The Sargasso Sea Commission
The Story so far …

Dr. David Freestone
Executive Secretary, Sargasso Sea Commission

Next Steps to Strengthen Stewardship of the Sargasso Sea
BIOS, Bermuda, 13 March 2019
Bermuda EEZ = 464,940 sq km or 179,514 sq. miles

Sargasso Sea = ~ 5 179 976 sq km or 2 million sq. miles
The HIGH SEAS
Marine Areas Beyond National Jurisdiction

- Nearly 50% of Planet’s surface
- Increasing human impact on Areas beyond National Jurisdiction
  - Increased intensity of existing activities
  - New activities
- BUT no comprehensive governance framework for Areas beyond National Jurisdiction, except for Sea bed minerals
Oceans cover >70% of the planet
>50% is High Seas
Current governance of High Seas is WEAK …

- Uncoordinated rule-making
- Poor implementation
- Weak enforcement provisions
- Many unregulated activities
- Geographic gaps in treaty frameworks
Gaps in Regional Seas Programs

Ban et al. 2013, Cons. Letters
Gaps in Regional Fisheries Management Organizations (non-tuna)

Ban et al. 2013, Cons. Letters
Aims of the Sargasso Sea Project

Led by the Government of Bermuda to build a network of international partners to

• Achieve international recognition of the global importance of the Sargasso Sea

• Work with existing international and sectoral organisations to achieve better protection for the Sargasso Sea in accordance with the Law of the Sea Convention

• Use this experience as an indication of what is possible and not possible under current regime for ABNJ
Why is the Sargasso Sea important?
“Encountered weed ... in some places so thick that it actually held back the ships...”

Columbus 20th September 1492
- Unique open-ocean sargassum-based ecosystem. Mostly High Seas
- Important for life history of many species (eels, turtles, tuna, billfish, sharks, etc.)
Sargassum Natans and S. Fluitans
Plastic in Sargassum

S Sarkis
Sargassum Endemics 145 invertebrate species live in association with Sargassum
Sargassum Swimming Crab
NOAA
Iconic species
Midwater and Benthic Fauna
Nursery/Feeding area:
eggs/juveniles of >80 fish species occur in Sargassum
Flying fish eggs JP Rouja
Flying fish JP Rouja
Baby Leatherbacks
Catches of yellow and silver eels in EC
European Eel Life Cycle

- Eggs
- Leptocephalus
- Glass eel
- Yellow eel
- Elver
- Silver eel
- Spawning
- Ocean
- Continent

SARGASSO SEA COMMISSION
Unparalleled Scientific Record
Threats

Garbage and plastics
Pollution, discharges, spills
Fishing
*Sargassum* harvesting
Exotic species
Climate change
Ocean Acidification
Deep sea mining
Underwater cables
The Hamilton Declaration
on Collaboration for the
Conservation of the
Sargasso Sea
(March 2014)
Dr. Sylvia Earle
Co-Chair, Sargasso Sea Alliance Steering Committee
Hamilton Declaration Signatories

Governments

- Azores
- Bahamas 2016
- Bermuda
- British Virgin Islands 2016
- Canada 2016
- Cayman Islands 2017
- Dominican Republic 2018
- Monaco
- United Kingdom
- United States
  - Netherlands, Sweden, South Africa,
  - Turks and Caicos*

Observer Organizations

- ISA-International Seabed Authority Secretariat
- OSPAR (former Executive Secretary)
- Convention on Migratory Species Secretariat
- IUCN
- Inter-American Convention for the Conservation of Atlantic Sea Turtles

* Trinidad and Tobago unable to attend but supportive
Hamilton Meeting Participants 2014
Meeting of Signatories
(Meets as required)

Sargasso Sea Commission
Stewardship Role. Meets virtually.
Volunteers acting in personal capacity

Sargasso Sea Secretariat
Small Permanent Body
Meeting of Signatories
(Meets as required)

Sargasso Sea Commission
Stewardship Role. Meets virtually. Volunteers acting in personal capacity

Financial Mechanism
- 501 (c)(3) in US
- Registered Charity in Bermuda

Sargasso Sea Secretariat
Small Permanent Body
Meeting of Signatories

- Pursue collaboration and cooperation in furtherance of the common vision of this Declaration;
- Provide advice and guidance for the Commission in its role of promoting the conservation of the Sargasso Sea;
- Take forward proposals for protection measures to appropriate international bodies
The Sargasso Sea Commission
Role of the Sargasso Sea Commission

- Exercise a *stewardship role* for the Sargasso Sea and keep its health, productivity and resilience under continual review; and

- Develop a *work programme* and action plans for the conservation of the Sargasso Sea ecosystem.
Setting up the Organization
Third Meeting of Signatories and Commission
The Azores, April 2017
Nine Signatories and Six Commissioners
Sargasso Sea Commission
"Over-Arching Goals"

1. Promote international recognition of the unique ecological and biological nature and global significance of the Sargasso Sea.

2. Encourage scientific research to expand existing knowledge of the Sargasso Sea ecosystem in order to further assess its health, productivity and resilience.

3. Develop proposals for submission to existing regional, sectoral and international organizations to promote the objectives of the Hamilton Declaration.
Agreed Work Programme 2016-18

1. International Recognition of the Ecological Importance of the Sargasso Sea
2. Fisheries and Fisheries Habitat Conservation
3. Impacts from International Shipping
4. Impacts to the Seafloor and Seabed
5. Conservation of Migratory Species
6. Defining Role in Data and Information Management
Collaborating Partners (21)

- Duke Marine Geospatial Ecology Laboratory
- Humpback Whale Project (Bermuda)
- Institute for Advanced Sustainability Studies (IASS)
- Institute for Sustainable Development and International Relations (IDDRI)
- International Cable Protection Committee (ICPC)
- International Seakeepers Society
- International Union for the Conservation of Nature (IUCN)
- Mare (Portugal)
- Marine & Environmental Law Institute, Dalhousie University
- Marine Biological Laboratory (MBL)
- Mission Blue/Sylvia Earle Alliance
- Nexton/Code Blue Foundation
- Optical Oceanography Lab, College of Marine Science, University of South Florida
- Plymouth Marine Laboratory (PML)
- Sea Education Association
- WWF-International
- World Commission on Protected Areas (WCPA)
Collaborating Partners

- UNEP Regional Seas Conventions (MOU);
  - Caribbean – collaboration on *Sargassum* strandings
  - West Africa
- OSPAR – North East Atlantic (MOU)
- University of South Florida College of Marine Science
- University of Central Florida Marine Turtle Group

Pending:
- University of Southern Mississippi, Gulf Coast Research Laboratory
- University of Edinburgh
- Netherlands Ministry of Environment
Official Observer Status (3)

- International Seabed Authority (ISA)
- Northwest Atlantic Fisheries Organization (NAFO)
- Western Central Atlantic Fishery Commission (WECAFC)
1. International Recognition of the Ecological Importance of the Sargasso Sea
Summary Science Case, 2011

Edited by Professors Dan Laffoley and Howard Roe

74 collaborators from over 10 countries and 11 science institutions

Completed and approved by Bermuda and UK Governments
Convention on Biological Diversity

EBSA Process

• “Described” at regional workshop (March 2012)

• CBD COP submitted Sargasso Sea EBSA to CBD repository

• Does not establish a MPA

• Exploring leverage opportunities
Bermuda Declares Marine Mammal Sanctuary
September 2012

• 174,000 square miles
• Sister Sanctuary Agreement with US NOAA for Stellwagen Bank
UN General Assembly Annual
Omnibus Resolution on Oceans and Law of the Sea
2012-2018

Noted the efforts of the Sargasso Sea Commission – led by the Government of Bermuda – to raise awareness of the ecological significance of the Sargasso Sea;

Proposed and supported by Bahamas, UK, US, Monaco, South Africa
World Ocean Assessment
First 2015 and Second 2020

- The only named ecosystem in the United Nations Global Reporting and Assessment of the State of the Marine Environment - First Assessment Report
- Preparing a chapter in Second Assessment
- SSC Experts: Professor Roe, Dr Warren, Dr Freestone
2. Fisheries and Fisheries Habitat Conservation
North-west Atlantic Fisheries Organization
Sargasso Sea measures under discussion
37th NAFO Annual Meeting in Halifax September 2015

Two important decisions regarding the protection of the seamounts in the northern Sargasso Sea:

1. Prohibited the use of mid-water trawling gear, or attachments, that could touch or damage the seafloor, requiring all Vulnerable Marine Ecosystem indicator species caught during mid-water trawling be reported.

2. Closed all seamounts in the NAFO area completely until end of 2020 - prohibiting bottom trawling for exploratory fishing.
International Commission for Conservation of Atlantic Tunas - ICCAT
ICCAT RESOLUTION 12-12

on the Sargasso Sea

THE INTERNATIONAL COMMISSION FOR THE CONSERVATION OF ATLANTIC TUNAS RESOLVES THAT:

1. The SCRS will examine the available data and information concerning the Sargasso Sea and its ecological importance to tuna and tuna-like species and ecologically associated species.

2. The SCRS will provide an update on the progress of this work in 2014 and report back to the Commission with its findings in 2015.
Values from the Resources of the Sargasso Sea

U.R. Sumaila, V. Vats and W. Swartz

INVENTORY AND ECOLOGY OF FISH SPECIES OF INTEREST TO ICCAT IN THE SARGASSO SEA
Brian B. Lackhurst

The inventory and ecology of fish species of interest to ICCAT in the Sargasso Sea is discussed in this report. The species included are:

1. Yellowfin tuna
2. Atlantic bluefin tuna
3. Albacore tuna
4. Skipjack tuna
5. Atlantic salmon
6. Atlantic cod

The Sargasso Sea is a large, open ocean region located in the Atlantic Ocean. It is known for its unique ecosystem and biodiversity. The Sargasso Sea is an ideal location for studying the ecology and behavior of these fish species.

Fish species of interest to ICCAT in the Sargasso Sea Phase 3 - Analysis of ICCAT catch time series, 1992-2011
Dr Brian Lackhurst Report to the Sargasso Sea Alliance November 5, 2013

The ICCAT CATDIS database provides estimates of nominal catches for the nine major tuna and tuna-like species managed by ICCAT. The data are stratified in time (quarter) and space (degree squares) and all longliner catch data are counted on the world scale. The results include:

1. Annual landed catches
2. Catch per unit effort
3. Landings by species
4. Catch by species

The Sargasso Sea Alliance - Fish species of interest to ICCAT in the Sargasso Sea Phase 2 - Detailed analysis of ICCAT catch time series 1992-2011
The Sargasso Sea Alliance

The Sargasso Sea Alliance is a non-profit organization dedicated to the conservation and sustainable use of marine resources in the Sargasso Sea. The organization works to protect the marine environment and promote responsible fishing practices.
ICCAT RESOLUTION 16-23
on Ecosystems that are important and unique for ICCAT species

RESOLVES THAT:
1. 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.

2. The SCRS will provide an update on the progress of this work in 2018 and report back to the Commission with available findings in 2019, if possible.
EXTENDING THE INDICATOR-BASED ECOSYSTEM REPORT CARD TO THE WHOLE ECOSYSTEM; A PRELIMINARY EXAMPLE BASED ON THE SARGASSO SEA

Laurence T. Kell\textsuperscript{1}, Brian E. Luckhurst\textsuperscript{2}

SUMMARY

To facilitate the implementation of Ecosystem-Based Fisheries Management (EBFM) the Sub-Committee on Ecosystems has developed an indicator-based ecosystem report card. A main objective of this new tool is to improve dialogue between scientists and managers and increase the awareness of the state of the different ecosystem components managed by ICCAT. The Sargasso Sea is a major component of the ICCAT convention area and provides a variety of ecosystem services to ICCAT and other Regional Fisheries Management Organisations (RFMOs) in the Atlantic region. Ecosystem services include a variety of products such as fish for food, but also processes that regulate and maintain our environment and cultural experiences. The ecosystem report card was developed using a Driver-Pressure-State-Impact-Response (DPSIR) approach. We show how this approach can be extended to develop a common understanding of how human activities affect the Atlantic ecosystem.
Hotspots to the east
Increased activity
Fishing pressure spreads
New areas of activity
• More defined
3. Impacts from International Shipping
BERMUDA’S CRUISE SHIP INDUSTRY:
An Update on Visiting Ships’ Physical and Environmental Specifications

June 2016

Prepared for the Sargasso Sea Commission

by

Samia Sarkis¹ and Emma Blackmore²
Still discussing appropriate measures

Possibilities are:
- MARPOL Special Area
- Routeing
- Reporting
- Ballast Water
- Sewage
Increased activity
Shipping lanes
• More defined
• New lanes every year
4. Impacts to the Seafloor and Seabed
Submarine Cable Industry Collaboration Workshop October 2014

Map courtesy Verizon
International Seabed Authority (ISA)
Observer 2016, 2017, 2018, 2019
Annex

Comments of the Sargasso Sea Commission on Revised Draft Regulations on Exploitation of Mineral Resources in the Area ISBA/24/LTC/WP.1/Rev.1 and ISBA/24/C/20

The Sargasso Sea Commission has the mandate of “Stewardship” of this unique open ocean ecosystem, granted by the 10 Government Signatories of the 2014 Hamilton Declaration on Collaboration for the Conservation of the Sargasso Sea. The “Area of Collaboration” of the Sargasso Sea identified by the Signatories to the Declaration is in the western basin of the North Atlantic, adjacent to the mid-Atlantic Ridge. That area comprises hydrothermal vent systems along the mid-Atlantic Ridge and their associated communities; it includes hot vent systems and the so-called Lost City - a unique area with a different minerology and ecosystem. All these biological communities are poorly known, they may provide clues to the origins of life; and their geochemistry impacts the chemical composition of the oceans worldwide. It follows that great caution is required when considering exploiting these dynamic and fragile areas.

We would therefore like to preface our comments by noting that the Authority is charged with
5. Conservation of Migratory Species
Joint Concept Note by IAC and Sargasso Sea Commission Secretariats on the importance of Sargassum and the Sargasso Sea for Atlantic Sea Turtles

Published 2015
Convention on Migratory Species

- Monaco submitted Submission for listing of Anguilla anguilla
- July 2014 CMS Science Council supported
- Approved at Quito CoP Nov 2014-
- 2015 Oct Workshop on American Eels - Maine
- 2016 Range State Meeting
Regional Workshop on Eel and the Baltic Sea
Convened by HelCom, CMS and Sargasso Sea Commission, Stockholm, November 2017
Second Meeting of European Eel Range States, 15-16 May, 2018 Malmo
Potential for international cooperation to address gaps and challenges in conservation of the European eel.

CMS will begin consultations on setting up a cooperation mechanism for European eel conservation.

The proposed mechanism would, among other actions, establish measures to protect the Sargasso Sea.
6. Defining Role in Data and Information Management
Place-based Dynamic Management of Large-Scale Ocean Places: Papahānaumokuākea and the Sargasso Sea

David Freestone,* Ole Varmer, A Meredith Bennett, B T. Aulani Wilhelm, C Theodore M. Beuttler, D Jeff Ardron, E Sara Maxwell, F and Kate Killerrlain Morrison G

PART I. INTRODUCTION

A. Two Important Marine Ecosystem Regimes

1. Introduction to the established Papahānaumokuākea Marine National Monument, including its dynamic nature and importance to our natural and cultural heritage.

2. Introduction to the Sargasso Sea Alliance, including the Sea’s biological and cultural significance.

PART II. MANAGEMENT FRAMEWORKS AND CHALLENGES

A. Papahānaumokuākea Marine National Monument

1. Definition of Papahānaumokuākea

2. Frameworks and challenges in management by federal and state agencies.

Can existing institutions protect biodiversity in areas beyond national jurisdiction? Experiences from two ongoing processes:

1. Papahānaumokuākea Marine National Monument

2. Sargasso Sea Alliance

Can existing institutions protect biodiversity in areas beyond national jurisdiction? Experiences from two ongoing processes:

1. Papahānaumokuākea Marine National Monument

2. Sargasso Sea Alliance

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e Center for Ocean Solutions, Stanford Woods Institute for Sustainability, Stanford University

f Superintendent, NOAA Office of National Marine Sanctuaries

g National Monument: Sloan Fellow, Graduate School of Business
NASA project

COVERAGE

- In-kind partnership project to develop initial satellite map product for Sargasso Sea
- 2017 Approved by Committee on Earth Observation Satellites (CEOS)
- Future phases other data providers on tagged animals, fishing and shipping information
UNESCO Report on possible High Seas World Heritage Sites

World Heritage in the High Seas: An Idea Whose Time Has Come
What have we learned?
Sargasso Sea: Engagement with Int’l. Bodies

- United Nations
- Convention on Biological Diversity (CBD)
- International Commission for Conservation of Atlantic Tunas (ICCAT)
- International Maritime Organization (IMO)
- North-west Atlantic Fisheries Organization (NAFO)
- European Union
- Caribbean Community (CARICOM)
- OSPAR Convention
- International Seabed Authority (ISA)
- Convention on Migratory Species (CMS)
- UNESCO World Heritage Convention
- IOC – OBIS
- IUCN
- International Cable Protection Committee (ICPC)
- Inter-American Convention for the Protection and Conservation of Sea Turtles
- Cartagena Convention - Caribbean Regional Sea
- Abidjan Convention - West African Regional Sea
Lessons Learned ... I

- After 6 years ... This is NOT easy
- 1982 Law of the Sea Convention
- NOT been implemented
  - Poor Inter sectoral Communication is weak
  - Between IMO, ICCAT, ISA
  - Different Languages, Skills
- Long timescales-
  - Fragmented system
  - Systemic inertia
Lessons Learned ... II

- Public-private partnerships provide a major catalyst
- Voluntary international collaboration is powerful
  - Role of Monaco with CMS.
- “Resistance to precaution”
- Need systematic ABNJ governance
- Regional and Global necessary
What Next?
2019 Ongoing Agenda

- UN BBNJ IGC New York 3 April 2019
  - Side event reporting on this meeting (DFO support)
- Third European Eel Range States meeting with CMS
  - Negotiating Meeting, Malmo Sweden, 24/25 June 2019
- Sargasso Sea Ecosystem Approach to Fisheries Report
  - Kell and Luckhurst to report in 2019
- Follow-up Intergovernmental Meeting on Strengthening Stewardship of Sargasso Sea?
Currently considering a proposal to upgrade the Hamilton Declaration to a Regional Ocean Governance Organization (ROGO). Concept was endorsed by the Global Oceans Commission in its first Report. NOT to Undermine BBNJ ILBI negotiations but to complement them. Use same agenda/framework as the UN Intergovernmental Conference.
THANK YOU

For more information

www.sargassoseacommission.org

P Rouja