



Lenfest Fishery Ecosystem Task Force: Providing a Blueprint for Ecosystem-Based Fisheries Management

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Ecosystem-Based Fisheries Management

Some Lenfest Task Force Conclusions:

- Improves ecological, social, and economic outcomes.
- Reduces surprises, coordinates regulations, and illustrates costs and benefits.
- Is achievable with existing tools and data.
- Needs a structured adaptive process: Fishery Ecosystem Plans



Outline

- **What is Ecosystem-Based Fisheries Management?**
- **What are the Benefits?**
- **How do we achieve it? Fishery Ecosystem Plans**



Ecosystem-Based Fisheries

Management (' i : k ə ʊ s i s t ə m
beɪ s fɪʃ (ə) rɪ mænɪdʒmənt /
n. 1. Hopelessly complex
framework for basing
regulations and policies.
2. The next great leap for
sustaining healthy oceans
and fisheries

Conventional Management



Limits of Conventional Management

Problems that are hard to address. Examples:

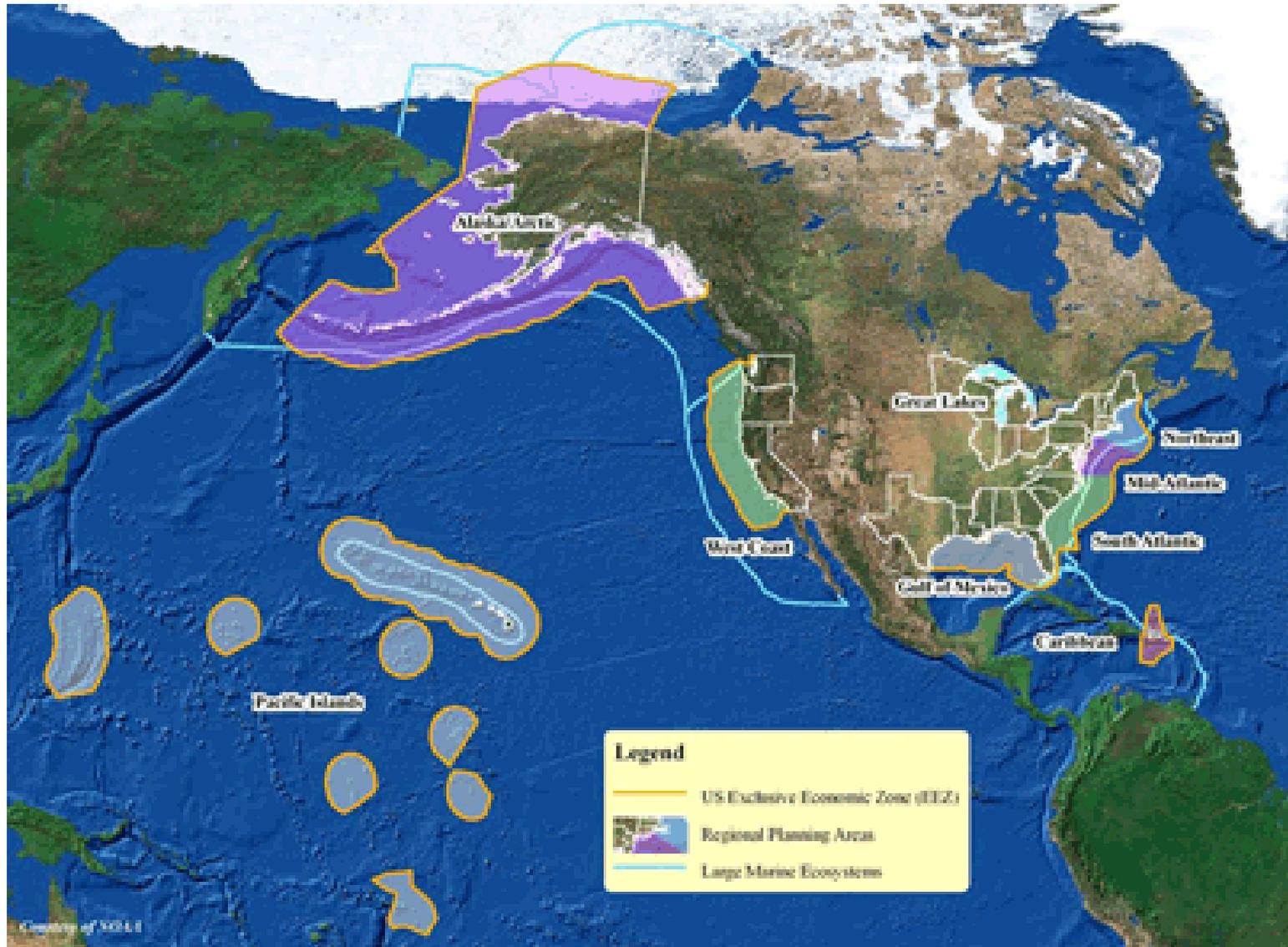
- Species interactions,
 - Fleet dynamics,
 - Commercial versus recreational values,
 - Environmental changes that affect stocks and fisheries,
 - Habitats and Habitat-forming species (e.g., oysters)
- 

Ecosystem-Based Fisheries Management

- Ecosystem approach views the problem differently.
- It starts with the place,
- It aims to understand the system (in a broad sense) in which the fishery operates.



Large Marine Ecosystems



Ecosystem-Based Fisheries Management

- Climate
- Food Webs
- Habitats
- Vulnerable Species
- Ocean Conditions

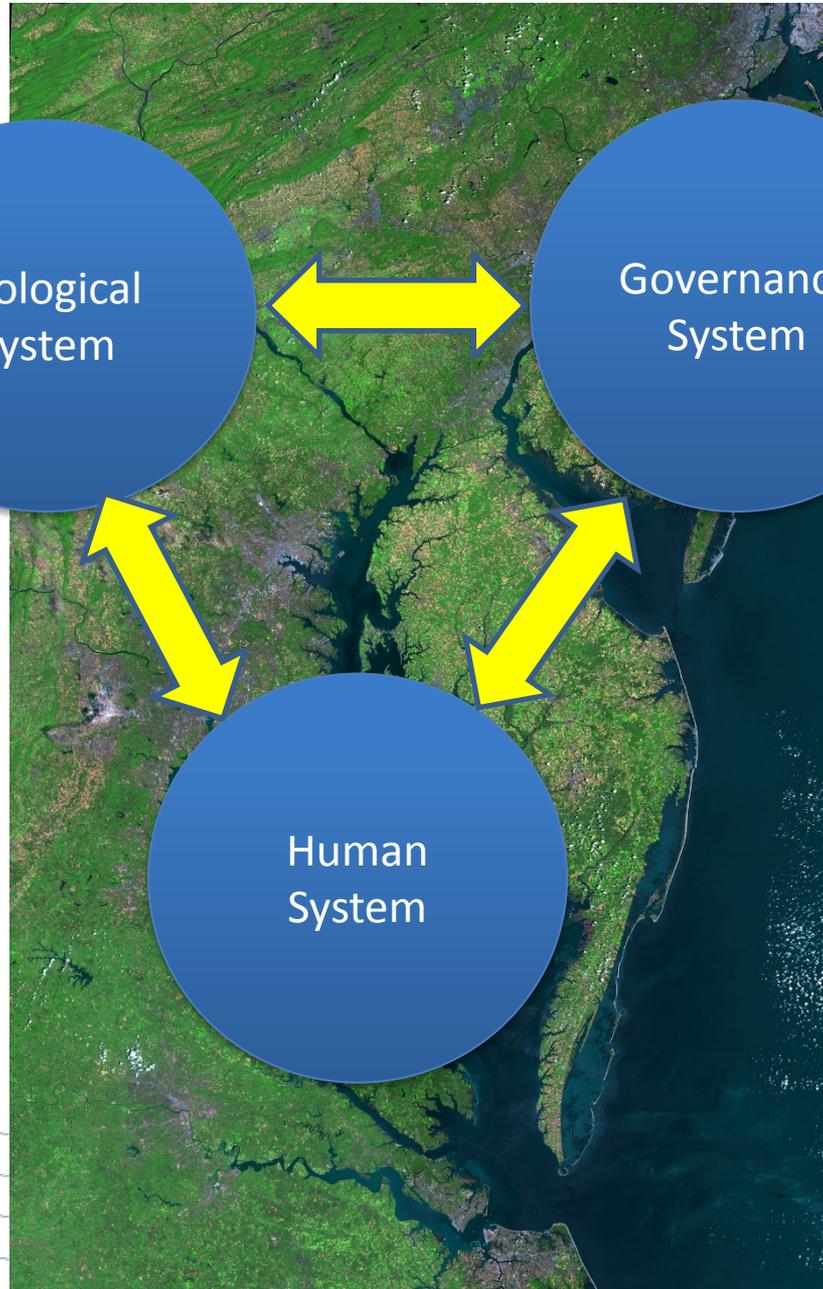
Ecological System

Governance System

- MSFMCA
- FMP
- State-Level

- Fisheries
- Communities
- Processors
- Cultural Values

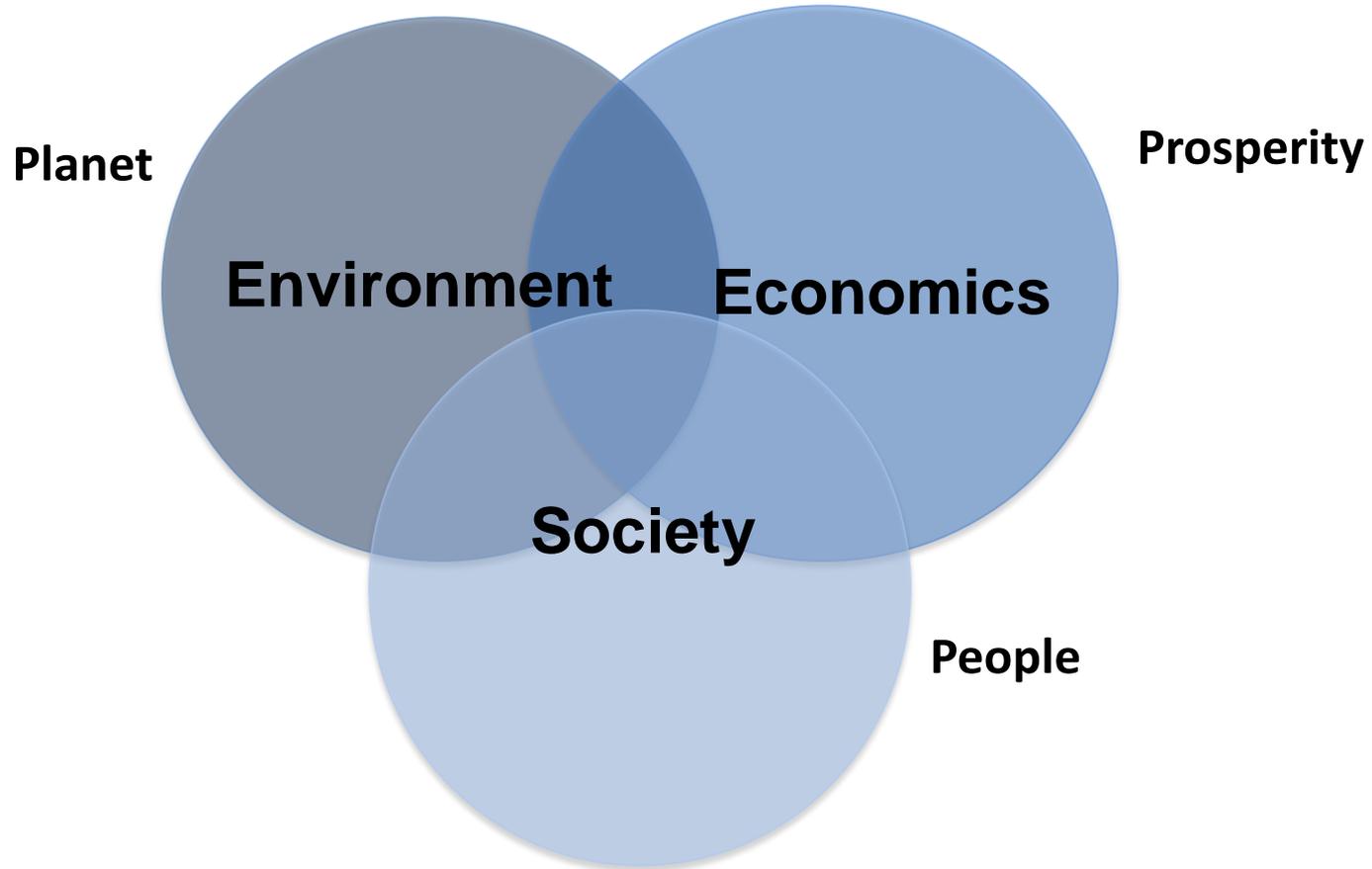
Human System



What benefits?

“Triple Bottom Line” Objectives and Benefits

Sustainability



Improved Coordination



Confronting Trade-Offs

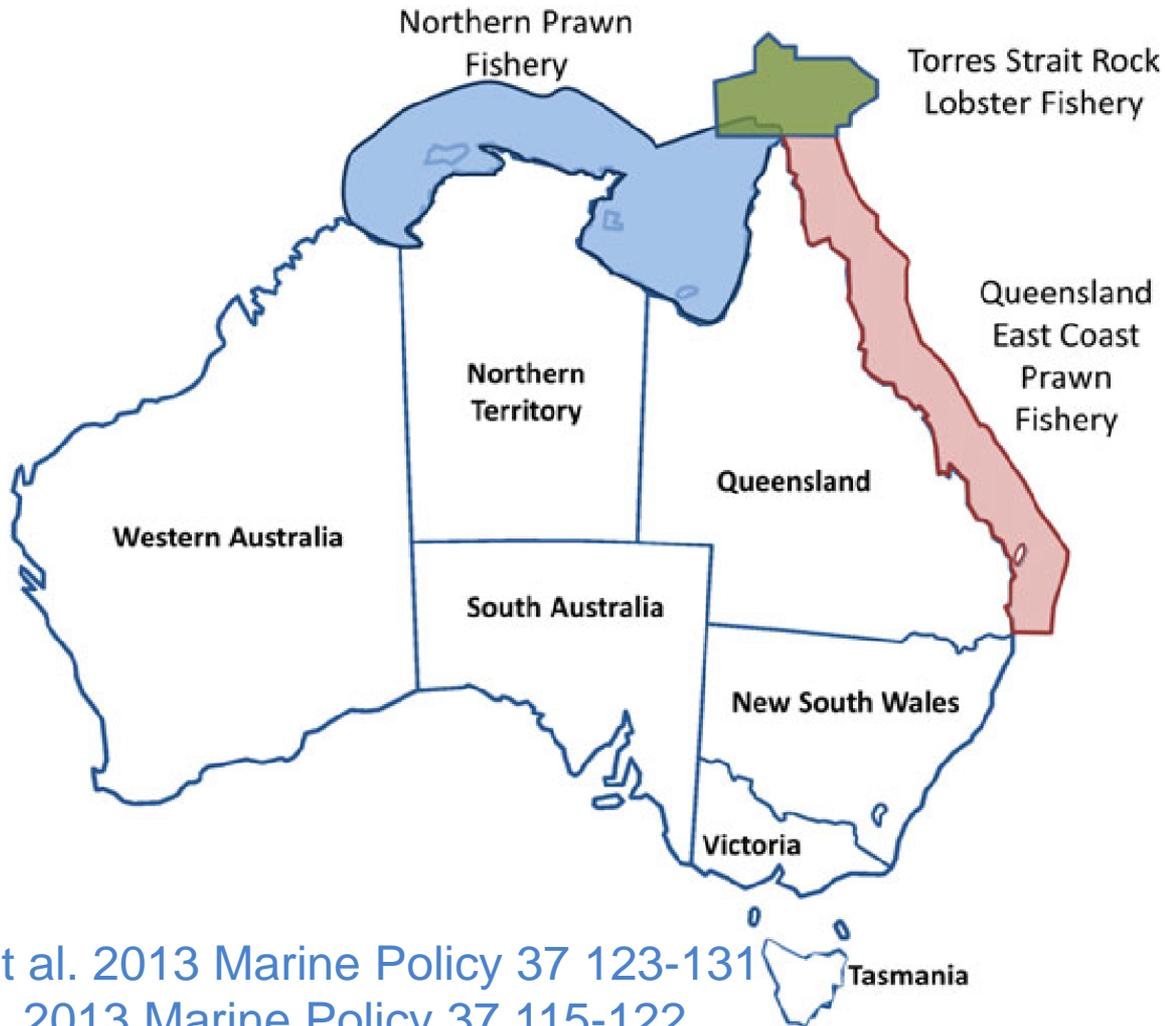


Fishery Ecosystem Plans

“Next Generation” Plans

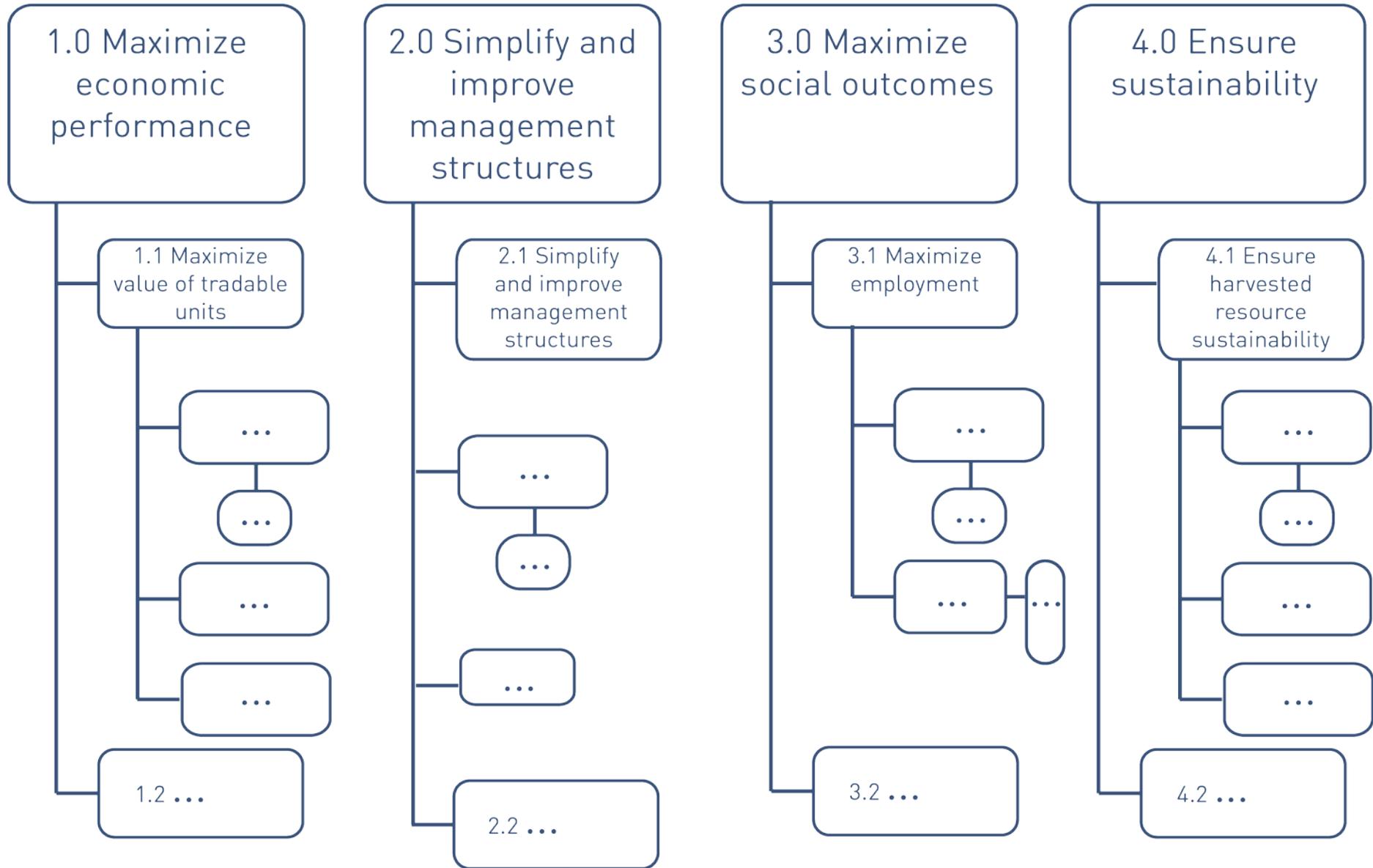


Success Story



Dichmont et al. 2013 Marine Policy 37 123-131
Pasco et al. 2013 Marine Policy 37 115-122

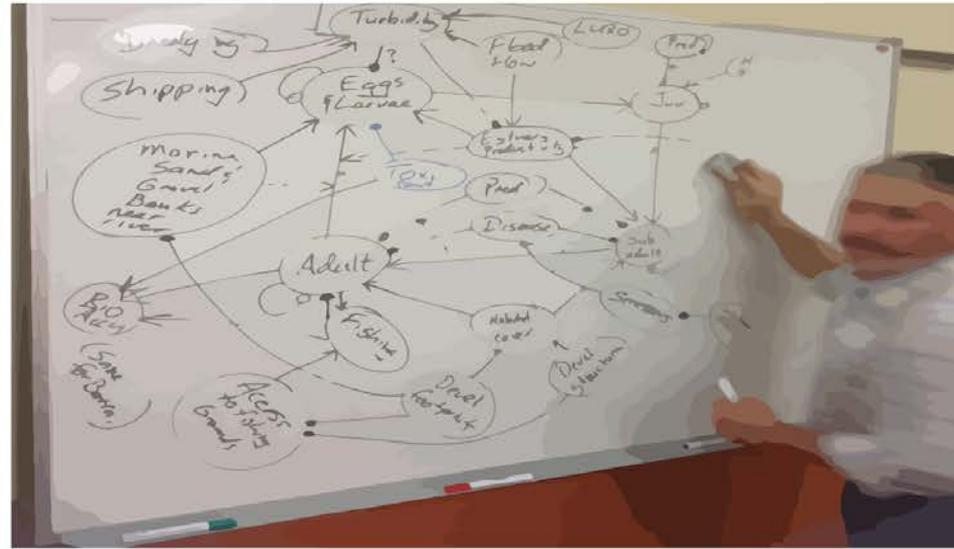
Optimal management of the East Coast Trawl Fishery



Alternatives

- Slightly modified version of the current system
- Effort quota system
- Spatial allocation to different sectors
- Spatial allocation, separate access fee for each

Evaluation: Engaging Stakeholders



Task Force Recommendations for Implementation

- **Stakeholder participation is critical**
- **Existing science and policy tools are sufficient**

Case Studies



Alaska
Groundfish



N.E. Pacific



Pacific Sardine



Gulf of Mexico



Mid-Atlantic



Menhaden



New England



Scotian Shelf



Baltic



S.E. Australia

STEPS	New England	Mid-Atlantic	Menhaden	Gulf of Mexico Grouper	Pacific Sardine	Pacific Protected Species	Alaska Groundfish	Western Scotian Shelf	Baltic Sea	Australian Small Pelagics
1. Where are we?										
System inventory & Conceptual model	■	■	■	■	■	■	■	■	■	■
Select indicators		■		■	■	■	■	■	■	
Inventory threats							■			
2. Where are we going?										
Vision statement		■	■				■	■	■	
Strategic objectives	■	■	■		■	■	■	■	■	
Assess risk to objectives						■	■			■
Prioritize objectives										
Operational objectives	■						■			■
3. How will we get there?										
Performance measures	■				■		■			■
Management strategies	■				■	■	■			■
Evaluate strategy	■				■	■	■			■
Choose strategy	■	■	■	■	■	■	■		■	■
4. Implementation		■	■	■	■		■		■	■
5. Did we make it?					■					

