



22nd March 2011, Westbanks Symposium
The North Sea, field lab for marine protected areas



Case study of a newly created French MPA in Nord-Pas de Calais: in the frame of a representative and coherent network of North Sea MPAs

Harlay Xavier & Jean-Marie Dewarumez



"The north Sea, field lab for marine protection" Symposium, 22nd March 2011



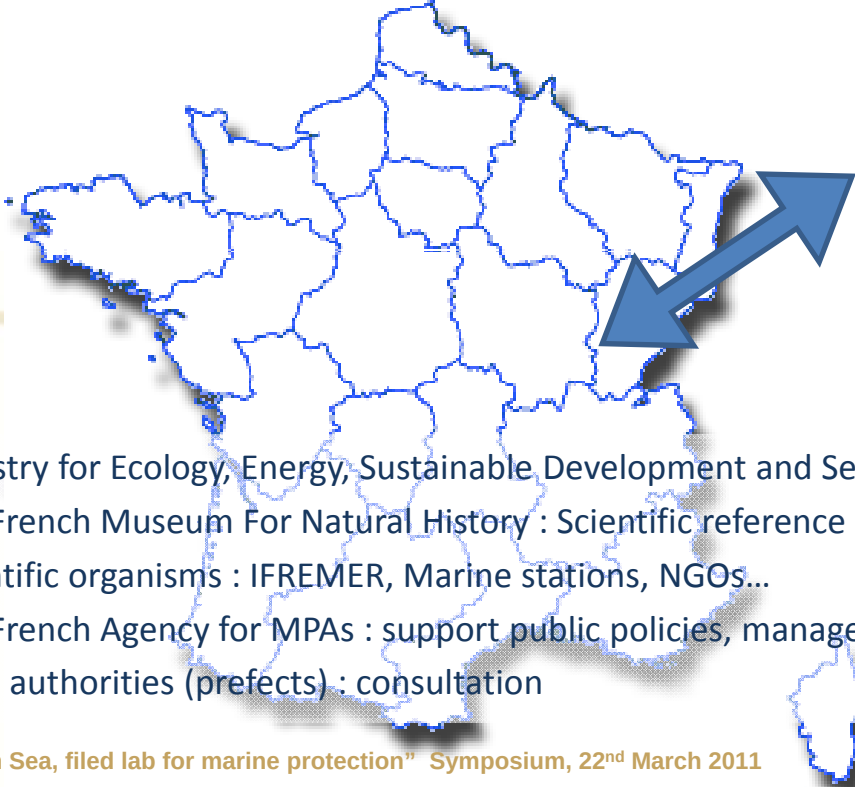


French Scheme in agreement with the **International Strategy**

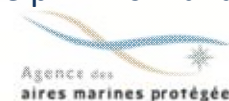
Meeting the 2012 targets

- CDB : global network 2012
- OSPAR : coherent and well managed network 2010
- Natura 2000 : SPAs and SACs to be completed
- EU WFD
- EU MSFD : network of MPAs/GES including N2000
- ...

- Law for Nature Protection (1976)
- Law for Natura 2000 (2001,...)
- The marine biodiversity action plan (2005)
 - Strategy for MPAs
- The law on marine nature park (2006)
 - Institution of the MPA Agency
- “Grenelle de la mer” large public consultation (2009)

- 
- Ministry for Ecology, Energy, Sustainable Development and Sea : decisions
 - The French Museum For Natural History : Scientific reference
 - Scientific organisms : IFREMER, Marine stations, NGOs...
 - The French Agency for MPAs : support public policies, manage Marine parks, federate and help MPAs managers
 - Local authorities (prefects) : consultation

“The north Sea, filed lab for marine protection” Symposium, 22nd March 2011



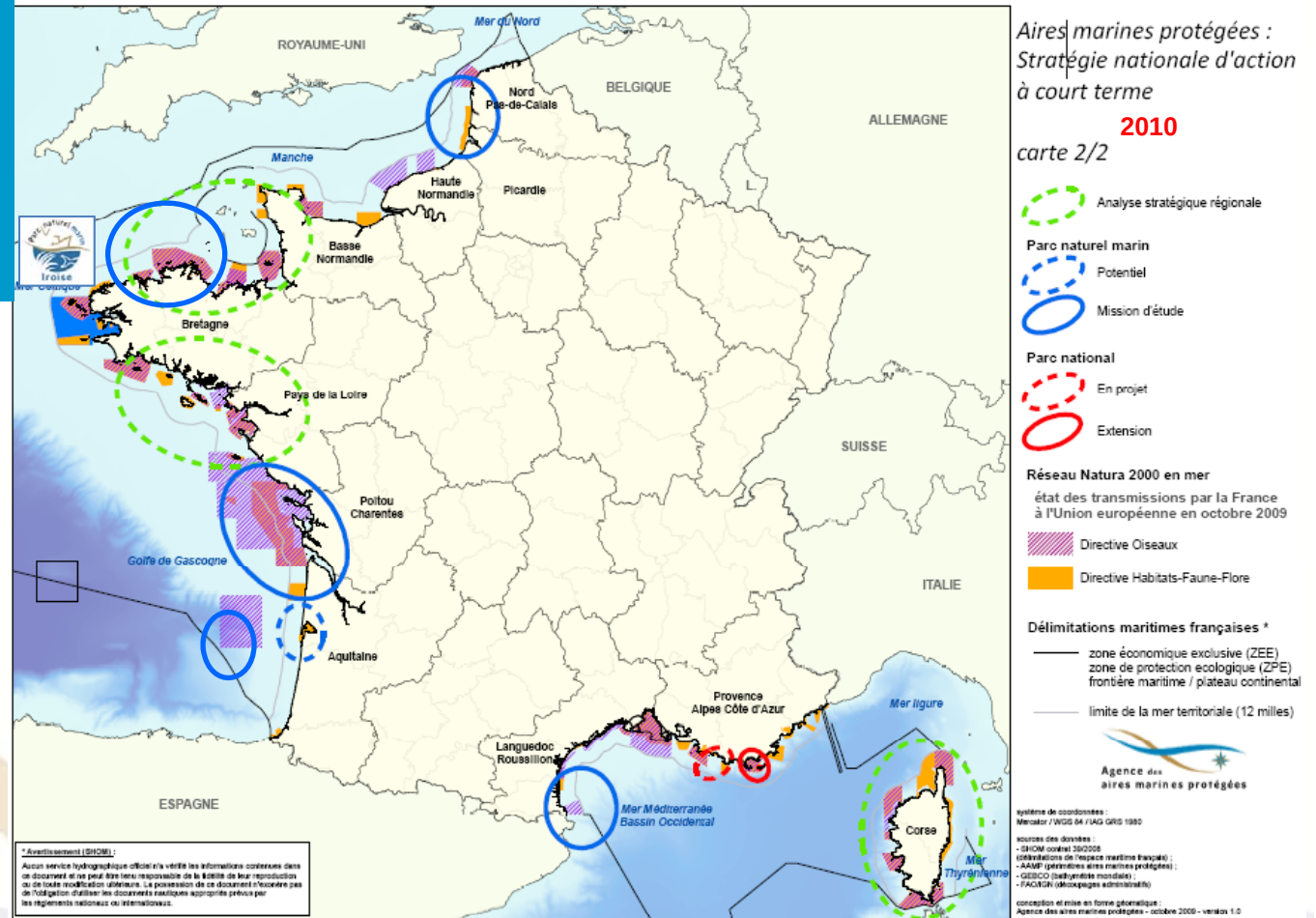


French Scheme for Marine Protected Areas

In French marine waters :
10% **marines protected areas** in 2012 and
20% in 2020
with 50% fishing reserve

To establish, by 2012 :

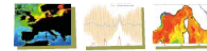
A strong, ecologically coherent and well managed network of marine protected areas (MPAs), that is well understood and supported by all marine users



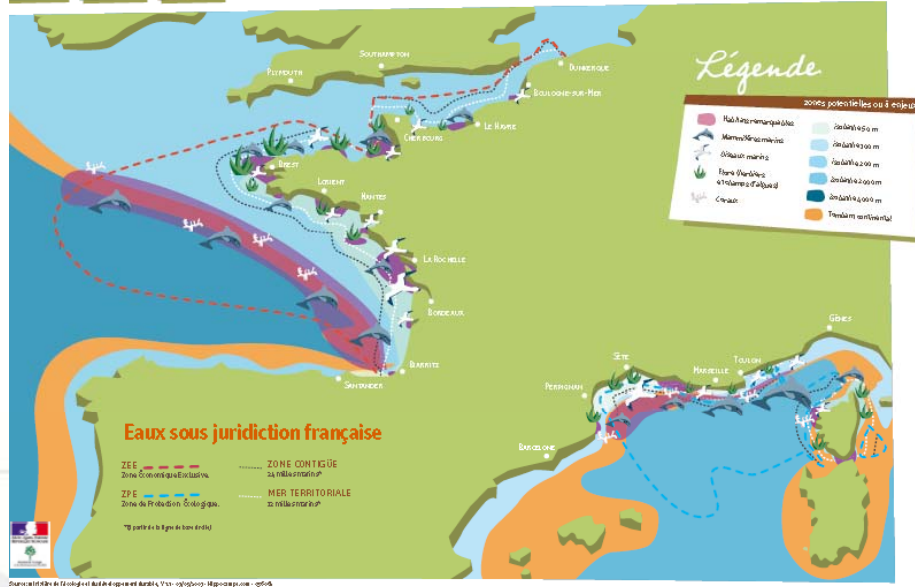


Thematic synthesis

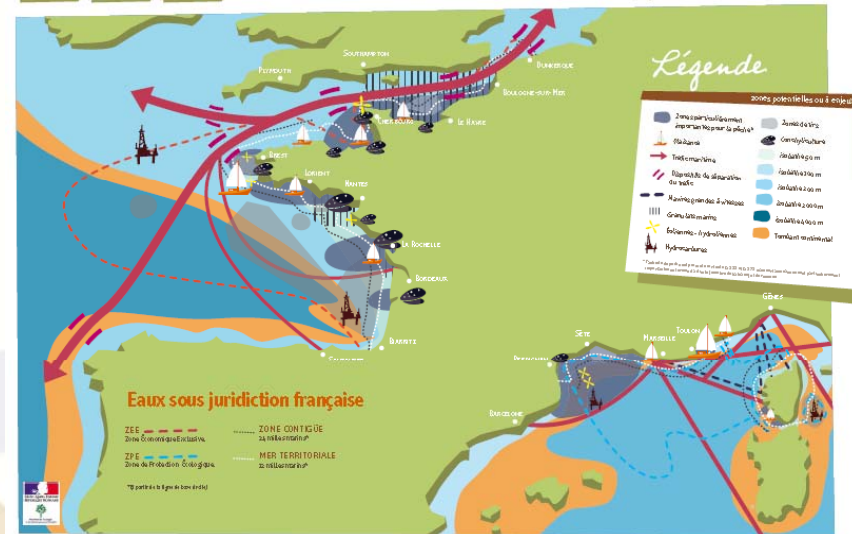
FONCTIONNEMENT DES ÉCOSYSTÈMES REPRÉSENTATION DES ENJEUX DE L'ESPACE MARIN



PATRIMOINE NATUREL MARIN REPRÉSENTATION DES ENJEUX DE L'ESPACE MARIN



USAGES, PRESSIONS ET RESSOURCES REPRÉSENTATION DES ENJEUX DE L'ESPACE MARIN





What is a Marine Nature Park?

It's a **maritime space**
where **natural environment** and **cultural heritage**
present a particular interest to **guarantee protection** and **prevent any damage**

Marine Nature Park contributes **to knowledge, protection, and sustainable development**

Marine Nature Park is a **new form of governance** shared between **French government** and **local authorities, with association of stakeholders.**
It's defined by an **area**, a **management plan** and a **management council** (all stakeholders)

Reference texts :

- French law, 14th April 2006
- Decree, 16th October 2006

**We collectively have to preserve the sea:
natural resources and maritime cultural
heritage**



The management council: composed according to local stakes





Marine nature park is a part of marine protected areas network

*Is it not a new layer,
a "millefeuille", is it???*



Marine Nature Park

Natural Reserve and National
Park **at sea**

Natura 2000 **at sea**



Biotope protection
site **at sea**

Conservatoire du littoral (**marine part**)

Reference texts :

- French law, 14th April 2006
- Decree, 16th October 2006

A very large tools range **fitted**
to the stakes at sea:
objectives, management,
governance

The Management Council
guarantees the
cohesion
of all other surrounding
protected areas.



Management of marine protected areas

Law of 14th April 2006

Management council

+

Thematic Commissions



Management plan

(integrated)

Management guidance

Environment Restoration

Biologic ressources

Scientific references

Good governance

Education . . .



Marine Nature Park

Good Status of conservation

Nature Reserve **at sea**



Natura 2000 site **at sea**



Biotop Protection
site **at sea**

Conservatoire du littoral (**marine part**)



Notable habitats, species, sites

Biodiversity

Good functionality

Attractive landscapes

Ecosystem services

**Sustainable
development**



An example of MPA in France :

Marine Nature Park

Outer 3 estuaries

Somme, Authie, Canche



Management tool including **Natura 2000 at sea**



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Mission d'étude
Parc naturel marin
à l'ouvert des trois estuaires
Somme, Authie, Canche

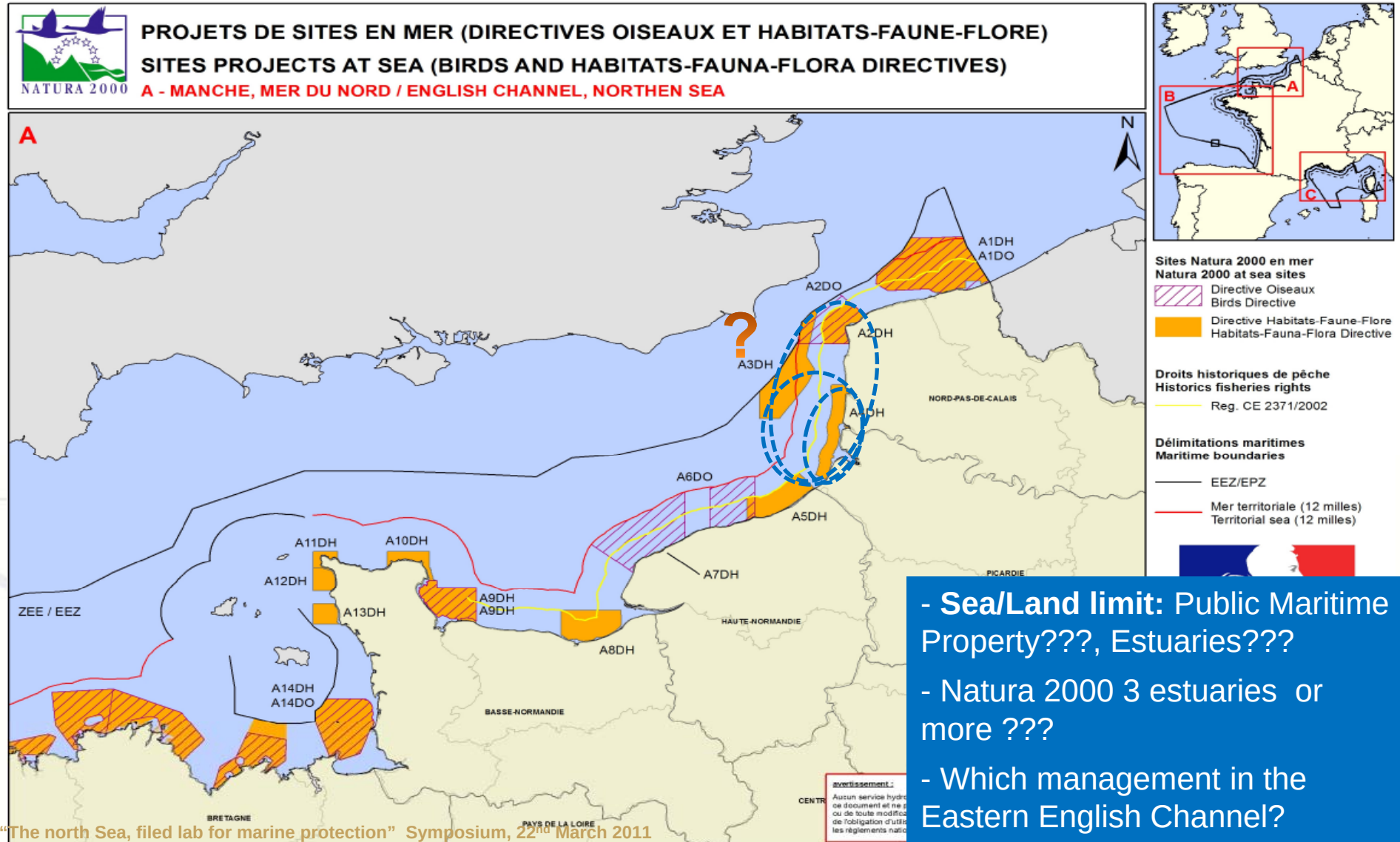
Agence des
aires marines protégées



Crédits photos: X.HARLAY, MD.MONBRUN, Agence des aires marines protégées, Conservatoire du littoral



A Marine Nature Park within the Marine Protected Areas network?





International:
Christophe LEFEBVRE

Study mission
Marine nature Park – 3 estuaries
Marie-Dominique MONBRUN
Xavier HARLAY
Magali LOEUILLET

English Channel - North Sea Office
Christophe AULERT
Sylvain BOUQUET
Vincent TOISON

Study mission
Marine nature Park - Normand-breton Gulf
Hervé MOALIC
Olivier ABELLARD

Headoffice
Olivier LAROUSSINIE
Pierre LECA
François GAUTHIEZ
« Dash board » for MPAs
Jérôme PAILLET

Boulogne/mer

Cherbourg

Le Havre

Granville

PARIS

English Channel and North Sea
Maritime Prefet
Vice Amiral Bruno NIELLY
Daniel LEDIREACH
Anne LALLEMAND
Ronan LUCAS
...

French museum of Natural
Histoiry

Eastern Channel and North Sea
Interregional Direction
Laurent COURCOL
Denis VAN DER PUTTEN
...

Regional Direction for Environment and
land development and residence
In each region



Marine Nature Park project outer 3 **preserved** estuaries ...

- **Main uses :**

Fishing, Shipping, Harbour

- **Traditional uses**

Fishing, maritime hunting

Leisure, tourism

- **New uses**

windfarms, aggregate

■ **International** strait

■ various, interdependent **Ecosystems** linked to terrestrial littoral environment

■ Notable **habitats**

■ Influenced by a “**Marine coastal river**”, strong currents, western wind and rivers (particularly Seine)

■ Still « Free » **estuaries** and huge shore without large urbanisms, allowing land-sea communications, but threatened. Places for numerous recreational activities

■ **Strait**, bottleneck for migratory species

Natural heritage

Ecosystems

Industrial activities

Fisheries

Sources SHOM; Affaires Maritimes; CRPMM Boulo

Fisheries

The map illustrates the Baie de Seine area, including the coastal regions of Normandy and Brittany. It shows various fishing activities and vessel types operating in the area. The map is color-coded to represent different types of fishing activities, with arrows indicating the movement of vessels between different zones. The legend identifies the following activities:

- Chalutier (Blue square)
- Fileyeur (Red square)
- Polyvalent / Coquillier / Crevettier (Green square)
- Autres petites pêches (civellier, caseyeur, ligneur...) (Purple square)
- Barge (Light blue square)
- Mytiliculture (Orange triangle)
- Dieppoises (Blue arrow)
- Navires étrangers (Green arrow)

Four pie charts are included, showing the distribution of vessel types for different locations or zones:

- Top right pie chart:** 54 (Blue), 10 (Green), 2 (Purple), 1 (Red), 1 (Orange), 2 (Light blue).
- Bottom right pie chart (Le Havre):** 11 (Blue), 2 (Green), 3 (Purple), 1 (Red), 1 (Orange), 2 (Light blue).
- Bottom right pie chart (Saint-Vaéry-sur-Somme):** 14 (Blue), 7 (Green), 1 (Purple), 1 (Red), 1 (Orange), 2 (Light blue).
- Bottom right pie chart (Le Havre):** 20 (Blue), 6 (Green), 19 (Red), 1 (Purple), 1 (Orange), 2 (Light blue).

A scale bar at the bottom right indicates distances in kilometers (0, 6, 12, 18 km) and minutes (0, 3, 6, 9 mn).

Mapping the activities

Industrial activities

Fisheries

Recreational activities

Activités

- Principaux pêcheurs
- Hauts fonds
- Ridens de
- Limite de
- Zones de

Structure

- Zones de
- Ports et
- Club de sports et
- Nautisme
- Club de sport sur
- Char

Indice de fréquence

- Mission d'étude pour

Seafood gathering

La pêche à pied

Espèces soumises à la pêche professionnelle

- Coques
- Moules
- Salicornes et végétaux (autres)

Elevage

- Moutons de mer
- Prés salés
- Volonté de développer

Ramassage de salicornes

- Aménagement de platiers
- Exploitation de galets

Autres espèces ciblées par les pêcheurs de loisir

- Crabes
- Lilas de mer

Mission d'étude pour

Mission d'étude pour

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Activities modelling the shore

Activities & Water quality

Etat écologique des masses d'eau DCE

- Bon
- Moyen
- Médiocre

Etat écologique = Etat chimique + Etat biologique

Points de mesure (tout réseaux confondus)

Qualité bactériologique

Zones conchyliques :

- Pour les coques
- Pour les moules

Centre de purification des coquillages

Zones de baignades :

- Bonne
- Moyenne
- Mauvaise

Les différents apports

- Apports fluviaux
- « Fleuve côtier »
- Courants
- Océaniques
- Apports des falaises

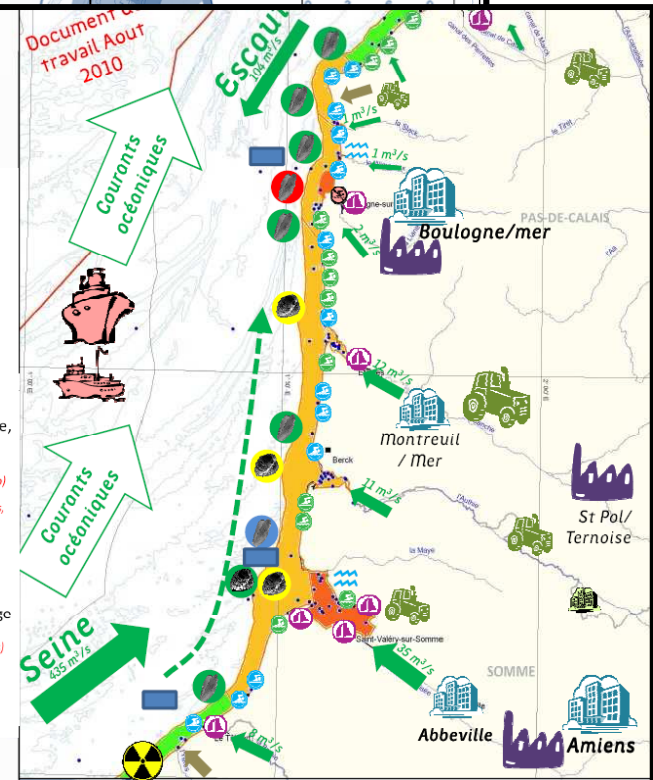
Origine des polluants

Agriculture élevage, et zones urbaines (Nutriments, Phytosanitaires, bactérie)

Industrie (Nutriments, micro-polluants)

Ports, Trafic maritime, Pêche, et zone de clappage (Hydrocarbures, micro-polluants, macrodéchets)

Centrales nucléaires (chlore + t⁺ + ?)





Stakeholders' point of view



Biodiversity *habitats, birdlife protection, OSPAR species, marine and intertidal ecosystem functions, water quality*

Erosion and Sandy Accumulation *modifying the ecosystems*

Notable Environments (Somme Bay...),
with a high scientific involvement

Numerous local initiatives!

Marine Protected Areas Network in the Channel



Economical development and maintenance

fishing and aquaculture

Tourism, leisure *(sand yacht, horse riding, hunting...)*

Maritime Transport,

Raw materials : *aggregates, gravels...*

Cables, wind farm, wastes *(shell and mines!)*

Cultural Heritage *(lighthouses, wrecks,...)*



High Expectations for a **local integrated approach**,
narrow links between national
and local management

"The north Sea, filed lab for marine management" 2011



Ensuing Evaluation method

Thematic Maps and Documents

Habitats / Species / Ecosystems

Uses



Instructive documents and maps established with a local **and** larger scale (*regional or sub-regional, national ...*)

GIS method

Synthesis Cartography
submits to consultation

Synthetic map of
spatial **stakes**

Marine nature Park and
Integrated maritime zone
management



Approach

according to the local characteristics



- ✓ a marine approach to natural heritage and ecosystem functioning
- ✓ in accordance with the experts and stakeholders point of view
- ✓ a need for knowledge sharing between scientist, industry and associative organisation
- ✓ including a clear view of the process of designation

Data aggregation and acquisition ...

Phase 1: SHARED DESIGNATION

Phase 2 : CONSULTATION,
WITH STAKEHOLDERS (WGs)

Phase 3: Project FINALISATION

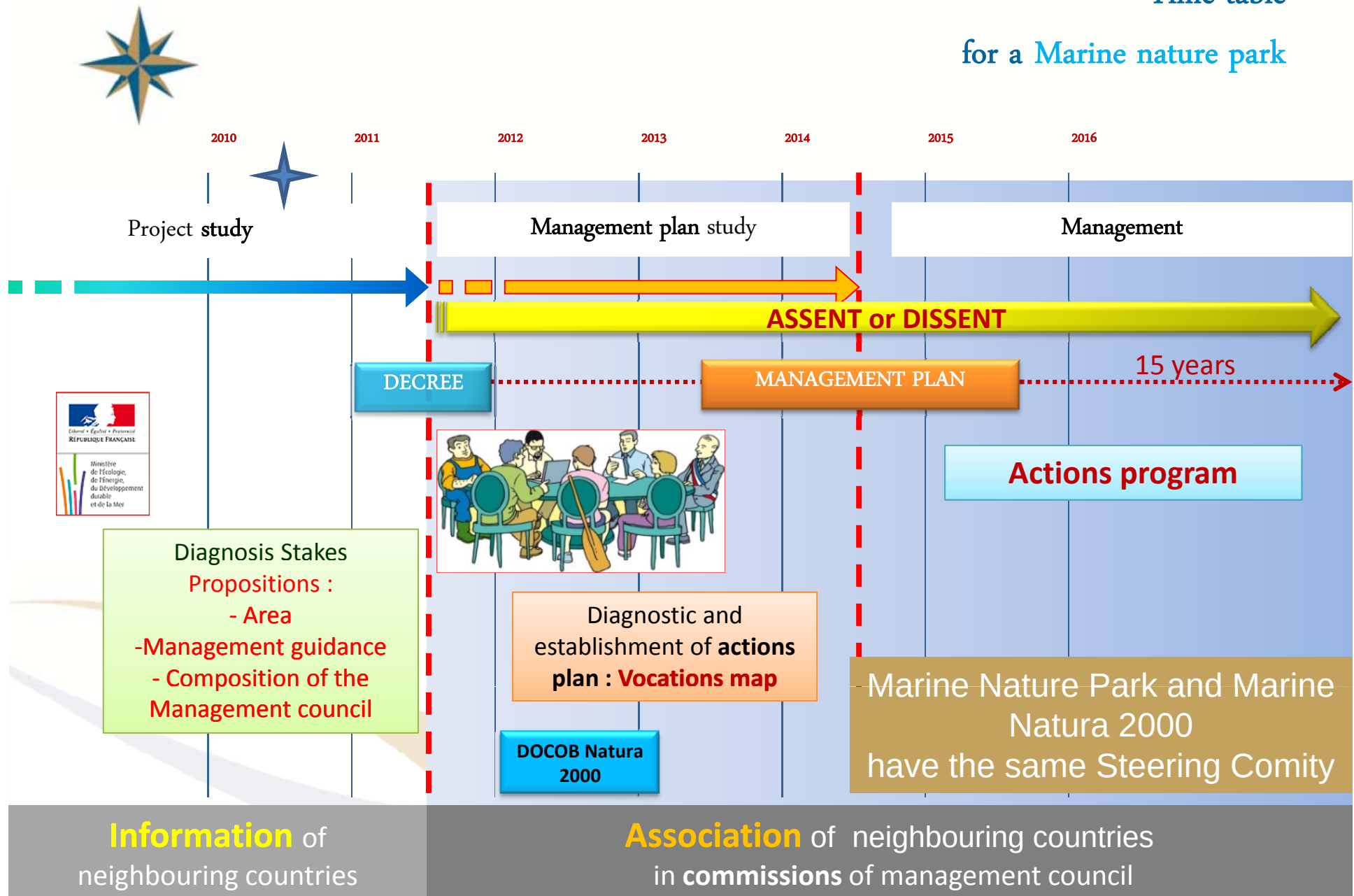
Public consultation

Creation act

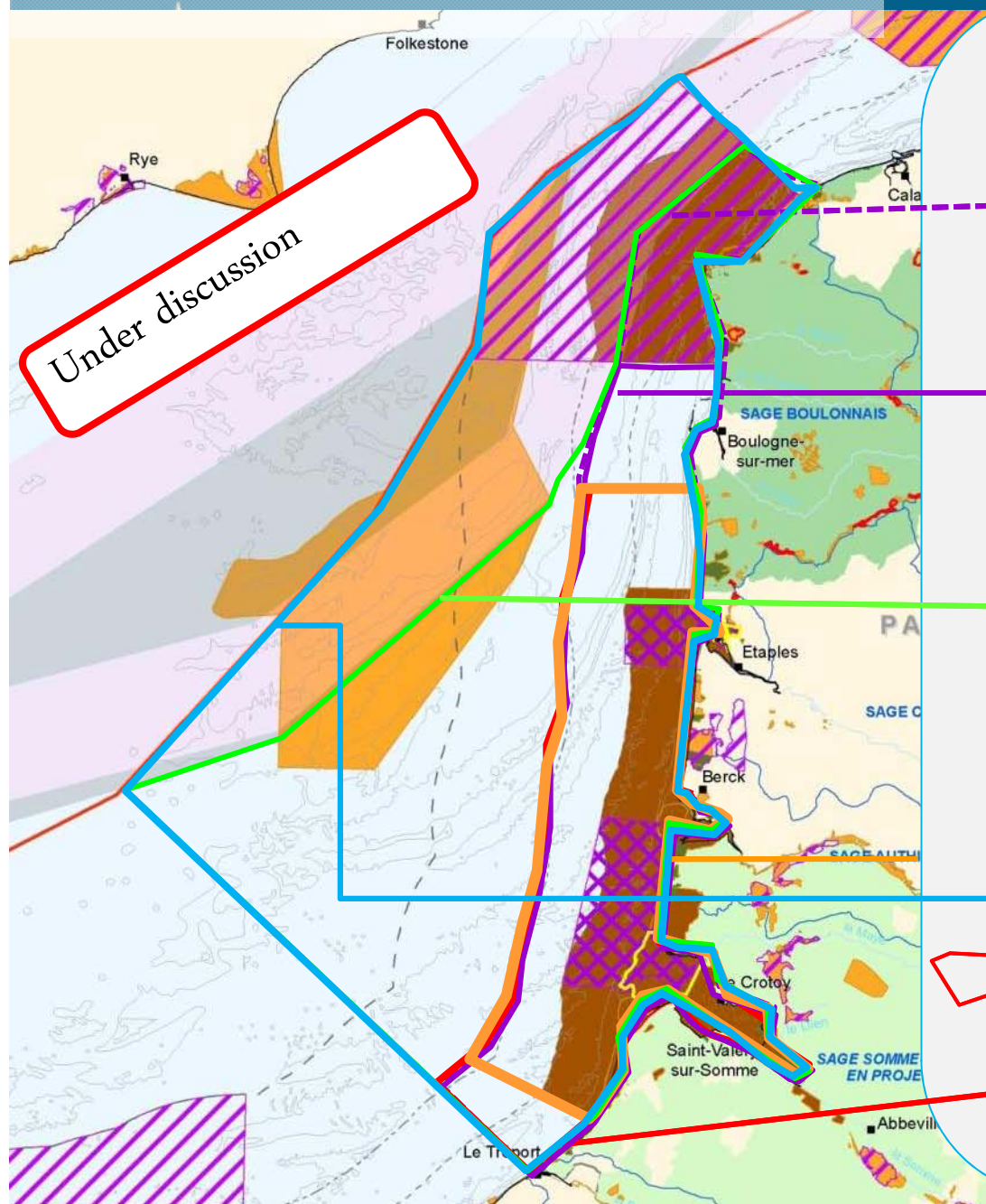
17/01/11:

Second Steering committee – Conciliation procedure

Time table for a Marine nature park



Potential areas



Variant 2 bis :

6 estuaries : Bresle, Somme, Authie, Canche, Liane, Wimeroux
Coastal area (6 miles to TSS)

Including the Natura 2000 sites

Variant 2 :

6 estuaries : Bresle, Somme, Authie, Canche, Liane, Wimeroux
Le Tréport & Boulonnais
Coastal area (6 miles)

Including Sandbanks

Variant 3:

6 estuaries : Bresle, Somme, Authie, Canche, Liane, Wimeroux
And sub aqueous sandbanks

First project

3 estuaries
Coastal area (6 miles,)

Variant 1 :

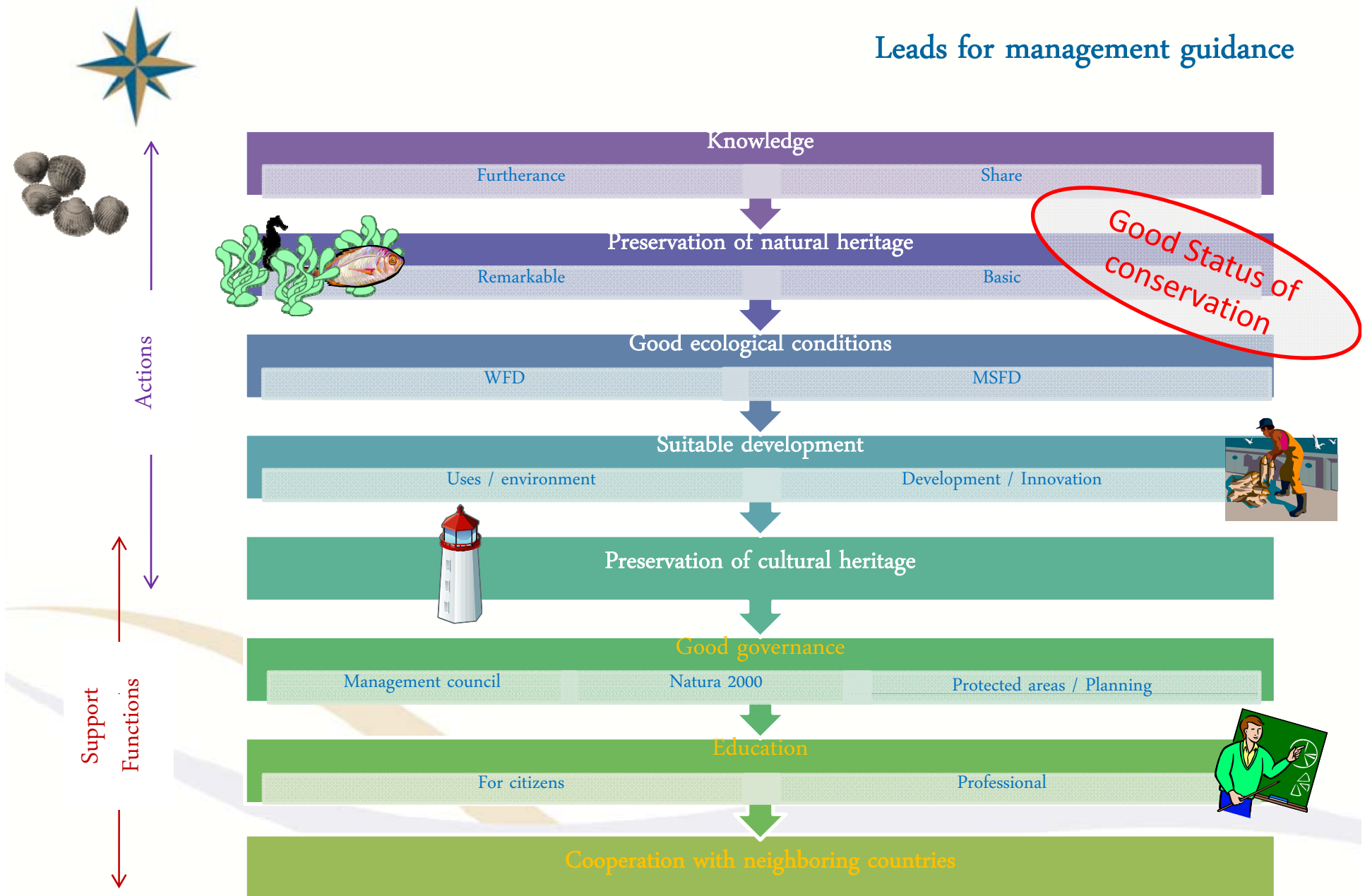
4 estuaries : Bresle, Somme, Authie, Canche
Le Tréport
Coastal area (6 miles)

Variant 4 :

Off

Including Natura 2000 sites
(Bassurelle)

Leads for management guidance





Management Council : Potential constitution

+ experts if needed :

SHOM
DRASSM
ONCFS
ONEMA
BRGM
ANSES
NAUSICAA
MAREIS

+ 6 thematic commissions :

1. Water quality
2. Hydro-sedimentary mobility,
3. Management of Protected areas
4. Uses on shore
5. Uses at sea

Proposed Areas	First project (3 estuaries)		Variant 1 (4 estuaries)		Variant 2 (6 estuaries)		Variants 2bis, 3 & 4 (7 estuaries)	
State Representative	8	13%	8	13%	8	13%	8	12%
Collectivities	14	23%	15	24%	16	25%	17	25%
Perrestrial Nature Park								
Nature reserve	12	20%	12	19%	12	19%	13	19%
Fisheries								
Industrial activities	5	8%	5	8%	6	9%	7	10%
Associations (sport, leisure...)	10	16%	10	16%	10	16%	10	15%
NGO	4	7%	4	6%	4	6%	4	6%
Experts	8	13%	8	13%	8	13%	8	12%
TOTAL	61	100%	62	100%	64	100%	67	100%



TO



011



MPA network; programs and collaboration



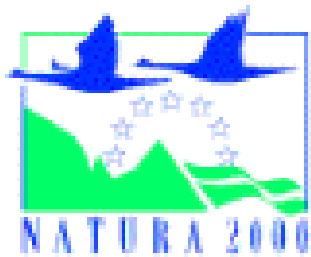
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Mission d'étude
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Agence des
aires marines protégées



Marine Protected Areas : Tool Box



Sports and recreational activities
Marine Farm
Fishing activities



NATURA 2000 :
Help for managing
marine Natura 2000

**Normalised
Indicators and
protocols**

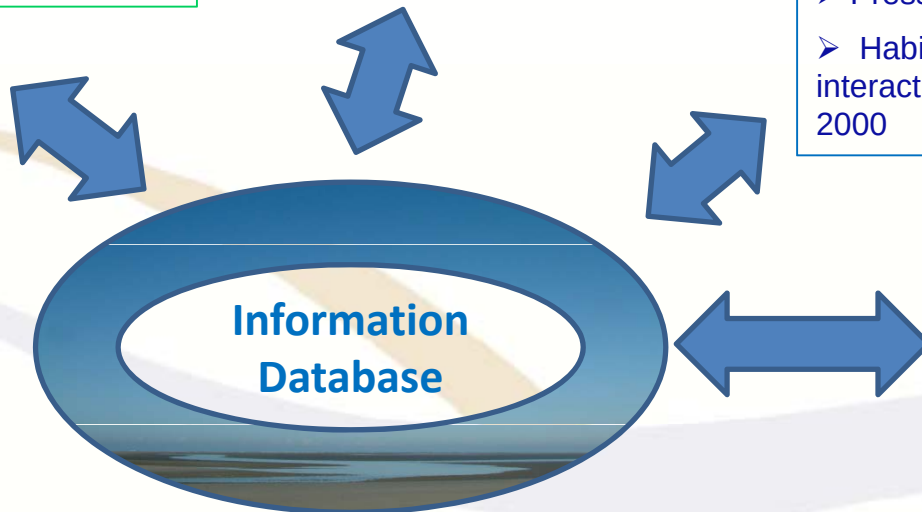
Use Effects

- Typology
- Pressures/effects
- Habitat and species interactions in Natura 2000

**Tool for a French strategy
on the biodiversity**

Goals:

- Order the knowledge
- help in the political decisions



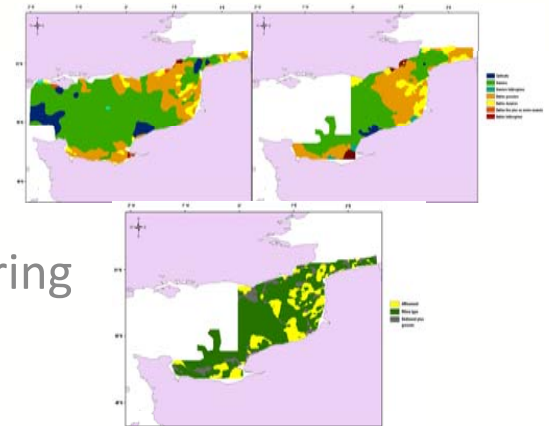


On the way of scientific collaboration

Knowledge

➤ Existing :

- Interreg CHARM I and II
- Detroit du Pas de Calais international sand-banks monitoring
- UK programs (JNCC, birdlife)...



➤ Starting :

- interreg CHARM III (IFREMER) , FAME (Birdlife)
- Scientific cruises on Natura 2000 SACs and marine park

➤ On development :

- scientific cruises for SPAs (adapted ESAS methods)
- program of knowledge/scientific reserve on fish migratory species, harbour porpoise, birds, on habitat



Scientific campaigns



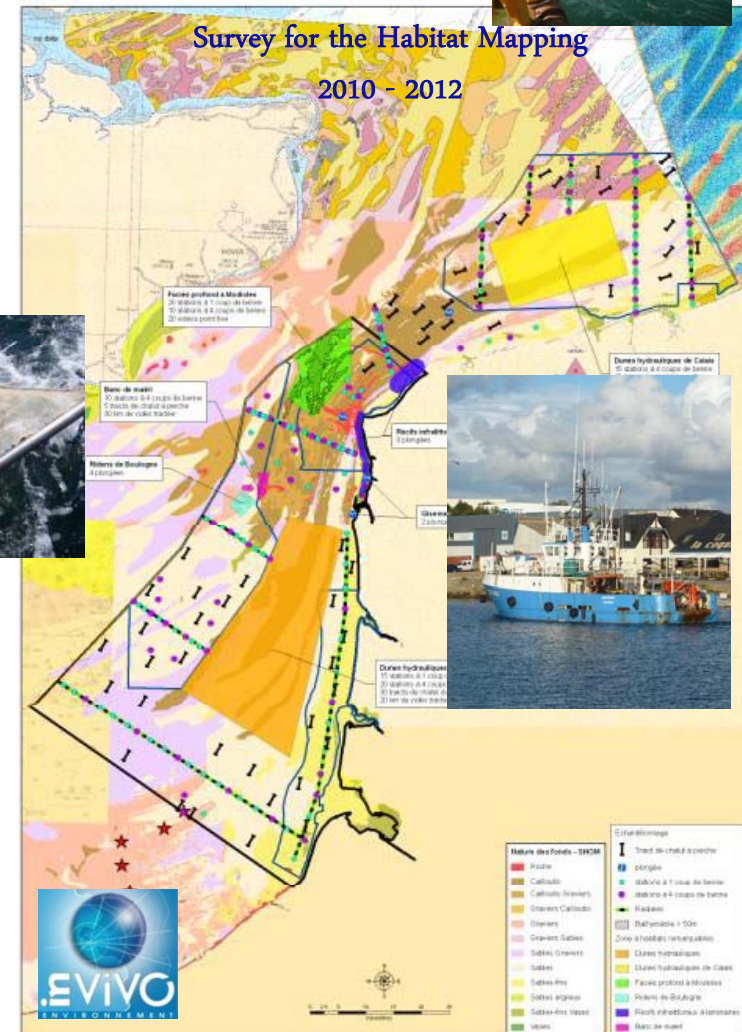
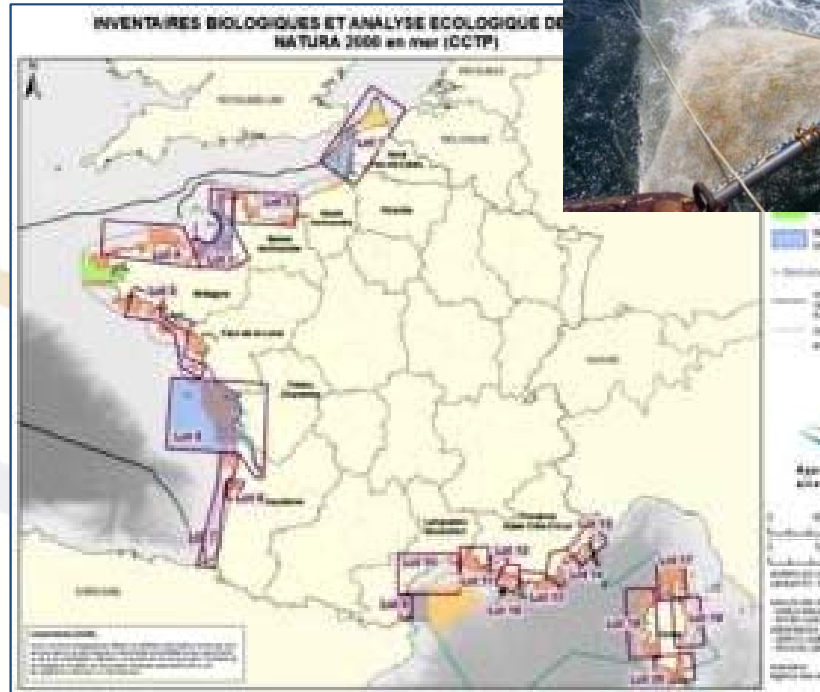
Program	Funding	Deadlines
Marine Habitat Heritage	AAMP, national	End 2011
Seabird coastal program (0 – 12 miles)	AAMP, national	Mid 2013
Marine mammals program (12 – 200 miles)	AAMP, national	Mid 2013
Marine mammals	Nord – Pas-de-Calais - Somme, Region	Mid 2013



Inventory of marine habitat heritage

Means, Objectives & Method:

- One common protocol based on MNHN, CSRPN, DREAL workstratives
- One scientific comity
- SHOM help
- Functionality study
- MPA Agency controls the quality and the following

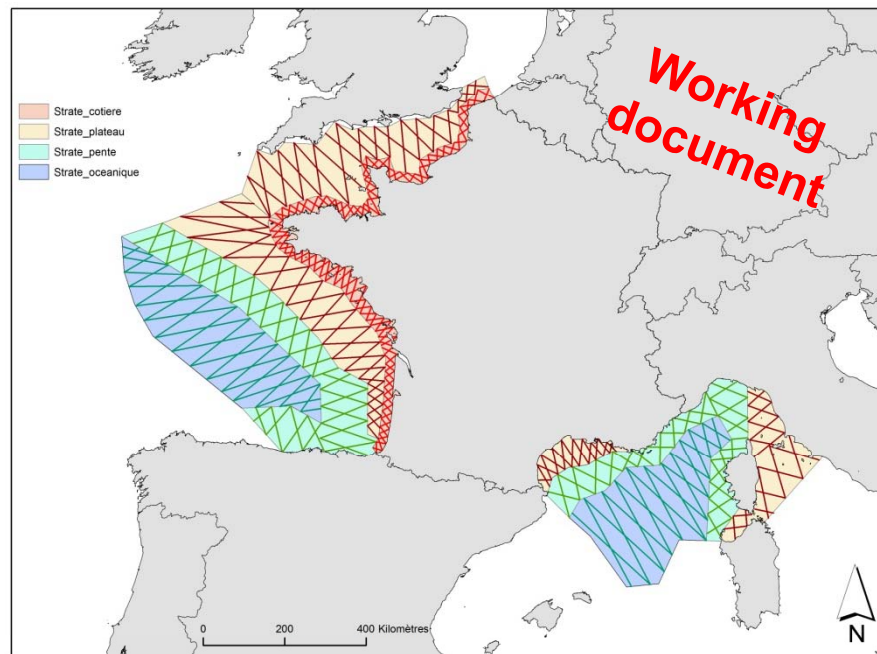




Knowledge acquisition on seabirds and marine mammals program

↳ Dedicated aerial surveys

- 4 strata : coastal / shelf / slope / deep sea
- 8 flies over 2 years: starting in summer 2011 (by year : 2 in summer & 2 in winter) – finishing in winter 2012 - 2013
- Spatial, temporal pressure and observations protocol fitted



↳ Observations on platforms of opportunity

- Fisheries campaigns (IBTS, CGFS)

↳ Acoustic detection of harbour porpoise

- Deployment of a hydrophones network
- Operational implementation in 2012



Samples: Existing networks of observations

✦ **CNRS – RESOMAR (Marine Laboratory)**

- ✦ **SOMLIT** : Littoral Environment observations
- ✦ **Feasibility study**: aggregates, dredgings...
- ✦ **Invasive species**

✦ **IFREMER**

- ✦ **REMI** : Microbiologic control network
- ✦ **REPHY** : Phytoplankton and Phycotoxins observation
- ✦ **MAREL** : Automated measures of environmental parameters
- ✦ **IGA** : Following of discharge of nuclear power stations

✦ **Research center on marine mammals**

- ✦ **“Beached “ network observations**

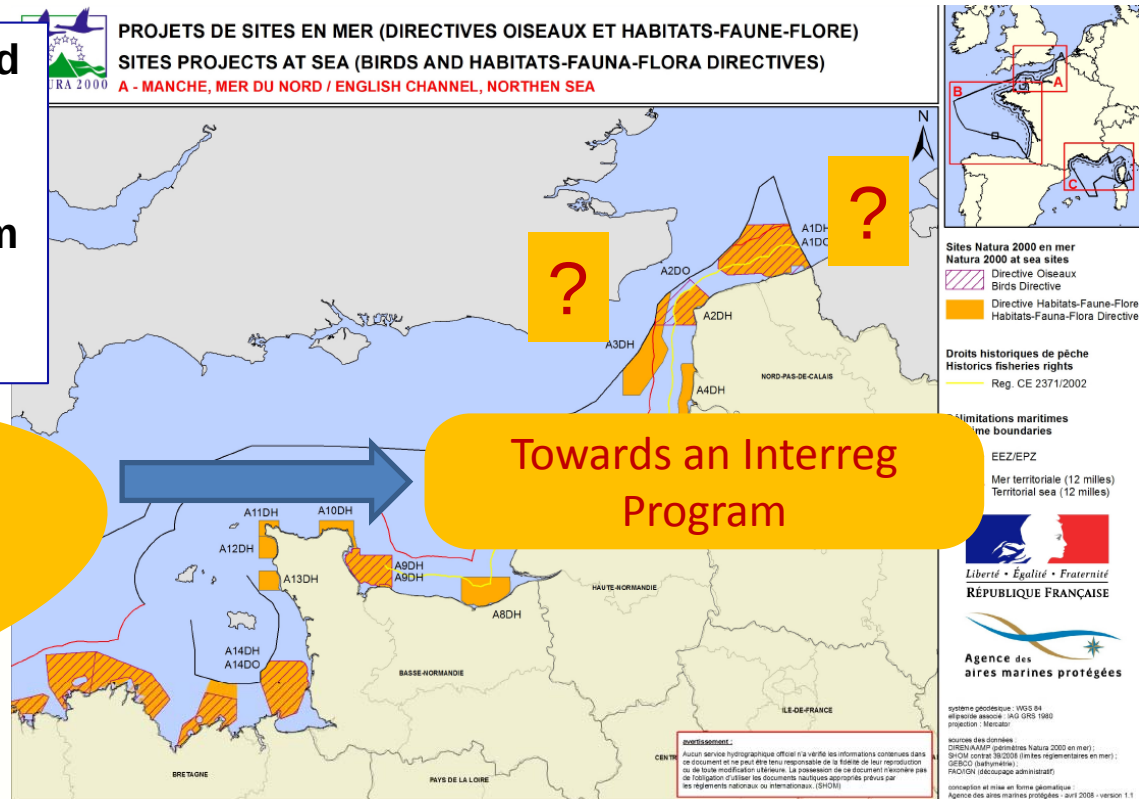


A Marine Protected Areas network F, UK, B, Neth ?

June 2009 / November 2010,
English Channel – North Sea Forum goals :

- ✦ Describe **Marine Protected Areas UK / B / Neth**
- ✦ List interlocutors
- ✦ List lacks and clarify them
- ✦ Suggest a **consultation authority**

Dedicated Working group
in the **Channel – North Sea**
Forum



Towards an Interreg
Program

At our local level:

- ❖ Discussion and exchanges with UK organisms and specially with the twin mission, « **Balanced seas** » mission;
- ❖ Meeting with Belgian team (last week)



To be continued...

Contacts:

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We invite you to :

Symposium, 22nd to 24th November 2011, Paris (MNHN)

“MPA contribution to ecosystemic management of environment and its uses. Which scientific strategy?”