



CC4FISH

Best Practices for Fishers Coping with *Sargassum* Influx Events

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Photo credit: Carla Daniel



Photo credit: Carla Daniel



Sargassum: Golden tide or Gold mine?

Since 2011, islands in the Eastern Caribbean have been experiencing *Sargassum* influx events



Barbados



Martinique



Antigua



Aim and Objectives

Aim:

To analyse the challenges facing Caribbean fishers caused by *Sargassum* influx events and provide recommendations for coping and adapting to future events.

Objectives:

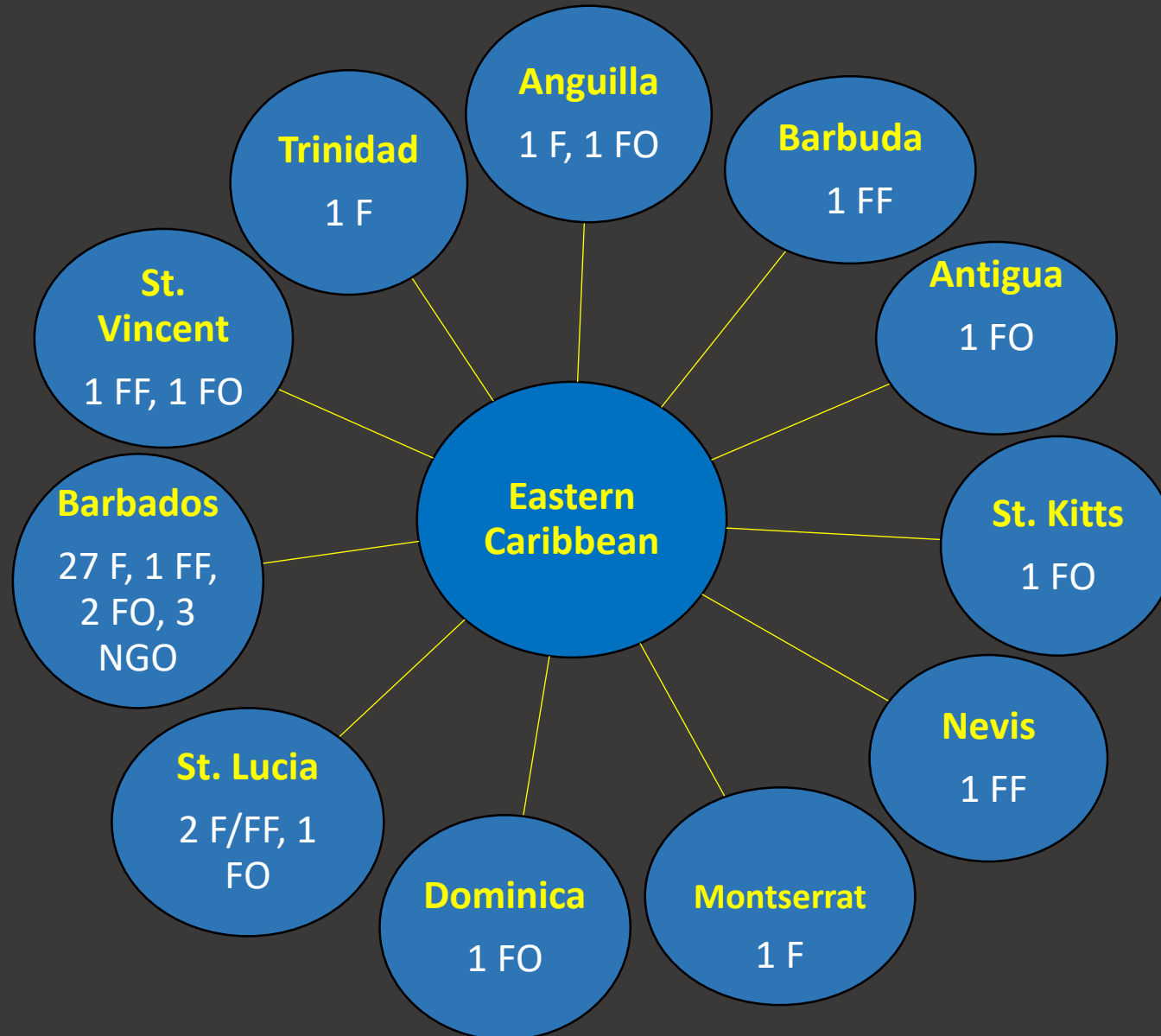
- To interview key stakeholders in the fisheries sector to learn about their challenges and responses to *Sargassum*;
- To design a best practice handbook for Eastern Caribbean fishers



Legend

- ★ Participating country
- n Number of respondents

Participating Countries



Abbreviations:

F- fisher

FF- fisherfolk organisation rep.,

FO- fisheries officer,

NGO- Non-governmental organisation

Data Management



The screenshot shows the NVIVO software interface. The top menu bar includes File, Home, Create, External Data, Analyze, Explore, Layout, and View. Below the menu is a toolbar with various icons for visualizations and analysis. The main window is titled "Week Reflection Analysis" and contains a table with the following data:

Name	Sources	References	Created On	Created By	Modified On	Modified By
Case study	0	0	4/9/2012 9:19 AM	ADEE	4/9/2012 9:19 AM	ADEE
Collections	1	18	4/9/2012 11:50 AM	ADEE	4/9/2012 10:06 PM	ADEE
Computer Software	1	2	4/9/2012 9:50 AM	ADEE	4/9/2012 10:06 PM	ADEE
Constant Comparative Method	1	1	4/9/2012 9:47 AM	ADEE	4/9/2012 10:06 PM	ADEE
Purpose	1	1	4/9/2012 9:47 AM	ADEE	4/9/2012 9:47 AM	ADEE
Strength	1	1	4/9/2012 9:48 AM	ADEE	4/9/2012 9:48 AM	ADEE
Weaknesses	1	1	4/9/2012 9:49 AM	ADEE	4/9/2012 9:49 AM	ADEE
Content Analysis	0	0	4/9/2012 9:49 AM	ADEE	4/9/2012 10:06 PM	ADEE
Data Analysis	1	2	4/9/2012 9:46 AM	ADEE	4/9/2012 10:06 PM	ADEE
Data Collection	1	4	4/9/2012 9:37 AM	ADEE	4/9/2012 10:13 AM	ADEE
Images and Video	1	1	4/9/2012 9:38 AM	ADEE	4/9/2012 9:38 AM	ADEE

Below the table, the "Presented" tab is active, showing analysis results for "Week 11". The text displayed includes:

- <Internals>Week Reflection Analysis> - \$ 41 references coded [4,26% Coverage]
- Reference 1 - 0,09% Coverage
- Week 11
- Group Topic presented
- Group S: Data Collection; Internet



Challenges at Landing Sites

- Boats trapped in *Sargassum* at mooring
- Fouling of propellers and rudders
- Impeded navigation in bay
- Hindered access to boats



Challenges Out to Sea for Coastal Fishing

Spear Fishers

- Poor visibility
- *Sargassum* berries getting into divers' ears
- Skin irritation



Pot Fishers

- Hauling pots with *Sargassum* on rope
- *Sargassum* in pots



Seine Fishers

- *Sargassum* weighing down seine nets



Figure 1.4.4. Fishermen retrieving a seine net

Challenges Out to Sea for Pelagic Fishing

General Challenges:

- Blocked water intakes
- Entangled propellers
- Boats stuck in floating *Sargassum* mats
- Skin irritation when hauling gear



Pelagic Fishers

- *Sargassum* tangling in gillnets
- Hauling *Sargassum* on handlines/trolling lines
- Lower catches of certain species



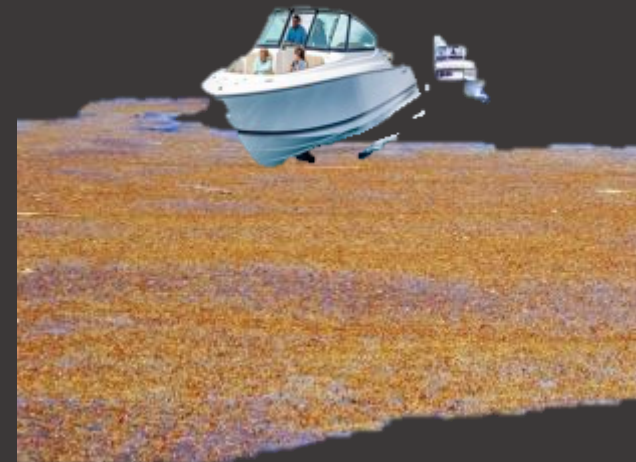
Longliners

- Difficulty hauling lines
- Buoys weighed down by *Sargassum* and disappearing beneath sea surface
- Breaking of lines

Smart Fishing Practices

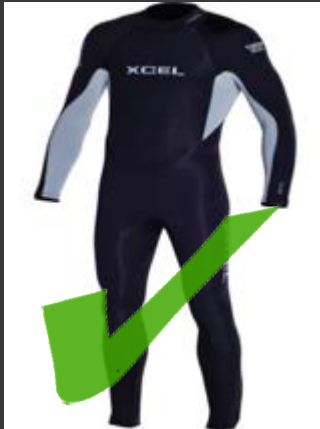
Common practices:

- Motoring through lighter patches of *Sargassum* and avoiding larger mats;
- Putting the vessel in reverse when *Sargassum* gets wrapped around the propeller;
- Switching off the engine to allow boat to drift out of the *Sargassum*;
- Warning other fishers about areas to avoid;
- Radioing for assistance when stuck



Smart Fishing Practices for Coastal Fishers

- Prevent skin irritation by wearing diving gear with minimal skin exposure.

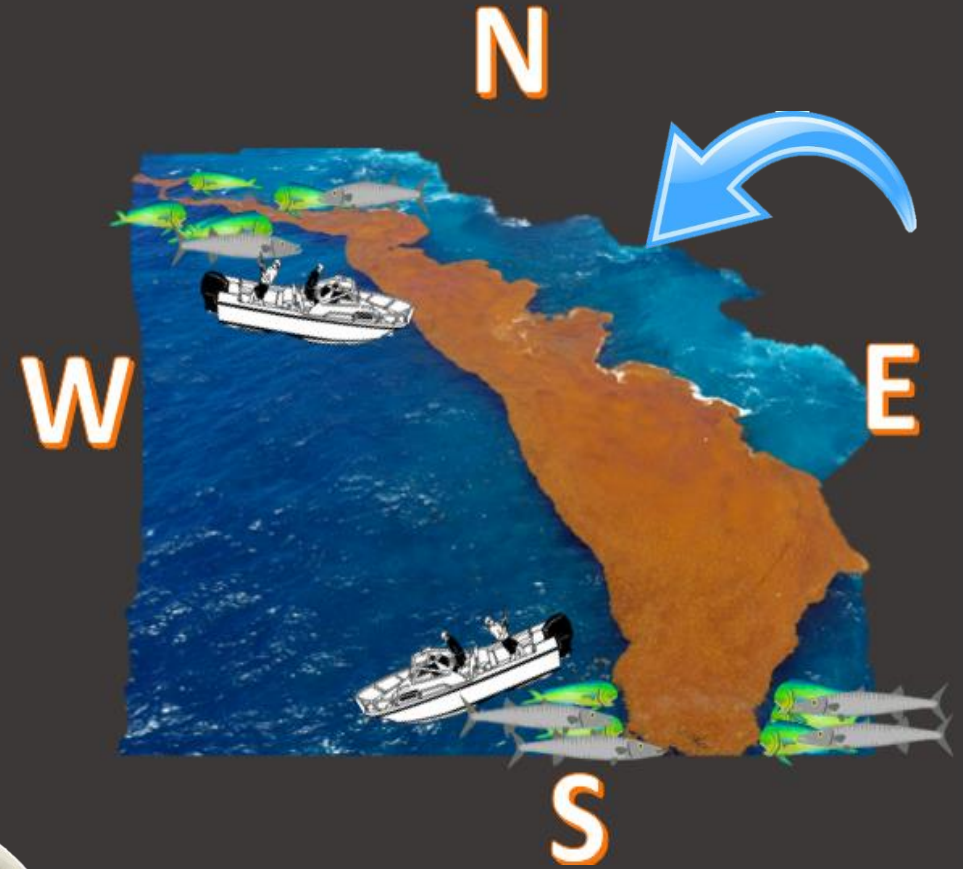


- Exploit new species such as yellow jacks
- Take advantage of bountiful barracuda and small tunas



Smart Fishing Practices for Pelagic Fishers

- Fishing along the **calmer and thinner sides** of *Sargassum* mats (Northern and Southern ends), yields greater catches of large pelagics.
- Fishing around **smaller patches** yields good catches of almaco jack and dolphinfish



- Fishers have been exploiting **almaco jacks**



Smart Fishing Practices for Pelagic Fishing

Fishers use:

Weather apps such as Windguru, that monitor ocean temperature, wind speed and swell heights.



- Light winds and small swells usually cause lines of *Sargassum* to form larger mats;



As sea state becomes calmer



- Greater catches of dolphinfish and ocean triggerfish around areas of *Sargassum* occur with warmer summer water temperatures



GFS 27 km		03.09.2018 06 UTC														
Init:	12.10.2018 06 UTC	Sa 08	Sa 08	Sa 08	Sa 08	Sa 08	Su 09	Su 09	Su 09	Su 09	Su 09	Su 10	Mo 10	Mo 10	Mo 10	
		08h	11h	14h	17h	20h	05h	08h	11h	14h	17h	20h	05h	08h	11h	14h
Wind speed (knots)		10	9	7	9	11	10	11	11	11	12	13	13	12	11	11
Wind gusts (knots)		11	10	8	10	13	12	12	11	11	13	15	15	14	13	12
Wind direction		←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
Wave (m)		1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.3	1.2
Wave period (s)		9	9	9	8	8	8	9	9	9	9	9	9	9	9	9
Wave direction		←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
*Temperature (°C)		28	28	29	29	28	28	28	29	29	29	28	28	28	29	29
Cloud cover (%)		50	53	53	48	55	29	29	7	5	8				8	5
high / mid / low		58	41	29	40	14	27	41	7	5	11	8	30	25	10	17
*Precip. (mm/3h)		1.7	3		1.9	0.3	1.9									
Windguru rating		★ ★ ★ ★ ★ ★ ★														

Smart Fishing Practices for Pelagic Fishers

Innovative fishers used wire lines/cable and lead sinkers to carry the line below the surface floating *Sargassum*.



Reel of wire cable



Wire cable with lead sinkers

To improve fishing efficiency around *Sargassum* fishers used:

- 'Surface poppers' to mimic feeding frenzies
- 'Bonito straps' with multiple hooks
- Vertical lines / jigs to fish below the *Sargassum*



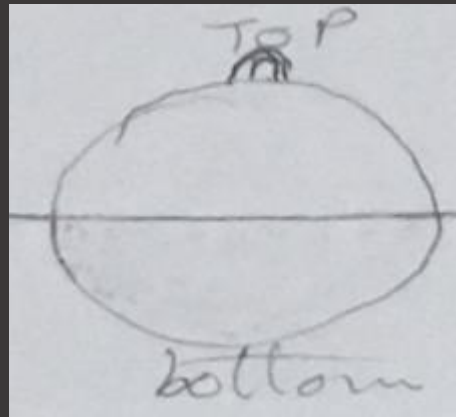
Smart Fishing

Technological Innovations

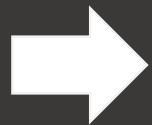
Handmade Strainer

Smart fishers protect their engines!

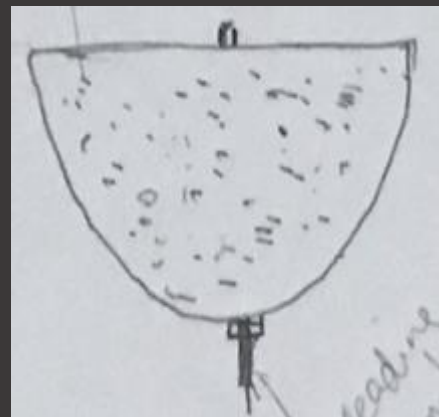
For boats without adequate filters over the water intake, here is a great idea.



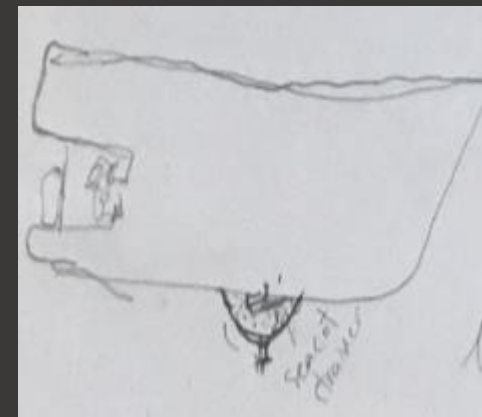
Step 1



Step 2



Step 3



Step 4

Materials

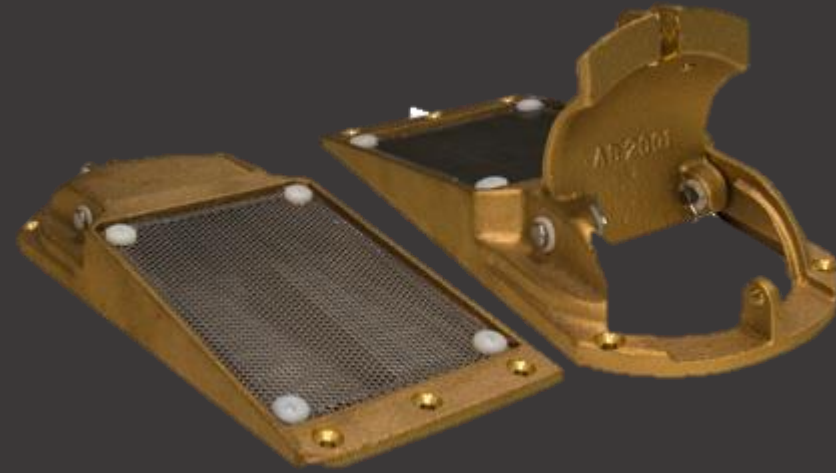
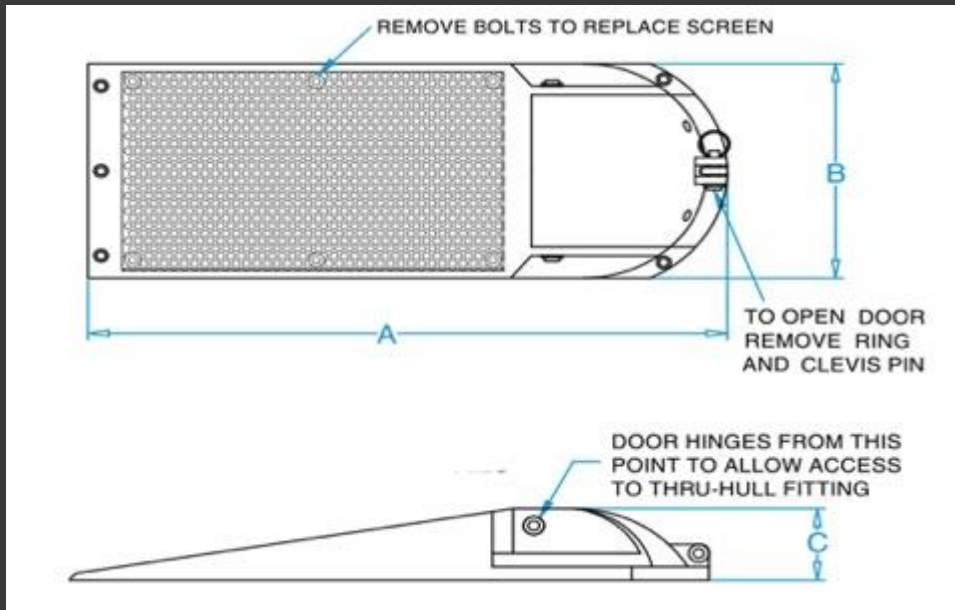
- Buoy
- Hacksaw or angle grinder
- 1 1ft-1^{1/2} threading rod
- 2 Lock nuts
- 2 Washers
- Marker pen

Smart Fishing

Technological Innovations

Groco HpHs Series Hull Strainer

Installation



Benefits of the strainer:

- ✓ More streamlined than the buoy, no overhang, rests flat over the intake,
- ✓ Captures all *Sargassum* berries
- ✓ There is no need to remove the entire strainer to clear

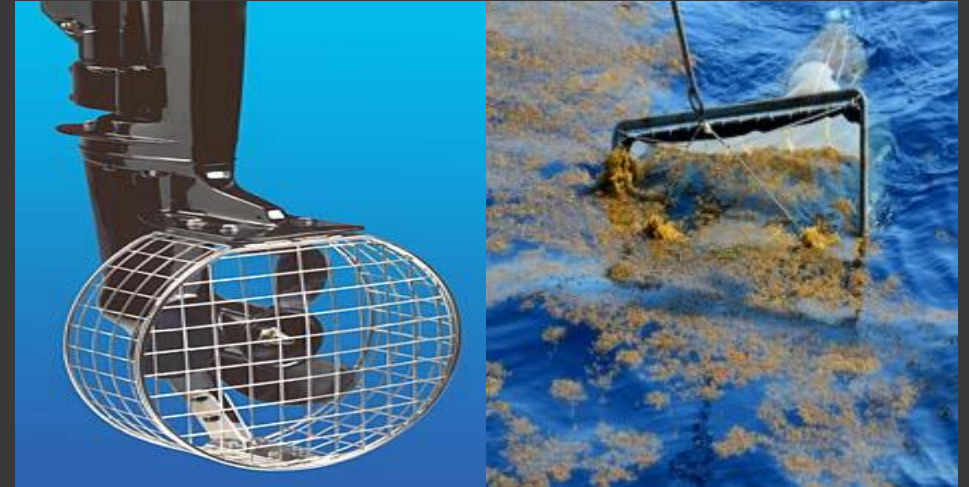
Suggestions

By fishers:

- Propeller guards
- Modification of boat hulls

By fisheries management authorities:

- Diversification of income sources through nearshore harvesting and use of *Sargassum*
- Taking advantage of alternative species



Production of Fisher Friendly Best Practice Handbook

Collation of best practices into PowerPoint

Booklet design by Graphic Designer

Testing at GCFI & *Sargassum* Symposium



Meet
Gazmo
The leading
character
in the
fisher-
friendly
handbook



Artwork by Tristan Roach

Next Steps

Feedback from fishers & experts attending the FAO/CERMES Regional *Sargassum* Symposium

Edits and revisions

Final touches before printing and distribution



Thank you!