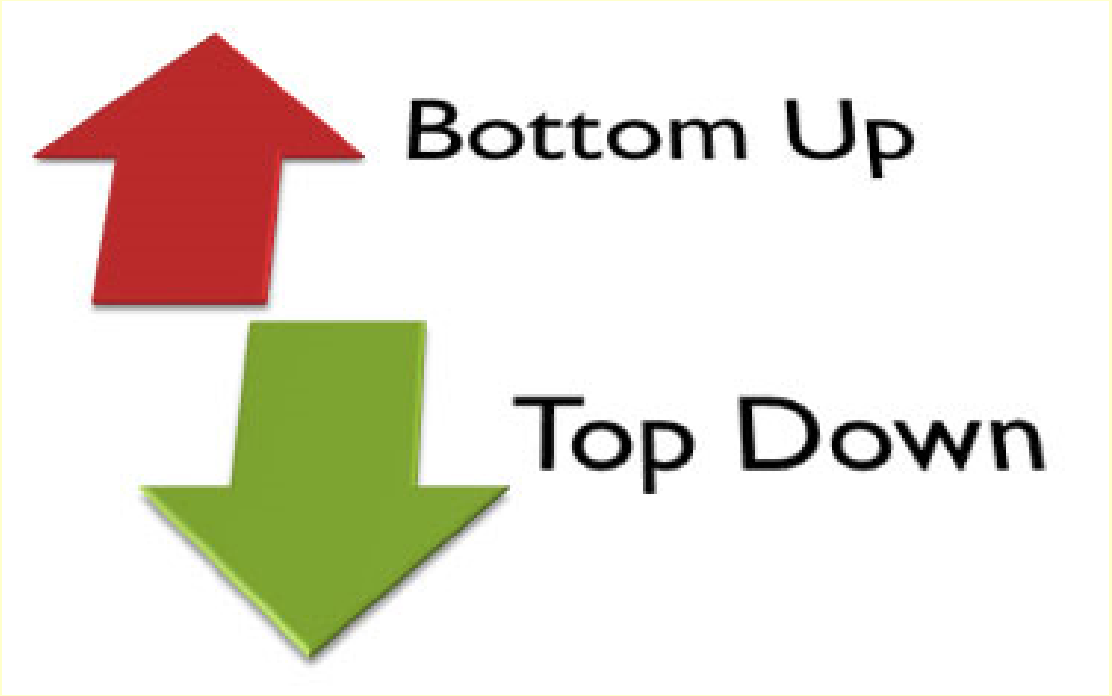
Regionalised Marine Spatial Planning



TOP DOWN: Global Targets

"By 2010, terrestrially and 2012 in the marine area, a global network of ***comprehensive, representative and effectively managed national and regional*** *protected area system is established"*

CBD COP VII, Decision 7.28

"At least 10% of each of the world's ecological regions effectively conserved".

CBD COP VII Decision 7.30

TOP DOWN: Criteria for Effectiveness

Representavity: viable MPA system requires establishing protections for all biological processes and structures

Adequacy: ensuring that sites are of effective size, shape and location to ensure viability of the species

Resilience: resistance of all parts of the system to natural disasters, such as a tsunamis or hurricanes

Connectivity: ensuring the linkage between individuals / populations / species in time and space

BOTTOM UP: Data

Provides Knowledge for Regionalisation / Prioritization:

Species Distributions

Habitat Classifications

Processes

Models

(Lourie & Vincent 2004)

BOTTOM UP: Socio-Political Support

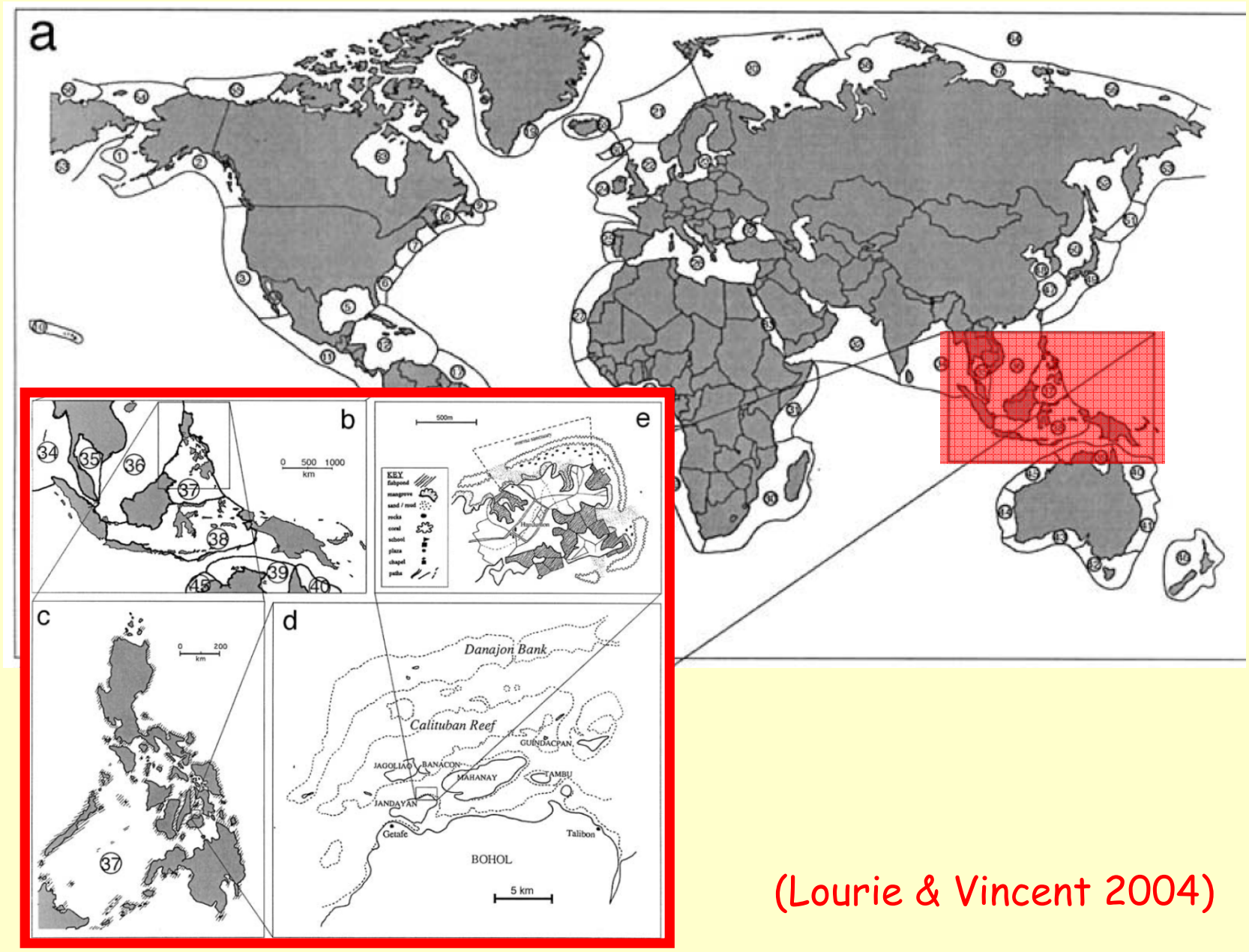
Tools / Data to address points listed above

Interface with local users and communities

(Charles & Wilson 2008)

Local Traditional Ecological Knowledge

Biogeography: Nested Hierachy



(Lourie & Vincent 2004)

Phases of Priority Setting for Biodiversity

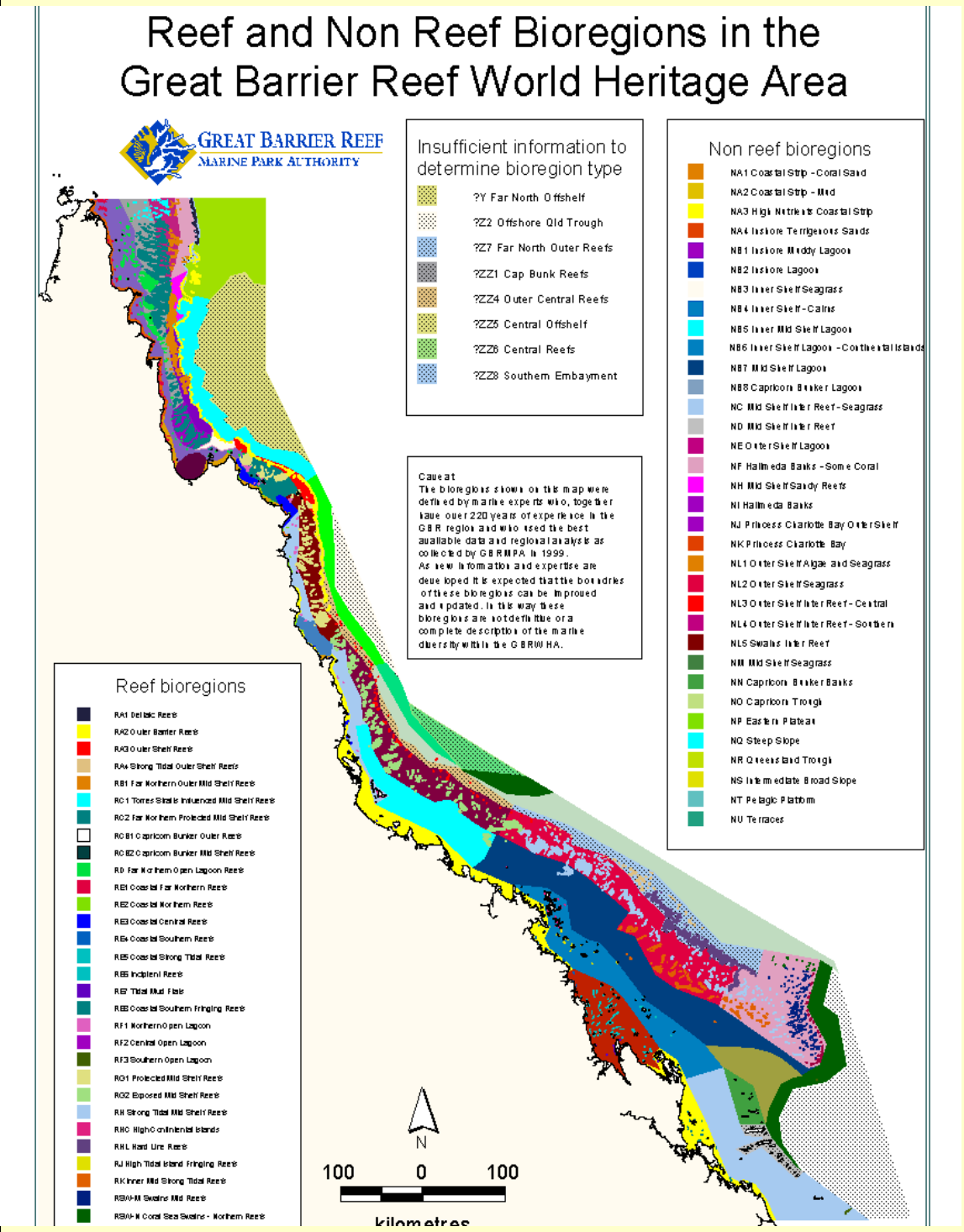
Collation of data (ecological/biophysical/socio-economic)

Bioregionalisation Map

Development of priority and planning principles

Engagement of public participation *(call for public input)*

Periodically Revise Management Plan



Bioregionalisation Mapping

Critical to identify "ecologically" distinct regions, supporting distinct communities, and physical / biological structures

- Depth Domains
- Physiographic Features
- Fronts and Water Masses
- Transition Zones

Main factors for GBRMP Rezoning Success

The successful outcome relied heavily on:

- Using best available science knowledge
- High level of public participation; and
- Consequent socio-political support

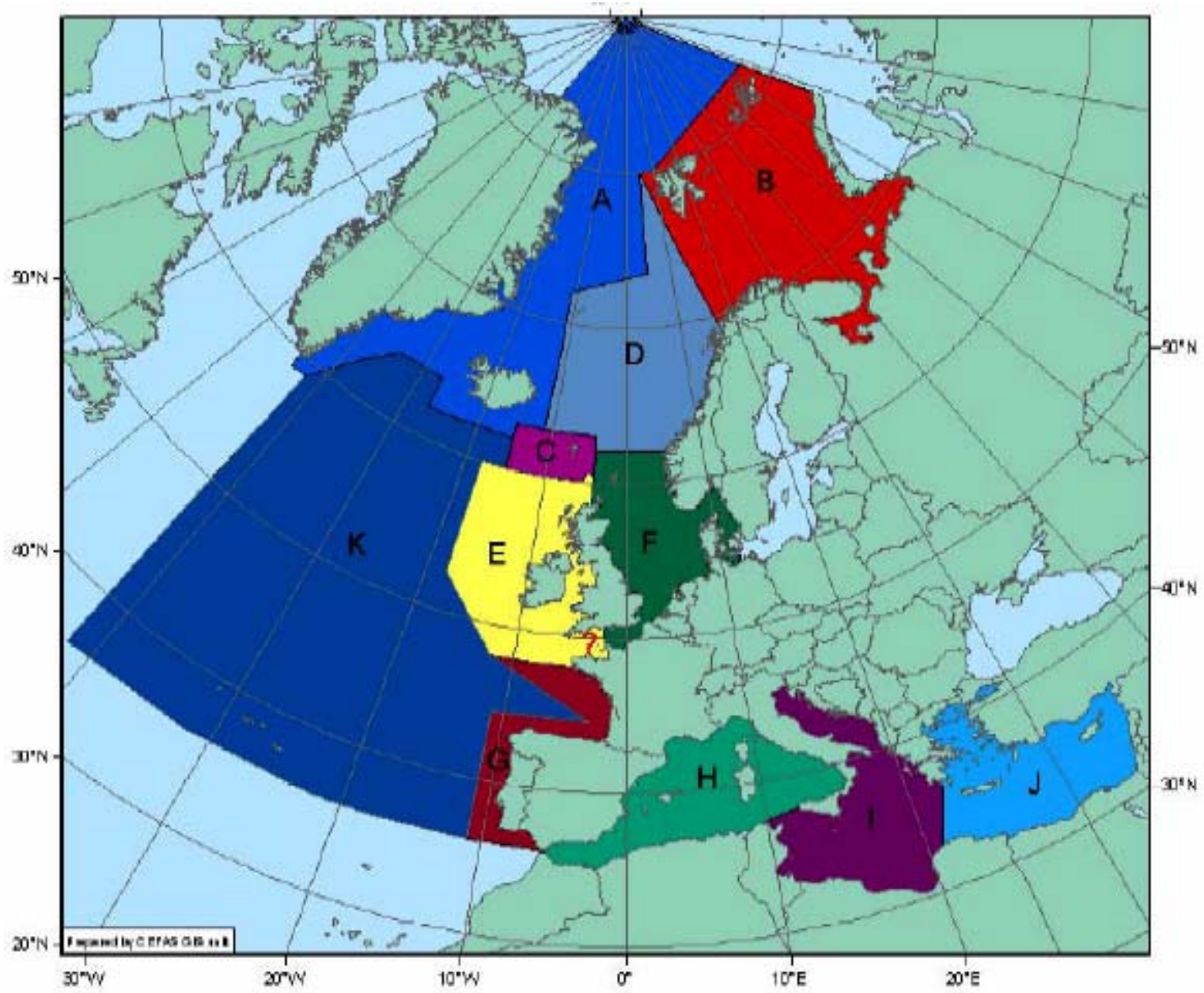
A "Middle of the road" Perspective Where Top-Down Meets Bottom-Up

Lessons from Recent European Experience with Marine Spatial Planning

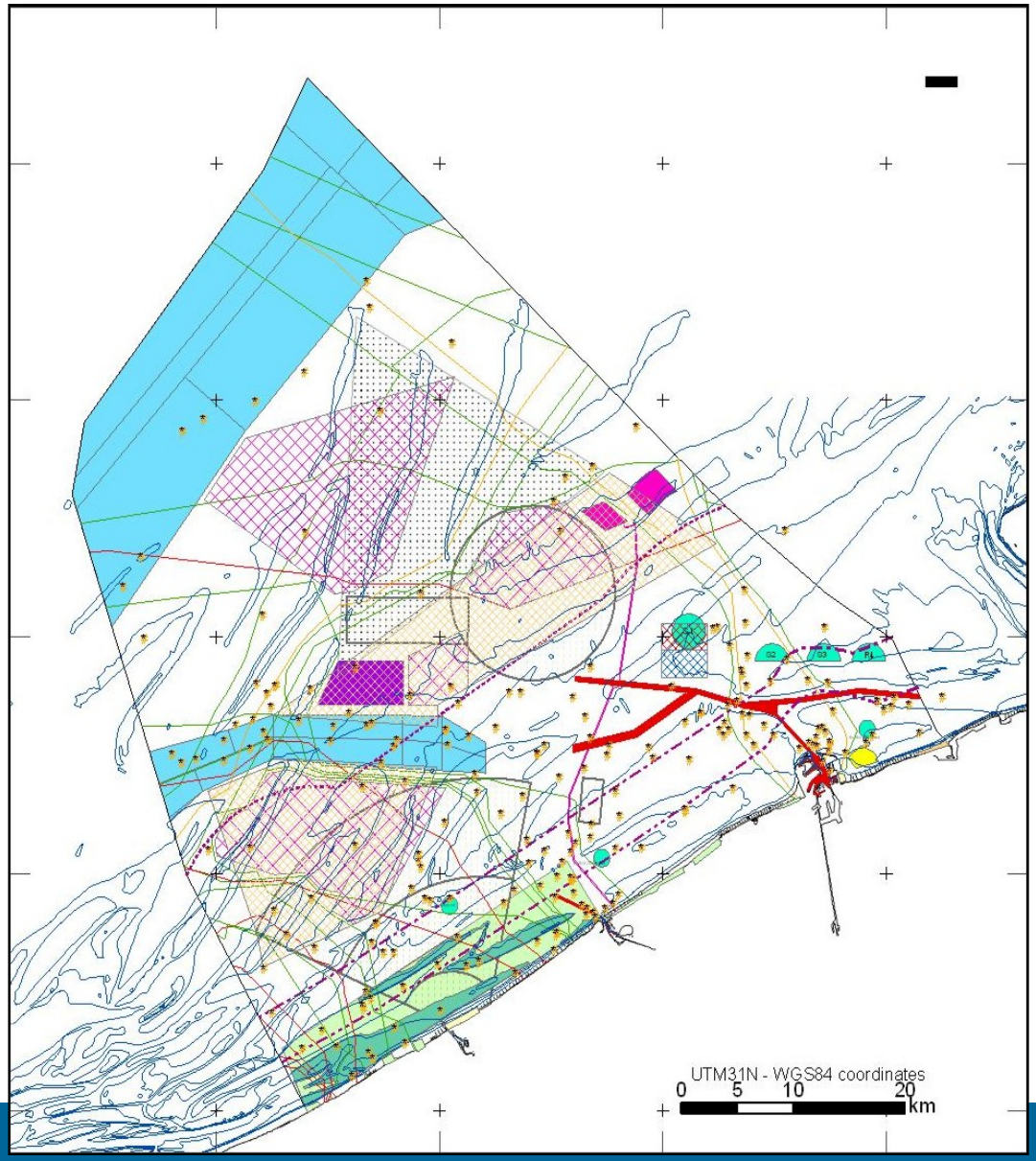
Fanny DOUVERE
Charles N. EHLER

UNESCO
Man and the Biosphere Programme and
Intergovernmental Oceanographic Commission
Paris, France

DEFINING THE MANAGEMENT UNIT



MARINE SPATIAL PLANNING IN BELGIUM



MASTER PLAN, 2004

PHASE 1:

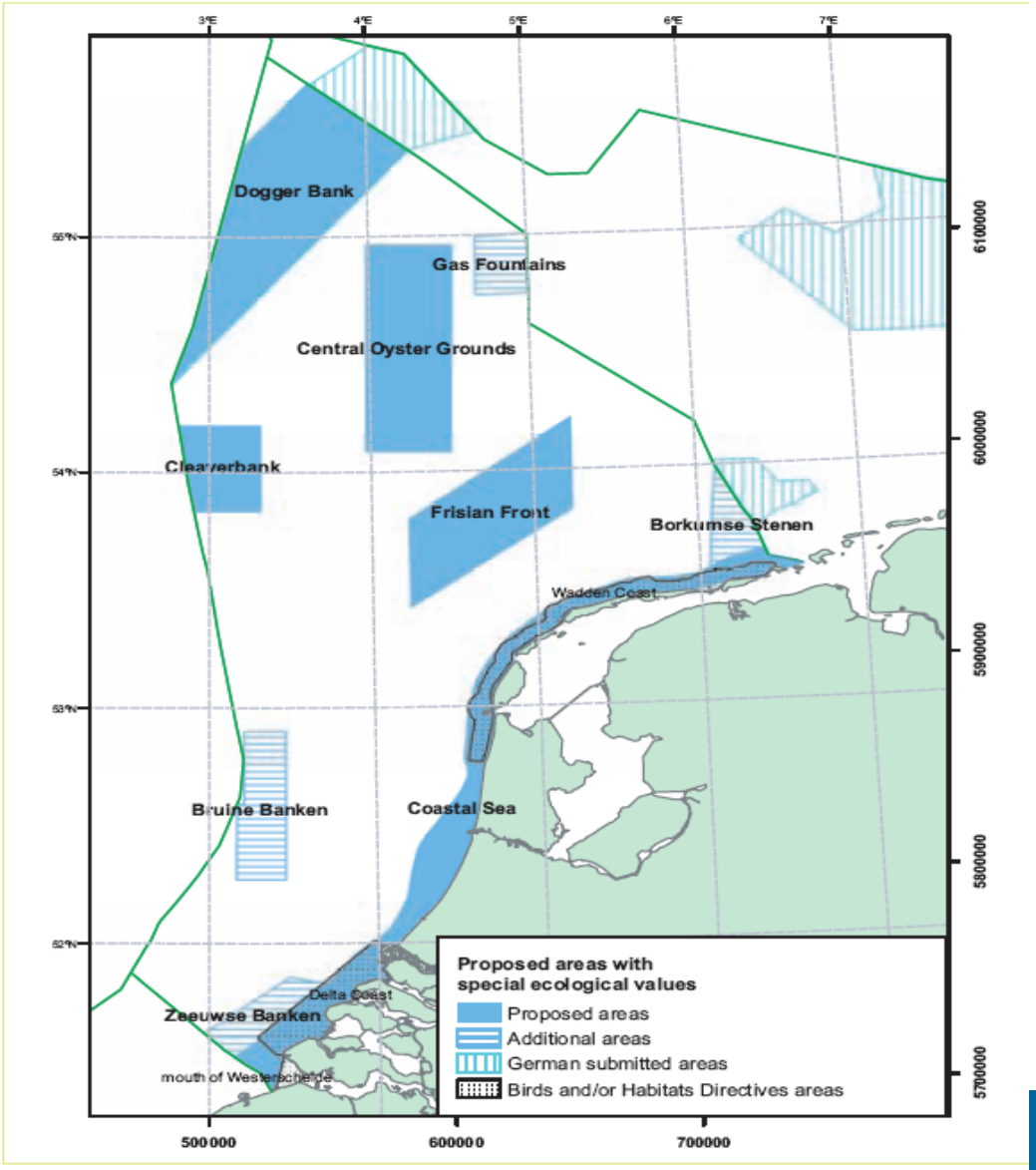
- Zones for Sand and Gravel
-Zones for Offshore Wind Energy

PHASE 2:

- Bird Directive Zones
- Habitat Directive zones

Source: F. Douvere, et al., Marine Policy (in press)

MARINE SPATIAL PLANING IN THE NETHERLANDS



INTEGRATED MANAGEMENT PLAN, 2005-2015

- Economic effective use of marine resources
- MSP key tool for achieving this objective

Source: H., Lindeboom (EU Green Week)

LESSONS FROM EUROPEAN EXPERIENCE WITH MARINE SPATIAL PLANNING

BENEFITS

- Significant Reduction of Conflicts among Users
- Maximum Benefits from Sea Use by Encouraging Activities to Take Place Where They Bring Most Value and Do Not Devalue Other Activities
- Nature Conservation through Marine Protected Areas
- Reduced Costs of Regulation, Planning, and Management

CURRENT GAPS

- Need for Comprehensive Legal Framework
- Need for Continuity
- Need to Link Integrated Coastal Management, Water Resource Management, and Sea Use Management
- Need for International and Regional cooperation
- Need for Stakeholder Participation

Global Conservation Priorities

REVIEW

(Brooks et al. 2006)

Global Biodiversity Conservation Priorities

T. M. Brooks,[1,2,3*] R. A. Mittermeier,[1] G. A. B. da Fonseca,[1,4] J. Gerlach,[5,6] M. Hoffmann,[1] J. F. Lamoreux,[3] C. G. Mittermeier,[1] J. D. Pilgrim,[7] A. S. L. Rodrigues[5]

The location of and threats to biodiversity are distributed unevenly, so prioritization is essential to minimize biodiversity loss. To address this need, biodiversity conservation organizations have proposed nine templates of global priorities over the past decade. Here, we review the concepts, methods, results, impacts, and challenges of these prioritizations of conservation practice within the theoretical irreplaceability/vulnerability framework of systematic conservation planning. Most of the templates prioritize highly irreplaceable regions; some are reactive (prioritizing high vulnerability), and others are proactive (prioritizing low vulnerability). We hope this synthesis improves understanding of these prioritization approaches and that it results in more efficient allocation of geographically flexible conservation funding.

Review of 9 approaches

Two Metrics:

"Irreplaceability"

"Vulnerability"

Global Conservation Priorities

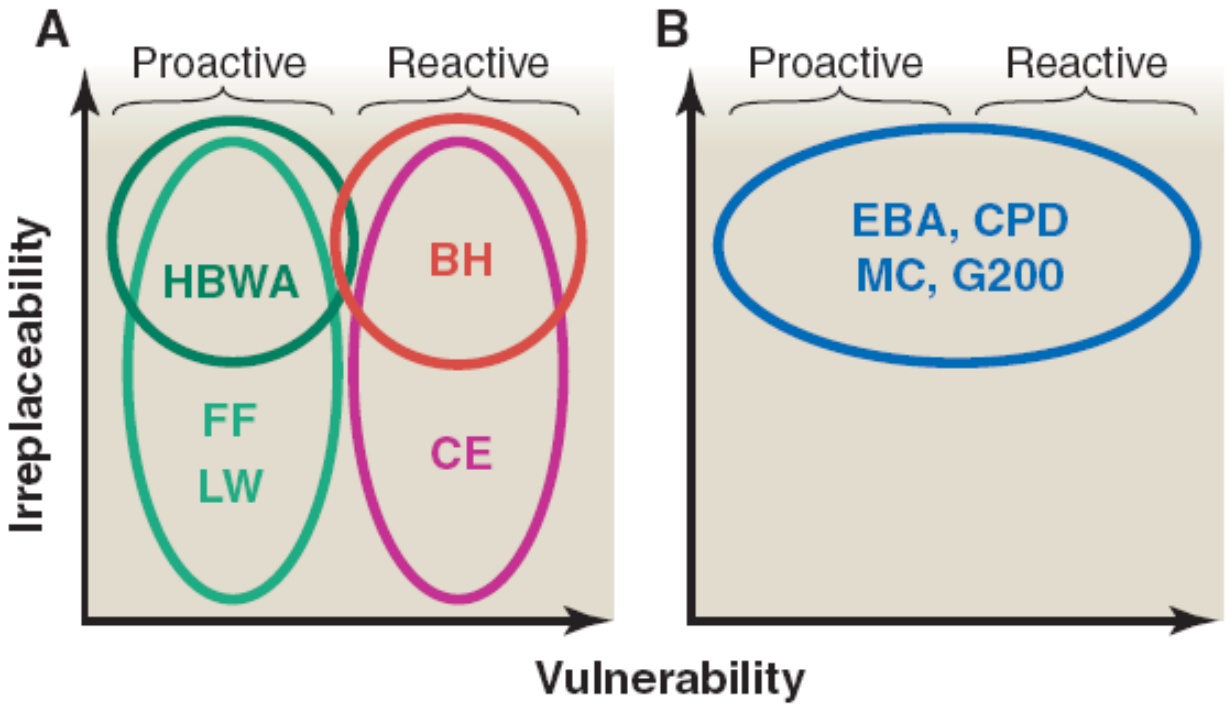


Fig. 1. Global biodiversity conservation priority templates placed within the conceptual framework of irreplaceability and vulnerability. Template names are spelled out in the Fig. 2 legend. (**A**) Purely reactive (prioritizing low vulnerability) and purely proactive (prioritizing high vulnerability) approaches. (**B**) Approaches that do not incorporate vulnerability as a criterion (all prioritize high irreplaceability).

(Brooks et al. 2006)

Target High "Irreplaceability": Ensures targets will be met, maximizes outcome per investment

Target High "Vulnerability": Protect imperiled ecosystems

Target Low "Vulnerability": Protect more undamaged ecosystems proactively

Global Conservation Priorities

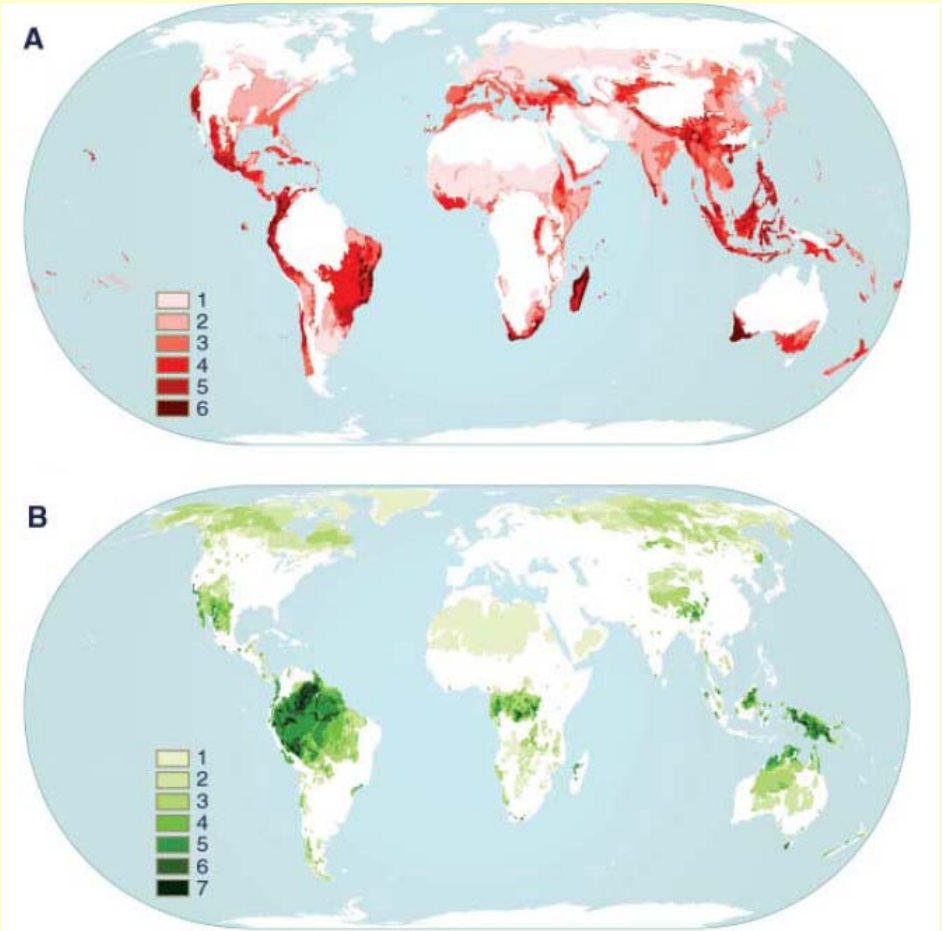


Fig. 3. Mapping the overlay of approaches prioritizing reactive and proactive conservation. (**A**) Reactive approaches, corresponding to the right-hand side of Fig. 1A, which prioritize regions of high threat, and those that do not incorporate vulnerability as a criterion (Fig. 1B); the latter are only mapped where they overlap with the former. (**B**) Proactive approaches, corresponding to the left-hand side of Fig. 1A, which prioritize regions of low threat, and those that do not incorporate vulnerability as a criterion (Fig. 1B); again, the latter are only mapped where they overlap with the former. Shading denotes the number of global biodiversity conservation prioritization templates that prioritize the shaded region,

REACTIVE - prioritize vulnerability

PROACTIVE - prioritize irreplaceability

(Brooks et al. 2006)

Hot Areas for Marine Conservation

Aquatic systems feature poorly in existing conservation templates. Only one conservation prioritization explicitly incorporates aquatic systems (coral reefs)

Most measurement of irreplaceability is species based, raising concern that phylogenetic diversity may slip through the net of global conservation priorities

That global conservation priority regions capture phylogenetic history does not necessarily mean that they represent evolutionary process (e.g., transition zones)

A final dimension that will prove important to assess in the context of global conservation prioritization concerns ecosystem services (e.g., climate, fisheries, diseases)

(Brooks et al. 2006)

Space: The Final Frontier

Lessons learned about the role of science

1. Don't wait for 'perfect science' or you will never start.
2. The value of a robust regionalisation as a basis of spatial planning.
3. Having a clear and transparent set of operating principles is critical.
4. The operating principles are based on the best available advice, but can always be improved.

Lessons learned about political support

1. The boundaries between science and policy are constantly being renegotiated in political process.
2. It may be necessary to concede one or more particular aspects to achieve the overall outcome.
3. The more that legislators and politicians are involved (the more they are aware of the planning process), and the greater the community 'buy-in' to the final outcome, the more supportive the politicians will be.