

# Conservation, Sustainable Use & Management of Pelagic Fisheries: Research and capacity building at CERMES

#### Hazel A. Oxenford

CRFM / WECAFC-IFREMER-MAGDELESA / CARIFICO Workshop on FAD Fishery Management 9-11 December 2013, Kingstown, St. Vincent & the Grenadines

Centre for Resource Management and Environmental Studies, University of the West Indies, Cave Hill Campus, Barbados





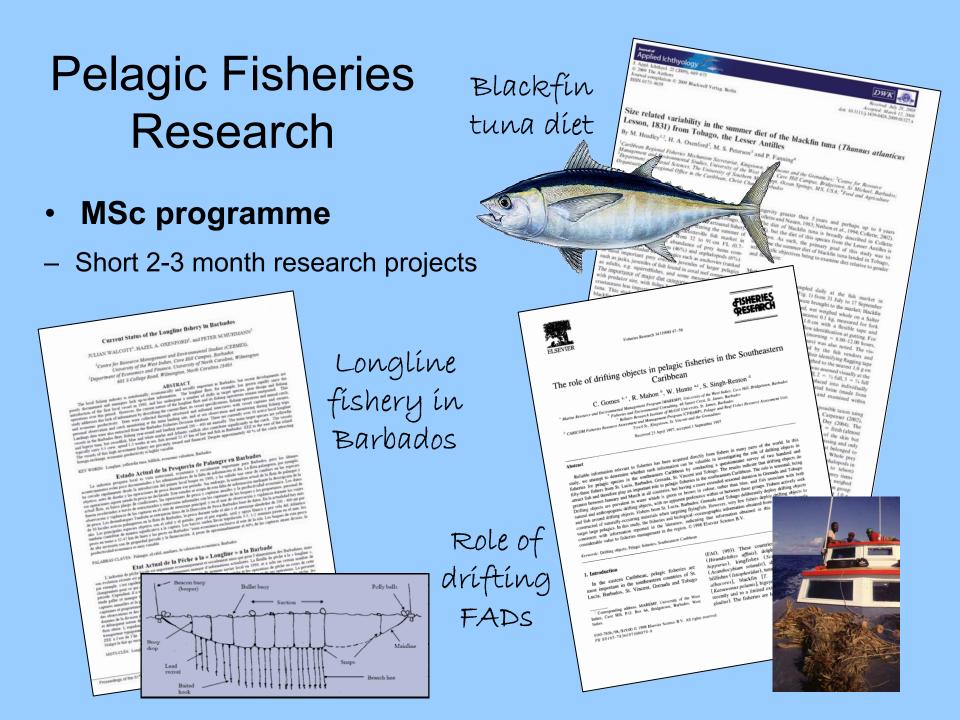
#### Centre for Resource Management and Environmental Studies

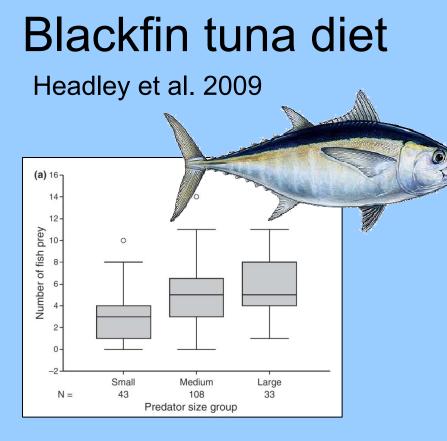


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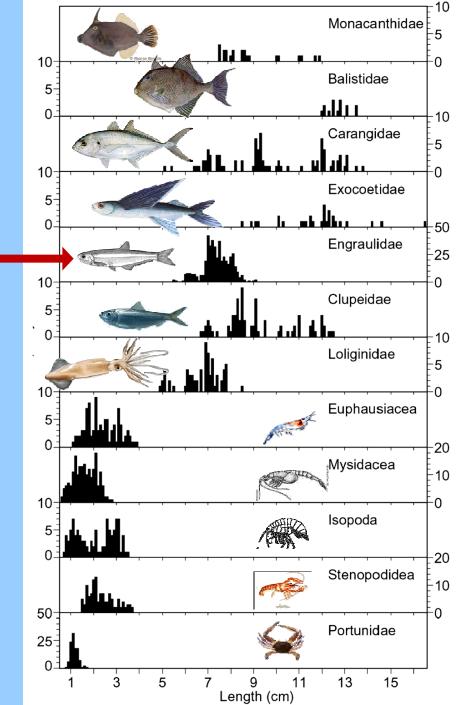
# Teaching, Outreach & Research

- MSc Programme
  - Coastal and Marine
  - Climate Change
  - Water Resources Management
  - Public Outreach
    - Short courses, workshops, co-management partnerships, Advisory boards/working groups
  - Research
    - 2-3 month MSc research
    - 2-3 year MPhil / PhD research
    - Faculty research, projects, consultancies





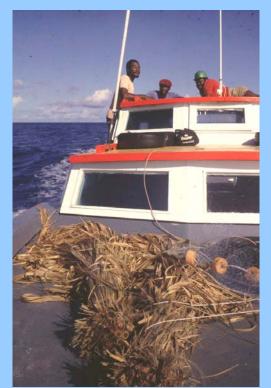
- Fishes 48%
  - small pelagics, juv. larger pelagics, juv. reef species
- Crustaceans 46%, squid 6%
- 3 size classes tuna
  - Larger tuna eat more fish



# Role of drifting FADs in eastern Caribbean

Gomes et al. 1998

- Tobago, Grenada, Barbados, St. Lucia
  - All pelagic fishers target floating objects opportunistically (most prevalent Jan-Mar)
  - Vessels deploy constructed FADs for flyingfish



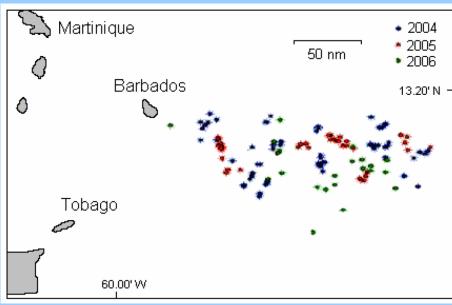


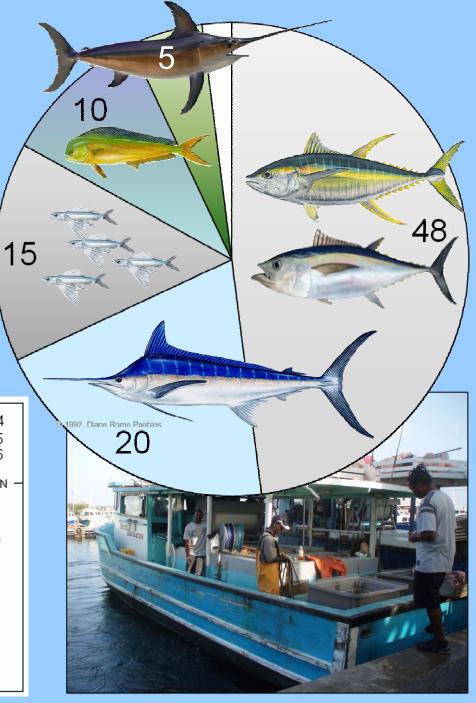


## Longline fishery in Barbados

Walcott et al. 2009

- Fishing grounds
- 6-21 day trips, east of the island up to 550 km
- Target tuna & billfishes

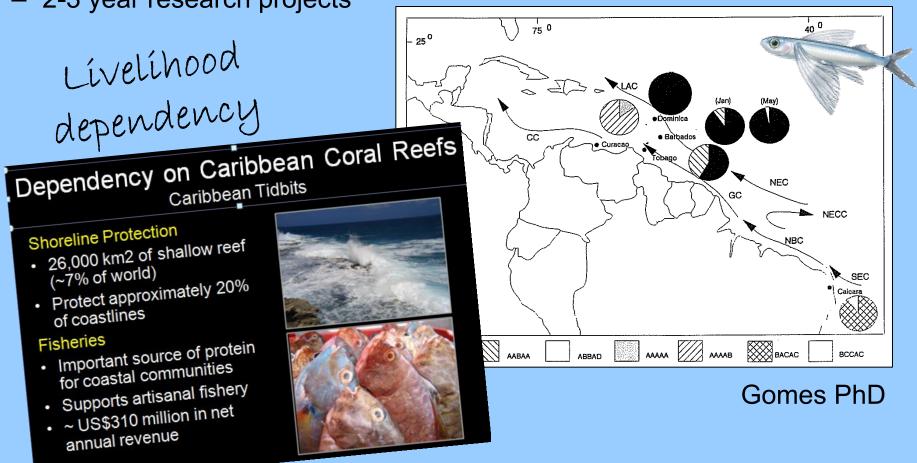




## **Pelagic Fisheries** Research

- PhD & MPhil programme
- 2-3 year research projects

Population structure



David Gill PhD

### Pelagic Fisheries Research

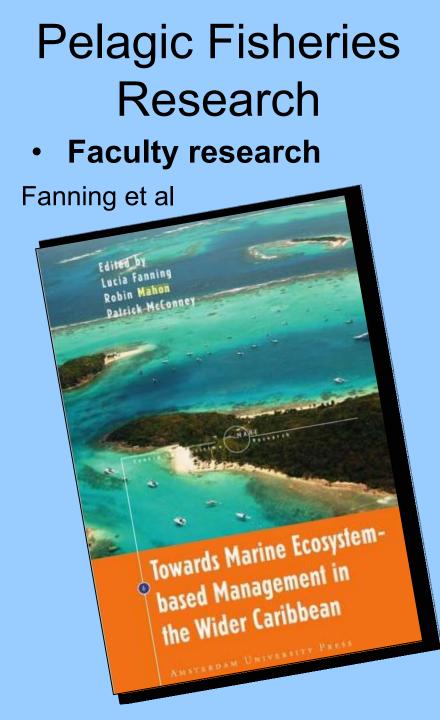
• Faculty research Oxenford et al

#### Biology and Management of Eastern Caribbean Flyingfish

Edited by Hazel A. Oxenford Robin Mahon Wayne Hunte

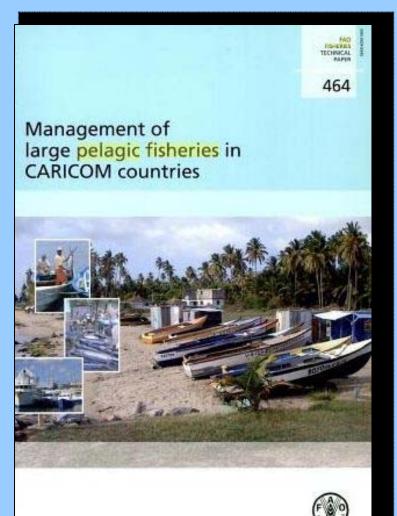
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Management

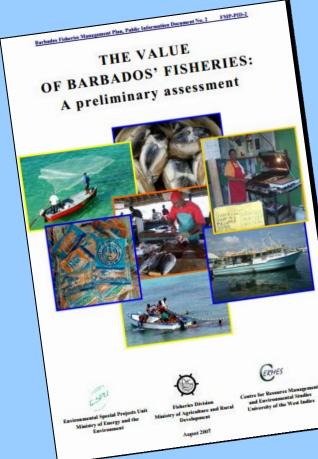
#### Mahon and McConney



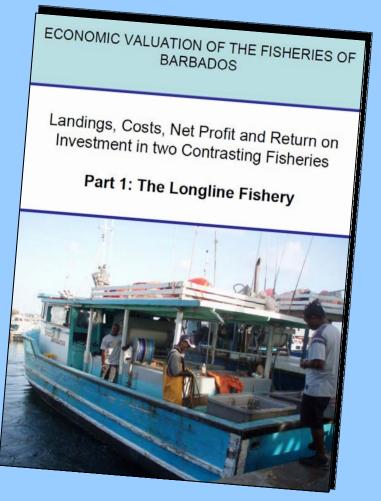


Faculty research

#### Mahon et al 2007



#### Economíc valuatíon



Schuhmann et al 2010

### **Pelagic Fisheries** Research

**Faculty research** •

#### Mahon, McConney et al

Available online at www.sciencedirect.com

Marine Policy 32 (2008) 104-112

unt and Environmental Studies (CERMES) St. Michael, Barbados, Wess and Facilitator, Learning, Strategic Thinking and Transfi

Received 26 March 2507; received in revised form 29 As

Governing fisheries as complex Robin Mahon<sup>a,\*</sup>, Patrick McConney<sup>a</sup>

rise are complex human-in-nature systems. The conventional appro-terstables, As complex systems they are neither of the two and have early to self-organize or adapt, even subset outside information. If the hypotheses of the systems that places much employ and and reaction feromenoide for matching series in an employ

n to management or nurerus systems can passe usual organ tual and practical frameworks for enabling activities are needed.

v; Small-scale fisheries; Adaptation; Learning s

The global crisis in fisheries is widely acknowledged [1,2].

The global crisis in fasheries is widely acknowledged [1,2]. A high proportion of the work's largest commercial stocks have been servely overfished by industrial fleets [1]. Statistical stocks are also overfished coastal and inland stocks: The evolution extensions in biomese of secret and stocks.

scale fisheries have also overfished coastal and imana stocks. The resulting reductions in biomass of target and hypothis species and the degradation of supporting coxysi-tens threaten level/hoods, undermine (bod security, and security biolity).

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constructing more complex models, thing control systems. This approach has not been able

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renning control systems. Lins approach has not even at to deal adequately with the complex, dynamic nature i

regulatory measures are implemented (11) implemented (11) implemented for acquiring

disturb biodiversity, possibly irreversibly [4-7].

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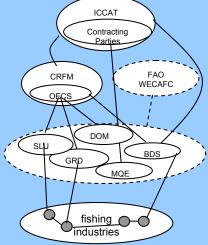
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. Introduction

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#### Fisheries networks in the Caribbean

Patrick McConney', Robin Mahon, Kemraj Parsram and Shelly Ann Cox

Emerging governance frameworks conceptualize, describe and analyze fisheries networks in the Caribbean from local to regional levels. They aim to better understand and manage such networks. How useful these frameworks will be for practical application in improving fisheries governance is a key issue. Creating enabling policy environments, facilitating self-organization, managing networks, using social science skills, partnering with the private sector and civil society, learning-by-doing, adaptive management, and grappling with uncertainty are all necessary changes in the institutional arrangements for fisheries. We present some ideas and approaches that may be useful in developing practical applications from the conceptual frameworks. We discuss how interdisciplinary research may advance this process in small-scale fisheries governance.

#### Introduction

These days almost everyone is aware of networks, at least as metaphors if not as analytical concepts. If you are not an active member of a social networking site on the internet, then chances are that your circle of friends makes you acutely aware of what you are missing. People around the globe are keenly interested in who they are, or can be, linked to. They crave information about the attributes of others with whom they share social ties. Barabasi (2002) and other authors have informed readers about the analytical and practical power of networks, at a deeper level, through their bestselling books. Academic and scientific articles on network research have recently increased dramatically in both number and breadth of coverage. Network analysis is as hot a topic in business studies and epidemiology as it is in mathematics, natural sciences

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**CERMES Technical Report Nº60** 

Governance arrangements for marine ecosystems of the Wider Caribbean Region ROBIN MAHON, ALEXCIA COOKE, LUCIA FANNING AND PATRICK MCCONNEY





Centre for Resource Management and Environmental Studies (CERMES) The University of the West Indies, Cave Hill Campus, Barbados

to solve societal problems and create societal opportuni-li instance de formation and create societal opportunito solve societai problems and create societai opportunities. It includes the formulation and application of principles

\*Corresponding author. E-mail address: mahon@caribsurf.com (R. Mahon). 006-597X,5-see front matter © 2007 Elsevier Ltd. All rights reserved. x:10.10165\_marpol.2007.04.011

to deal adequately with the compress, synames assure of fisheries systems and it has become apparent that some is the whole of public as well as privat

roject Sustainable Management of the Shared Living Marine Resources of the Caribbean Large Marine Ecosystem (CLME) and Adjacent Regions

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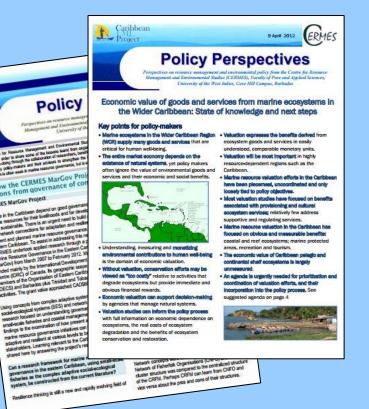
2013

#### orld Small-Scale **Contemporary** V Edited by Ratana Chuenpag

\*Eburon

## **Capacity Building**

- Teaching programme
- Fisher discussion groups
- CERMES policy briefs



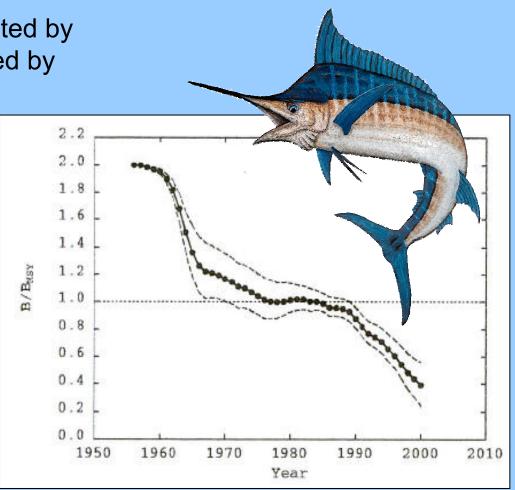


- Involvement of fishers in research / workshops
- Advisory Committees / Working groups
- Training workshops
- SocMon Caribbean
- Ecosystem-based management
- EAF toolbox

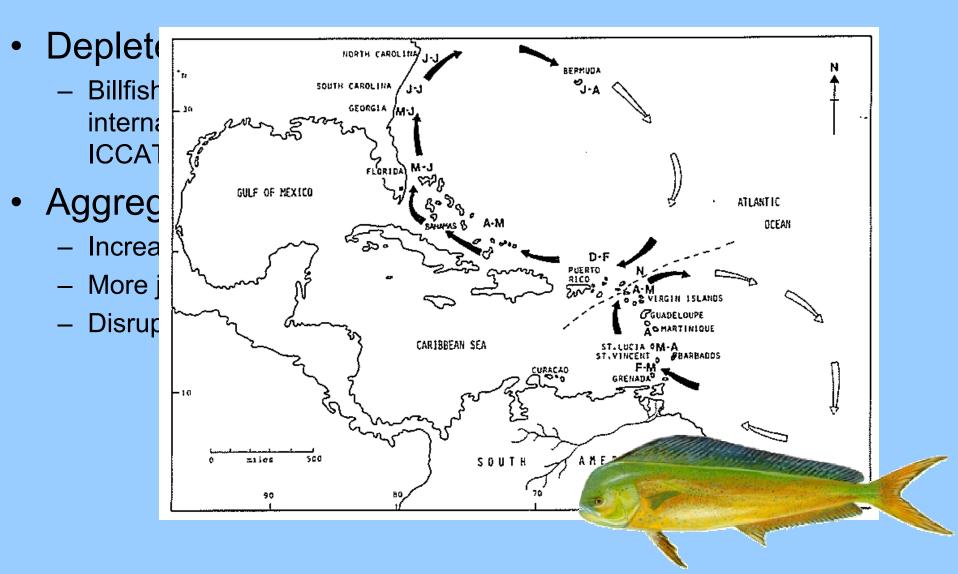
### Fixed FADs - Issues to consider: Environmental / biological / social / management

#### Depleted resources

 Billfishes fully or over-exploited by international fleets (controlled by ICCAT through quotas)



#### Fixed FADs - Issues to consider: Environmental / biological / social / management



### Fixed FADs - Issues to consider: Environmental / biological / social / management

#### Conflicts

- Intra fishery conflicts (access arrangements)
- Inter-fishery competition (longline vs FAD, recreational vs commercial, market impacts)
- Space use navigational hazard?
- Shared resource
  - Regional management responsibilities
  - Regional policy on FAD fishery?
- Relieve pressure on reefs?
  - Need to monitor impact

