

Sargasso Sea Commission 3rd International Shipping Industry Stakeholder Engagement Consultation



Orchard Hotel, Singapore
Friday 14th February 2025
1000-1600 SST



Readout: 3rd International Shipping Industry Consultation: "Strengthening the Stewardship of a Biologically and Economically Important High Seas Area – The Sargasso Sea".

Introduction

As part of the ongoing [GEF-UNDP-UNESCO-IOC Sargasso Sea Project](#), a third shipping-industry focused consultation event was held in Singapore on 14th February 2025. This engagement, **the first outside the European/North Atlantic areas**, was facilitated by [NLA International Ltd \(NLAI\)](#), the authors and deliverers of the Project's Stakeholder Engagement Strategy. The consultation was attended in person or online by representatives from [Intertanko](#), [BIMCO's](#) Singapore Office, the [World Shipping Council](#), [Maersk](#), [Hapag-Lloyd](#), [MSC](#), [Wilhelmsen Ship Management](#), [Lloyd's Register](#), [OSM Thome](#), [SGS Marine Services](#), the [Sustainable Shipping Initiative](#), [IMarEST](#) Singapore, [UNEP-WCMC](#) and colleagues from the Singapore University [Centre for International Law \(CIL\)](#) and Edinburgh University's [School of Geoscience](#). There were several short update briefings from the Project Team, NLAI and the [Sargasso Sea Commission](#) Secretariat, with Duke University's [Marine Geospatial Ecology Lab](#) providing a key video briefing on their recent findings; [CLIMA](#) from Copenhagen University also provided a short briefing on Green Corridors.



Figure 1: Sargasso Sea Geographical Area of Collaboration (GAC) (Duke: MGEL)

Although unable to attend on this occasion, the [IMO](#), including their [GloFouling Partnership Project](#), [Intercargo](#), [CLIA](#), [Gard](#), [Oldendorff Carriers](#), [Swire Shipping](#), the [International Chamber of Shipping](#), the [UK Chamber of Shipping](#), and the [International Cable Protection Committee](#) have participated in previous Project consultations or have asked to be kept up-to-date with Project progress. As such, the Project will continue to engage with these organisations and others in the International Shipping Industry as it continues to build this key stakeholder group into the future.

Consultation Aims

This event had two main aims. The first was to **present draft findings from the Project’s Socio Ecosystem Diagnostic Analysis (SEDA)**¹ and **discuss voluntary measures and areas for collaboration** that might **mitigate identified impacts** and **assist in the overall conservation and stewardship** of the **Sargasso Sea Geographical Area of Collaboration (GAC)**. Then, in the context of the **BBNJ Agreement**², the second aim was to **consider potential generalisable voluntary measures and principles** that could have **future global relevance** and applicability.

In the broadest sense, by collaborating with this key stakeholder community, the Project also aims **to increase shared-awareness and stimulate discussion**. The **voice and perspectives** of the **International Shipping Community** are **essential** in helping determine potential future voluntary governance and stewardship measures **for all users of the Sargasso Sea**.

Event Agenda³

A short introductory briefing on the Sargasso Sea Commission, for those new to this Project, and a brief explanation of the Project Stakeholder Engagement process and outline findings from the first two shipping industry consultation events, were followed by an update by the Project Chief Technical Adviser (CTA) on progress since the last Consultation. Next was a pre-recorded video presentation of a recent Paper from Duke University Marine Geospatial Ecology Lab (MGEL) – produced as part of the Project SEDA evidence – on **Vessel Traffic in the Sargasso Sea Geographical Area of Collaboration, 2019-2021**; all participants were then given the opportunity to pose questions on this Paper to the Project team, and to offer specific reflections and perspectives, before breaking for lunch.

The afternoon session began with a short presentation by CLIMA on the Green Corridor approach to sea management, followed by a second presentation from the Project CTA on the **importance of connectivity between areas within and areas beyond national jurisdiction (ABNJ)**. This latter subject was especially pertinent because whilst **the Sargasso Sea**, like many other ABNJs, is **geographically distant from** many of the areas of operation of some of the **Singapore-based participants**, it **remains intrinsically connected** and therefore, **of relevance and interest to all**. This presentation, together with the Duke MGEL paper, set the scene perfectly for two group roundtables.

The first roundtable focused on identifying **what defines good, generalisable (global) voluntary measures, collaborations, measures of effectiveness, and transferability** and where might **unique measures be necessary**, and the second examined what measures would **address Sargasso Sea and ABNJ vulnerabilities, how can they be implemented, incentivised & recognised** and what are the **mechanisms for industry participation?**

Finally, the Project’s next steps were set-out by the CTA, and the event was expertly précised by NLAI and deftly wrapped-up by the Executive Secretary of the Sargasso Sea Commission.

Event Context & Timing

Immediately preceding the **BBNJ Symposium 2025**, where the BBNJ Agreement’s future adoption was discussed and debated, this 3rd international shipping sector consultation event came at a critical juncture. There is an **increasing need to identify concrete pathways for implementing Area-Based Management Tools**

¹ Socio-Ecosystem Diagnostic Analysis: builds on Transboundary Diagnostic Analysis (TDA), an established process used in and across EEZ boundaries. The SEDA process seeks to capture both the importance of the Sargasso Sea as an ecosystem, and its importance from a social and economic perspective.

² Agreement under the United Nations Convention on the Law of the Sea (UNCLOS) on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction (ABNJ).

³ The full event Concept Note and Agenda is included at Appendix 1 and the full Slide Deck is at Appendix 2.

(ABMT) and cooperative measures in regions where traditional national governance frameworks do not apply – ABNJs. The Sargasso Sea, an entirely high-seas ocean ecosystem with unique biodiversity which has benefitted from long-term ecosystem monitoring and data collection, is, through this Project, emerging as a pilot region for the application of such measures. The Project's recent work, which includes spatial mapping of vessel traffic, analyses of marine mammal migration corridors, and identification of potential vulnerability hotspots, provides the knowledge base required to consider voluntary industry-led measures. These measures, if well-designed and adopted broadly, might serve as a foundation for shaping future BBNJ implementation and more robust, globally applicable approaches.

The Geographic & Ecological Scope of the Sargasso Sea & Connectivity

Whilst the size and shape of the Sargasso Sea GAC is well understood by stakeholders, an important theme that emerged during this consultation was the depth and volume of this space, and its connectivity. The GAC occupies an area of ~4,163,499km², extending between 22°-38°N, 76°-43°W and centred on 30°N and 60°W; whilst this is large, the volume of this space is far greater due to the sea here reaching depths of more than four kilometres in places. This deceptively large volume can be extrapolated to ABNJs more broadly, which occupy 64% of the world's ocean areas but 95% of its volume.

For the Sargasso Sea this creates a dynamic, volume-based environment with complex and far-reaching ocean currents and gyre dynamics. From a horizontal perspective, ocean currents in and around the Sargasso Sea GAC serve as conduits for everything from fish larvae to pollutants, transporting them across large distances and linking high-seas ecosystems with coastal waters. This linear connectivity underpins the life cycles of commercially significant species like European and American eels, both of which spawn only in the Sargasso Sea before migrating back to coastal or riverine environments, creating economic value of the order of billions of dollars per year. Timescales can also vary widely, with some planktonic larvae remain viable in the water column for weeks, and some pollutants for months or longer.

Considering vertical connectivity magnifies these interdependencies. Deep-water seamounts act as feeding grounds, stepping stones for migrating species, and centres of nutrient upwelling. Such features drive energy exchanges upward and outward, enhancing productivity at different depths. As a result, changes within this portion of the North Atlantic can ripple outward, affecting not only adjacent waters but coastal areas dependent on it for their fisheries, tourism, and coastal resilience.

Understanding Key Vulnerabilities

Similarly to the Copenhagen event, key areas of vulnerability were identified around whale-strike risk, disturbance and damage to sargassum mats, and vessel discharges. Data and recently re-examined analysis from SEDA contributions by Duke University's MGEL, demonstrated that 95.1% of vessels crossing the GAC were Cargo (58.9% of traffic), Tanker (29.1%), Passenger (3.9%), Reefer (1.6%) or Bunker (1.5%) ships; on average vessels crossed at 13 knots. However, about 16% crossed at notably greater speeds, above which there is a >80% chance of lethal injury for cetacean strike. New analysis showed that vessel traffic over the GAC had a significant tendency to cross the North Atlantic Humpback Whale Migratory Corridor (which is active North-to-South from October to early December, and South-to-North from March to May), with approximately 95% of observed vessel traffic transecting this corridor. The significance of this vulnerability was well recognised; it was also noted that the species of interest do not swim deep enough to avoid vessels.

The World Shipping Council noted that they have engaged in significant whale mapping work, producing an available-to-all whale map⁴; they offered to discuss data sources and analysis methods with the Project to further this analysis.

⁴ <https://www.worldshipping.org/whales>

A key question from the industry was **which types of vessels** were **crossing** the GAC at **notably higher speeds** and if there are any characteristic attributes of these vessels which might enable targeted engagement or bespoke measures. The **data currently available does not offer this granularity**, but this was acknowledged as an area for future additional data requirements and analysis.

A second potential vulnerability are the **large floating sargassum mats**, which are essential habitats for numerous characteristic Sargasso Sea species and wider commercially valuable species. These are **susceptible to disturbance by vessels** breaking them apart and overturning them. An action from the Copenhagen consultation was to investigate the availability of earth observation data looking at this. Analysis showed that **highly fragmented sargassum could not be seen using earth observation**, and that the primary scientific earth observation sources (the ESA SENTINEL 1 and 2 satellites) had very limited coverage of the Sargasso Sea. This is an **open monitoring challenge**, and new sensing approaches such as **'platform of opportunity'-based monitoring**, might beneficially address this gap.

Further analysis had also been carried out on **discharges** and **ballast water**, including demonstrating **detection** from **earth observation** sources. However, **minimal coverage of the Sargasso Sea** from earth observation sources again **limits the breadth of data available** to analyse. Alien species have been identified in the Sargasso Sea, with ballast water as the most likely source. The **wider impacts of discharges** on the ecosystem are of interest, but **not yet well understood**, and **data from the industry side could help** this analysis in order to assess if there is a negative impact, and to quantify the level of actual discharge in the area. **Industry members noted** that **offshore waters** often serve as **'dumping zones' for discharges**, including biofouling cleaning, and that the effect of pathogen pressure on the ecosystem is not yet well understood. This was seen as a **potentially significant area**, but one **requiring more scientific understanding** that could be aided by data collaborations.

These vulnerabilities were the focus of the conversation; however, **the community** was also **most interested** in **understanding the full breadth of vulnerabilities** and **ecosystem pressures** that had been considered and analysed. With the SEDA reaching a complete mature draft, it was agreed that **a table of identified potential vulnerabilities would be provided to the community soon**, as a focal point for **future discussions** and **voluntary measure development**.

Defining & Implementing Effective Voluntary Measures

A primary theme throughout the meeting was **how to design voluntary measures** that **achieve tangible ecosystem gains without overburdening an industry already navigating complex regulatory landscapes**. Summarising the core attributes developed in earlier consultations, participants reiterated that voluntary measures should be:

- **Evidence-Based:** Voluntary measures must address **well-defined risks**, supported by **robust scientific findings**. Where gaps exist, **collaborative research partnerships with industry** could help provide additional data and improve certainty where required.
- **Practical & Implementable:** The **pathway to implementing** any proposed voluntary measures must be **realistic**, and must be **coherent with existing frameworks of governance**, working in **addition** to these where required. The room expressed a variety of views regarding how ambitious measures might be whilst remaining realistic, ranging from **small additions to business-as-usual** aimed at **building uptake**, to **boundary-pushing approaches** using the voluntary nature of the measures to **explore the art-of-the-possible**. The consultation did not pre-empt formal discussion of this, which is a matter for SAP development; however, **technical and operational practicality was emphasised**. On the latter point measures should be **easy to understand** and **easy to action**, including **by crews that may not primarily speak English**. Technically there must also be a way to implement the measures. For example, in an area such as realising **zero-discharge voyages**, **industry** representatives were **largely aligned with the**

Project. However, it was noted that **vessels must discharge *somewhere*** and are **typically not allowed** to do this **within EEZs**. Hence, addressing this issue may require **changes to port infrastructure**, such as the **improvement of reception facilities**, to be realistic. These enablers could be identified and collaboratively worked towards, to the benefit of all parties, as the SAP is developed and implemented.

- **Measurable & Transparent:** Meaningful uptake depends on the ability to **track compliance** and **demonstrate outcomes**; this should be a formal and independent approach to ensure its validity. Several participants advocated for **establishing feedback loops**, so **crews can see how their actions provide ecosystem benefit** and be recognised internally, and **companies can show positive results to stakeholders** and the **supply chains** they enable. The notion of **voluntary certification** was also raised, with the **cruise industry cited as an example** of where voluntary certification has been **successful and reputationally beneficial**.
- **Incentivised & Supported:** **Education, cost-sharing** (or cost reduction, e.g., in a reduction of port fees) arrangements, and **reputational benefits** (such as through sustainability branding) can encourage widespread adoption. Importantly, many suggested that **charterers, port authorities, and cargo owners** be enlisted to **create the commercial environment for uptake**, including **indirect incentives** such as **shoreside infrastructure improvements** aligned to voluntary measure implementation.
- **Adaptable:** In a point of difference to the Copenhagen event, **participants** at this Singapore event also **emphasised the need for measures to be adaptable, tailored** to the region, and **targeted**. It was seen as positive if measures recognised that **different vessel types, cargo configurations, and routes create varying operational pressures**, and that measures may need to be **seasonal, geographically targeted**, or **flexible in application**. **Seasonal measures** and warning-based systems, based on examples of successful practice elsewhere (e.g., in the North Atlantic), were seen as an **important reference on how to achieve the intended environmental benefits whilst minimising unnecessary commercial impacts**. It was **not the view** of participants here that **measures need to aspire to be highly generalisable, however, the framework** by which these measures are designed **should be**.

Reconciling Speed, Emissions & Commercial Realities

The conversation also addressed the **complex trade-offs between lowering speed to reduce whale-strike risk and GHG emissions reduction**. **Not all ship types benefit from reduced emissions when transiting more slowly**. Vessels with diesel engines and gas turbines were given as examples where total voyage GHG emissions may increase for lower vessel speeds, primarily due to gas venting or burning to maintain tank pressures. These **trade-offs** may present edge cases, for certain vessel types, that limit where speed reduction measures can be applied whilst **ensuring the industry can comply with its wider environmental obligations**.

The same concerns were raised for **routing measures**; it was noted that the **most fuel- and emissions-optimal routes are generally followed**, which is also **often the shortest route**. If such measures are proposed this **trade-off** will need to be **assessed**. Route pre-planning is decreasing and route variance is increasing due to improvements in weather prediction and dynamic route planning for emissions. This may need **voluntary measures** to be **reflected in routing technology** as well. Nevertheless, it was noted that **voluntary routing measures** have **already been successfully demonstrated** (without a PSSA⁵ or similar measure), for example in the Indonesian archipelagos, so such new measures would build on established practice.

⁵ PSSA – Particularly Sensitive Sea Area: an area that needs special protection through action by IMO because of its significance for recognised ecological or socio-economic or scientific reasons and which may be vulnerable to damage by international maritime activities. <https://www.imo.org/en/ourwork/environment/pages/pssas.aspx>

Similarly to the last consultation, **commercial obligations** and **charter-party agreements** were highlighted as **key to realising voluntary measures** such as speed reductions. These agreements can specify transit windows and appropriate reasons for slowing or deviating. **Unless they permit these voluntary actions** in the context of reduced ecosystem impact (or more specific aspects such as reducing marine mammal risk), liability and **costs will be left with the shipping industry presenting a fundamental barrier to uptake**. This issue was also raised in Copenhagen, and it remains highly relevant to investigate whether **environmental considerations** can be **integrated into existing standard charter-party contract clauses**, and if any existing standard clauses could be seen to cover such things. It was noted that **inspection regimes such as SIRE** (Shipping Inspection Report programme)⁶ and **RightShip**⁷ have been brought into charter party agreements and so **may exemplify what is possible**. Lastly, the industry strongly emphasised the **need to bring these wider elements of the shipping industry into the Project consultation process**.

Data Sharing, Collection, & Communication

Addressing data scarcity emerged as a **high priority**. Many operators expressed a **willingness to share non-sensitive operational data**, such as average speeds, observed locations of macro-fauna or large sargassum mats, or even discharge data, but emphasised that **new information requests** must be **streamlined** and **show direct value to ecosystem monitoring**. For instance, vessels-of-opportunity programmes can be effective if they minimise any extra burdens on crews and establish secure pathways for anonymising and aggregating collected data. It was emphasised that a **highly trusted data-sharing partner** was **required** to enable this, and that, in this context of voluntary measures, the **risk of intentional or unintentional penalisation**, consequent of data sharing, **must be minimised** if industry were to participate widely. However, with those points made, **the industry was clear that data-sharing is achievable and solvable**.

Industry representatives noted **existing digitalisation** efforts, such as advanced route-planning tools and environmental management software, that **could potentially integrate whale patterns** or **other** layers reflecting **voluntary measures**. Yet, these **systems come at a cost**, and there would need to be a clear **expression of interest** from **shipowners** and **end-users**.

Education & Awareness Raising

Echoing views from earlier consultations, participants emphasised that **educational outreach, targeted at crews, managers, business decision makers, ports and charterers**, would enhance industry engagement. It was noted that those who do not see and experience the problem directly, or are unfamiliar with the geographic area, are far less likely to realise its importance and to participate. **Clear, visually compelling, short briefings** on the unique and globally important nature of the Sargasso Sea ecosystem, **videos** illustrating the **impact of prospective measures**, and accessible **impactful infographics**, all have the potential to **build a common understanding** of the sea space and **encourage voluntary compliance**.

Broader BBNJ Implications & Pathways Forward

Concluding discussions consistently returned to the question of **how lessons learned in the Sargasso Sea could inform emerging BBNJ frameworks**. Many participants recognised that **if this region can demonstrate a functional model for voluntary, industry-led stewardship**, complete with data-sharing, monitoring, and verifiable outcomes, it **may help shape policy and practice** across **other high-seas domains**.

⁶ The Ship Inspection Report programme (SIRE) is a unique tanker risk assessment tool of value to charterers, ship operators, terminal operators and government bodies concerned with ship safety. <https://www.ocimf.org/programmes/sire-2-0>

⁷ RightShip vessel inspections evaluate a ship's condition, quality and the effectiveness of Safety Management System (SMS) implementation, adoption of industry recommendations and best practices, and the health and well-being of seafarers onboard. <https://rightship.com/solutions/shipowner/vessel-inspections>

Looking ahead, the **Project Team** is working to **finalise the SEDA** and transition to **formulating a Strategic Action Programme (SAP)**. From the **industry's** perspective, there is a **strong desire for clarity and specificity** in any **proposed measures** and for **aligning** measures with **existing instruments, processes, and governance frameworks** to ensure measures are coherent and adoptable.

Of greatest importance is that this, and the prior consultation in Copenhagen, have **established the foundation for collaborative development of the SAP** and related shipping industry-led measures. At the end of the first consultation, in London in April 2024, the **Industry was asked how it wished to be engaged**; it **strongly encouraged this consultative process**. At the end of the Singapore event, we asked **how the industry wished to move from a high-level discussion** of SEDA results and voluntary measures in general, to a **more specific discussion and voluntary measure drafting** activity. The response this time was to **establish an informal industry working group for the development of voluntary measures in the Sargasso Sea GAC**. These measures will be developed for the geography and its unique ecosystem vulnerabilities, but it was seen as important that they were derived from a more **general framework of goal-based principles** that could be **applied across BBNJ**. From this, fair, impartial and SMART⁸ voluntary measures may be developed.

The next **concrete steps** the Project will take **together** with the international shipping industry as the **Project moves from SEDA to SAP** will be to:

- **Establish an informal shipping industry group:** to, amongst other things, discuss a **Project-provided more detailed document** summarising potential **vulnerabilities** (initially with evidence from the SEDA), and **existing approaches or governance frameworks, that may partially or fully address them**.
- **Broaden the shipping industry-related consultative base:** to include those necessary for **compliance** to be **commercially feasible**, such as **charter parties, port authorities and infrastructure owners & developers**.
- **Continue the positive, collaborative and participatory tone of these consultations:** it was the view of the room that if **Voluntary Measures can meet the criteria described above**, most **organisations would consider them favourably and seek to implement them**.

⁸ SMART: Specific, Measurable, Achievable, Relevant, & Time-Bound.

Appendix 1: Concept Note & Agenda for 3rd International Shipping Industry Consultation: "Strengthening the Stewardship of a Biologically and Economically Important High Seas Area – The Sargasso Sea".

By Invitation: Sargasso Sea GEF Project Shipping Industry Consultation 3 – *“Consultation on Vessel Activity in the Sargasso Sea: possible impacts, voluntary measures and industry participation”*

Date: 14th February 2025 **Time:** 10am-4pm SST (GMT + 8)

Location: Singapore – Orchard Hotel, 442 Orchard Road, Singapore 238879 (*and online*)

Concept:

The Sargasso Sea Commission has been working for over a decade to provide a framework for collaboration focused on conservation of the Sargasso Sea. With funding from two major grants from the Global Environment Facility (GEF) and the French Facility for the Global Environment (FFEM), the Sargasso Sea Commission is producing a Socio-Ecosystem Diagnostic Analysis (SEDA) that will lay out the ecological and socio-economic benefits produced by the Sargasso Sea, as well as the threats and impacts it faces. This evidence-based document will provide the foundation for a Strategic Action Programme (SAP) for its conservation, to be agreed by Sargasso Sea stakeholders.

A key industry stakeholder group, making significant use of the Sargasso Sea, is the International Shipping Industry. The Sargasso Sea GEF Project has already successfully engaged with parts of this important group early in the SEDA process, to inform them of the Project goals and to build participation and collaboration. One aspect of this engagement is to understand what potential voluntary measures both mitigate the risks faced by the Sargasso Sea (captured in the SEDA) and might support a longer-term monitoring programme for the area that could realistically be adopted by the international shipping industry.

Shipping can have potential impacts on all high seas ecosystems resulting from: collisions with, and the impact from underwater radiated noise on, cetaceans and other marine life; exotic species introduced via ballast water discharge; pollution, including from oil spills, grey water and discarded plastics; and the use of fuels that contribute to climate change.

This meeting will present the draft SEDA findings and discuss potential voluntary measures and areas for collaboration that might mitigate identified impacts and assist in the overall conservation and stewardship of the Sargasso Sea Geographical Area of Collaboration (GAC), including:

- Generalisable (global) voluntary measures and principles, relating to: ship strikes; underwater radiated noise; water and waste discharge; and fuel usage – that are only area specific (unique) where necessary;
- Voluntary passage planning measures (routing & speed), potentially including those that are temporary or seasonal, mitigating cetacean impacts when and where they might occur;
- Proactive participation in the form of voluntary monitoring, data collection and data sharing, supporting observations of high seas flora and fauna, and maintaining an understanding of the ecosystem’s state;
- Certification and recognition systems for voluntary sustainability compliance; and,
- Any new ideas brought forward by participants and stakeholders.

Whilst the focus of this event will be on the Sargasso Sea, our planet only has one ocean (as depicted in the Spilhaus Projection⁹); all areas beyond national jurisdiction (ABNJ) are connected with all EEZs and all coastal waters. As such this GEF Project is seen by many as a potential ‘pilot project’ for the new BBNJ Agreement implementation meaning its thinking may represent a wider view of ABNJ protection globally.

⁹ <https://storymaps.arcgis.com/stories/756bcae18d304a1eac140f19f4d5cb3d>

This is an invitation-only meeting, designed to foster the cooperation of shipping industry professionals and Project stakeholders, including the:

- Sargasso Sea Commission secretariat and project team.
- Industry representatives including industry bodies and shipping organisations.
- Maritime industry IGOs.
- Academia representing contributors to the Sargasso Sea Project, the SEDA and maritime law & governance.

Agenda

Session 1: 1000-1115

- Welcome & Administration / Individual Introductions (20 minutes)
 - Overview: Sargasso Sea & GEF Project (10 minutes)
- Stakeholder Engagement Process / Summary of Consultation 1&2 (10 minutes)
 - Summary & Update of Project SEDA & SAP (15 minutes)
- Paper: Vessel Traffic in the Sargasso Sea Geographical Area of Collaboration, 2019-2021 (20 minutes)

Short Break (15 minutes)

Session 2: 1130-1230

- Q&A session on presented Paper related to the international shipping industry (30 minutes)
- Current Best Practice: Existing shipping industry conservation activity and voluntary measures (30 minutes)

Light Lunch & Networking (1230-1315)

Session 3: 1315-1430

- Blue/Green corridor approaches to sea management (University of Copenhagen) (15-20 minutes)
 - Connectivity between areas within and areas beyond national jurisdiction (10-15 minutes)
- **Roundtable 1:** What defines good, generalisable (global) voluntary measures, collaborations, measures of effectiveness, and transferability / where might unique measures be necessary (45 minutes)

Short Break (1430-1445)

Session 4: 1445-1600









- **Roundtable 2:** What measures would address Sargasso Sea / ABNJ vulnerabilities, how can they be implemented, incentivised & recognised / what are the mechanisms for shipping industry participation (45 minutes)
 - Sargasso Sea GEF Project: Next steps (15 minutes)
 - Wash up & close (15 minutes)

Finish by 1600

Appendix 2: Slide Deck for 3rd International Shipping Industry Consultation: "Strengthening the Stewardship of a Biologically and Economically Important High Seas Area – The Sargasso Sea".

**Slide Deck for Sargasso Sea Commission
3rd International Shipping Industry Stakeholder Engagement Consultation**

Please read 

<p><i>Sargasso Sea Commission 3rd International Shipping Industry Stakeholder Engagement Consultation</i></p>  <p>Orchard Hotel, Singapore Friday 14th February 2025 1000-1600 SST</p> 	<p>Welcome & Administration</p> <p>David Freestone Executive Secretary: Sargasso Sea Commission</p> <p>Kevin Fleming NLA International Ltd</p> 
<p>Aim of the Day & Definitions</p> <p>Present draft Socio Ecosystem Diagnostic Analysis (SEDA) findings and discuss voluntary measures and areas for collaboration that might mitigate identified impacts and assist in the overall conservation and stewardship of the Sargasso Sea Geographical Area of Collaboration (GAC); and in the context of the BBNJ Agreement, keep in mind potential generalisable voluntary measures & principles that could have future global relevance and applicability.</p>  	<p>Agenda (all times indicative)</p> <p>Session 1: 1000-1115</p> <ul style="list-style-type: none"> ◦ Welcome & Administration / Individual Introductions (35 minutes) ◦ Overview: Sargasso Sea Commission & GEF Project (25 minutes) ◦ Stakeholder Engagement Process / Summary of Consultation 1&2 (20 minutes) ◦ Summary & Update of Project SEDA & SAP (15 minutes) <p>Short Break (25 minutes)</p> <p>Session 2: 1130-1230</p> <ul style="list-style-type: none"> ◦ Paper: Vessel Traffic in the Sargasso Sea Geographical Area of Collaboration (GAC), 2019-2021 (15 minutes) ◦ Discussion / Q&A on presented Paper related to Vessel Traffic in the Sargasso Sea GAC (25 minutes) ◦ Existing successful shipping industry environmental considerations and voluntary practices (30 minutes) <p>Light Lunch & Networking (1230-1315)</p> 
<p>Agenda (all times indicative)</p> <p>Session 3: 1315-1430</p> <ul style="list-style-type: none"> ◦ Green/Blue corridor approaches to sea management (University of Copenhagen) (25 minutes) ◦ Connectivity between areas within and areas beyond national jurisdiction (25 minutes) <p>◦ Roundtable 1: What defines good, generalisable (global) voluntary measures, collaborations, measures of effectiveness, and transferability / where might unique measures be necessary? (45 minutes)</p> <p>Short Break (25 minutes)</p> <p>Session 4: 1445-1600</p> <ul style="list-style-type: none"> ◦ Roundtable 2: What measures would address Sargasso Sea / ABNJ vulnerabilities, how can they be implemented, incentivized & recognised / what are the mechanisms for industry participation? (45 minutes) ◦ Sargasso Sea GEF Project: Next steps (25 minutes) ◦ Wash up & close (25 minutes) <p>Finish by 1600</p> 	<p>Brief Individual Introductions: Online & Around the Room</p> <p>Who are you & who do you represent?</p> <p>What are you expecting from today?</p> 

**Slide Deck for Sargasso Sea Commission
3rd International Shipping Industry Stakeholder Engagement Consultation**

<p align="center"><i>Overview: the Sargasso Sea Commission & the Sargasso Sea GEF Project</i></p> <p align="center">David Freestone Executive Secretary: Sargasso Sea Commission</p> 	 <p align="center">The Sargasso Sea Commission</p> <p align="center">David Freestone Executive Secretary, Sargasso Sea Commission Shipping Consultation Meeting Orchard Hotel, Singapore 14 February 2025</p> 
 	<p>Governance of the Sargasso Sea</p> <ul style="list-style-type: none"> International Maritime Organisation (IMO) Maritime transport and vessel source pollution - global competence International Seabed Authority (ISA) Exploration for and exploitation of seabed minerals in ADNs - global competence International Convention for the Conservation of Atlantic Tuna (ICCAT) Regulation of fishing for tuna and tunable species - all of the Atlantic North-west Atlantic Fisheries Organization (NAFO) Regulation of high seas and deep sea fishing activity - above 35°N Sargasso Sea Commission area of collaboration Some of the high seas area of the North Atlantic Ocean - including EEZs of countries  <p>--- EEZ Boundary --- Sargasso Sea Geographical Area of Collaboration --- NAFO Convention Area</p>
<p>Why is the Sargasso Sea important?</p> <ul style="list-style-type: none"> • Unique open ocean ecosystem based on holopelagic algae – <i>Sargassum</i> • Crucial part of life history of number of important species <ul style="list-style-type: none"> • European and American Anguillid eels • Atlantic sea turtles • Tuna (big eye) and marlin • Sharks (including Porbeagles) and Cetaceans • >70 Years of Continuous Ocean Quality Monitoring – key climate change indicators • Classic example of important high sea area without regional management organizations <p align="right"><small>Image: JP Roups</small></p> 	<p align="center">The Hamilton Declaration on Collaboration for the Conservation of the Sargasso Sea (March 2014)</p>  <p align="center">Dr. Sylvia Earle, Sargasso Sea Commission Ambassador</p> 
<p>Hamilton Declaration Signatories</p> <ul style="list-style-type: none"> • Azores • Bahamas (2016) • Bermuda • British Virgin Islands (2016) • Canada (2016) • Cayman Islands (2017) • Dominican Republic (2018) • Monaco • United Kingdom • United States • France and Sweden also providing financial support 	 <div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="border: 1px solid blue; padding: 5px; margin: 5px;">  <p>Dr. Ake Collage</p> </div> <div style="border: 1px solid blue; padding: 5px; margin: 5px;">  <p>Prof. Mounley Roberts</p> </div> <div style="border: 1px solid blue; padding: 5px; margin: 5px;">  <p>Mrs. Rosalyn Henderson</p> </div> <div style="border: 1px solid blue; padding: 5px; margin: 5px;">  <p>Dr. Frank Muller-Karger</p> </div> <div style="border: 1px solid blue; padding: 5px; margin: 5px;">  <p>Sen. Willard Moore</p> </div> <div style="border: 1px solid blue; padding: 5px; margin: 5px;">  <p>Dr. Robbin Smith</p> </div> <div style="border: 1px solid blue; padding: 5px; margin: 5px;">  <p>Dr. David Johnson</p> </div> </div>

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3rd International Shipping Industry Stakeholder Engagement Consultation

<p>Sargasso Sea Commission engagement with international orgs</p> <ul style="list-style-type: none"> United Nations – IUCN obligation BBNJ Convention on Biological Diversity (CBD) – EBSA designation 2010, CBD SDI meeting 2014 International Commission for Conservation of Atlantic Tunas (ICCAT) – attend Bermuda/UK since 2010; MOU 2014 International Maritime Organisation (IMO) – PISA Workshop 2013 North-west Atlantic Fisheries Organisation (NAFO) – Statement June 2012/2013; MOU 2012 European Union – Negotiated Hamilton Declaration 2012/14 Caribbean Community (CARICOM) – Negotiated Hamilton Declaration 2012/14 OSPAR Convention – Collaboration Arrangement 2012; MOU 2014 International Seabed Authority (ISA) – Observer Status; MOU 2014 Convention on Migratory Species (CMS) – Single Species Action plan for European Eel, 2014 UNESCO World Heritage Convention – Candidate Site for High Seas IOC – Consulting agency for COP grant, administers CBD SIOD – hosts secretariat International Cable Protection Committee (ICPC) – workshop 2014 Inter-American Convention for the Protection and Conservation of Sea Turtles – MOU 2012 Sargasso Convention – Caribbean Regional Sea – MOU with UNEP Abidjan Convention – West African Regional Sea – MOU with UNEP WECAPC – observer status 	 <p>GEF-UNDP-IOC project Child Project under FAO Common Ocean Program</p> <p><i>Strengthening the stewardship of an economically and biologically significant high seas area – the Sargasso Sea</i></p> <p>Co-financed by FFEM Project</p> <p><i>Contributing to hybrid governance to protect and manage remarkable areas in high seas in the Pacific Eastern tropics and Northwest Atlantic</i></p> 
<p>Key Components</p>  <ol style="list-style-type: none"> 1. A Socio Ecosystem Diagnostic Analysis (SEDA) for the Sargasso Sea – baseline for monitoring adaptive management/stewardship 2. Strategic Action Programme (SAP) defining the management or stewardship measures, agreed by stakeholders 3. Communications, knowledge management, capacity building 	 <p>BBNJ Agreement Art 19(2): <i>Proposals shall be formulated on the basis of the best available science and scientific information and, where available, relevant traditional knowledge of Indigenous Peoples and local communities, taking into account the precautionary approach and an ecosystem approach.</i></p> <p>French FFEM and GEF Project financing the first Socio-Ecosystem Diagnostic Analysis (SEDA) for a high-seas ecosystem Drawing on wide range of expertise from Implementing Partners</p> <ul style="list-style-type: none"> Bermuda Institute for Ocean Sciences (BIOS) Duke University Marine Geospatial Ecology Lab Imperial College London Edinburgh University Range of individual experts <p>Budget over four years in order \$2.5 m</p>
<p>BBNJ Agreement Art 19(3): Parties shall collaborate and consult, as appropriate, with relevant stakeholders, including States and global, regional, subregional and sectoral bodies, as well as civil society, the scientific community, the private sector, Indigenous Peoples and local communities, for the development of proposals, as set out in this Part.</p>  <ul style="list-style-type: none"> The FFEM and GEF project is financing a Stakeholder Engagement Strategy and Implementation Plan <ul style="list-style-type: none"> Civil Society; Shipping Community; RFMOs Using a third-party private sector facilitator 	<p>BBNJ Agreement Art 19(4)(f): <i>A draft management plan encompassing the proposed measures and outlining proposed monitoring, research and review activities to achieve the specified objectives;</i></p>  <ul style="list-style-type: none"> Ecosystem of 2 million square miles Monitoring will require real-time 24/7 monitoring <ul style="list-style-type: none"> MOU with Global Fishing Watch With supporting enforcement capacity (e.g., proposing states?) <p>FFEM/GEF project outcome is Strategic Action Programme (SAP)</p> <ul style="list-style-type: none"> SAP will have Ecosystem Quality Objectives and identify monitoring and ecosystem assessment measures. With quality objectives and monitoring protocols 
 <p>Going forward... <i>Going boldly where no project has gone before...</i></p> <ul style="list-style-type: none"> Piloting use of Big Data and AI for Ocean Governance First High Seas Socio Ecosystem Diagnostic Analysis (SEDA) financed by Global Environment Facility (GEF) First Strategic Action Programme (SAP) for a High Seas Ecosystem With Accompanying Conservation measures <p>Hope to be an early proposer of ABMT to BBNJ COP</p> 	<p>Project Stakeholder Engagement Process & Summary: 1st & 2nd Shipping Consultations</p> <p>Kieran Bjergstrom NLA International Ltd</p> 

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3rd International Shipping Industry Stakeholder Engagement Consultation**

The Stakeholder Engagement Process

- A systematic, inclusive, and communicative process to involve those affected by, contributing to, or otherwise influencing the project.
 - Even handed engagement & consultation with the gamut of stakeholders:
 - Guardians and researchers;
 - Users and industry;
 - Beneficiaries (often second order).
- Build an engaged, participatory, stakeholder community.
 - Voluntary measure development, data sharing, scientific collaboration, etc.
- Shipping industry engagement is leading, establishing best practice.
- Building the foundations for enduring stakeholder relationships that enable stewardship through a process that is replicable and scalable for BBNJ.



Situating ourselves

- This is the Project's third shipping engagement event
- The first (held at BIMCO's UK offices):
 - Introduced the Project and its aims, and highlighted opportunities for mutually beneficial participation.
 - Explained the SEDA & SAP processes.
 - Highlighted the need for evidence of impact and of benefits, ideally also considering the connectivity of the Sargasso Sea to wider ocean ecosystems.
 - Discussed a 'weight of evidence' approach, pragmatically considering where evidence and association to impact is strongest.
 - Opened a conversation on data sharing, ships of opportunity and citizen science.
 - Highlighted that a conversation on voluntary measures required the SEDA findings, and that it should be oriented around coherence with existing approaches.
 - Established that shipping wants to be engaged and to participate, including both industry bodies and individual organisations.



Situating ourselves

- The second (held at BIMCO's Copenhagen HQ):
 - Substantially evolved the conversation by introducing the SEDA findings and opening them up for discussion.
 - Explored the characteristics of good voluntary measures:
 - Impactful & effective; Implementable & realistic; Measurable, Recognised & communicable; Scalable & generalisable.
 - Discussions focused on whale strike risk as a concrete example of an impact that might be addressed through voluntary measures.
 - Discussed the recognition and positive incentives that may be associated with implementing voluntary measures.
 - Recognised supply chain transparency and environmental stewardship as mark differentiators.
 - Port-side incentives.
 - Implications on Charter Party clauses.
 - Expanded conversation on data.
 - Underscored a collective will to move towards concrete discussion of appropriate voluntary measures for the Sargasso Sea GAC.



Today

- Today's engagement event is the Project's first outside of Europe.
- This is a crucial opportunity for the Project to receive a global shipping industry perspective, and to engage industry bodies and ship owners that have not previously been included.
- Intends to...
 - Present a comprehensive overview of the project, its status, and planned next steps;
 - Provide stakeholders here an opportunity to directly discuss SEDA findings and Project thinking;
 - Test & validate thinking on voluntary measures and participation;
 - Drive the conversation forward with more concrete voluntary measures discussions and better understanding of transferability to BBNJ more generally.
- This is seen this as the start of enduring engagement.



**Summary & Update:
Project SEDA & SAP**

David Vousden
Project Coordinator & Chief Technical Adviser,
GEF Sargasso Sea Project











Strengthening stewardship through cooperation in an economically and biologically significant high seas area – the Sargasso Sea

Main Outputs from the Project

- A Socio-Ecosystem Diagnostic Analysis
- An Ecosystem Valuation and Cost-Benefit Analysis
- A Strategic Action Programme adopted by partners and signatories and supported by a long-term Stakeholder Engagement Strategy
- An Implementation Plan for the SAP (for further funding)
- Stakeholder Engagement in Development and subsequent implementation of the SAP (the latter through a separate new project)
- A long-term data platform to guide scientific analysis and monitoring
- A cross-cutting set of communications and information capture activities to deliver best practices and lessons learned as well as science-to-policy briefing reports (Significant to the High Seas Treaty!)

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<h3 style="background-color: #0070C0; color: white; padding: 2px;">The Socio-Ecosystem Diagnostic Analysis (SEDA)</h3> <p>To identify, quantify, and set priorities for environmental threats/problems that threaten the long-term integrity and sustainability of the ecosystem.</p> <ul style="list-style-type: none"> ➢ International Legal and Regulatory Framework ➢ Environmental Status (Physical, Chemical, Biological Oceanography) ➢ Socio-Economic Status (Fisheries, Energy, Mining, Shipping, etc.) ➢ Connectivity within and beyond ABNJ System Boundary ➢ Summary of Threats and Impacts (Causal Chain and DPSIR) ➢ Cross-Cutting Issues as Relevant (Gender equality, etc.) ➢ Overall Summary of Findings and rationale for the Strategic Action Programme <p>N.B. It was decided to have the Ecosystem Valuation and Cost-Benefit Analysis as a separate document to 'bridge' between the SEDA and the SAP</p> 	<h3 style="background-color: #0070C0; color: white; padding: 2px;">The Ecosystem Valuation and Cost-Benefit Analysis</h3> <p>The Objective: To undertake an economic valuation of the ecosystem services and natural capital provided by the Sargasso Sea</p> <p>This will assess the value of the GAC to global fisheries, carbon sequestration, oxygen production, global biodiversity protection of value elsewhere (e.g. turtle nursery and eel spawning /migration).</p> <p>The main beneficiaries of these goods and services (national, regional, global) will also be identified.</p> <p>Provide estimations of the impacts/changes to the value of ecosystem services and natural capital expected in an "business-as-usual" (no change in management) scenario, based on threats/existing scenarios</p> <p>Provide some guidance on potential costs involved with enhanced stewardship and conservation measures for the Sargasso Sea</p> 						
<h3 style="background-color: #0070C0; color: white; padding: 2px;">The Strategic Action Programme (SAP)</h3> <p>The aim of the SAP:</p> <ul style="list-style-type: none"> ➢ To review the outcome of the TDA, as per the identified barriers and constraints to effective management and good governance, ➢ to define the broad objectives and specific actions that will overcome these barriers and constraints. In order to achieve this the partners to the SAP will need to <ol style="list-style-type: none"> a) agree first on what their expectations are in the long-term relative to the state of the ecosystem (by identifying Ecosystem Quality Objectives) and b) negotiate and agree on the long-term actions that need to be taken to achieve and maintain these Ecosystem Quality Objectives. <p>The SAP is therefore a formally-negotiated and endorsed documentation which defines the management and governance arrangements which the LME SAP partners wish to adopt</p> 	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="background-color: #0070C0; color: white; padding: 5px;">THE SEDA</th> <th style="background-color: #0070C0; color: white; padding: 5px;">Ecosystem Valuation and Cost-Benefit Analysis</th> <th style="background-color: #0070C0; color: white; padding: 5px;">THE SAP</th> </tr> <tr> <td style="padding: 5px;"> <p>THE SEDA IDENTIFIES:</p> <ul style="list-style-type: none"> • Ecosystem environmental and socioeconomic status and trends • The priority problems • Environmental & Socioeconomic Impacts • Immediate, underlying and root causes • Analysis of governance <p>Based on a reasoned and multi-sectoral consideration of the problems</p> <p>Forms the factual basis for the formulation of the SAP</p> <p>Delivery of draft for circulation and agreement</p> </td> <td style="padding: 5px;"> <p>What is the value of the Ecosystem on a global level?</p> <p>How will that alter with improved Stewardship versus Business-as-Usual</p> </td> <td style="padding: 5px;"> <p>The SAP sets out specific actions required by all of the partners /players in order to address the impacts and threats to the ecosystem</p> <p>Outlines the policy, legal, and institutional improvements and investments needed to resolve the priority ecosystem problems</p> <p>Once SAP agreed then technical assistance, capacity-building, and investment projects can be developed around it</p> <p>Delivery of draft by latest 2025 for discussion, negotiation</p> <p>Final Agreement on Draft by early to Mid 2026</p> </td> </tr> </table>	THE SEDA	Ecosystem Valuation and Cost-Benefit Analysis	THE SAP	<p>THE SEDA IDENTIFIES:</p> <ul style="list-style-type: none"> • Ecosystem environmental and socioeconomic status and trends • The priority problems • Environmental & Socioeconomic Impacts • Immediate, underlying and root causes • Analysis of governance <p>Based on a reasoned and multi-sectoral consideration of the problems</p> <p>Forms the factual basis for the formulation of the SAP</p> <p>Delivery of draft for circulation and agreement</p>	<p>What is the value of the Ecosystem on a global level?</p> <p>How will that alter with improved Stewardship versus Business-as-Usual</p>	<p>The SAP sets out specific actions required by all of the partners /players in order to address the impacts and threats to the ecosystem</p> <p>Outlines the policy, legal, and institutional improvements and investments needed to resolve the priority ecosystem problems</p> <p>Once SAP agreed then technical assistance, capacity-building, and investment projects can be developed around it</p> <p>Delivery of draft by latest 2025 for discussion, negotiation</p> <p>Final Agreement on Draft by early to Mid 2026</p>
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<h3 style="background-color: #0070C0; color: white; padding: 2px;">Other Supportive and on-Going Activities</h3> <p>Stakeholder Engagement:</p> <ul style="list-style-type: none"> ➢ Shipping Industry Stakeholder Engagement is proving to be very collegial and interactive ➢ Fishing Industry proving a bit more complex and main route will be through IFMCs ➢ Other Stakeholders (Scientific Community, etc.) <p>General Scientific Data Capture and Monitoring:</p> <p>A science and technical programme for data and information capture which identifies weakness in knowledge and prioritises knowledge capture and capacity building through partnerships (including with the Shipping Industry) feeding into a long-term well-managed and accessible data platform</p> <p>Communications and Knowledge Transfer:</p> <p>Regular updates through Newsletters, inputs to IW-LEARN, Science Publications, Presentations to appropriate gathering & Symposia on best lessons and Practices for ABNJ/BBNJ management and stewardship processes</p> <p>Major Threat/Impacts Monitoring:</p> <p>Establishment of a specific group of partners to consider the potential impacts from climate change</p> 	<h3 style="background-color: #0070C0; color: white; padding: 2px;">Project Status to Date</h3> <p>SEDA: The Document is very near completion. Some sections are currently going through proof-reading. The various threats and impacts are being captured and prioritised (where possible) in order to target them for 'action'.</p> <p>Ecosystem Valuation: The exact requirements are being reviewed with a number of experts to define what level of 'valuation' is required and what details would be required for the Cost-Benefit Analysis. A ToR is under finalisation.</p> <p>SAP: The Strategic Action Programme discussions and negotiations will start this year in 2025 following the Ecosystem Valuation process. The EV will hopefully provide strong justification to the stakeholders for developing and adopting the SAP and any associated monitoring, stewardships and conservation measures</p> <p>Stakeholder Engagement: This has been an on-going and interactive process since early 2023 including meetings with groups of stakeholders as well as one-on-one interaction with various Sargasso Sea 'beneficiaries', 'users' and 'guardians'.</p> 						
<p style="text-align: center;">Paper: Vessel Traffic in the Sargasso Sea Geographical Area of Collaboration, 2019-2021</p> <p style="text-align: center;">Jesse Cleary (Video) MGEL, Duke University</p> 	<p style="text-align: center;">Vessel Traffic in the Sargasso Sea</p> <p style="text-align: center; font-size: small;">Jesse Cleary, Beatrice Smith, El Pujeiko, Patrick Halpin Marine Geospatial Ecology Lab, Duke University</p>  						

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Mapping the Sargasso Sea


Baseline data reports for the SARGADOM project

Report 1: State of Space and Time



Feature in Space and Time

Report 2: State of the Ecosystem and Human Uses




State of the Ecosystem and Human Uses

Mapping the Sargasso Sea

Baseline data reports for the Sargasso Sea GEF project

Report 3: Vessel Traffic

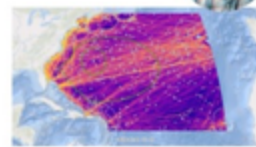


Vessel Traffic

Source Data

Satellite AIS from Spire, via Global Fishing Watch

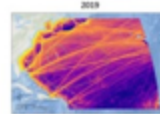
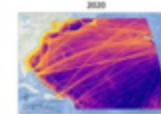
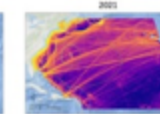
- 2019 – 2021
- 68 million AIS vessel locations
- Input data for GFW's apparent fishing effort dataset (Kroodsma et al. 2018)



January 2020 - animation by hour

Vessel Traffic Maps

Maps of overall vessel traffic


Annual summaries of all vessel traffic (time in hours)

Vessel time per cell	0 - 7.57	7.57 - 15.14	15.14 - 22.71	22.71 - 30.28	30.28 - 37.85	37.85 - 45.42	45.42 - 52.99	52.99 - 60.56	60.56 - 68.13	68.13 - 75.70	75.70 - 83.27	83.27 - 90.84	90.84 - 98.41	98.41 - 105.98	105.98 - 113.55	113.55 - 121.12	121.12 - 128.69	128.69 - 136.26	136.26 - 143.83	143.83 - 151.40	151.40 - 158.97	158.97 - 166.54	166.54 - 174.11	174.11 - 181.68	181.68 - 189.25	189.25 - 196.82	196.82 - 204.39	204.39 - 211.96	211.96 - 219.53	219.53 - 227.10	227.10 - 234.67	234.67 - 242.24	242.24 - 249.81	249.81 - 257.38	257.38 - 264.95	264.95 - 272.52	272.52 - 280.09	280.09 - 287.66	287.66 - 295.23	295.23 - 302.80	302.80 - 310.37	310.37 - 317.94	317.94 - 325.51	325.51 - 333.08	333.08 - 340.65	340.65 - 348.22	348.22 - 355.79	355.79 - 363.36	363.36 - 370.93	370.93 - 378.50	378.50 - 386.07	386.07 - 393.64	393.64 - 401.21	401.21 - 408.78	408.78 - 416.35	416.35 - 423.92	423.92 - 431.49	431.49 - 439.06	439.06 - 446.63	446.63 - 454.20	454.20 - 461.77	461.77 - 469.34	469.34 - 476.91	476.91 - 484.48	484.48 - 492.05	492.05 - 499.62	499.62 - 507.19	507.19 - 514.76	514.76 - 522.33	522.33 - 529.90	529.90 - 537.47	537.47 - 545.04	545.04 - 552.61	552.61 - 560.18	560.18 - 567.75	567.75 - 575.32	575.32 - 582.89	582.89 - 590.46	590.46 - 598.03	598.03 - 605.60	605.60 - 613.17	613.17 - 620.74	620.74 - 628.31	628.31 - 635.88	635.88 - 643.45	643.45 - 651.02	651.02 - 658.59	658.59 - 666.16	666.16 - 673.73	673.73 - 681.30	681.30 - 688.87	688.87 - 696.44	696.44 - 704.01	704.01 - 711.58	711.58 - 719.15	719.15 - 726.72	726.72 - 734.29	734.29 - 741.86	741.86 - 749.43	749.43 - 757.00	757.00 - 764.57	764.57 - 772.14	772.14 - 779.71	779.71 - 787.28	787.28 - 794.85	794.85 - 802.42	802.42 - 810.00	810.00 - 817.57	817.57 - 825.14	825.14 - 832.71	832.71 - 840.28	840.28 - 847.85	847.85 - 855.42	855.42 - 862.99	862.99 - 870.56	870.56 - 878.13	878.13 - 885.70	885.70 - 893.27	893.27 - 900.84	900.84 - 908.41	908.41 - 915.98	915.98 - 923.55	923.55 - 931.12	931.12 - 938.69	938.69 - 946.26	946.26 - 953.83	953.83 - 961.40	961.40 - 968.97	968.97 - 976.54	976.54 - 984.11	984.11 - 991.68	991.68 - 999.25
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Geographic Focus

Geographical Area of Collaboration (GAC)

- 5,600 different IMO IDs crossed the GAC
- Day: 49.6% of total distance traveled
- Night: 50.4% of total distance traveled
- Average speed of day and night transits was roughly equal at ~13 knots.




Vessel Traffic: Vessel Type

VESSEL TYPE	NUMBER OF UNIQUE VESSELS	PERCENT OF ALL VESSELS
Cargo	3625	58.0%
Tanker	2524	39.1%
Passenger	219	3.4%
RoRo	151	2.3%
Merchant	147	2.3%
Fishing	29	0.4%
Icebreak	11	0.2%
Other	23	0.4%

Vessel Composition

Unique IMO IDs over Time

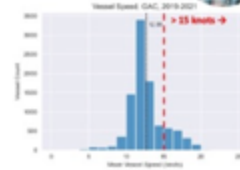


Vessel Traffic: Speed

Mean vessel speed: 12.7 knots

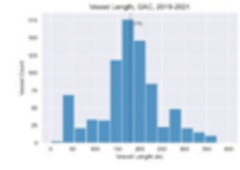
1,600 vessels with average speed > 15 knots

At 15 knots, probability of lethal injury for cetaceans is ~80% (Vanderlaan and Taggart, 2007)

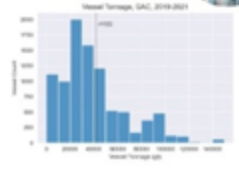


Vessel Traffic: Size


Vessel Length (m)



Vessel Tonnage (GT)



App 2 – 6



NLA INTERNATIONAL

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<p>Sargassum Disturbance</p> <p>Potential negative impacts on Sargassum mats from vessel traffic</p> <ul style="list-style-type: none"> Large mats can be monitored from satellite  <p>Small text: Potential negative impacts of Sargassum with disturbance with sediment, chemical, biological and noise on submersible from the ship deck. It is also noted that Sargassum is a habitat for some birds. Impact changes to the North. Fig 1 from this et al. 2018.</p>  <p>Small text: Sentinel-2 Constellation Observation Scenario: Coastal Frequency.   </p> <p>https://sentinel2.copernicus.eu/web/l2-mission</p>	<p>Overview of Vessel Traffic</p> <ul style="list-style-type: none"> Both concentrated and dispersed traffic across the Sargasso Sea Actors are varied – flag state, vessel type, activity, ownership Satellite AIS offers new monitoring opportunities, transparency is a work in progress Migratory corridors cross all the main E/W traffic routes 
<p align="center">Discussion / Q&A on Paper: Vessel Traffic in the Sargasso Sea Geographical Area of Collaboration, 2019-2021</p> <p align="center">David Vousden / David Freestone Sargasso Sea GEF Project</p> 	 <p>Sargasso Sea GEF Project: Shipping Industry Consultation</p> <p>14th February 2025, Singapore</p> <p><i>Beatriz Martinez Romero, Associate Professor Stella Eibersmeyer, Postdoctoral Researcher Viktor Weber, Postdoctoral Researcher Centre for International Climate Change Law and Governance - CLIMA</i></p>
 <ul style="list-style-type: none"> Research: Climate Change, Energy Transition, Environment and Sustainability Dissemination and outreach: Seminar Series, Podcast, Newsletter, Conferences Education: BA, Master, PhD, Advance LLM Energy Law (INSELP), 'Climate Desk' Academic networks with key universities Stakeholders: The Green Corner <p>Website: https://jura.ku.dk/clima/</p>	<p>CARISBERG FOUNDATION: InterAct research project</p> <p><i>International Law-Making: Actors in Shipping and Climate Change</i></p> <ul style="list-style-type: none"> Project period: 1 September 2021 – 28 February 2025 Main objective: Contribute to new academic insights into the theory of actors in international law and law-making while providing an understanding and a way forward to address maritime transport climate-related impacts 
<p>Sub-projects</p> <ul style="list-style-type: none"> Sub-project 1: Non-state Actors and International Law-making: The Role of MBMs and other measures in the Decarbonization of the Shipping Industry Sub-project 2: Regulating Black Carbon Emissions from Arctic Shipping: The Role of Non-State Actors in International Law-Making 	<p>Key takeaways</p> <ul style="list-style-type: none"> Non-state actors are essential for the decarbonization of the shipping industry WP1: <ul style="list-style-type: none"> A set of common rules need to be agreed at the international level: The International Maritime Organization. A market-based measure is essential for the decarbonization process. Fuel standards are essential for a genuine overall decarbonization Private actors perform specific ancillary functions New forms of ship finance / risk models Investment in green port infrastructure WP2: <ul style="list-style-type: none"> Non-state actors play a crucial role in international law-making, specifically in the regulation of black carbon emissions from Arctic shipping There are barriers in the regulation of Arctic shipping, of both procedural and substantive nature, that need to be overcome to advance in the regulation The science-law interface needs to be strengthened to advance in the regulation on this topic 

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Connection to other research projects

Climate Arctic Governance (CAG)
CAG is a research network seeking to advance our shipping research on Arctic governance for more secure climate and sustainability challenges.

Commercial Modernisation of International Shipping
Sponsored by **oceankind** (The International Maritime Organisation's Sustainable Shipping Programme)

Climate Change and Ocean Governance (CCOG)
CCOG is a research network that explores international and regional ocean regimes through the lens of climate change.

FALG
Future Arctic Law and Governance (FALG) is a research network that explores the legal and policy challenges of Arctic shipping and governance of the sea area in the Arctic.

Shipping Decarbonization



- Around 3% of the global total GHG emissions
- Fast growing source – 90-130% by 2050 (IMO 2020)
- BAU efficiency improvements are insufficient

Shipping Decarbonization

UN Framework Convention on Climate Change (UNFCCC)
"stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system..." (Art 2 UNFCCC)
Principles: CBDRR, equity...

Kyoto Protocol



Paris Agreement

- Temperature goal, principles, finance goals...

Shipping Decarbonization



Action: studies, committees, WGs, reporting to SBSTA
3 Pillars:
1&2. Technical and operational
2011 – EEDI, SEEMP, EEOI + Tech Transfer - 2013
3. MBMs; Discussions suspended in 2013
2016 - MEPC 70 – Roadmap – adopt a strategy by 2018
MEPC 71 - Data Collection
2018 – Initial Strategy GHG Emissions
2023 – Revised Strategy

Shipping Decarbonization

2023 Revised IMO GHG Strategy

- Net-zero GHG emissions 'by or around' 2050
- 'indicative checkpoints'
 - 2030 – 20% to 30% (2008 baseline year)
 - 2040 – 70% to 80% (2008 baseline year)
- 'Just and Equitable transition'
- Indication that both fuel GHG intensity standard and MBM will be adopted by 2025

to peak GHG emissions from international shipping as soon as possible and to reach net-zero GHG emissions by or around, i.e. close to 2050, taking into account different national circumstances, whilst pursuing efforts towards phasing them out as called for in the Vision consistent with the long-term temperature goal set out in Article 2 of the Paris Agreement

Role of green shipping corridors for decarbonizing

- What are green shipping corridors?
- Why and how can they help decarbonize the maritime transport industry?



Key features





- ✔ Use of alternative fuels
- ✔ Shore-side power & renewable energy integration
- ✔ Digitalization & optimized route planning
- ✔ Infrastructure investment & policy incentives



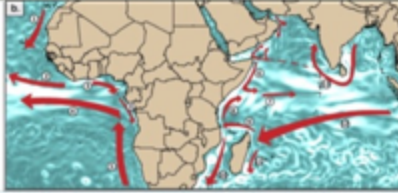

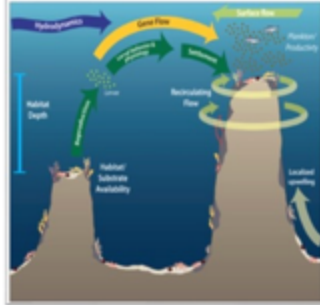



Actors



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<p>Challenges and opportunities</p> <p>Challenges:</p> <ul style="list-style-type: none"> ▲ High initial investment in fuel infrastructure ▲ Limited availability of zero-emission ships ▲ Regulatory inconsistencies across regions ▲ Uncertainty in fuel technology dominance <p>Opportunities:</p> <ul style="list-style-type: none"> ▣ Reduced carbon footprint in global trade ▣ First-mover advantage for ports and shipping companies ▣ Innovation driver for clean fuel technologies ▣ Enhanced collaboration across supply chains 	<p>Green corridor initiatives</p>  <p><small>Check out: https://futurefuels.imo.org/home/future-impact/innovation/green-corridor/</small></p>
<p>Next steps:</p> <ol style="list-style-type: none"> 1 Policy & regulatory alignment (IMO, governments, industry) 2 Investment in green fuel production & bunkering infrastructure 3 Incentives for early adopters (subsidies, tax incentives?) 4 Industry partnerships to share costs and knowledge 5 Digital technologies for efficient operations 	<p align="center"><i>Connectivity between areas within & areas beyond national jurisdiction</i></p> <p align="center">David Vousden Project Coordinator & Chief Technical Adviser, GEF Sargasso Sea Project</p> 
	<p>Why are ABNJ so important to coastal communities?</p> <p>People living in the coastal areas rely heavily on marine and coastal resources for their livelihoods and national security. Even land-locked states are dependent on the goods and services provided by the ocean.</p> <p>ABNJ = 64% of total ocean surface area ABNJ = 95% of the total volume of the global ocean.</p> <p>Vulnerable to human activities - no single state has a legal or political mandate for protection.</p> <p>Long-Standing 'disconnect' between:</p> <ol style="list-style-type: none"> A. Management of marine ecosystems in ABNJ and B. Sustainability of biodiversity and fisheries production within territorial waters and EEZ <p>Strong evidence of close linkage between A and B via Connectivity</p> 
<p align="center">Marine Ecological Connectivity</p> <p>Ecosystem Services provided by ABNJ:</p> <p>A: Indirect Effects both on the coastal zone and inland e.g. climate warming, weather events, sea level rise</p> <p>B. More Direct and Immediate Effects on lifecycles of important species (e.g. Whales, turtles, eels, commercial-fish stocks)</p> <p>Disturbances in ABNJ areas can directly impact fish stocks in coastal areas via the ocean circulation</p> <ul style="list-style-type: none"> ➢ Passive or circulation connectivity mediated by the ocean currents ➢ Active or migratory connectivity achieved by active swimming by marine species 	<p align="center">Circulation Connectivity</p> <p>Ocean currents connect distant regions of the world's ocean including between coastal zones and ABNJs</p> <p>Direction of Connectivity is important - Source Areas and Sink Areas plus Rotational Connectivity</p> <p>Time-scales also very important:</p> <ol style="list-style-type: none"> 1. Pelagic larval stages can remain in the water column for weeks or even months 2. Half-lives of pollutants sourced in the ABNJ but transmitted into EEZ can be in years 3. Even while in ABNJ, these pollutants can directly harm larval stages and migratory species 

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<p align="center">Linear Connectivity</p>  <p>Many of the important consequences of connectivity are of a linear nature transporting 'materials' long distances across ABNJ and into EEZs This includes biological material (larvae and fish) and chemical (pollutants, etc.)</p>	<p align="center">Migratory and Cultural Connectivity</p> <p>Migratory connectivity: Active and regular movement of marine species often from breeding to feeding grounds and back</p> <p>Cultural connectivity: Cultural importance of highly migratory species is also of significance when discussing governance of the ABNJ</p> <p>Importance of ABNJ to species of 'significance' in EEZs includes: whales, turtles, eels, all of which migrate through ABNJ</p> <p>Top target species for fisheries spend much of their life-cycle in ABNJ and travel over great distances. e.g Atlantic Tuna</p> <p>The well-being of these target species is fundamental to the food security and income of many, if not most countries</p> 
<p align="center">Vertical Connectivity</p> <p>We are only just beginning to understand the important link between surface waters and deep sea ecosystems in the context of carbon sinks</p> <p>Deep water seamounts :</p> <ul style="list-style-type: none"> A. Major feeding areas for oceanic commercial species B. Very important 'stepping stones' across the ocean for many species including commercial fish such as tuna, alfonso, etc. <p>Large oceanic eddy systems within ABNJ also concentrate feeding areas for many commercial fish</p>	 <p>Diagram showing deepwater upwelling, caused by nutrient-rich bottom-water encountering the seamounts and circulating around them, and potential flow of larvae from one seamount to another.</p> <p><small>Image courtesy of Shank 2010, Oceanography; Morrison et al. 2015</small></p>
 <p>Map showing the two seamount chains visited during a NOAA cruise across the New England and Corner Rise in 2021</p> <p>These seamounts can provide ideal habitat that is just the right distance away for larvae to travel and settle (stepping stones)</p> <p><small>Map courtesy of NOAA Ocean Exploration, 2021 North Atlantic 'Stepping Stones' Research Cruise</small></p>	<p align="center">Example of Importance of ABNJ – The Sargasso Sea</p> 
<p align="center">Example of Importance of ABNJ – The Sargasso Sea</p> <ul style="list-style-type: none"> A. The only spawning area for European and American Eels with a commercial value back in their range states of US\$ billions per annum. American eel ranges throughout Canada, US and Caribbean. European eel ranges include Morocco, Algeria, Egypt, Tunisia & Turkey in Mediterranean and most of the coastal states of the EU as well as the UK B. Major migratory route for large cetaceans such as humpback whales. (Whale watching valued at nearly US\$3 billion globally) C. Major migratory route and feeding area for tuna, swordfish, shark, dorado, etc. 	<p align="center">Example of Importance of ABNJ – The Pacific</p> <p>Tuna in the Pacific are of enormous importance to the South Pacific islands and to other neighbouring countries of Asia and the Americas</p> <p>The Pacific tuna industry is worth US\$1 billion in revenue and the tuna exported from the Pacific is worth many more billions in world markets (South Pacific Forum Fisheries Agency)</p> <p>For many Pacific countries, the tuna found within their EEZ is their only significant renewable resource and main opportunity for economic development.</p> <p>Yet these tuna spend, on average, 75% of their life-cycle in ABNJ</p> <p>Now the region is seeing the impacts of climate change shifting the fish-stocks away from their normal range into new waters and hence new Fisheries and licencing areas</p>

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<p>Re-confirming the Importance of ABNJ to National Jurisdiction and National Welfare</p> <ul style="list-style-type: none"> ➤ Tourism: interacting with charismatic marine fauna is a growing tourist sector. The protection of migratory species throughout their range is therefore of economic importance ➤ Many Coastal Fisheries are dependent on a 'protected' and healthy ABNJ (e.g. Tuna, Spanish Mackerel, Shark) ➤ Ecosystem Resilience through renewed larval transmission is critically important to high-diversity marine coastal ecosystems such as coral reefs (often 'seeded' by larvae from a long distance away) ➤ Impacts from Pollution in ABNJ can have chronic, long-term impacts on coastal ecosystems 	<p align="center">BBNJ and Connectivity- A Summary</p> <ul style="list-style-type: none"> ➤ ABNJ are enormously valuable and important, not only to coastal states and SIDS but to all countries of the world. ➤ Their impact on climate change and associated weather events (e.g. hurricanes, floods, droughts, wild-fires) is highly significant for land-locked countries ➤ Until recently, developments on management and protected areas in the ABNJ tended to focus on direct, specific ecological and biological significance. ➤ The socioeconomic vulnerability of areas downstream of activities in ABNJ is equally if not more important ➤ Both coastal states and land-locked countries should be as concerned about effective conservation measures in their adjacent and even distant ABNJ (and the Biodiversity therein) as they are about their jurisdictional waters
<p>How Ratification of the BBNJ Agreement is also in the interest of Coastal States</p> <ul style="list-style-type: none"> ❖ Equitable management of activities in the ABNJ, (including lifecycles of fishery resources and commercially and culturally important species) is critical to protect the rights and interests of coastal states ❖ Better understanding of the ocean-atmosphere interaction related to climate change and extreme weather events will allow for a more efficient predictive strategy for all of the countries of the world ❖ The BBNJ Agreement allows for the negotiation of such management, monitoring and conservation measures, but only once it comes into force after sufficient ratification 	<p align="center">Relevance of Connectivity to the Shipping Industry – The Ecosystem Perspective</p> <p>Biofouling & Ballast Water as transmission vectors between High Seas and coastal waters: Undesirable 'connectivity' of invasive species and pathogens from one oceanic area to another</p> <p>Pollution, Contamination & Waste Disposal underway: Gyres such as the Sargasso Sea N. Atlantic Gyre can trap these within the Sargasso Mats etc.</p> <p>Collisions and Other Physical Contacts (Including Noise): This can interfere with migrating and feeding species which are as 'important' if not more so during their nearshore life-cycles</p> <p>Knowledge Gaps and Monitoring: Potential enormous value of vessels in transit as partners in monitoring and information collection (Ferry Boxes; Continuous Plankton Recorders)</p>
<p>Relevance of Connectivity to the Shipping Industry - The BBNJ Agreement</p> <p>BBNJ Agreement requires signature and ratification (Singapore = ☺).</p> <p>Agreement needs 60 ratifications to come into force. Currently at 17</p> <p>Only those countries that have ratified have decision-making rights in the COP</p> <p>But N.B. BBNJ COP must 'not undermine, relevant legal instruments and frameworks or relevant global, regional, subregional and sectoral bodies' (e.g. IMO)</p> <p>or 'the effectiveness of measures adopted in respect of areas within national jurisdiction and shall be made with due regard for the rights and duties of all States'</p> <p>There is an element of 'Connectivity' here for the Shipping Industry...</p> <p>Only those Port States and Flag States that have ratified the Agreement would be in a position to vote for or oppose decisions in the BBNJ COP related to activities or restrictions in the High Seas that might affect their vessels</p>	<p align="center">Thank You for your interest</p>  <p>For more information please read: Connectivity between the areas beyond national jurisdiction and coastal waters: Safeguarding interests of coastal communities in developing countries. Ekaterina Popova et al.,(2019). Marine Policy. Vol. 104, June 2019, Pp 90-102.</p> <p align="center">Any Questions?</p>
<p align="center">Roundtable 1:</p> <p>What defines good, generalisable (global) voluntary measures, collaborations, measures of effectiveness, and transferability / where might unique measures be necessary? (45 minutes)</p> 	<p>Roundtable 1: What defines good voluntary measures and collaborations?</p> <ul style="list-style-type: none"> • What would characterise a 'good' or 'acceptable' voluntary measure? <ul style="list-style-type: none"> • Impactful & effective; Implementable & realistic; Measurable; Recognised & communicable; Scalable & generalisable. • What types of voluntary measures would be acceptable vs. challenging? How is that boundary drawn? • Is it feasible to create a framework of measures that could be applied 'anywhere' with a case-by-case selection? • How should measurement and impact analysis look, and how should measures be refined? • Do current initiatives provide examples of best practice? 

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<p align="center">Roundtable 2:</p> <p>What measures would address Sargasso Sea / ABNJ vulnerabilities, how can they be implemented, incentivised & recognised / what are the mechanisms for industry participation?</p> 	<p>Roundtable 2: What measures might address the Sargasso Sea's vulnerabilities, and how can they be implemented and incentivised?</p> <ul style="list-style-type: none"> • What would (or would not) be appropriate measures to consider for the Sargasso Sea from a shipping industry perspective? • Could measures be wider than shipping – cross-sectoral 'ocean' measures? • What are the opportunities for positive collaboration and participation? • What role does incentivisation play, and what types of incentives would be appropriate and sufficient? What are the best examples of successful incentivisation? • How does the Project create a practical pathway to: <ul style="list-style-type: none"> • Exploring these in greater detail; • Formulating measures; • Implementing these and achieving good uptake. • How does the Project keep such measures contemporary and effective? 
<p align="center"><i>Sargasso Sea GEF Project: SEDA to SAP – next steps</i></p> <p align="center">David Vousden GEF Project CTA</p> 	
<p align="center">Formal Work-Plan Requirements from Project Document</p> <p>A. Finalise the SEDA Document and Publish Results</p> <ul style="list-style-type: none"> ➢ Final sections of SEDA to Proof-Reader for incorporation ➢ SEDA Review meeting to finalise the document ➢ Identify and contract publisher for the SEDA <p>B. Commission an Ecosystem Valuation and Cost-Benefit Analysis</p> <ul style="list-style-type: none"> ➢ Define the requirements of an Ecosystem Valuation ➢ Contract appropriate person/agency to undertake and complete the work <p>C. Initiate Development of the Strategic Action Programme</p> <ul style="list-style-type: none"> ➢ After completion of SEDA and Ecos. Val. – create a SAP Development Team ➢ Draft potential contents and activities for discussion with Stakeholders ➢ Address adopted content requirements for drafting and final agreement <p>D. Other Essential Activities to Complete the Project</p> <ul style="list-style-type: none"> ➢ Mid-Term Review ➢ Science Monitoring and Establishment of a Big Data Platform ➢ Partnerships for Sustainability (Monitoring and funding) ➢ Capture of Best Lessons and Practices as well as Challenges 	<p align="center">Sargasso Sea Project – 'Next Steps' Workshops</p> <p>17th February 09.30 – 18.00 <i>Juniper Room</i></p> <p>Morning: Informal Scientific Round Table for Project Partners</p> <ol style="list-style-type: none"> 1. Brief Update on the UNDP GEF Sargasso Sea Project Science and SEDA 2. Threats, Impacts and Gaps in Knowledge identified so far 3. Establishing a Potential Strategy/Programme for Data and Information Capture and Management 4. Areas of weakness and potential sources of support/capacity for data capture and regular monitoring of parameters <p>Afternoon: Formal Meeting with Commissioners & Hamilton Signatories</p> <ol style="list-style-type: none"> 5. General Update on UNDP GEF Sargasso Sea Project at Mid-Term 6. Status of the SEDA 7. Ecosystem Valuation and Cost-Benefit Analysis – Aims and Next Steps 8. Status of the Stakeholder Engagement Strategy and Activities 9. Best Lessons, Practices and Challenges 
<p align="center"><i>Wrap-up / Précis of Day</i></p> <p align="center">Kieran Bjergstrom & Kevin Fleming NLA International Ltd</p> 	<p align="center"><i>Closing Remarks</i></p> <p align="center">David Freestone</p> 