet in August 2014 and appointments have been made in that way annually since then. In 2017 the number of Commissioners was increased to seven.

A UNIQUE HIGH SEAS ECOSYSTEM

The Sargasso Sea has been described as:

“a unique and extraordinary ecosystem located within the North Atlantic Subtropical Gyre and bounded on all sides by the clockwise flow of major ocean currents: the Gulf Stream and North Atlantic Drift to the west and north, the Canary Current to the east, and the North Equatorial Current and Antilles Current to the south. Hence, the boundaries of the Sargasso Sea shift with these currents, but its core area covers approximately 2 million square nautical miles around the islands of Bermuda, most of which is beyond the national jurisdiction of any state¹. The Sargasso Sea is named after its floating *Sargassum* seaweed that supports a diverse and productive ocean ecosystem. Two species of distinctive golden *Sargassum*—which reproduce holopelagically without contact with land—are found primarily in the Sargasso Sea (*Sargassum natans* and *S. fluitans*).

The *Sargassum* mats and windrows provide shelter and nutrients for a wide variety of species, some endemic and some endangered, like sea turtles, as well as a number of commercially important species like billfish and tunas. It is also on the migration route of many species, including sharks and cetaceans. It is also thought to be the only place in the world where the critically endangered catadromous European eel (*Anguilla anguilla*) and endangered American eel (*A. rostrata*) spawn (Schmidt, 1922). Surrounding the archipelago of Bermuda and within the area of the Sargasso Sea lies an abyssal plain some 4,000 metres deep, with three groups of seamounts that are 70 to 90 million years old: the New England and the Corner Rise seamounts to the north, and to the east the Mid-Atlantic Ridge Seamounts (Freestone and Bulger, 2016).

Since 2011 there have been regular mass strandings of thousands of tons of *Sargassum* on beaches within the Caribbean, Gulf of Mexico and the coasts of West Africa and South America (Freestone et al., 2016; Roe et al., 2021). The blooms were

¹For a map see <http://www.sargassoseacommission.org/index.php>

identified as a previously rare form of *Sargassum* (*S. natans* VIII) (Schell et al., 2015; Amaral-Zettler et al., 2017). It differs morphologically from both *S. fluitans* and *S. natans* and hosts reduced communities of animals which in turn make it less attractive to fish, turtles and seabirds which feed on or beneath the *Sargassum* mats (Martin, 2016). Consequently, changes in *Sargassum* type or distribution could impact species diversity and abundance. So far, these blooms have not impacted the Sargasso Sea directly but they have the potential to do so via reduced *Sargassum* communities and because they are preventing successful nesting of turtles on the affected beaches around the Caribbean (Johnson et al., 2013; Franks et al., 2016; Djakouré et al., 2017; Putman et al., 2018; Johns et al., 2020).

The Sargasso Sea is also of interest from a legal perspective, in that although it is situated between Europe and North America, there is no regional environment agreement equivalent to the OSPAR in the North East Atlantic region, and while the International Convention for the Conservation of Atlantic Tunas (ICCAT, 1966)—the sectoral Atlantic tuna convention—covers the whole Atlantic, there is no regional fisheries regime covering its core areas—equivalent to the North-west Atlantic Fisheries Organization (NAFO, 1992) or the North East Atlantic Fisheries Commission (NEAFC, 1980). The only international bodies with regulatory powers are ICCAT (for tuna and tuna-like species), the International Maritime Organization (IMO, 1958) for vessel movement and pollution control and the International Seabed Authority (ISA) established by the LOSC to regulate deep sea mineral exploration and exploitation).

THE WORK OF THE COMMISSION

In October 2014 the newly established Commission met with the Government Signatories to the Declaration and together they agreed six priority areas for its first 2 year work program (Freestone and Bulger, 2016). These priority areas are each discussed below, although not in any order of importance.

International Recognition of the Ecological Importance of the Sargasso Sea

The first achievement of the new Commission in relation to its first aim of achieving international recognition of the importance the Sargasso Sea was its “description” as an Ecologically or Biologically Significant Area (EBSA) by the Parties to the 1992 Convention on the Conservation of Biological Diversity (CBD, 1982). The Sargasso Sea project supported the presentation by Bermuda of the case for the description of the Sargasso Sea as an EBSA at a workshop in Recife, Brazil, it was then recognized by the CBD Parties at the 11th Session of the Conference of the Parties (COP11) in Hyderabad, India, in October 2011 (CBD, 2011). The Commission has continued to leverage this description in other fora (Freestone and Morrison, 2013).

In 2012 and every year since then the UN General Assembly (UNGA) has included text welcoming the work of the Sargasso Sea Alliance, and latterly the Commission, in its Annual Omnibus Resolution on Oceans and Law of the Sea. In 2016 the *First*

Assessment Report of the UN Global Reporting and Assessment of the State of the Marine Environment—commissioned a chapter on the Sargasso Sea. The Sargasso Sea was the only named ecosystem with a separate chapter in that report (Freestone et al., 2016). That chapter was updated in the Second Assessment in 2020 (Roe et al., 2021). The Commission has also established a network of bilateral links with key organizations with related competencies or similar objectives. The Commission has formal Observer status with the Northwest Atlantic Fisheries Organization, with the International Seabed Authority, the Western Central Atlantic Fisheries Commission (WECAFC, 1973) and the Inter-American Convention for the Protection and Conservation of Sea Turtles. It has a Collaboration Arrangement with OSPAR dating from 2011, which is being updated, and a 2017 MOU with the UN Environment Programme in relation to the West African Abidjan and the Wider Caribbean Cartagena Conventions—its closest Regional Seas Programmes. Finally, the Commission is in the process of negotiating MOUs with NAFO and with ICCAT. In total, the Commission also has more than 30 formal Collaborating Partners (envisaged by paragraph 11 of the Hamilton Declaration), as well as a number of Programmatic Partners.

Fisheries and Fisheries Habitat Conservation

As indicated above, two Regional Fisheries Management Organizations (RFMOs) have jurisdiction in areas of the Sargasso Sea—ICCAT (ICCAT, 1966) and NAFO (NAFO, 1979). Since 2010, representatives of the Sargasso Sea project and the Sargasso Sea Commission have attended the annual round of meetings of ICCAT and its scientific bodies. More than fifteen dedicated major research papers have been contributed to the ecosystem subcommittee of the Standing Committee on Research and Statistics (SCRS or the Science Body), and the government of Bermuda—with Commission support—has proposed two resolutions relating to the Sargasso Sea, both of which were adopted after some amendment in the Commission plenary sessions (ICCAT, 2012). The most recent Resolution, 16–23 provided that “As part of advancing the work of Ecosystem Based Fisheries Management, the SCRS will examine the available information on the trophic ecology of pelagic ecosystems that are important and unique for ICCAT species in the Convention Area” (ICCAT, 2016). The Commission ICCAT team is currently working on extending the “indicator-based ecosystem report card” developed by the SCRS ecosystem sub-committee to the Sargasso Sea (Kell and Luckhurst, 2018; Kell et al., 2019).

In September 2012, after the CBD EBSA description, the NAFO Scientific Council was formally asked, on behalf the Sargasso Sea project, to comment and advise on whether the Sargasso Sea provides forage area or habitat for living marine resources that could be impacted by different types of fishing, and on whether there is a need for any closure to protect this ecosystem. After some considerable internal discussion, in late 2016 at its 37th Annual Meeting in Halifax, NAFO agreed to:

“(1) prohibit the use of attachments of mid-water trawling gear that could damage or touch the seabed, and required all

Vulnerable Marine Ecosystem indicator species caught during mid-water trawling be reported;

(2) close completely all seamounts in the NAFO area to bottom trawling activities until the end of 2020 by prohibiting bottom trawling exemptions for exploratory fishing, to the closure of seamounts [including those in the Sargasso Sea EBSA] to deep sea bottom fishing through 2020 and included restrictions on the use of certain types of midwater trawling gear in the areas near those seamounts (Diz, 2016).

This decision by NAFO is the first legally binding measure that the Sargasso Sea initiative has achieved to date.

Impacts From International Shipping

In 2011, the Alliance sponsored the preparation of a detailed report—based on AIS data—on shipping through the Sargasso Sea (SSC, 2011b). The Alliance also hosted It has sponsored two side events at the IMO Marine Environment Protection Committee Meetings. Some considerable interest was generated by these events. The Commission is still considering the possibility of making proposals to IMO in relation to shipping activities in the Sargasso Sea.

Impacts to the Seafloor and Seabed

In October 2014 the Commission collaborated with the International Cable Protection Committee (ICPC) to co-host a workshop on *Submarine Cables in the Sargasso Sea: Legal and Environmental Issues in Areas beyond National Jurisdiction*. The Workshop Report is published on the Commission and ICPC websites (De Juvigny et al., 2015; SSC, 2015). The ICPC is a formal Collaborating Partner of the Commission.

The regulation of the exploration and exploitation of seabed minerals in the areas beyond national jurisdiction (ABNJ) in the Sargasso Sea (SSC, 2011a) is within the explicit mandate of the International Seabed Authority in Jamaica (ISA). The ISA was represented as an observer at the Hamilton Meeting. In 2016/5 the Commission was granted Observer status and in 2020 the Secretariats of the ISA and the SSC signed an MOU.

Conservation of Migratory Species

At various point in their respective life cycles, a number of migratory species pass through the Sargasso Sea and make use of it. These include several endangered or critically endangered species of sea turtle, including green turtles (*Chelonia mydas*), hawksbill turtles (*Eretmochelys imbricate*), loggerhead turtles (*Caretta caretta*), and Kemp's Ridley turtles (*Lepidochelys kempii*). The young turtles in particular use *Sargassum* weed for cover, feeding and nursery habitat.

Since 2013, the SSA has been working with the Secretariat of the Inter-American Convention for the Protection and Conservation of Sea Turtles (IAC, 2001). In 2014 the Secretariats collaborated on the development of a joint information paper on the crucial significance of *Sargassum* and the Sargasso Sea for Atlantic sea turtles. That short paper demonstrated how important the migration links between Bermuda and the Sargasso Sea and many of the Central American countries were for sea turtles (SSC, 2014).

In 1922 Johannes Schmidt first proposed that the European eel (*Anguilla anguilla*) and American eel (*A. rostrata*) spawn in the Sargasso Sea (Schmidt, 1922). In the hundred years since then eel populations have plummeted worldwide and both these species are classified as “endangered” by IUCN Red List and the European eel is “critically endangered” (Freestone and Morrison, 2012). In the spring of 2014 the London Zoological Society was commissioned to prepare a scientific proposal to support the listing of the European Eel under Appendix II of the Convention on Migratory Species (CMS, 1979). The Convention envisages such a listing to be appropriate if the species has an “unfavorable conservation status” and if their “conservation status” would “significantly benefit from the international cooperation that could be achieved by an international agreement.” (CMS, Art IV (1)).T

In 2014, the government of the Principality of Monaco (in its capacity as a signatory to the Hamilton Declaration) put forward the report on behalf of the Commission. After approval by the CMS Science Council it was sent to the CMS Conference of the Parties in Quito in November 2014 where it was approved (CMS, 2014). Since then, the SSC Secretariat has collaborated with the CMS Secretariat in the convening of Three Workshops of the Range States of the European eel. In February 2020 as a result of a proposal from the Third Workshop in Malmo in June 2019 the CMS COP 13 approved the preparation of a Single Species Action Plan for the European eel, work that is being supported by the SSC but also by the Governments of Monaco and Sweden and the EU Commission.

The Commission has also sought to develop a role in relation to the American Eel in 2018—at the request of (and with financial support of) Canadian DFO and the US FWS it organized a workshop of American Eel Range States in Santo Domingo, Dominican Republic, to develop a joint submission to the CITES Animals Committee meeting in the spring of 2018 (SSC, 2018a). At the request of DFO in 2021, it will organize a virtual workshop of those range States with significant American eel fisheries to develop a future plan of action for collaboration.

Defining Role in Data and Information Management

The Commission, assisted by key marine researchers and scientists, is also involved in an invaluable collaboration with the US National Aeronautics and Space Administration (NASA) aimed at developing a multidimensional mapping tool. This tool will use the Sargasso Sea as a pilot area. The CEOS Ocean Variables Enabling Research and Applications for GEO (COVERAGE) initiative is a NASA-led research and development project and cross-cutting, collaborative effort within the Committee on Earth Observation Satellites (CEOS) that aspires to help more fully realize the potential of satellite remote sensing data among prospective, new data user communities which have a need for such products.

COVERAGE seeks to provide improved, more seamless access to inter-agency, multivariate satellite data spanning the four CEOS Ocean Virtual Constellations—sea surface temperature, ocean vector winds, ocean surface topography, ocean color

radiometry—in support of a priority set of application use cases identified by stakeholders. It additionally seeks to demonstrate a technical framework facilitating more synergistic use of remote sensing and *in situ* data for the oceans from distributed sources.

The COVERAGE project completed its pilot Phase B in 2020 and in 2021 is now moving into Phase C of implementation. This project is designed to permit users to access and visually display relevant data of their choosing. These data can combine NASA satellite observation data of oceanographic conditions, such as currents, temperature, salinity, chlorophyll as well as possibly seaweed presence and movement, with data from other sources on commercial, recreational, ecological and biological uses of the sea. The expectation is that this important project will provide an important tool with considerable future potential for high seas conservation and governance.

A NEW PARADIGM FOR HIGH SEAS CONSERVATION?

The establishment and the work of the Commission have been described as “a new paradigm for high seas ocean conservation” (Freestone and Morrison, 2014). As can be seen, it was deliberately designed to be different from existing treaty regimes with which it has inevitably been compared (Freestone et al., 2014). One of the basic principles adopted by the Sargasso Sea project has been to base its proposals and approaches on the best available science. In 2010 it sponsored the production, and publication in a research series, of some 12 specialized reports that collected the latest scientific information on a full range of Sargasso Sea ecosystem issues, from oceanography to seabed resources, from whale migration to eels and eel spawning. These constituted the foundation for a full scale baseline science study published in 2011. This study had some fifty contributors and carried the logos of 10 leading marine science institutions from Europe and the Americas (Laffoley et al., 2011). The Commission has continued to be able to draw on the wide spread of expertise in key partners from many different disciplines—many of them now among the thirty or more formal Collaborating Partners of the Commission.

This commitment to bring the science of the Sargasso Sea to the table as the basis for all its work appears to meet the criteria for what has become known as “boundary spanning” (Goodrich et al., 2020) and has led commentators to suggest that the Commission can be seen as a boundary spanning organization (Mahon and Fanning, 2021). In 2017 it was suggested that

“... boundary spanning as a distinct practice can play a critical role in facilitating [the contribution of scientific knowledge], by reconciling the production and use of scientific knowledge to support sustainability policy and solutions... boundary spanning has the potential to increase the efficiency by which scientific evidence informs policy, foster the capacity to absorb new evidence and perspectives, enhance research relevance for societal challenges, and open new policy windows.” (Bednarek et al., 2017)

In the context of the work on the Sargasso Sea, the discussion above may already have highlighted the preeminent role of science in the work of the Commission, but a couple of examples may illustrate the way the Hamilton Declaration design is intended to function. As part of the preparations for the Sargasso Sea baseline study in 2011, a series of detailed scientific reports were also commissioned and published on the website. One of these related to the European eel (Gollock, 2011). It was clear from this that the state of the stock met the criteria for listing under Appendix II of the Convention on Migratory Species and, as discussed above, Monaco—one of the Signatory States which is an active party to CMS—put that proposal forward. So it was the scientific work which prompted the legal action. As a follow on to that process the Commission has organized and financed, with partners, some five workshops for American and European Eel Range States representatives and scientists. As seen above, in 2020 the CMS COP13 mandated the preparation of a Single Species Action Plan for the European eel using a participatory process. It is likely that policy proposals for future conservation measures will result from that work—which is ongoing.

Another example would be the continued interaction with the ICCAT Eco-system subcommittee, again discussed above, designed to reinforce the importance of the Sargasso Sea within the ICCAT regulatory area. The Commission has sponsored basic science research including the preparation of a pelagic food web analysis for tuna and non-tuna species (Luckhurst, 2014, 2015, 2017; Luckhurst and Arocha, 2016). That work continues to drive the development of environmental indicators for an Ecosystem Based approach to Fisheries Management in the area, which is ICCAT’s main EBFM initiative.

Lessons Learned

For the last decade the UN has been discussing the idea of a new international agreement linked to the LOSC on the conservation and sustainable use of biological diversity in areas beyond national jurisdiction; since 2017 an Inter-Governmental Conference (IGC) has been negotiating such an instrument (Freestone, 2019). The lessons learned from the Sargasso Sea project have demonstrated many of the problems and limitations of working within the existing sectoral and fragmented system of ocean governance (Freestone and Gjerde, 2016).

These issues were highlighted in 2016 by Freestone and Gjerde who wrote:

“... it is clear why no one else has undertaken such an effort for a marine ecosystem beyond national jurisdiction—it is not an easy task. Despite the plethora of international organisations with an interest in ABNJ, there are only a handful with actual management competence in the Sargasso Sea area and none with a core focus on comprehensive conservation of marine biodiversity or ecosystems. The Sargasso Sea project thus provides an interesting insight into the way in which the current system of high seas governance operates.

Each sectoral regime with competence over activities in the Sargasso Sea study area has its own distinctive protection mechanisms and each assesses differently the factors that need to be taken into account. The result is a patchwork of sectoral area-based management tools designed to protect specific marine

areas from sectorally specific threats. For example, the IMO has the power to adopt MARPOL Special Areas and Particularly Sensitive Sea Areas (PSSAs) to limit some shipping impacts, non-tuna RFMOs have the power to protect vulnerable deep seabed ecosystems, and the ISA has designated nine no-mining “Areas of Particular Environmental Interest” in the Clarion Clipperton Zone based on design principles for representative networks of marine protected areas.

Each of these sectoral approaches has value, but each is developed and assessed by its own criteria and scientific evidentiary demands. None were developed with any reference to the work of other sectoral bodies and no mechanism exists for coordinating between the various sectors. Moreover, regulation within sectors may be inconsistent both globally and regionally. For example, global criteria and guidelines exist to put biodiversity conservation squarely on the agenda of RFMOs such as NAFO responsible for managing deep sea bottom fishing on the high seas, but no such criteria or guidelines exist for other forms of fishing, despite the potential for significant biodiversity impacts. On top of this, there is no mechanism for consideration of cumulative impacts from different sectors or the aggravating factor of climate change (Freestone and Gjerde, 2016).

It is also clear from the efforts of the Sargasso Sea project that there is considerable reluctance among key sectoral regulatory organizations to put into practice a number of important principles that are in major international legal and policy instruments—including the ecosystem approach and the precautionary approach. The 1992 Rio Declaration on Environment and Development provides “Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation” (UN, 1992). Despite the widespread acceptance of the precautionary approach in many international instruments relating to the marine environment (Freestone, 2011) there is still obvious reluctance to apply a precautionary approach in relation to activities on the high seas, despite that fact that precaution is particularly appropriate in these areas because scientific evidence is often scanty. An example is provided by the IMO PSSA Guidelines that provide that is “helpful” to have “. . .any evidence that international shipping activities are causing damage and whether damage is of a recurring or cumulative nature.” (IMO, 2001). This suggestion in the guidelines is in practice, treated as if it is an evidentiary requirement by many influential delegations at IMO. It is significant that IMO has yet to designate a high seas area as a PSSA (Freestone and Harris, 2017).

These lessons learned have also demonstrated what has been called the “fractured” system of high seas governance (Freestone, 2018)—where too little attention is paid by one sector to the activities of other sectors and the cumulative impacts that may result. The UN IGC is considering a draft treaty text which would provide an overarching legal framework for areas beyond national jurisdiction. This could provide the mechanisms for an holistic over view of all human activities in ABNJ with more rigorous requirement for Environment Impact Assessments and maybe Strategic Environmental Assessments. The Conference of the Parties (COP) may also be able to provide a much needed impetus for global recognition of regional initiatives

in high seas conservation—using the so called area based management tools like MPAs—thereby widening their legal impacts (Freestone, 2019).

While these lessons learned may have been of some value to the IGC negotiators in addressing the challenges of the new treaty regime being negotiated, they did also demonstrate that the innovative structure developed by the Hamilton Declaration did have a number of intrinsic limitations.

In March 2019, again with the important support of the Canadian government, the Commission organized a major meeting in Bermuda entitled “Next Steps to Strengthen Stewardship of the Sargasso Sea” (SSC, 2019). The purpose of the meeting was to gather the Commission, Signatory governments and important partners together to review their work and achievements since 2014, but also to consider whether there might be ways to increase the role and influence of the arrangements established by the Hamilton Declaration.

The Secretariat had prepared a paper “Taking the Hamilton Declaration to the next level” (SSC, 2018b) and Ambassador David Balton also prepared a more detailed background paper in consultation with the Secretariat for consideration by the meeting (Balton, 2021). In that paper he reviewed the limitations of the Hamilton Declaration arrangements and the limited mandate of the Sargasso Sea Commission. In particular, the Commission’s lack of authority to adopt binding decisions means that it cannot truly act as a steward of the Sargasso Sea directly, as more robust international regimes, such as the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR, 1980) or the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR, 1992), have done for other areas of the ocean. The Commission can only seek to influence other organizations that do have such authority, organizations that, by their own terms, have missions that do not focus on the stewardship of the Sargasso Sea. Hence, it seems likely that the ability of the Commission to broker comprehensive solutions working in partnership with existing organizations would be strengthened if it had a legally binding mandate. Not to precipitate conflicts with the powers of existing organizations but to fill regulatory gaps and facilitate arrangements between existing authorities. It may well be that a number of changes to the legal structure and mandate of the Commission will be needed to make it a more effective vehicle for stewardship of the Sargasso Sea. The most significant might entail replacing the Hamilton Declaration with a legally binding agreement that would give its Parties, acting through the Commission, authorities that are presently lacking. A new mandate could also address the governance gaps in the Sargasso Sea not covered by other organizations (SSC, 2019).

THE GLOBAL ENVIRONMENT FACILITY GRANT

Prior to the Bermuda Meeting, the Secretariat had hired Dr. David Vousden as a consultant to prepare a draft proposal to the Global Environment Facility (GEF) to address some of the issues subsequently discussed in Bermuda. The proposal was submitted through UNDP as Implementing Agency to the GEF Secretariat

(GEFSEC) for review in autumn of 2018. Not only did GEFSEC approve the idea in principle but they also pointed out that as the project was primarily concerned with an ecosystem in ABNJ it would need to be contained within the ABNJ program planned with the financing from the seventh replenishment of the GEF trust fund (known as GEF7). This was allocated to the Food and Agricultural Organization (FAO) based in Rome to administer as a new phase of its “Common Ocean” Program. After some delays the \$30 m program proposed by FAO was approved by the GEF Council at its session in June 2020, with a \$3 m allocation to the Sargasso Sea project. UNDP had in the meantime chosen the Intergovernmental Oceanic Commission (IOC-UNESCO) as the Executing Agency for the project with a small grant to finance a team to prepare the final detailed project documentation for a 4 year project for approval by the GEF CEO by summer of 2021.

The Sargasso Sea proposal follows the general format developed by GEF in relation to Large Marine Ecosystem Projects in the past. First, the preparation of a comprehensive Transboundary Diagnostic Analysis (TDA); followed by and informing a Strategic Action Programme (SAP) for future action. The SAP, to be formally approved by all the partners, may involve future funding. As this is the first project to consider a high seas ecosystem, the TDA was adapted to an Ecosystem Diagnostic Analysis (EDA) followed by an SAP.

The Secretariat has also been collaborating since 2018 with the French Office for Biodiversity and Marviva—the Central American NGO committed to the conservation of the Thermal Dome—and the Ocean University of Brest, on the preparation of a separate but complementary grant from the French Global Environment Facility (*Fonds Français pour l'Environnement Mondial*). This €3 million 5-year grant, titled “Contributing to hybrid governance to protect and manage remarkable areas on the high seas: Tropical East Pacific and Northwest Atlantic Oceans” is on track to begin during the first half of 2021 (Mackey and Arroyo, 2020).

The award of these substantial grants allows the Commission and partners to reassess the position in which it finds itself. The project began with a baseline study of the Sargasso Sea ecosystem and an assessment of human impacts, published in 2011. An excellent assessment of the state of knowledge at the time, it also highlighted how little is known about the functioning of deep water oceanic ecosystems—even of one that had been studied for decades. Moreover, in the 10 years since then a number of situations have changed. The Sargasso sea is increasing demonstrating the effects of Climate Change (Bates and Johnson, 2020); the annual influxes of *Sargassum* from the equatorial recirculation zone—now called the Great Atlantic Sargassum Belt—have become the new normal and risk contaminating the Sargasso Sea itself with the new less biodiverse *Sargassum* variant *Natans VIII*. International attention has been focused on the impacts in the ocean of plastics—especially in gyres like the North Atlantic subtropical gyre in which the Sargasso Sea sits; and the international trade in glass Anguillid eels has burgeoned, feeding a billion dollar eel farming industry in Asia, which further threatens these already endangered species. Moreover through tagging mature eels on their migrations, scientists species have inched forward in their understanding of

their spawning habitat in the Sargasso Sea (Miller et al., 2019). At an institutional level the existing FAO Fisheries Advisory Body which covers the Sargasso Sea—the West and Central Atlantic Fisheries Commission (WECAFC) has embarked on a process to negotiate its transformation into a Fisheries Management body. If the treaty revisions are agreed it may take on managerial role for the non-tuna fisheries in the high seas areas of the west and central Atlantic—including the Sargasso Sea area—which is currently a governance gap.

The GEF grant and its associated co-financing from a wider range of Collaborating Partners will enable a much more intensive diagnosis than was possible a decade ago and reflect changing global concerns—including those reflected in the UN Sustainable Develop Goals—particularly Goal 14 “Life below Water.” In the initial data collection phase, for example, financed by the FFEM, key partners will collect state of the art data on key aspects of the ecosystem. The Bermuda Institute for Ocean Science (BIOS) will draw on the data collected by the two oldest running ocean time series: Hydrostation “S” and the Bermuda Atlantic Time Series (BATS); the Duke University Marine Spatial Ecology Laboratory (working with Global Fishing Watch) and Imperial College London.

The diagnosis is expecting new insights into the increases in vessel traffic though the North Atlantic—reflecting increases in global trade but also the widening of the Panama Canal in 2016 which doubled its capacity. These insights into vessel routing and possible impacts may enable a more science based approach to the International Maritime Organization—which has global responsibility for international vessel traffic issues but with whose members the Commission has not yet been able to engage constructively.

Once the Ecosystem Diagnosis begins to reveal this new level of data then there will be an opportunity to reexamine the governance issues in the light of the detailed data on human activities and impacts in the area. It will also provide an opportunity—as discussed above—to re-examine the unique system established by the Hamilton Declaration. The overarching vision of the Declaration was that the work of the Commission would be able to take an holistic overview and to highlight and then remedy the defects of the primarily sectoral system of ocean governance. While a great deal has been done in working with the sectoral organizations, there is no mechanism for assessing for example the cumulative impacts of different activities or of “filling regulatory gaps” which exist. It seems likely that the WECAFC negotiations will result in a new body with responsibility for non-tuna fisheries in the high seas area which covers the Sargasso Sea, but it clear that the fisheries bodies are still not interacting in any systematic way with the bodies which regulate for example vessel movement and operational discharges from vessels or seabed mineral exploration and possible exploitation.

CONCLUSION

The Sargasso Sea project has been running now for more than a decade (Gjerde and Varmer, 2021). While it has certainly achieved its primary objective of bringing international

attention to the importance of this unique high seas ecosystem, it has had limited success to date in implementing conservation measures. Despite the early success of having it described as an EBSA in 2012, only one legally binding measure has resulted from its efforts—that related to the 2016 NAFO restrictions on mid water trawling.

The GEF grant and the important complementary project of the FFEM now provide an opportunity to conduct a major ecosystem assessment mobilizing significant resources and using the best of current information sources. The project has already mobilized an impressive array of stakeholders—including the Signatory governments, the Commission, associated international organizations and collaborating partners. It is also now able to use tools—not available in 2010—such as remote sensing data of natural process (now available through the NASA COVERAGE project and as well as details of vessel activities (through the pioneering work of Global Fishing Watch). Once the diagnostic work is complete then the project will look at possible new models for governance or stewardship of the Sargasso Sea. The existing work of the Commission, and the changing atmosphere brought about by the work of the UN Intergovernmental Conference on BBNJ, suggest, as the 2019 Balton report cited above indicates, that a number of changes to the legal structure and mandate of the Commission might well be needed to make it a more effective vehicle for stewardship of

the Sargasso Sea. The most significant might entail replacing the Hamilton Declaration with a legally binding agreement that would give its Parties, acting through the Commission, authorities that are presently lacking. If nothing else this might provide a consistent financing source for the work of the Commission and its Secretariat, but it seems likely that, if by then the BBNJ Treaty negotiations are completed, the stage may be set for the growth of a new class of Regional Ocean Governance Organizations (ROGOs) which would be able to take advantage of the opportunities presented by the new treaty and which will be needed to implement its provisions at a regional level. The Sargasso Sea may well be ideally positioned to be a first mover in this new arena.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author/s.

AUTHOR CONTRIBUTIONS

The author confirms being the sole contributor of this work and has approved it for publication.

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Conflict of Interest: The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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