

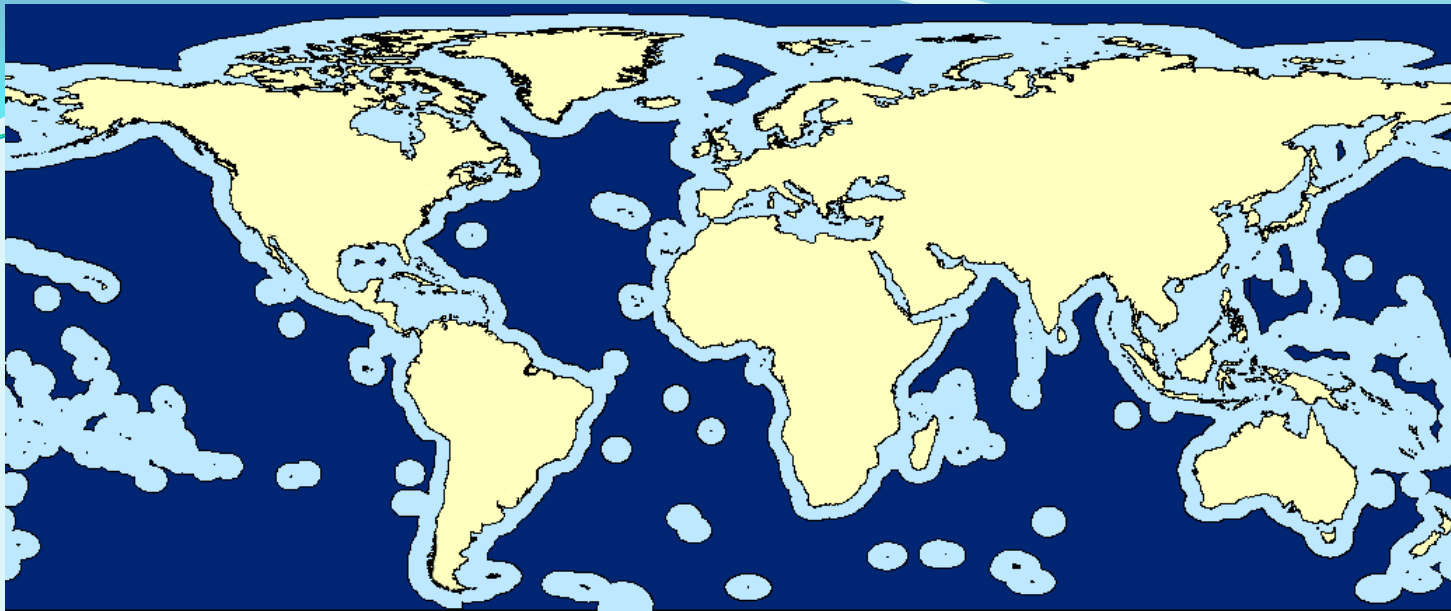
The Sargasso Sea Commission

An innovative approach to the conservation of areas beyond national jurisdiction

Dr. David Freestone

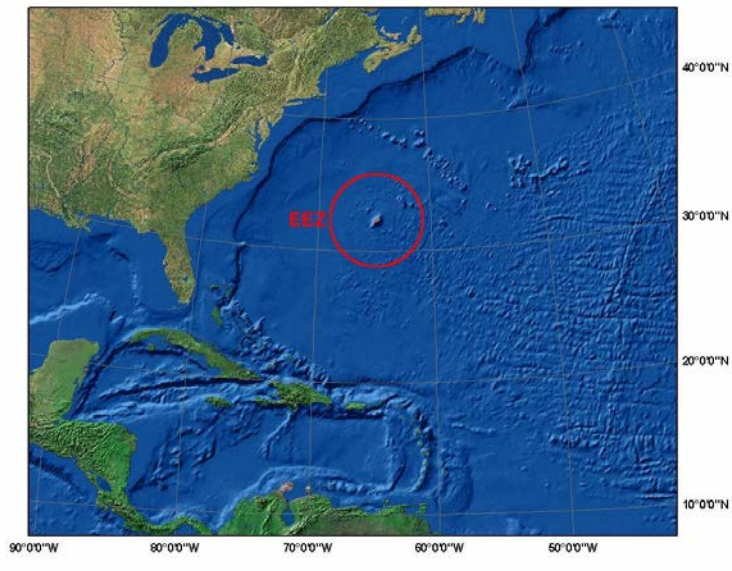
Executive Secretary
Sargasso Sea Commission

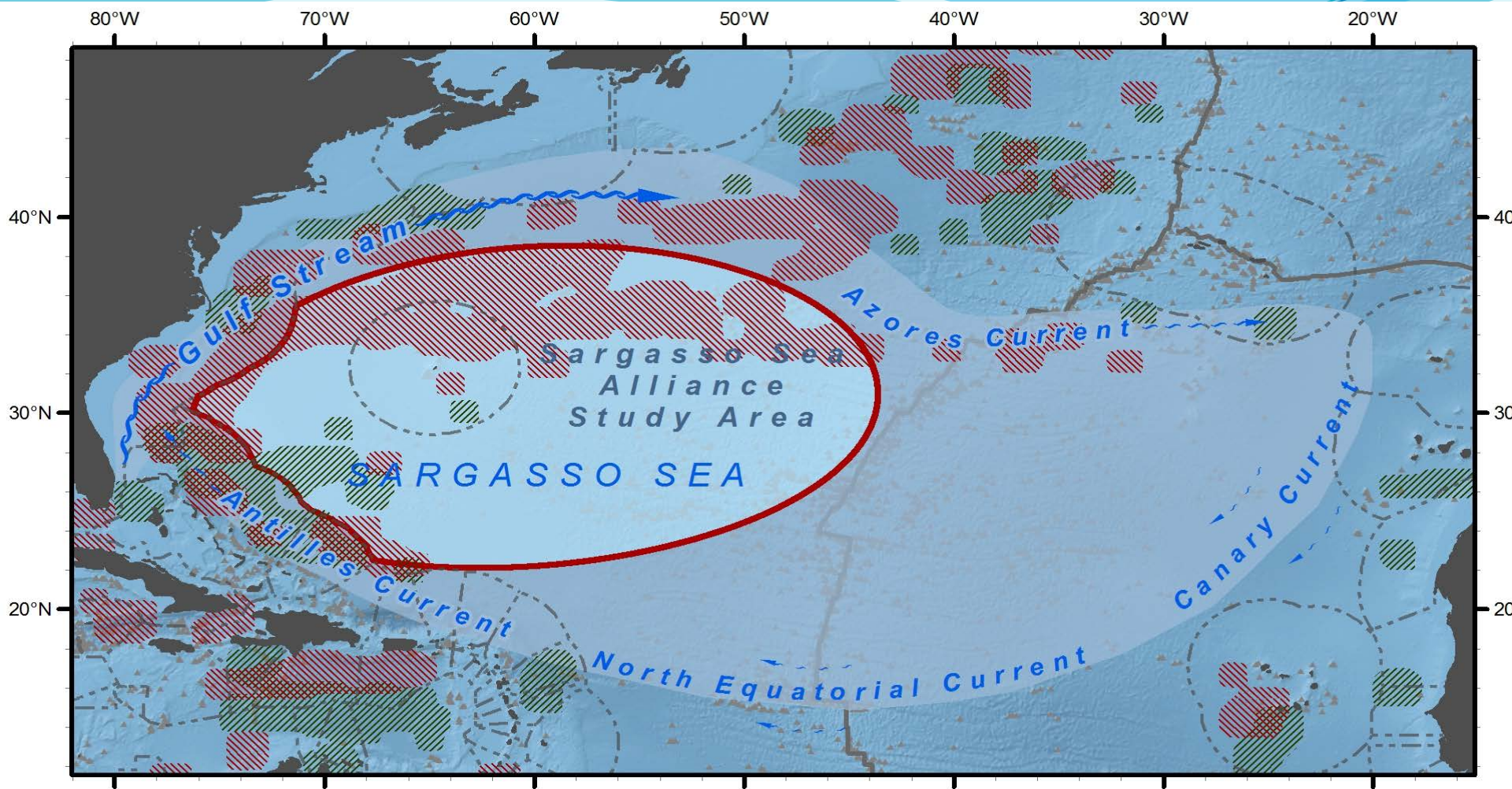
24 October 2015



**Bermuda EEZ = 464,940 sq km
or 179,514 sq. miles**

**Sargasso Sea = ~ 5 179 976 sq
km or 2 million sq. miles**





- Sargasso Sea Alliance Study Area
- EEZ
- Seamount
- North Atlantic Gyre
- High Cyclonic Eddy probability
- Mid-Atlantic Ridge
- High AntiCyclonic Eddy probability

Map commissioned by SSA from Duke University Marine Geopstial Ecology Lab – Dr Pat Halpin

**Why is the Sargasso Sea
important ?**



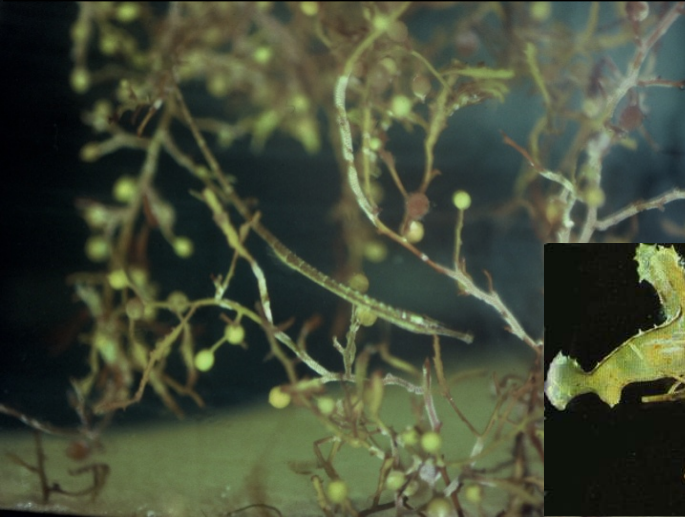
- Unique open-ocean sargassum-based ecosystem. Mostly High Seas
- Important for life history of many species (eels, turtles, tuna, billfish, sharks, etc.)

Sargassum Endemics

145 invertebrate species live in association with Sargassum



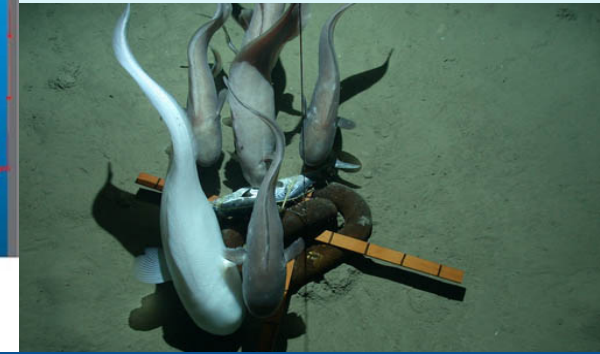
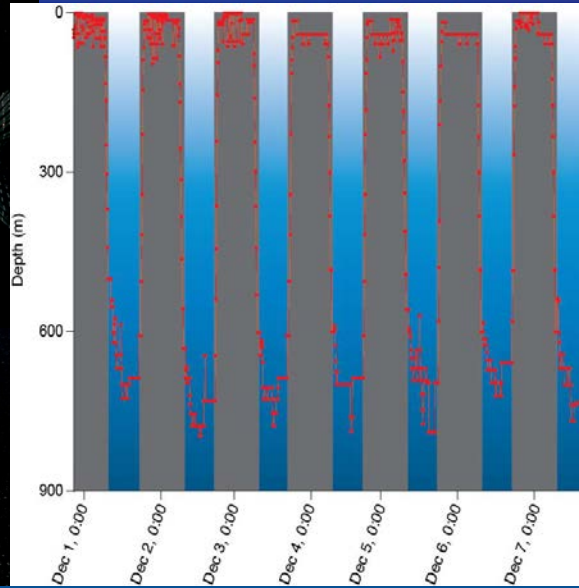
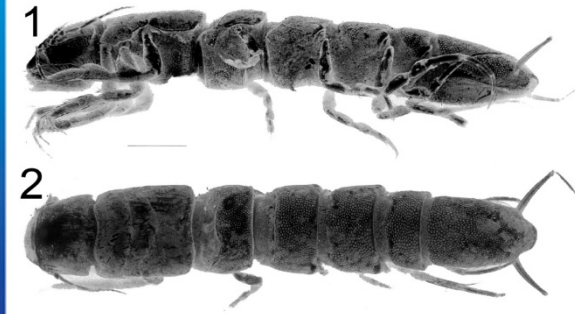
©David Shale



Iconic species



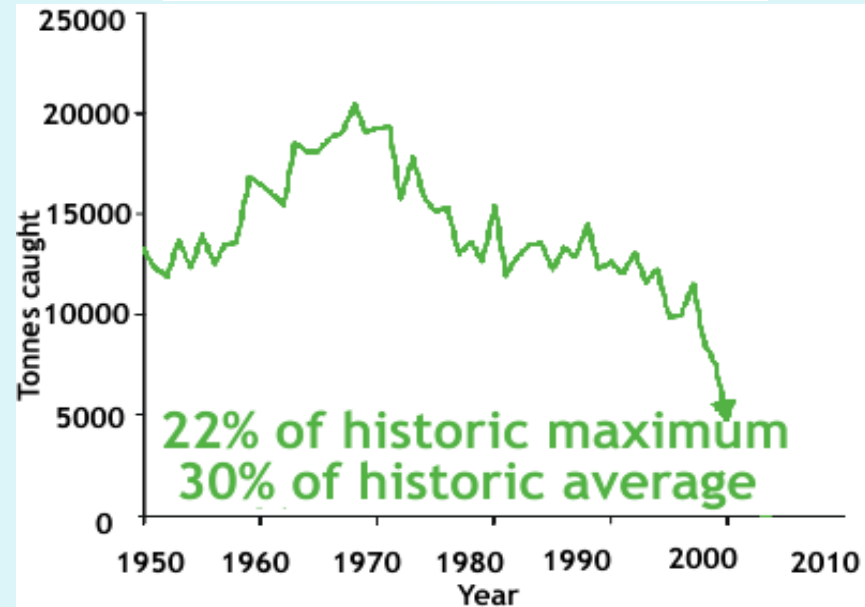
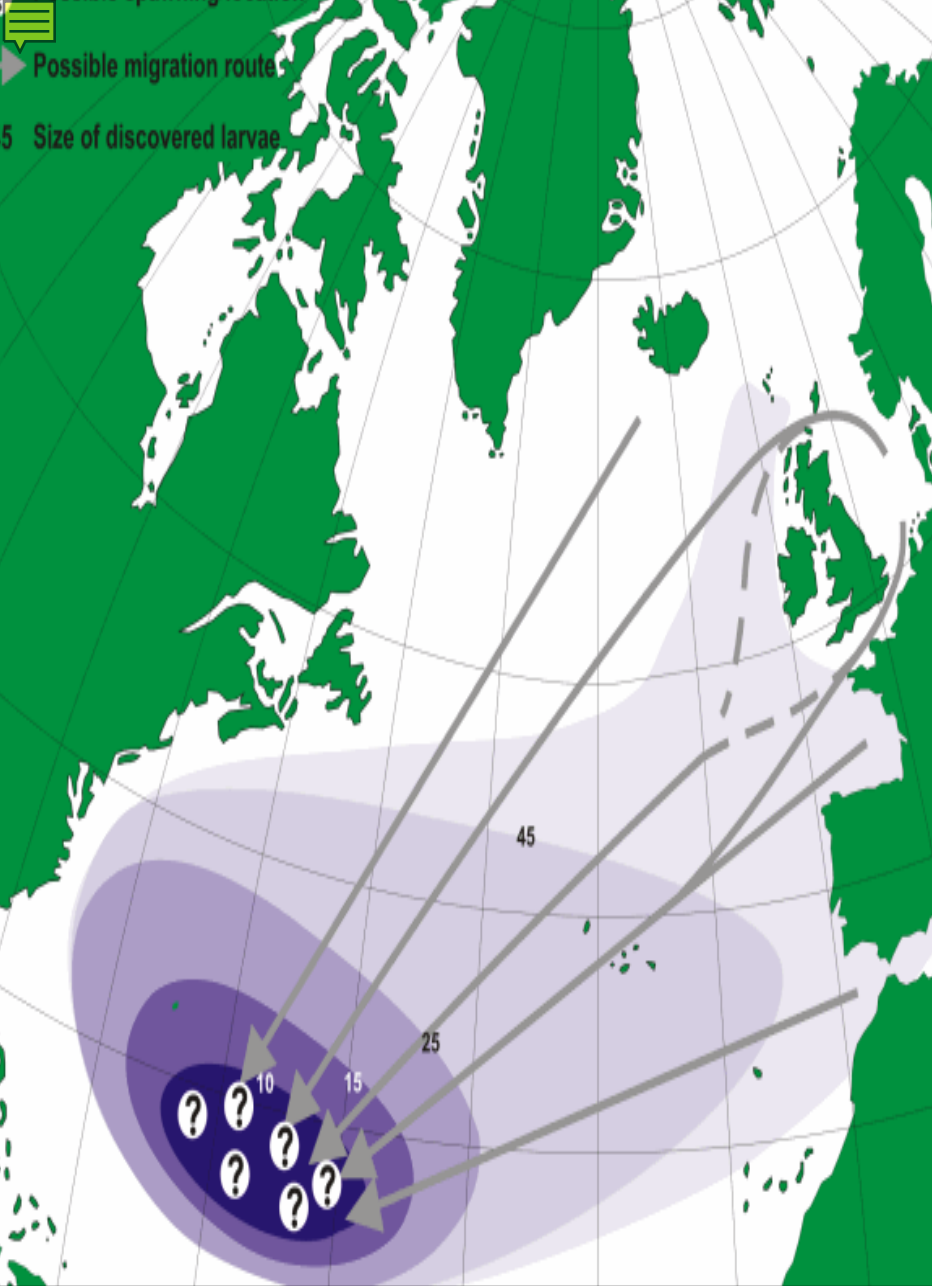
Midwater and Benthic Fauna



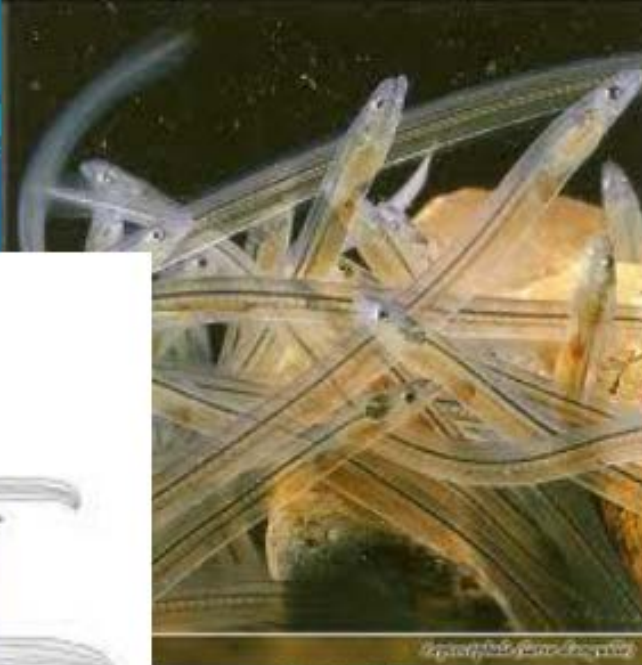
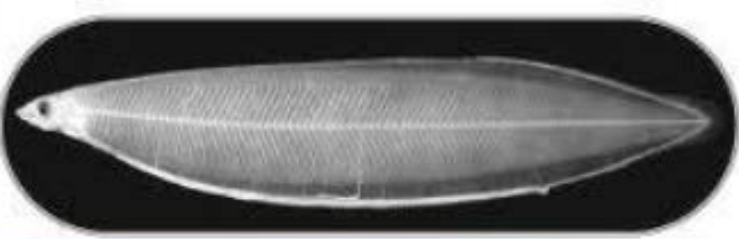
Nursery/Feeding area: eggs/juveniles of >80 fish species occur in Sargassum



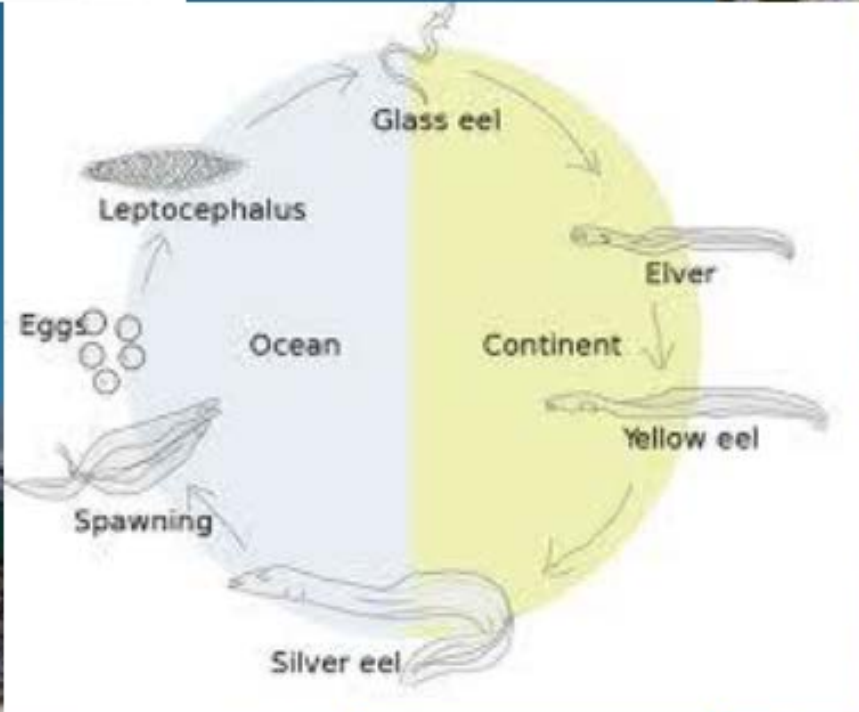
Global Connections



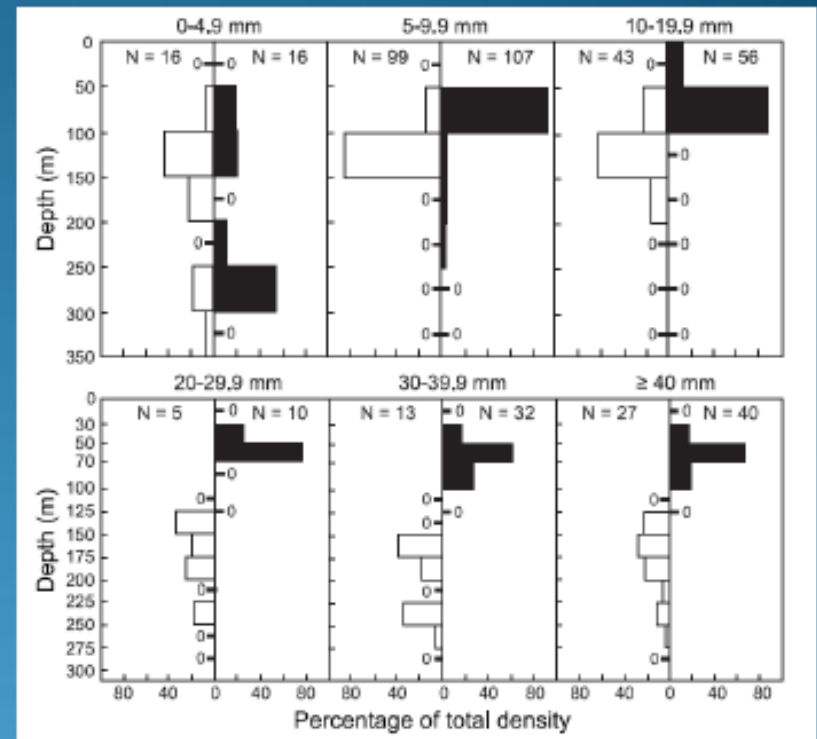
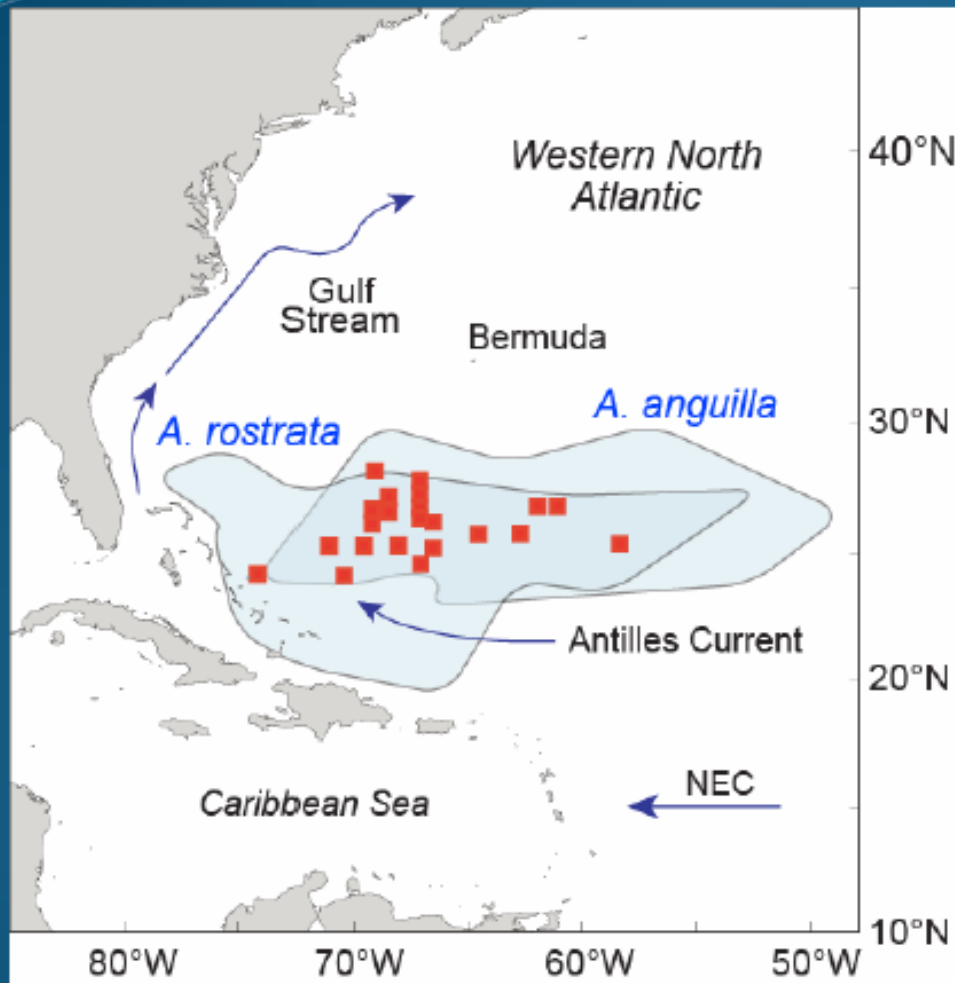
- Catches of yellow and silver eels in EC



European Eel Life Cycle



Distributions of *Anguilla leptocephali* in the Sargasso Sea

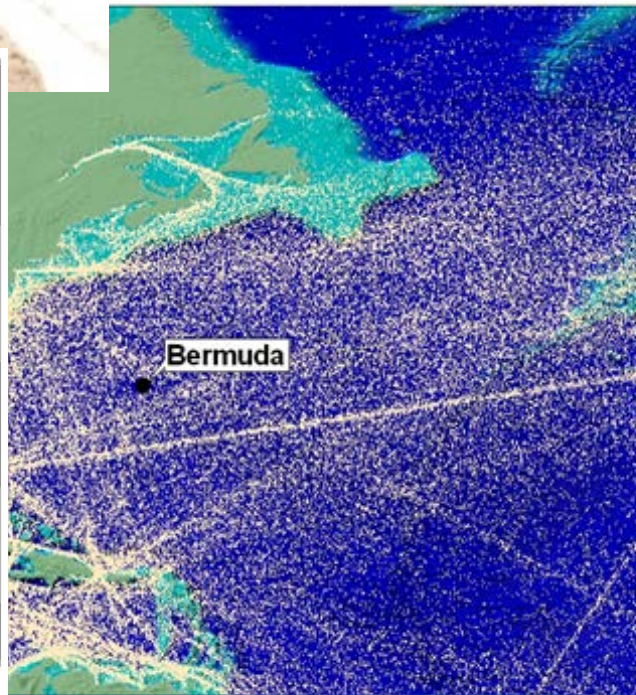
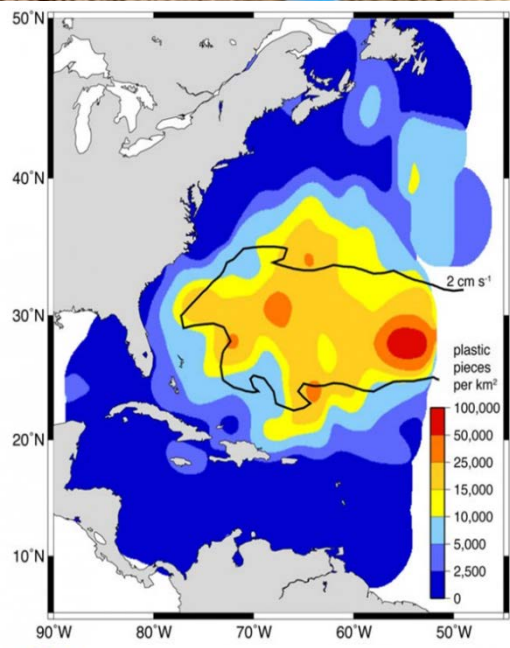
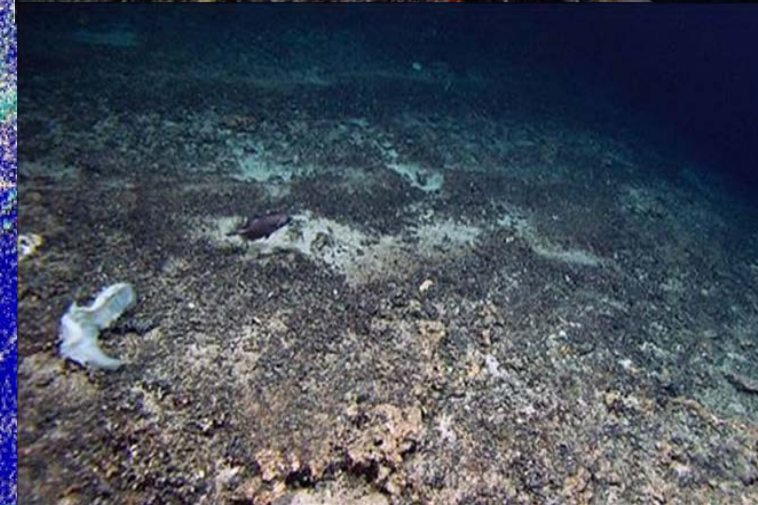
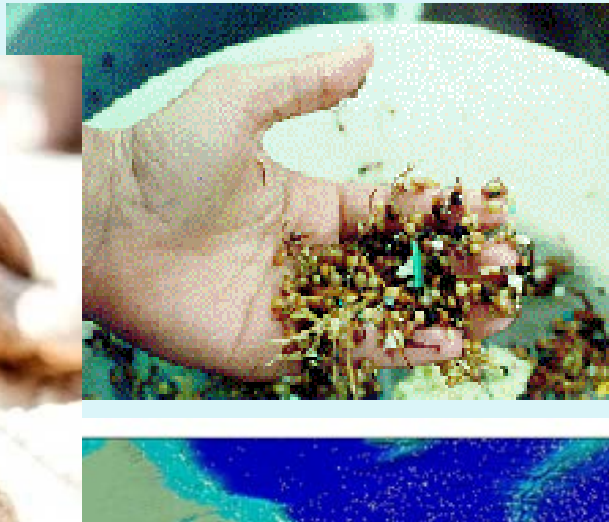


Threats

- Garbage and plastics
- Pollution, discharges, spills
- Fishing
- *Sargassum* harvesting
- Exotic species introduction from ballast waters
- Climate change and ocean acidification
- Deep sea mining?
- Underwater cables?



Threats



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 Meeting Participants

bold denotes Signatory

Governments

- **Azores**
- Bahamas
- **Bermuda**
- British Virgin Islands
- Netherlands
- **Monaco**
- Sweden
- South Africa
- Turks and Caicos Islands
- **United Kingdom**
- **United States**

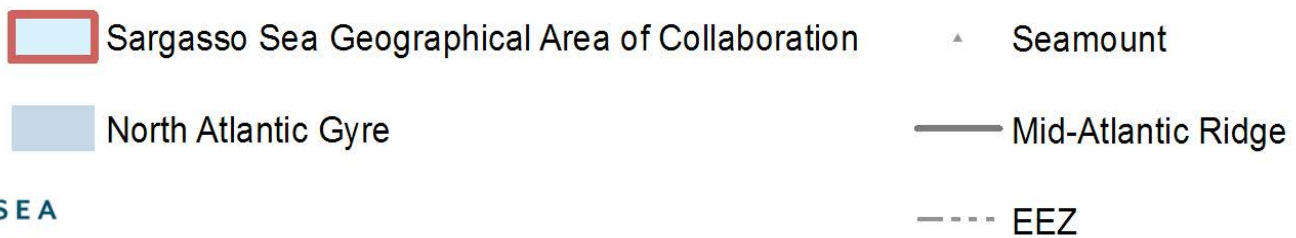
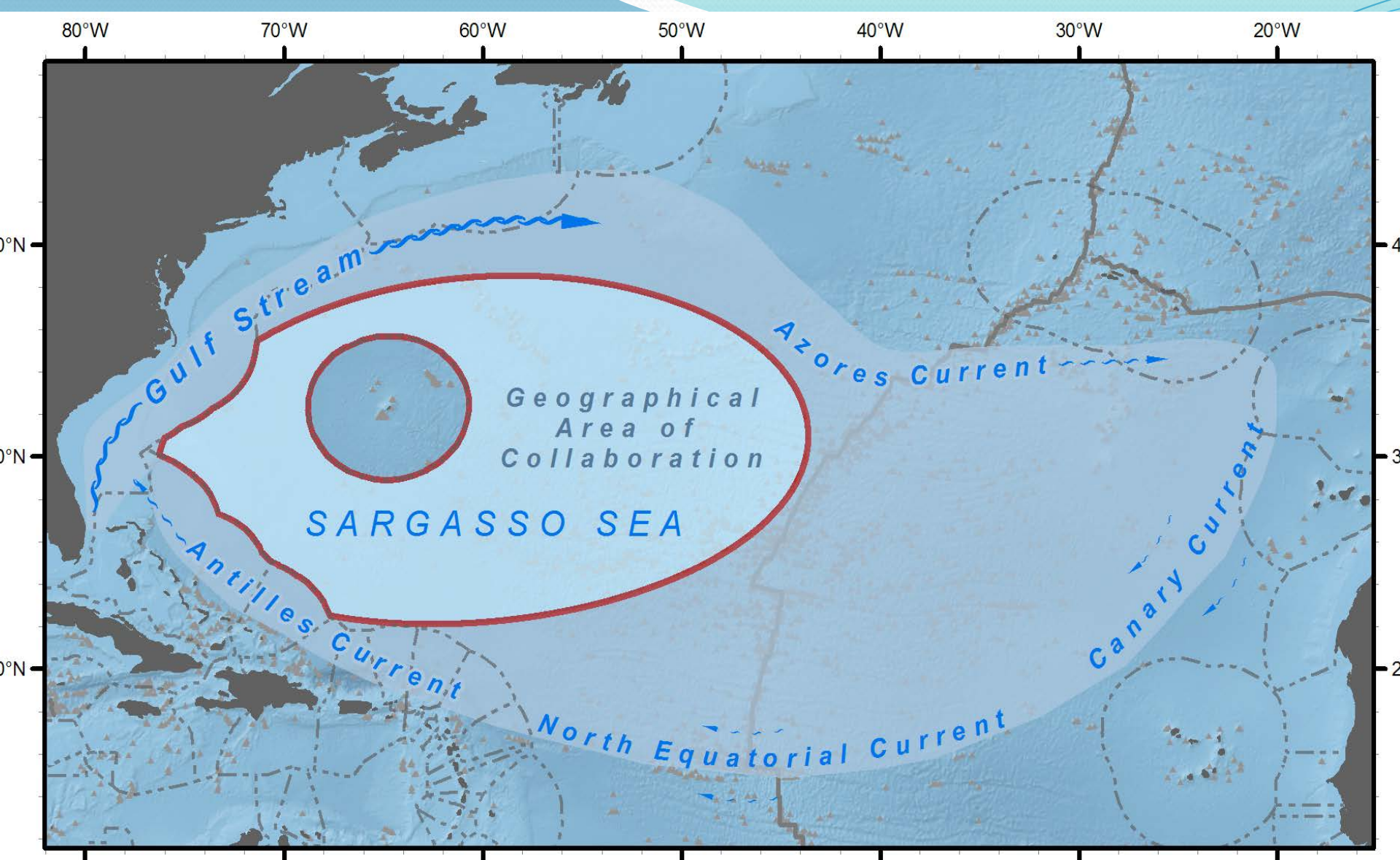
Observer Organizations

- 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

Dominican Republic and Trinidad and Tobago unable to attend but supportive

Hamilton Meeting Participants





Hamilton Declaration Structure

Meeting of Signatories
(Meets as required)

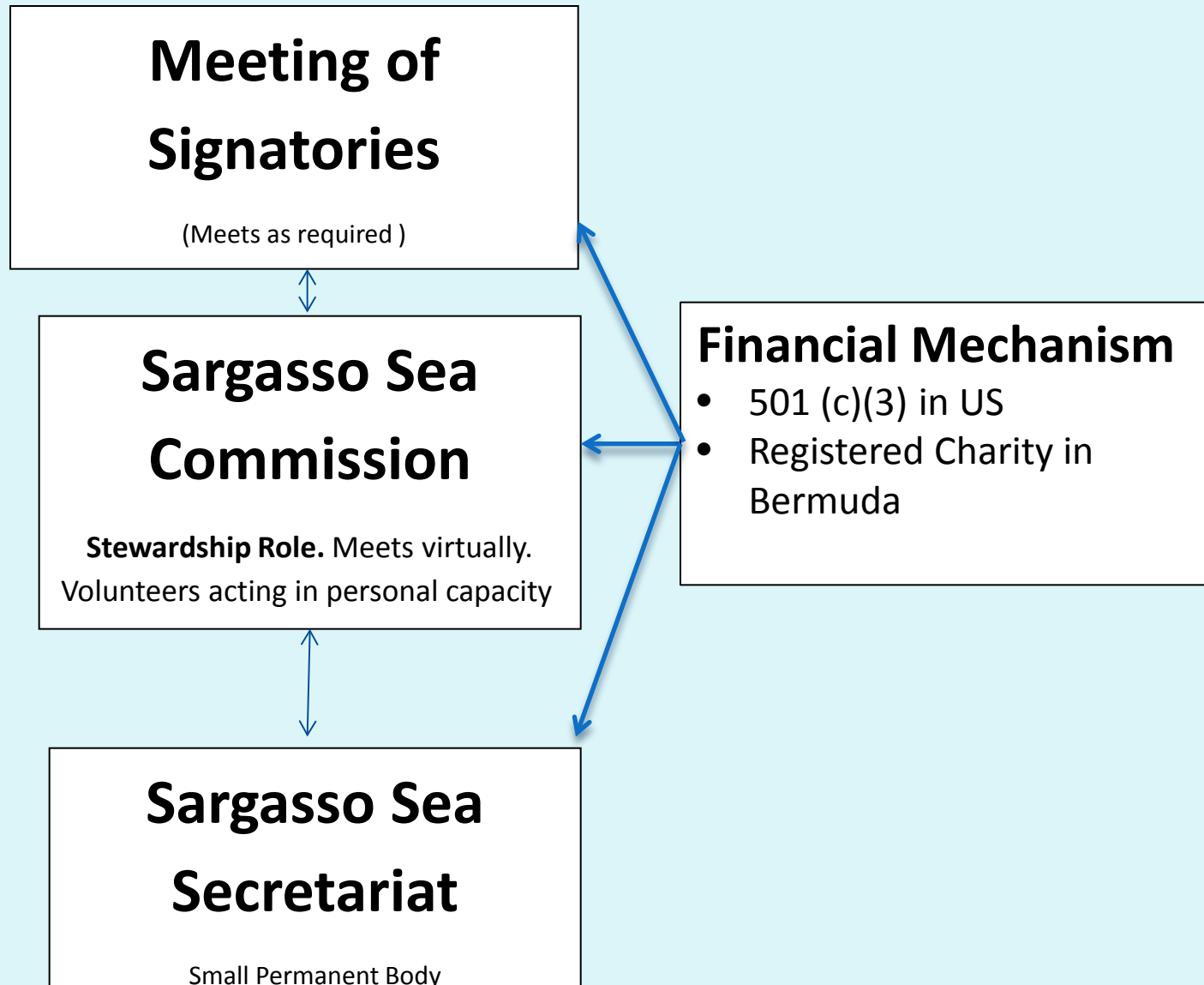


Sargasso Sea Commission
Stewardship Role. Meets virtually.
Volunteers acting in personal capacity



Sargasso Sea Secretariat
Small Permanent Body

Hamilton Declaration Structure



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



SARGASSO SEA COMMISSION



Prof Stephen de Mora

Prof Howard Roe (Chair)

Dr Tammy Trott

Dr Billy Causey

Mark Spalding

Prof Ricardo Santos MEP

First Meeting of Signatories and Commission

Pocantico, October 2014



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 2014-16

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

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

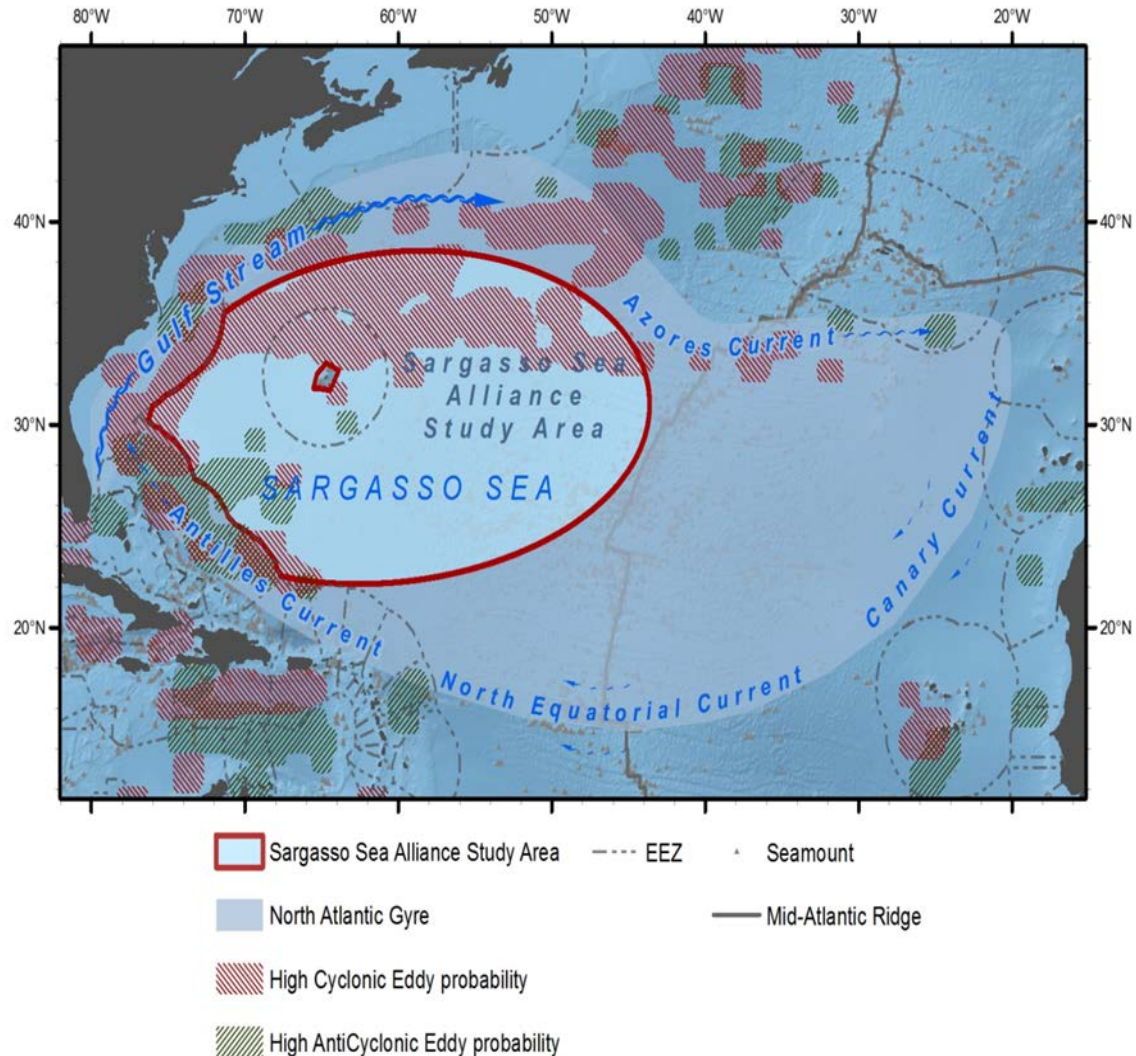
Completed and approved by UK and Bermuda Governments



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



UN General Assembly Annual Omnibus Resolution on Oceans and Law of the Sea 2012, 2013 & 2014

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

2014 Bahamas and South Africa,
~ Supported by US, UK and Monaco



World Ocean Assessment 2015

The only named ecosystem in the United Nations
Global Reporting and Assessment of the State of
the Marine Environment – First Assessment
Report

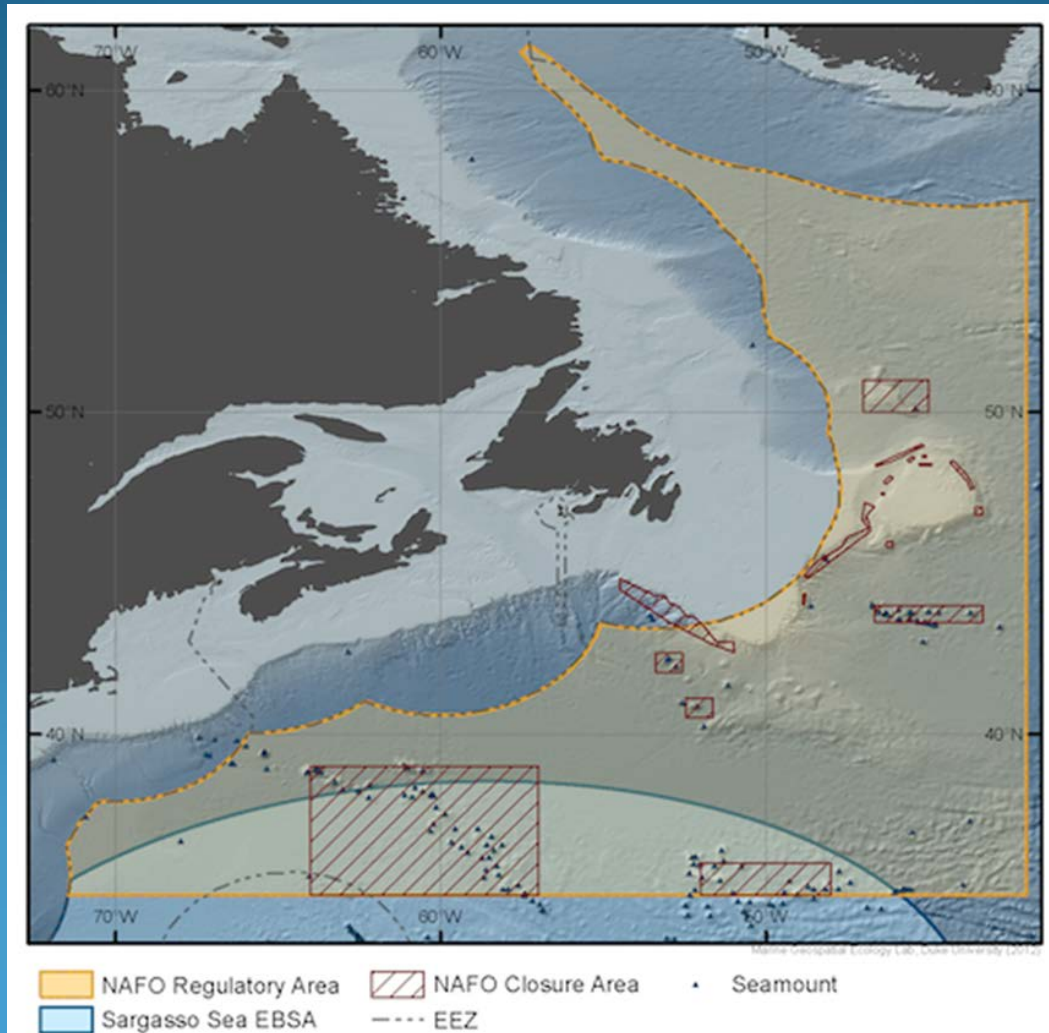
CHAPTER 50



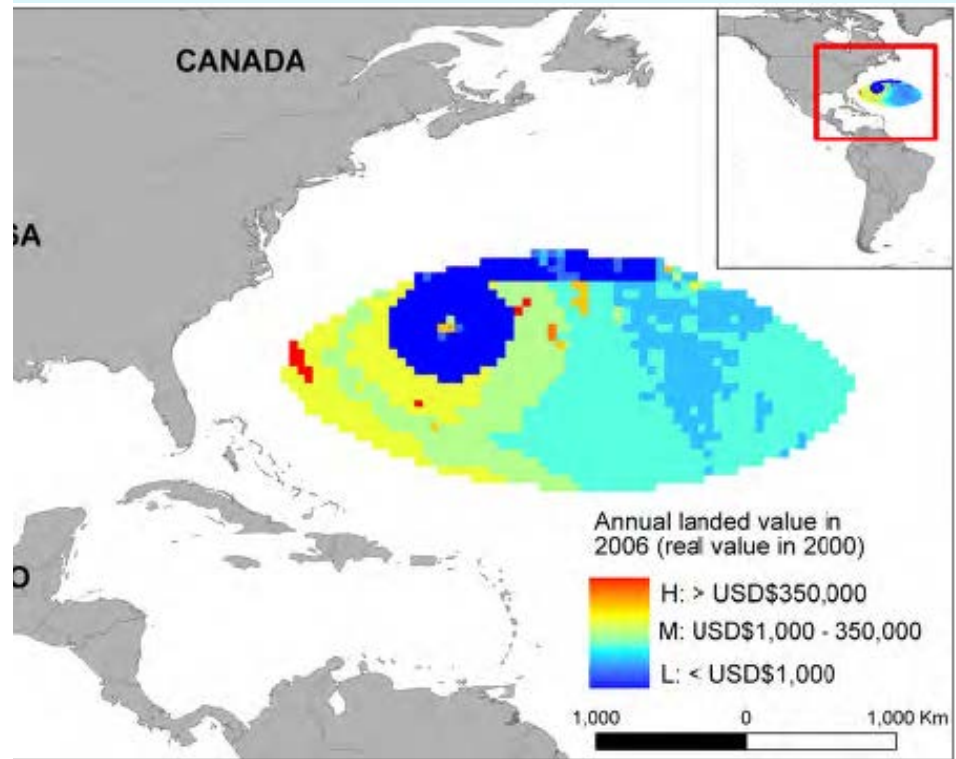
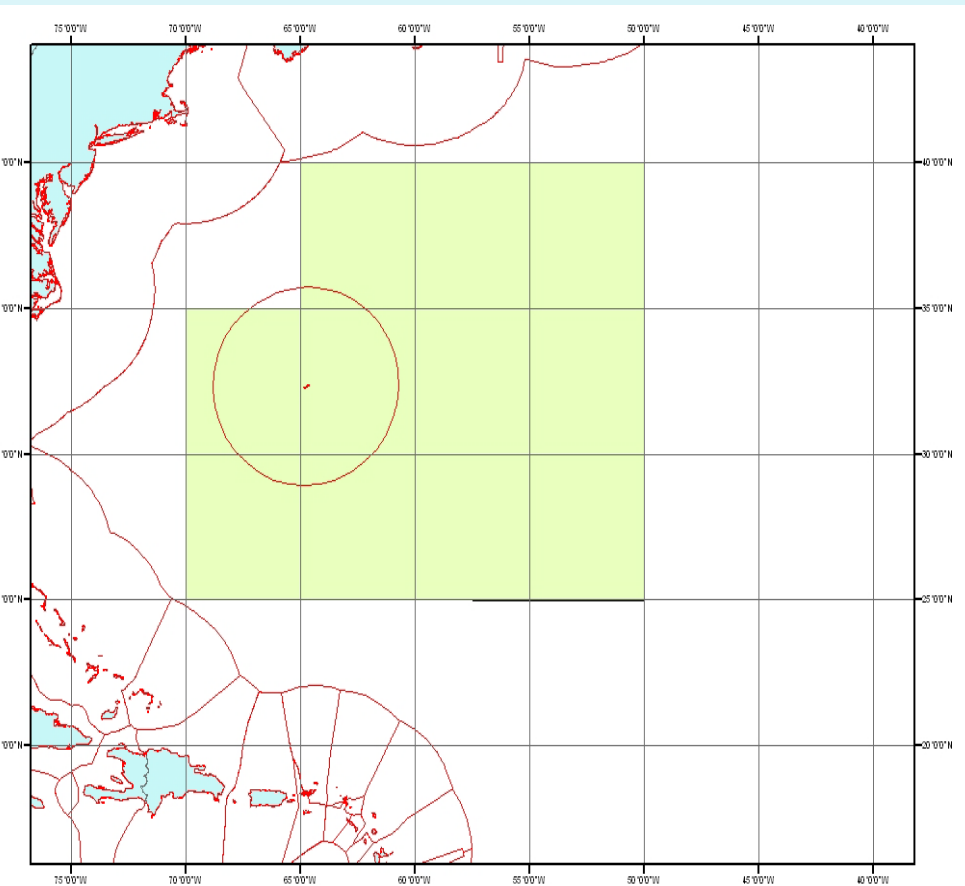
2. Fisheries and Fisheries Habitat Conservation

North-west Atlantic Fisheries Organization

Sargasso Sea measures under discussion



International Commission for Conservation of Atlantic Tunas - ICCAT



3. Impacts from International Shipping

Maritime Traffic in the Sargasso

An Analysis of International Shipping Activities and their Potential Environmental Impacts

Julian Roberts



Number 1 Sargasso Sea Alliance Science Report Series



Sargasso Sea shipping risk assessment: addressing the threat from invasive species and nutrient inputs

A II

The Sargasso Sea Alliance A strategic assessment of the risks posed by shipping to the Sargasso Sea and evidence of impacts



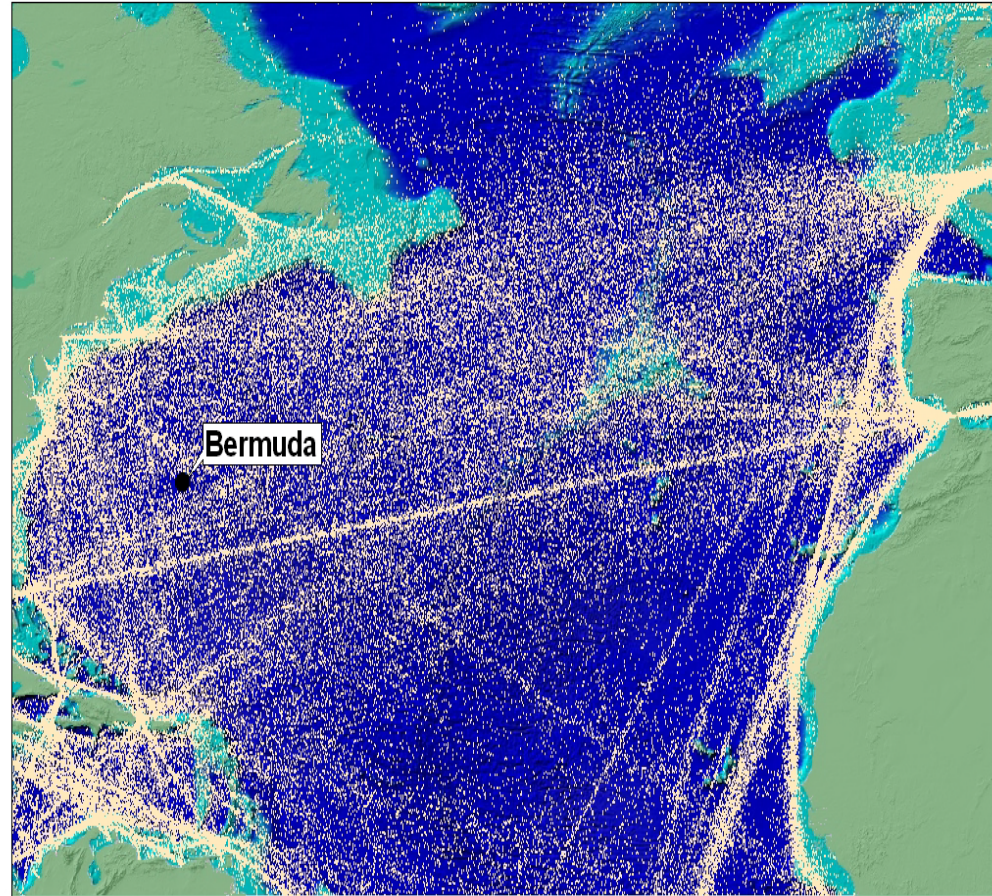
Prior, J S H (2013) Sargasso Sea the threat from invasive species Sargasso Sea Alliance, Washing

March 2014



International Maritime Organisation

- Still discussing appropriate measures
- Possibilities are:
 - MARPOL Special Area
 - Routeing
 - Reporting
 - Ballast Water
 - Sewage



4. Impacts to the Seafloor and Seabed

Submarine Cable Industry Collaboration Workshop October 2014

GW LAW



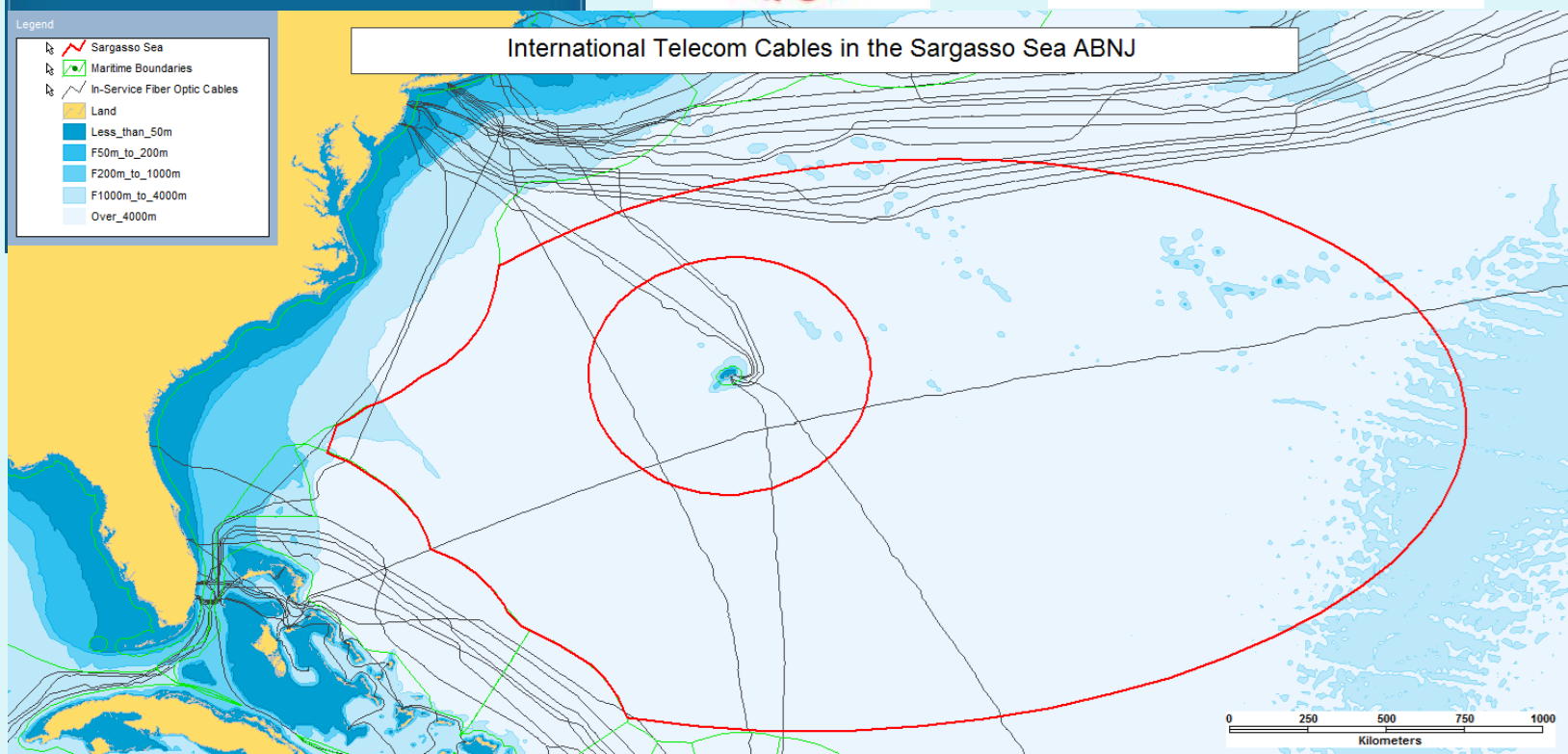
CIL

Centre for International Law
National University of Singapore

Legend

- Sargasso Sea
- Maritime Boundaries
- In-Service Fiber Optic Cables
- Land
- Less_than_50m
- F50m_to_200m
- F200m_to_1000m
- F1000m_to_4000m
- Over_4000m

International Telecom Cables in the Sargasso Sea ABNJ



5. Conservation of Migratory Species

Inter - American Convention for the
Protection and Conservation of Sea Turtles



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 Measures....



6. Defining Role in Data and Information Management

SSA Science Report Series

The Pelagic Oceanic Assemblages of the Sargasso Sea Around Bermuda
Marin V. Angel

Where is the Sargasso Sea?
A Report Submitted to the Sargasso Sea Alliance

Jeff Ardron, Pia Halpin, Jason Roberts, Jesse Cleary, Russell Moffitt, Ben Donnelly

European Eel Briefing Note for Sargasso Sea Alliance

Matthew Gollock

The Importance of the Sargasso Sea and the Offshore Waters of the Bermudian Exclusive Economic Zone to Bermudian and its People

JACQUE HENNET

Oceanography of the Sargasso Sea: Overview of Scientific Studies

M.W. Lomas, N.R. Bates, K.N. Buck, and A.H. Knip

Notes on "Microbial productivity of the Sargasso Sea and how it compares to elsewhere" and "The role of the Sargasso Sea in carbon sequestration—better than carbon neutral?"

M.W. Lomas, N.R. Bates, K.N. Buck, and A.H. Knip

The Sargasso Sea Substratum: The Spawning and Larval Development of Both Freshwater and Marine Eels

Michael J. Miller and Reinhold Hansel

The Geology of the Sargasso Sea Alliance Study Area

Potential Non-Living Marine Resources and an Overview of the Current Territorial Claims and Coastal States Interests

Lindsay Pearson and Rosemary Edwards

Maritime Traffic in the Sargasso Sea

An Analysis of International Shipping Activities and their Potential Environmental Impacts

Julian Roberts

Summary of Sea Education Association Long-term Sargasso Sea Surface Net Data

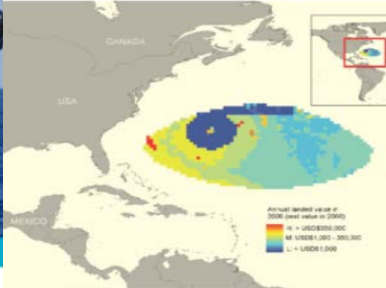
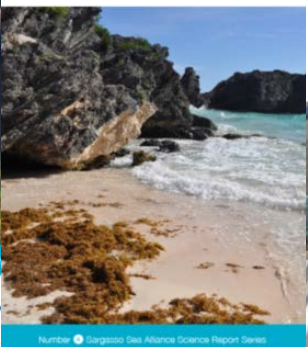
Amy N.S. Gluda

Humpback Whale Research Project, Bermuda

Andrew Stevenson

Values from the Resources of the Sargasso Sea

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



Scholarly Literature

STANFORD ENVIRONMENTAL LAW REVIEW 2014

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 Killerlain Morrison^G

I. INTRODUCTION

- A. Two Important Marine Ecosystem Regimes
 - 1. Introduction to the establishment of 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 importance, and dynamic nature
- II. MANAGEMENT FRAMEWORKS AND CHALLENGES
 - A. Papahānaumokuākea Marine National Monument
 - 1. Definition of Papahānaumokuākea
 - 2. Frameworks and challenges in managing Papahānaumokuākea by federal and state agencies

^{*} Executive Director, Sargasso Sea Alliance; Visiting Scholar, Stanford Law School, Washington, D.C.

^A Attorney-Advisor, International Section Office of General Counsel, U.S. Department of the Interior, Washington, D.C.

^B Center for Ocean Solutions, Stanford Woods Institute for the Environment, Stanford University.

^C Superintendent, NOAA Office of National Marine Sanctuaries, Pacific Islands National Monument; Sloan Fellow, Graduate School of Business, Stanford University.

^D Attorney-Advisor, Office of General Counsel, Oceans and Coasts Division, U.S. Department of the Interior, Washington, D.C.

^E Senior Fellow, Institute for Advanced Sustainability Studies, Potsdam Institute for Climate Change Research, Potsdam, Germany.

Can existing institutions protect biodiversity in areas beyond national jurisdiction? Experiences from two on-going processes

David Freestone^a, David Johnson^b, Jeff Ardron^{c,*}, Kate Killerlain Morrison^a, Sebastian Unger^{c,1}

^a Sargasso Sea Alliance, Suite 300, 1630 Connecticut Avenue, NW, Washington, DC 20009, USA
^b Seascope Consultants Ltd., Belbins Valley, Belbins, Romsey, Hampshire SO51 0PE, United Kingdom
^c Institute for Advanced Sustainability Studies e.V., Berliner Strasse 130, 14467 Potsdam, Germany

ABSTRACT

MARTINUS
NIJHOFF
PUBLISHERS

The International Journal of
Marine and Coastal Law 27 (2012) 647-655

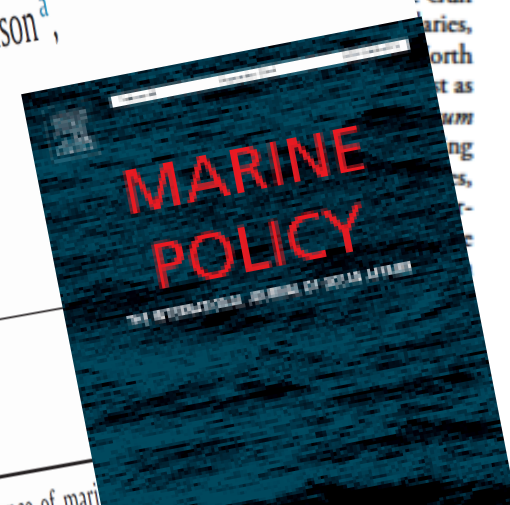
INTERNATIONAL JOURNAL OF
MARINE
AND COASTAL
LAW
iOnline

Current Legal Developments The Sargasso Sea

The Sargasso Sea Alliance: Seeking to Protect the Sargasso Sea

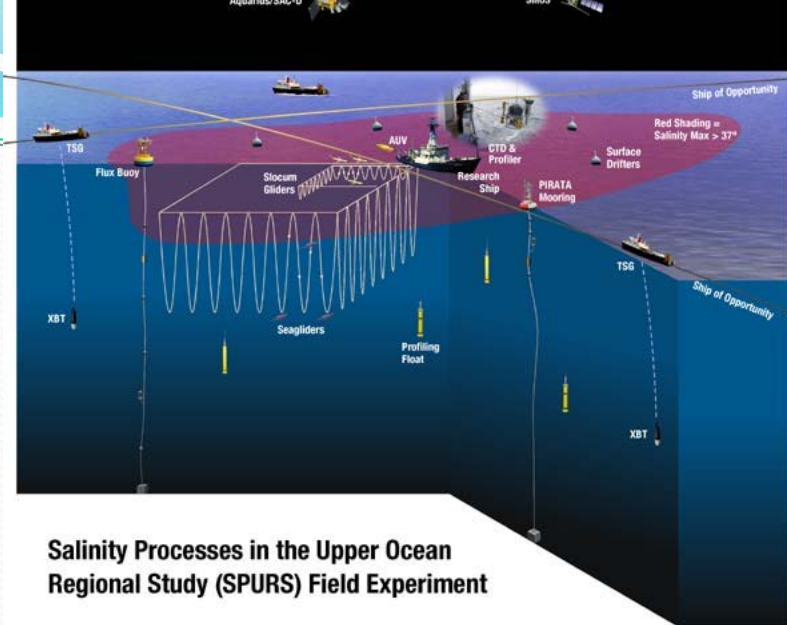
The Sargasso Sea Alliance was formed in 2009 by the Government of Barbados, the United Kingdom, and the United States of America.

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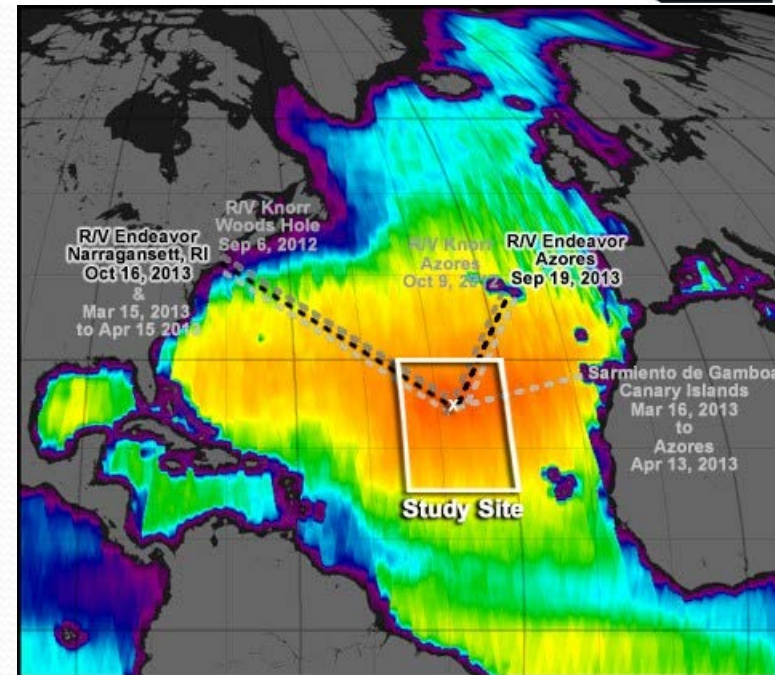


NASA mapping partnership

- In-kind partnership to develop initial satellite map product for Sargasso Sea
- Uses two years of oceanographic data
- Future phases to include other data providers on fishing and shipping information



Salinity Processes in the Upper Ocean Regional Study (SPURS) Field Experiment



An underwater photograph showing a vibrant coral reef. The water is a deep, clear blue. In the center, a large, dark coral structure is illuminated from below, creating a bright, glowing effect. Numerous fish of various sizes and species are swimming around the coral. The overall scene is serene and beautiful.

For more information

www.sargassosea.commission.org