



Food and Agriculture
Organization of the
United Nations



WECAFC-FIRMS Data workshop

BAHAMAS, an overview on the
Fisheries and Marine Resources inventory

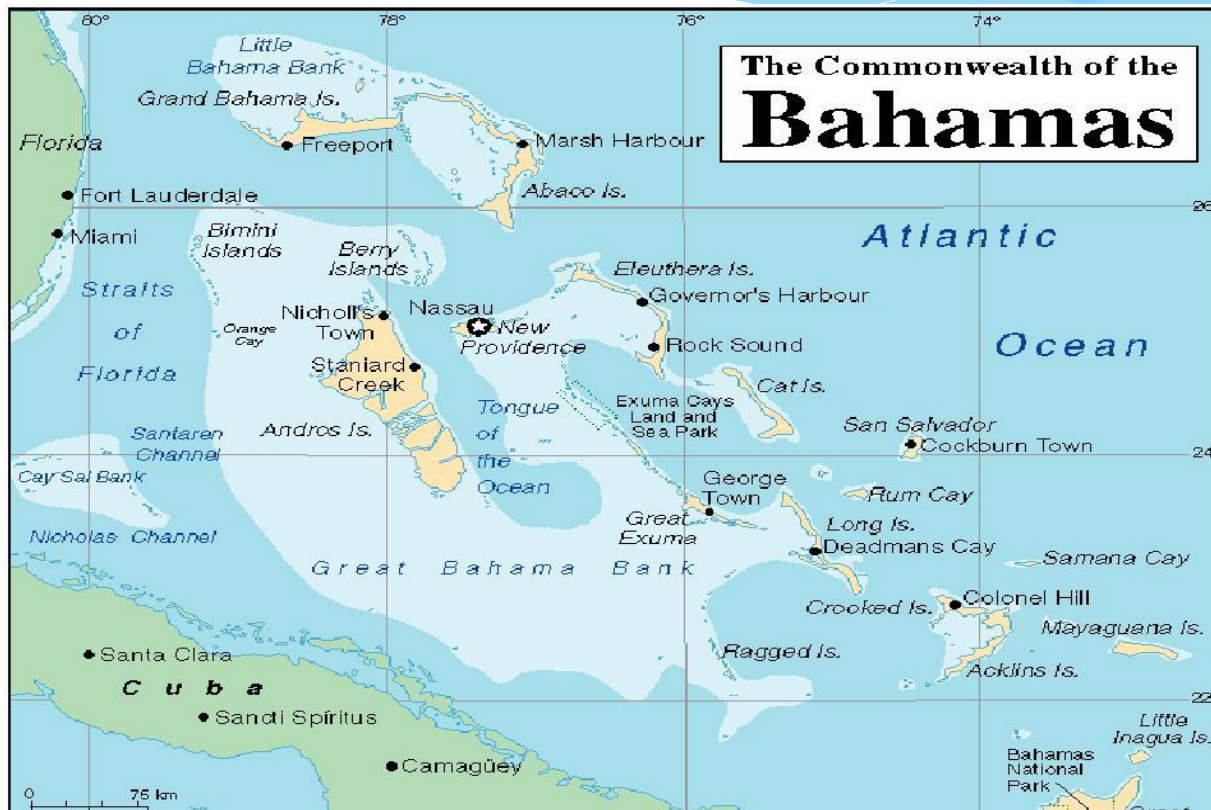
Issues, challenges and lessons learned focusing to data collection, data gaps and deficiencies, and capacity

Edison Deleveaux

Background Information on The Bahamas

- * An archipelago comprising of 700 islands, cays and rocks spread over about 100,000 mi² of ocean.
- * 2 major shallow water banks
 - The Little Bahama Bank
 - The Great Bahama Bank
- Other smaller but no less important shallow water banks include that of Cay Sal.
- * Population estimated at 319,000 in 2013.
- * Contribution of fisheries to GDP 2-3%

Map of The Bahamas



Profile of fisheries and marine resources for the country

Geographical overview	EEZ extension	150,000 sq. miles
	National boundaries	USA, Cuba, Haiti, Turks & Caicos Is (UK)
Maritime Domain	Main international agreements	UNCLOS (Archipelagic Principle) Cuba (2013) Discussions underway with UK (TCI) and the USA
	Joint management plans	N/A
General figures on production sector	Catches	11,872 (2014)
	employments	9,300 full time commercial fishermen
Available fisheries in the country	National fleet	4,000 vessels
	Foreign fleet	N/A
Stocks assessed	Assessments of conch and lobster stocks continuing. See bibliography following	
Trends and issues	Resource stocks appear to be stable, however, more work is required. Problems: IUU, capacity	

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TRENDS & ISSUES

Trends

- * Landings of both conch and lobster (crawfish) are stable;
- * No appreciable increase in fishing capacity or effort;
- * Lobster stock assessment indicated that the stock is not overfished; and
- * Conch assessments shows variability.

Issues:

- * Dimensions of the country and its impact on efforts and cost to conduct manage fisheries resources;
- * Capacity;
- * IUU fishing;
- * Political will;
- * Legislation;
- * Stakeholder involvement in decision making process

Brief overview for the focus fisheries

Country overall production: 11,872 t

Fishery	Percentage from overall country production
Queen Conch	35%
Flyingfish	0%
Lobster	55%
<Others>	10%

TOTAL RESOURCE LANDINGS 2014

TOTAL LANDINGS BAHAMAS 2014				
PRODUCT	TOTAL LANDINGS		TONNES	Con. Factors Used
	WEIGHT	VALUE		
	LBS	B\$		
Crawfish Tails	4,804,483	54,270,949.48	6,539.68	3
Crawfish Whole	64,073	330,207.56	29.07	
Conch	1,227,679	3,836,297.27	4,177.67	7.5
Stone Crab	161,603	2,035,587.04	73.32	
Nassau Grouper	280,737	1,084,993.13	127.38	
Other Grouper	250,663	757,945.96	113.73	
Grouper Filet	18,186	117,559.00	20.63	2.5
Snappers	1,223,280	3,337,546.70	555.03	
Jacks	90,452	150,448.83	41.04	
Grunts	168,679	226,392.89	76.53	
Barracuda	21,923	23,978.72	9.95	
Hogfish	133,047	326,197.98	60.37	
Queen Triggerfish	49,369	66,990.85	22.40	
Others	55,800	113,251.43	25.32	
TOTALS	8,549,973	66,678,346.83	11,872.11	
Spider Crab	240	687.75		
Hardhead Sponge	36,046	108,938.00		
Grass Sponge	207,590	104,580.00		
Reef Sponge	0	0.00		
Wool Sponge	9,378	43,268.00		

Type of available data for: Queen conch

Marine Resource

- Type of Assessment(s) and State of the Resource
- ❖ Type of assessments conducted – visual surveys (2009 – 2015) (Community Conch – Dr. Alan Stoner) and tuned weight cohort analysis (Ehrhardt and Deleveaux 1999);
- ❖ State of the Resource – believed to be stable but variable (heavy fish areas signs of overfishing, far flung areas – no fishing pressure or under fished.

Fishery

- Fishery area: eez of The Bahamas (bank area 45,000 sq. miles)
- Characteristics of the fishing ground : seagrass beds and assortment of sandy bottoms
- Harvested resources: queen conch (*Lobatus gigas*)
- Means of production: dive compressor and free diving

Type of available data for: Queen conch

- Exploitation: Stable
- Post-harvest use: domestic consumption and export (governed by a quota system);
- Management (e.g. international agreements, joint management plans...): (CITES)
- Trend of the fishery: stable
- Fishery lifecycle: predates European discovery of The Bahamas
- Related fisheries: N/A

Type of available data for: Lobster

Marine Resource

- Type of Assessment(s) and State of the Resource
- Type of Assessments conducted: Modified DeLury depletion model (Dr. Paul Medley & Lester Gittens – 2011)
- State of the Resource: Stable

Fishery

- Fishery area: eez of The Bahamas (shallow water fishing banks)
- Characteristics of the fishing ground: seagrass beds, coral reefs and rocky substrates.
- Harvested resources: ***Panulirus argus***
- Means of production : FAD (casitas), dive compressor, crawfish traps, free diving.
- Exploitation: Stable
- Post-harvest use: Export

Type of available data for: Lobster

- Management (e.g. international agreements, joint management plans...) (Plans being formulated under the auspices of WECAFC.
- Trend of the fishery: Stable
- Fishery lifecycle: early 1960's
- Related fisheries: *Haemulon album* (white margate)

Type of available data for: Nassau Grouper

Marine Resource

➤ Type of Assessment(s) and State of the Resource

Type of assessment: visual surveys (Dr. Craig Dahlgren, (2012 -), Long Island), fisher interviews (W. Chung, Dr. Yvonne Sadovy, Michael Braynen, and Lester Gittens)-2009.

Fishery

- Fishery area: eez of The Bahamas
- Characteristics of the fishing ground: Rocky bottoms and reefs
- Harvested resources: ***E. striatus***
- Means of production: dive compressors, free diving and fish traps (pots)
- Exploitation: fully to over exploited.
- Post-harvest use: local consumption
- Management (e.g. international agreements, joint management plans...)
- Trend of the fishery: stable (closed season 1 Dec – 28 Feb. established)

Type of available data for: Nassau Grouper

- Fishery lifecycle:
- Related fisheries: *Lutjanus* spp, *Haemulon* spp.

Sources and quality of Information

- Queen conch: landing site survey, processing plant purchase records.
- Lobster: landing site survey, processing plant purchase records.
- Nassau Grouper: landing site survey, processing plant purchase records .

Potential indicators in support of the Fisheries Management Plans (FMPs)

Fishery indicators		
	Exploitation	Socioeconomic
Indicator Type	<ul style="list-style-type: none"> Catch Effort (<i>Harvest Control Rules – Lobster</i>) Production 	<ul style="list-style-type: none"> <i>Economic Performance</i> <i>Employment</i> <i>Utilization</i>
Measure	<ul style="list-style-type: none"> Catch Number of <i>fishing days</i> Number of <i>persons per trip</i> Landed Volume Gear type 	<ul style="list-style-type: none"> <i>Gross Value Added</i> <i>Landed Value</i> <i>Landed Average Price</i> <i>International Market Global Value</i> <i>Number Fishermen</i>

Issues, Challenges and The Way Forward

Issues & Challenges

- Data gaps
 - Fishery statistics (landings, effort, fleet size) – not mandatory that fishers report landings or effort. While legislation dictates that vessels 20+ must be licenced to engage in fishing, those that are smaller are exempted. These crafts comprise the majority of the commercial fishing fleet.
 - Socioeconomic data – information collected by Department of Statistics via sampling.
 - Biological data (lengths, ages, life history) – Some work conducted in the past but not continued.
- Technical capacity (knowledge/information/training) – being developed and ongoing. (BAMSI) (Nassau Grouper research, i.e, acoustics and tagging)
- Legal/Policy/Institutional provision (e.g. no reporting required by law) – Draft Fisheries Act (ACP Fish II) currently being reviewed by AG's Office. New Act to address many of the current shortfalls.

Issues, Challenges and The Way Forward

- Good coordination and management of fishery data collection including periodic review
- Data sharing – Central Bank, Dept. of Stats, FAO, NGO's and the public at large via website and electronically.
- * Actions being undertaken to address deficiencies
- * Draft Fisheries Act and subsequent regulations to address the necessity for fisheries management plans, the licencing of all those engaged in fishing and their vessels, mandate the implementation of MCS programs, enhance the liaison between DMR and other law enforcement agencies. The draft Act also mandates that all stakeholders have a say in fisheries governance;
- * Efforts being made to increase departmental capacity;
- * FAO TCP Project aimed to strengthen fisherise and aquaculture governance underway. A component of the project calls for the development of a new data collection system (FISMIS - FAO TCP).

BIBLIOGRAPHY

- * **Lobster references:-**

- * The lobster stock assessment was a part of The Bahamas' report in the document listed below. I have also attached an electronic copy. Thereafter you will find a list of recent references for conch assessments

- * CRFM FISHERY REPORT – 2011. Volume 2 - Fishery Management Advisory Summaries. Report of Seventh Annual Scientific Meeting – Kingstown, St. Vincent and the Grenadines, 16 – 24 June 2011

- * **Conch references:-**

- * Stoner, Allan W., Martha H. Davis, and Catherine J. Booker. "Abundance and population structure of queen conch inside and outside a marine protected area: repeat surveys show significant declines." *Marine Ecology Progress Series* 460 (2012): 101-114.

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- * Stoner, Allan W. et al. Surveys of Queen Conch Populations and Reproductive Biology on the Little Bahama Bank, The Bahamas. Rep. *Community Conch*. Jun. 2014. Web. 1 Dec. 2015.

Thank You!
Gracias!
Merci!