Marine Spatial Planning:

Introduction

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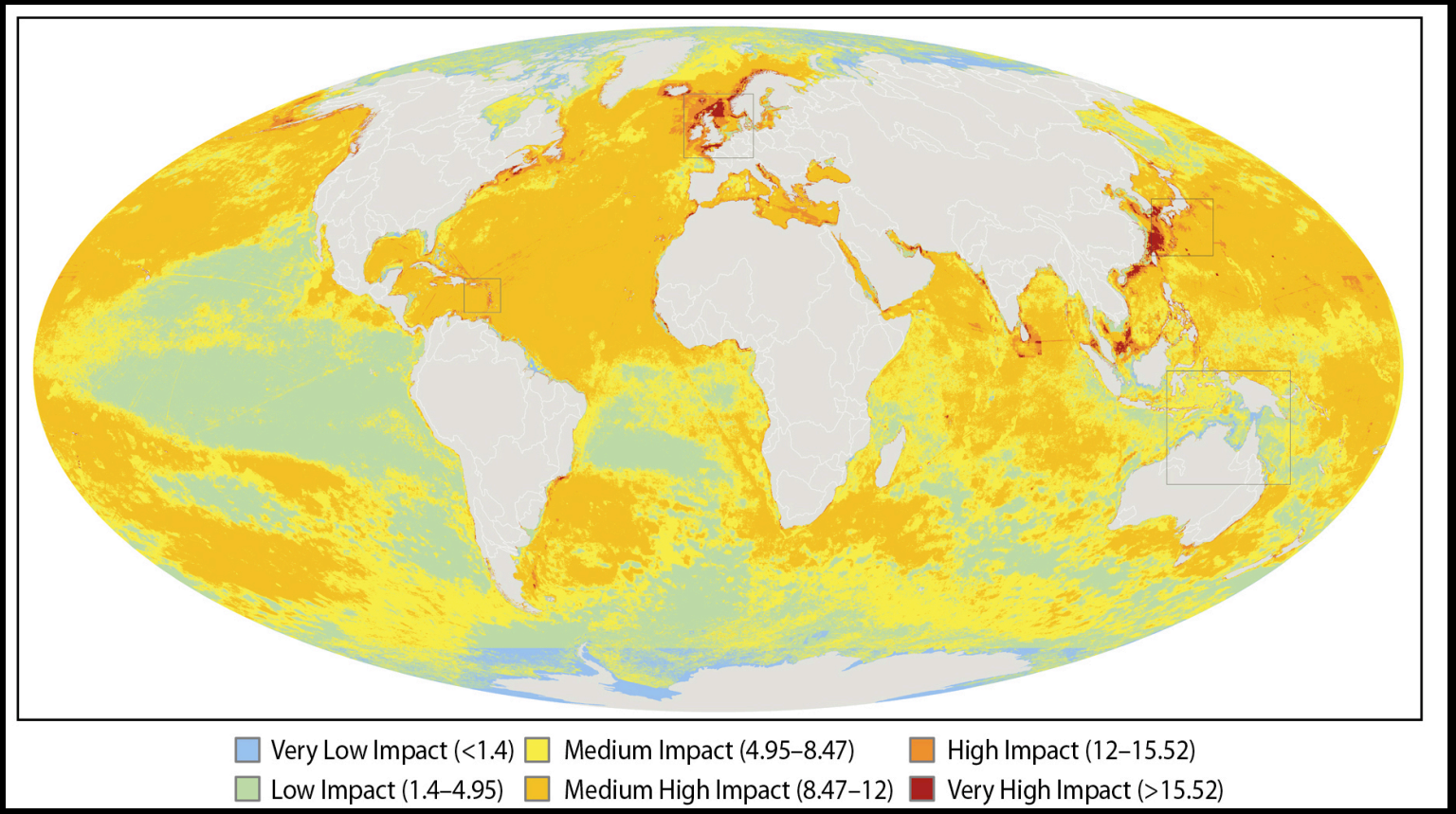
San Gwann, Malta

03 December 2009

Why Do We Need Marine Spatial Planning?

No Area of the Ocean Is Untouched by Human Activity



Halpern et al., 2008, ***Science*** (Feb 14)

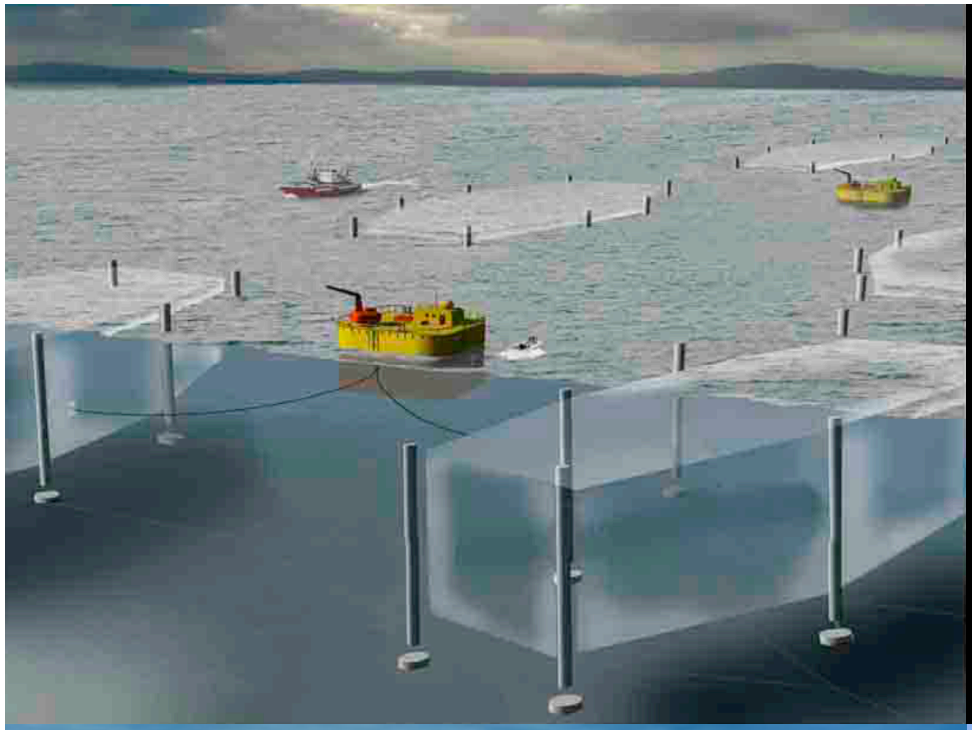
Many marine places are under increasing development pressures....

From Traditional Human Uses....

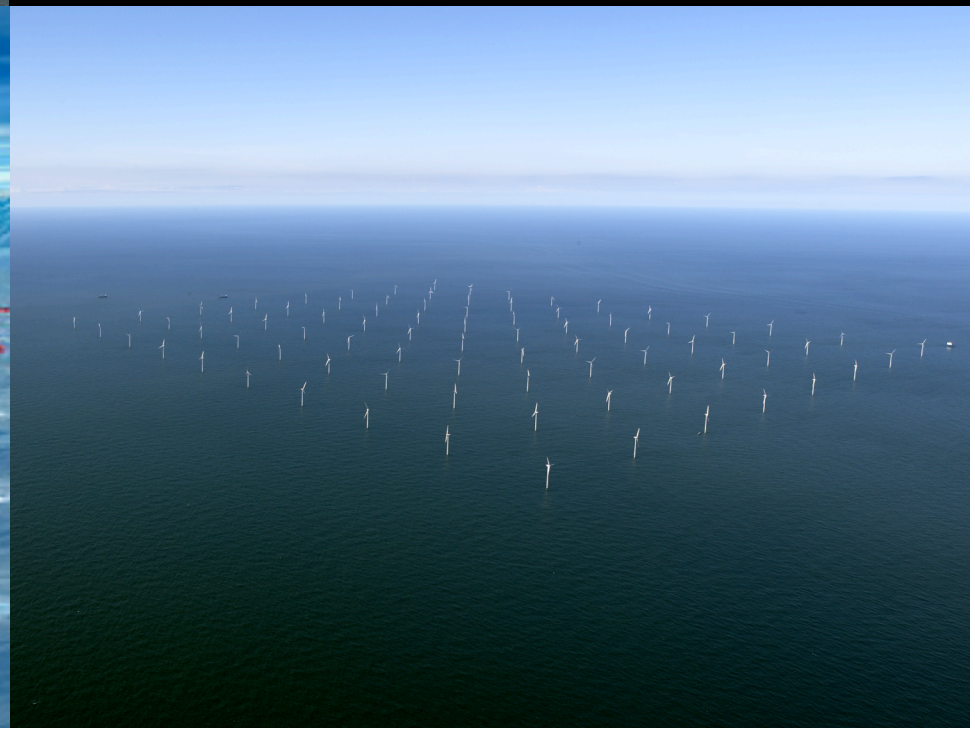
From Technological Change....

AUV Monitoring Wellhead

World's Largest Floating Platform



From New Demands
for Ocean Space....

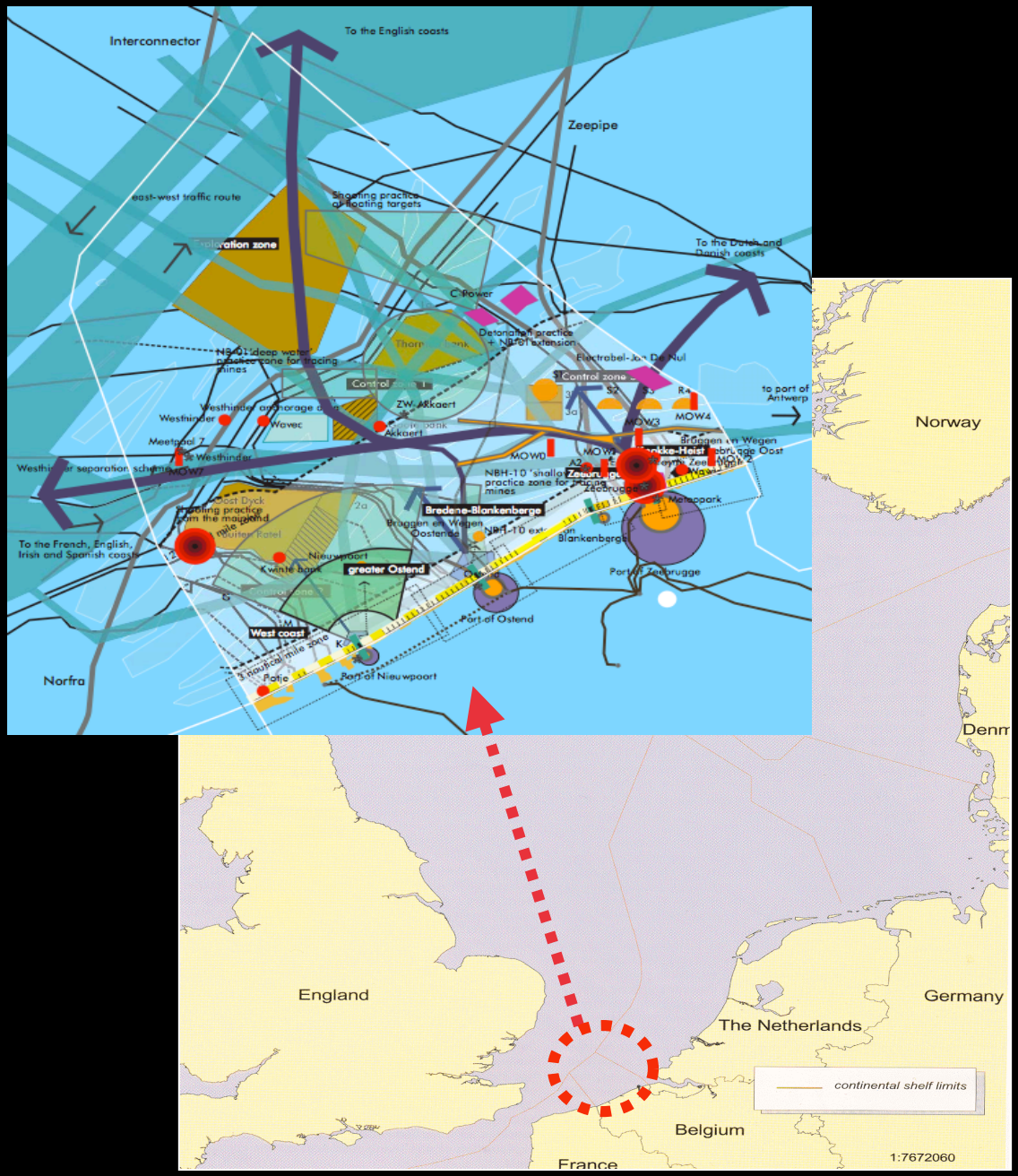


Arctic Explorer Unloading LNG at Cove Point, MD, USA

From Development in New Ocean Places....

Shtokman Gas Field, Barents Sea, Russia

... The Result



Source: Maes, F. *et al.*

Two Ways to Manage Marine Spaces

- Incremental
  - One economic sector at a time
  - Allocation of uses without regard to other uses
  - Allocation of uses without regard to nature
- Integrated
  - Across economic sectors
  - Across agencies
  - Among levels of government
  - Allocation of uses considering other uses
  - Allocation of uses considering the needs of nature for certain places


Commercial Fishing
Offshore Aquaculture
Offshore Recreation
Offshore Oil & Gas
Offshore Renewable Energy
Military Activities
Offshore Mineral Mining
Marine Transportation
Nature Conservation
Incremental, Single-Sector Management

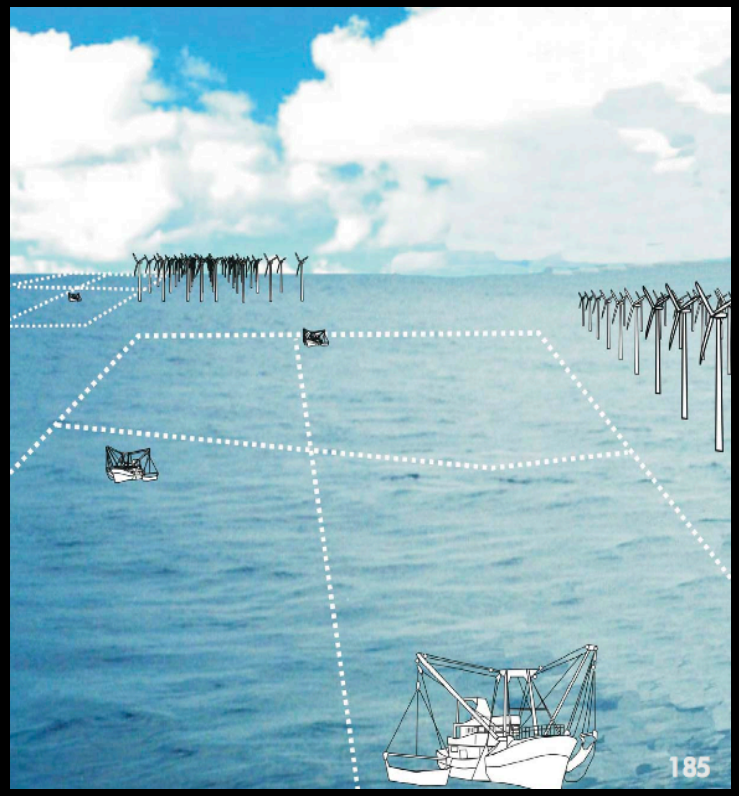
Zoning without Marine Spatial Planning

- Vessel Traffic Routes
- Vessel Traffic Separation Zones & Precautionary Zones
- Areas To Be Avoided (by vessels)
- Particularly Sensitive Sea Areas (PSSAs)
- Safety Zones Around Vessels and Terminals
- Anchoring & No-Anchoring Areas
- Security Zones in Ports and Waterways
- Oil & Gas Lease or Concession Areas
- Wind Farm and Wave Park Lease or Concession Areas
- Safety Zones Around Oil & Gas Installations, Wind Farms, Wave Parks, etc
- Military Operations or Exercise Zones
- Dredging Sites or Areas
- Dredged Material Disposal Areas or Zones
- Oil & Gas Pipeline Rights of Way
- Submarine Communications Cable Rights of Way
- Energy Transmission Line Rights of Way
- Sand & Gravel (Aggregate) Extraction Areas
- Fishery Closure Areas, including seasonal closures
- No-Trawl Areas
- Critical Habitat Designations
- Offshore Aquaculture Areas
- Marine Protected Areas
- Protected Archeological Areas, e.g., Ship Wrecks
- Cultural or Religious Areas
- Scientific Reference Sites

Existing MSP Programs

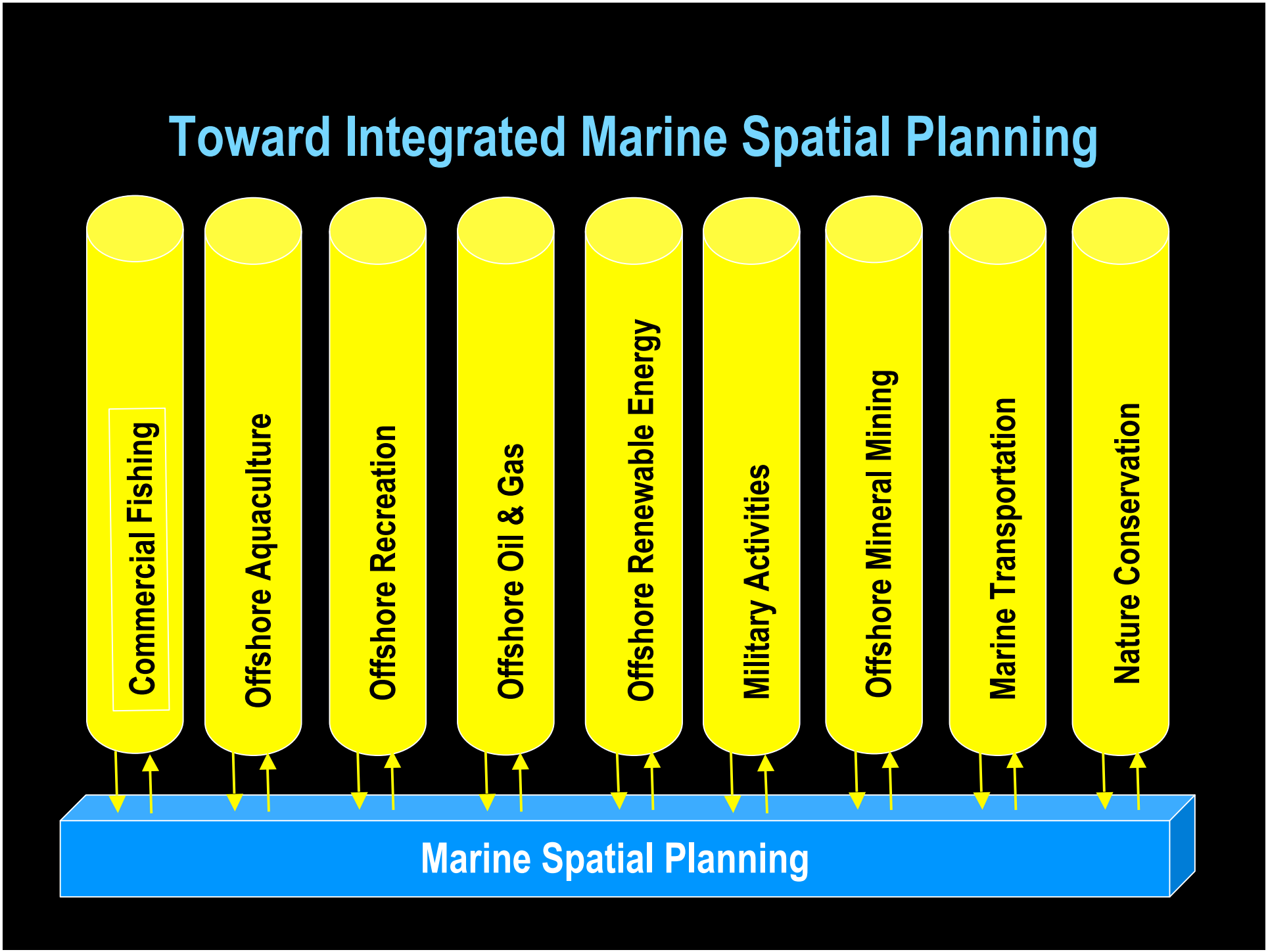
Australia	*Great Barrier Reef Original Zoning*	*1983-1988*
	Great Barrier Reef Representative Areas Programme	*1998-2005*
	Five Marine Bioregional Plans, including Southeast Regional Marine Plan	*2002-ongoing*
USA	*Florida Keys National Marine Sanctuary*	*1991-ongoing*
	Channel Islands National Marine Sanctuary	
	Massachusetts Integrated Oceans Management Plan	*2008-09*
	Rhode Island Ocean Special Area Management Plan	*2008-ongoing*
Canada	*Five Large Ocean Management Area (LOMA) plans, including*	*1998-2009*
	Eastern Scotian Shelf Integrated Management Plan	
	Beaufort Sea Integrated Management Plan	
China	*Territorial Sea Functional Zoning*	*2002-ongoing*
United Kingdom	*Marine Bill/Irish Sea Pilot Project*	*2002-ongoing*
Belgium	*GAUFRE Project/Master Plan for Belgian Part of the North Sea*	*2003-2005*
The Netherlands	*Integrated Management Plan for the North Sea, 2015, and revision*	*2003-ongoing*
Germany	*Marine Spatial Plans for the North Sea and Baltic Sea EEZs*	*2004-ongoing*
	Mecklenburg-Volporam Marine Spatial Plan	
Norway	*Integrated Management Plans for the Barents, Norwegian, & North Seas*	*2002-ongoing*
Poland	*Gulf of Gdansk MSP Pilot Project*	*2007-08*

What Is Marine Spatial Planning?



The public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that are usually specified through a political process.

Ehler & Douvere
Visions for a Sea Change
UNESCO International Workshop on Marine Spatial Planning, 2006


Toward Integrated Marine Spatial Planning
Commercial Fishing
Offshore Aquaculture
Offshore Recreation
Offshore Oil & Gas
Offshore Renewable Energy
Military Activities
Offshore Mineral Mining
Marine Transportation
Nature Conservation
Marine Spatial Planning

Why Is Time and Space Important?

The Oceans Are Not Homogeneous

Some Areas are More
Ecologically Important
than Others

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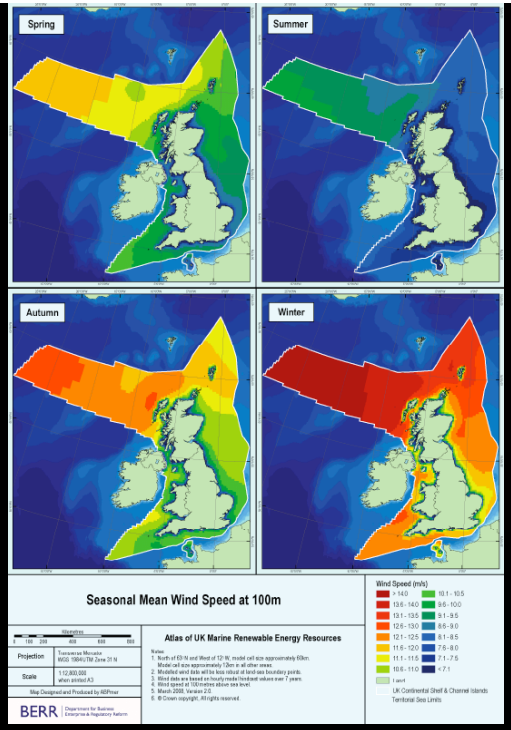
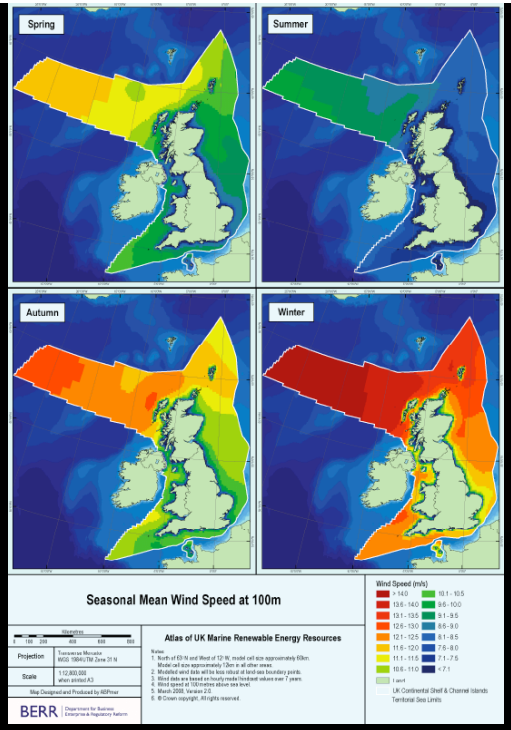
- Areas of High Biodiversity
- Areas of High Endemism
- Areas of High Productivity
- Spawning Areas
- Nursery Areas
- Migration Stopover Points



Some Areas are More Economically Important than Others



Some Areas are More Economically Important than Others

Oil & Gas Deposits

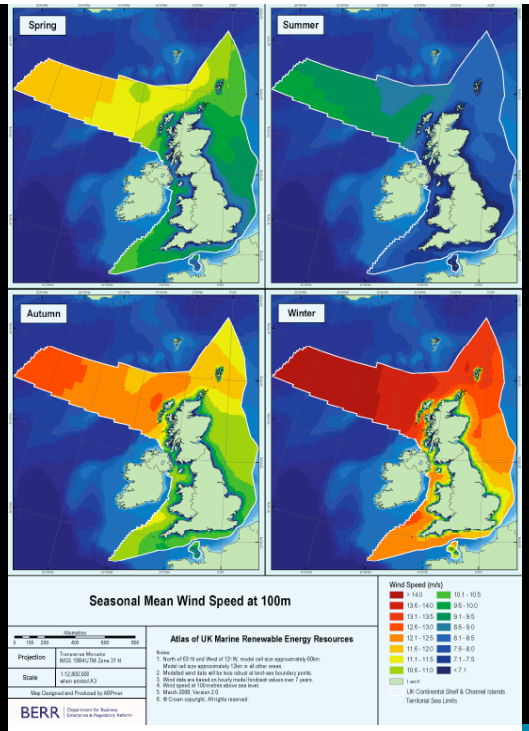
Sand & Gravel Deposits

Fishing Grounds

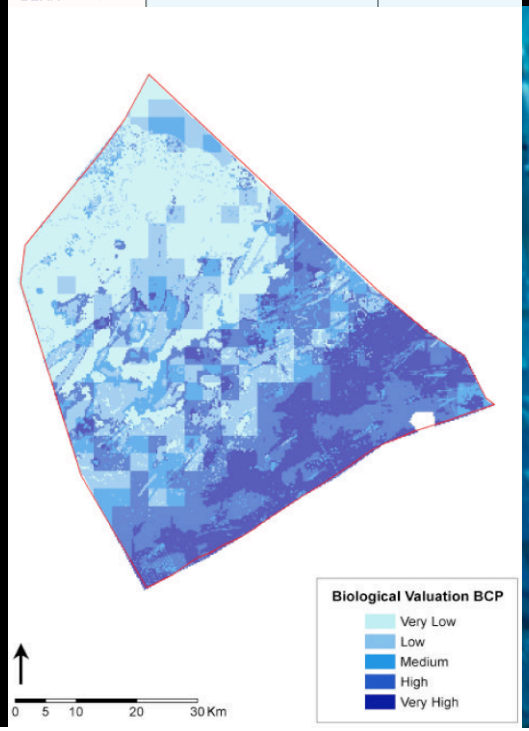
Transportation Routes

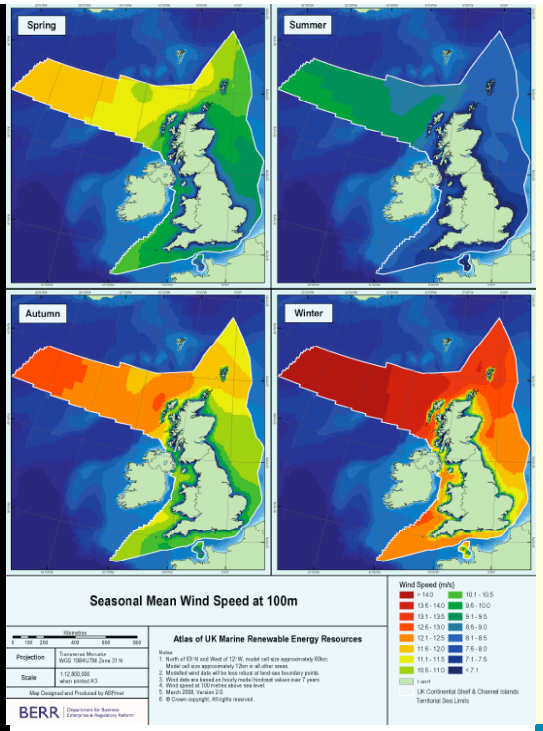
Areas of Sustained Winds

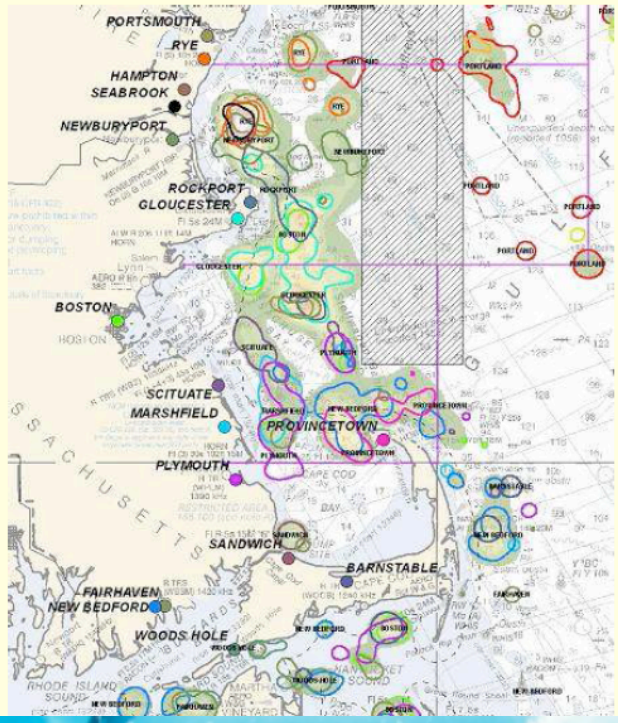
Areas of Sustained Waves

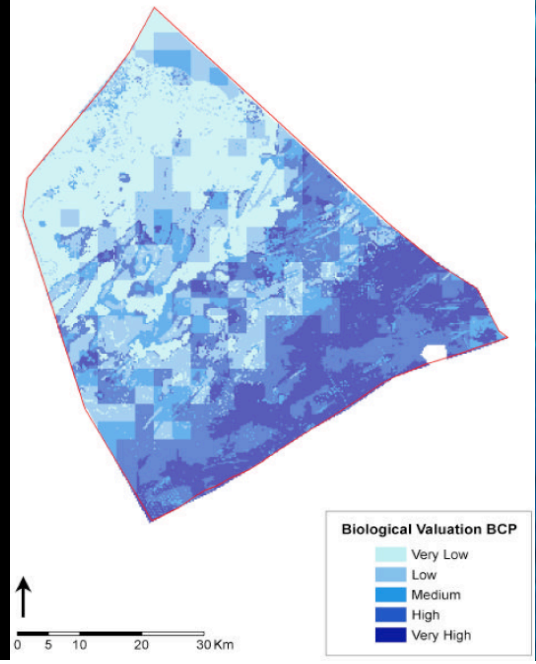


Effective Marine Spatial Planning should Address Spatial and Temporal Heterogeneity




Spring
Summer
Autumn
Winter
Seasonal Mean Wind Speed at 100m
Atlas of UK Marine Renewable Energy Resources
Wind Speed (m/s)
> 14.0
13.6 - 14.0
13.1 - 13.5
12.6 - 13.0
12.1 - 12.5
11.6 - 12.0
11.1 - 11.5
10.6 - 11.0
10.1 - 10.5
9.6 - 10.0
9.1 - 9.5
8.6 - 9.0
8.1 - 8.5
7.6 - 8.0
7.1 - 7.5
< 7.1
Projection
Scale
BERR


PORTSMOUTH
RYE
HAMPTON
SEABROOK
NEWBURYPORT
ROCKPORT
GLOUCESTER
BOSTON
SCITUATE
MARSHFIELD
PROVINCETOWN
PLYMOUTH
SANDWICH
BARNSTABLE
FAIRHAVEN
NEW BEDFORD
WOODS HOLE


Biological Valuation BCP
Very Low
Low
Medium
High
Very High
0 5 10 20 30 Km

Benefits of Marine Spatial Planning

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- **Economic**
  - Provides greater certainty to the private sector when it plans new investments
  - Identifies areas of compatible uses for development
  - Reduces conflicts among incompatible uses and between uses and nature
  - Streamlines permitting
  - Can reduce cumulative impacts on marine environment

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- **Environmental**
  - Identifies areas of biological or ecological importance and reduces risk of conflict with development
  - Enables ecological objectives to be at heart of marine spatial planning and management
  - Ensures space for biodiversity and nature conservation
  - Provides context for network of marine protected areas

“I am rather like a mosquito in a nudist camp;
I know what I ought to do, but
I don’t know where to begin.”

Stephen F. Bayne, Jr.
1908-1974
American Bishop
Anglican Church

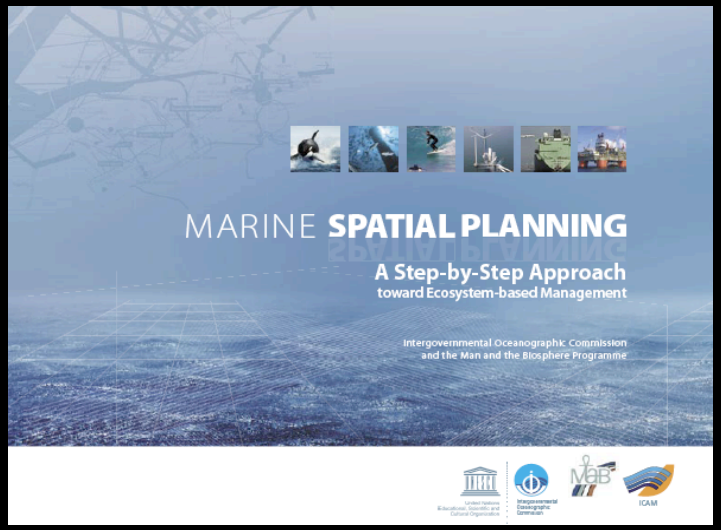
MARINE **SPATIAL PLANNING**

A Step-by-Step Approach
toward Ecosystem-based Management

Intergovernmental Oceanographic Commission
and the Man and the Biosphere Programme

July 2009

10 Steps for Marine Spatial Planning



Step 1	Defining Context and Authority
Step 2	Obtaining Financial Support
Step 3	Organizing Stakeholder Participation
Step 4	Organizing the Process Through Pre-Planning
Step 5	Analyzing Current Conditions
Step 6	Analyzing Future Conditions
Step 7	Developing the Spatial Plan
Step 8	Implementing and Enforcing the Plans
Step 9	Monitoring and Evaluating Performance
Step 10	Adapting the Spatial Planning Process

Three Fundamental Questions

1. Where Are We Today?

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2. Where Do We Want to Be?

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1. Where Are We Today?
2. Where Do We Want to Be?
3. How Do We Get There?

Characteristics of MSP

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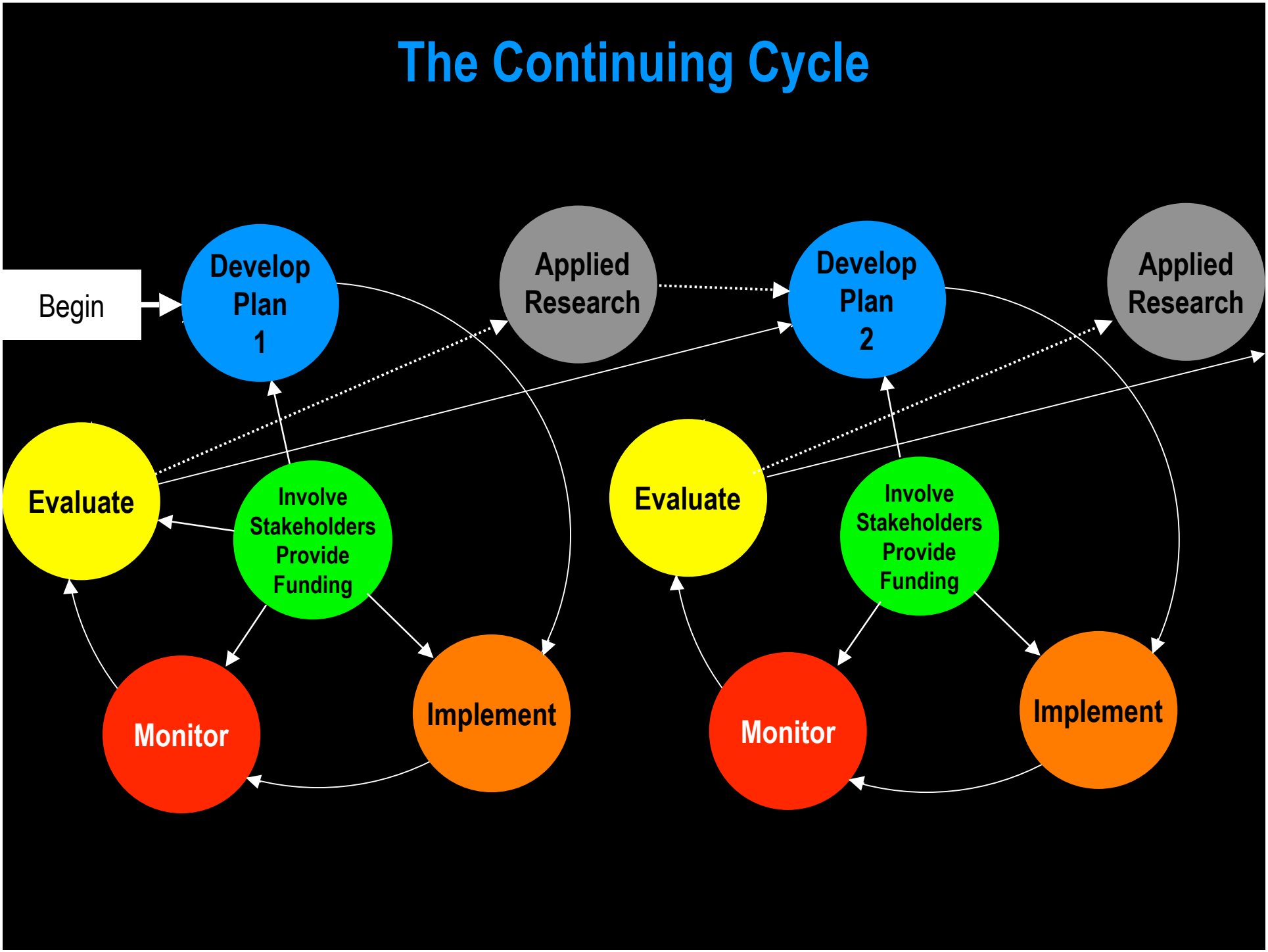
- **Place-based or Area-based**


The Continuing Cycle
Begin
Develop Plan 1
Applied Research
Develop Plan 2
Applied Research
Evaluate
Involve Stakeholders Provide Funding
Monitor
Implement
Evaluate
Involve Stakeholders Provide Funding
Monitor
Implement

What Is MSP NOT?

- A substitute for single-sector planning
- A one-time, “master” plan
- Conservation or MPA planning only
- Marine mapping only
- Ocean zoning

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Marine Spatial Planning Initiative

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- Marine Spatial Planning (MSP)
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- MSP Around the World
- MSP Good Practice
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Home

Welcome to the home page of the UNESCO initiative on marine spatial planning.

The **purpose of this initiative** is to help countries operationalize ecosystem-based management by finding space for biodiversity conservation and sustainable economic development in marine environments. One way to do this is through marine spatial planning. Our work focusses on moving marine spatial planning beyond the conceptual level by:

- Developing a step-by-step Approach for implementing marine spatial planning;
- Documenting marine spatial planning initiatives around the world;
- Analyzing good practices of marine spatial planning;
- Collecting references and literature on marine spatial planning;
- Enhancing understanding about marine spatial planning through publications;
- Developing capacity and training for marine spatial planning.

Read more about UNESCO and marine spatial planning

What is marine spatial planning?

Marine spatial planning is a **public process** of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic and social objectives that have been specified through a political process.

Read more

Who is making this work possible?

This current work is made possible primarily through grants from the Gordon and Betty Moore Foundation and the David and Lucile Packard Foundation. Other contributors to this initiative are WWF International, the Belgian Science Policy Office and the Flemish Government (Belgium).

A list of contributors to the 2006 Workshop on marine spatial planning is available on the sponsors page of this website.

NEWS - EVENTS - ARCHIVE

- US President Obama launches Task Force on marine spatial planning *(June 2009)*

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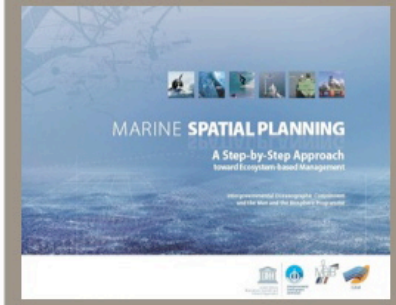

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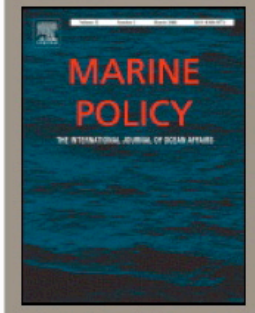

September 2008

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Thank you!

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Thanks to the Gordon and Betty Moore Foundation and the David and Lucile Packard Foundation for their support of the UNESCO work on marine spatial planning. WWF-International and the Government of Belgium have also contributed funds to the program.