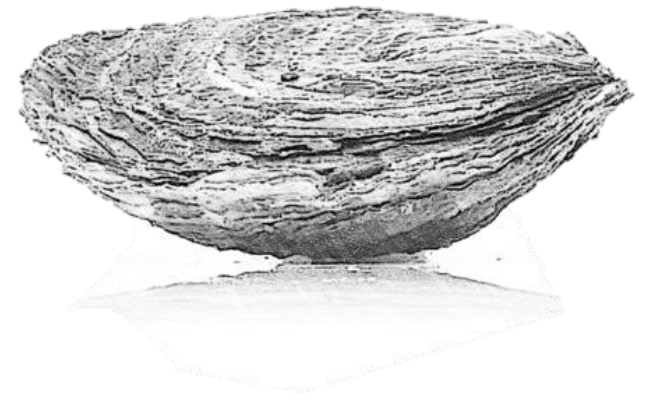


Oyster reef restoration in the Belgian part of the North Sea



- **Vision nature restoration**
 - Rationale
 - Objectives
- **Roadmap oyster restoration**
- **Timing oyster restoration**
- **Fisheries measures – prerequisite for succesful oyster restoration**
- **Questions**



OVERVIEW MAP

FISHING ALLOWED EVERYWHERE
WITH EXCEPTION OF THE OFFSHORE
WIND FARMS

SHIPPING ROUTES

MARINE PROTECTED
'VLAAMSE BANK'

ZONES FOR COMMERCIAL AND
INDUSTRIAL ACTIVITIES

BIRD PROTECTION AREAS

TEST ZONE FOR COASTAL DEFENSE

ZONES FOR RENEWABLE
ENERGY

PORT
ZEEBRUGGE

MARINE PROTECTED AREA
'VLAKTE VAN DE RAAN'

'PAARDENMARKT'

DREDGING DUMPS

The Netherlands

Belgium

France



27

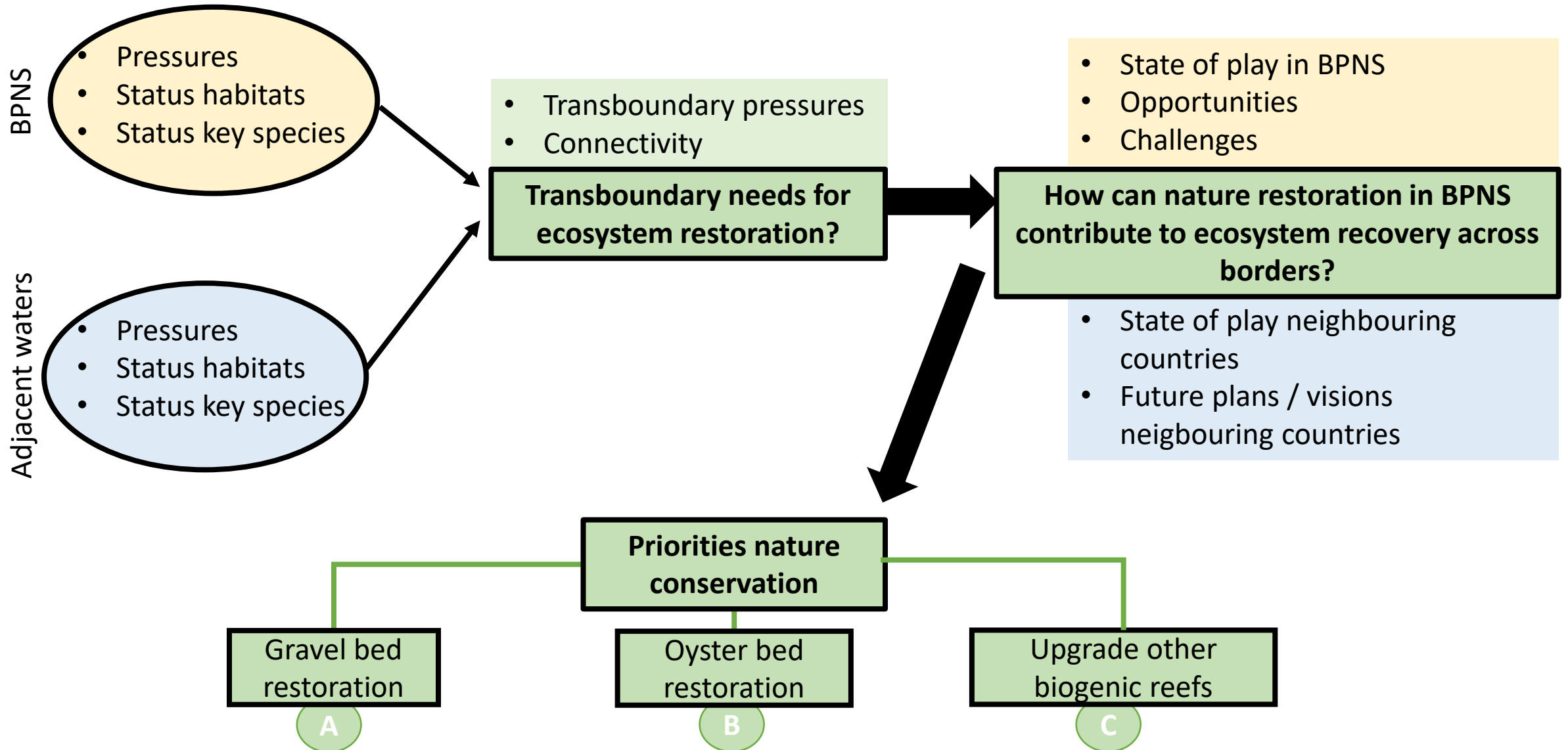
Coherent network of
protected areas at sea



Conserving and restoring ecosystems in the Belgian part of the North Sea, bearing in mind that these ecosystems are **transboundary**. Efforts in the BPNS, together with those made in neighbouring countries, must therefore contribute to a **self-preserving, strong, resilient ecosystem** capable of providing numerous **ecosystem services** to humans. Important aspects here are (in view of the definition of healthy ecosystems):

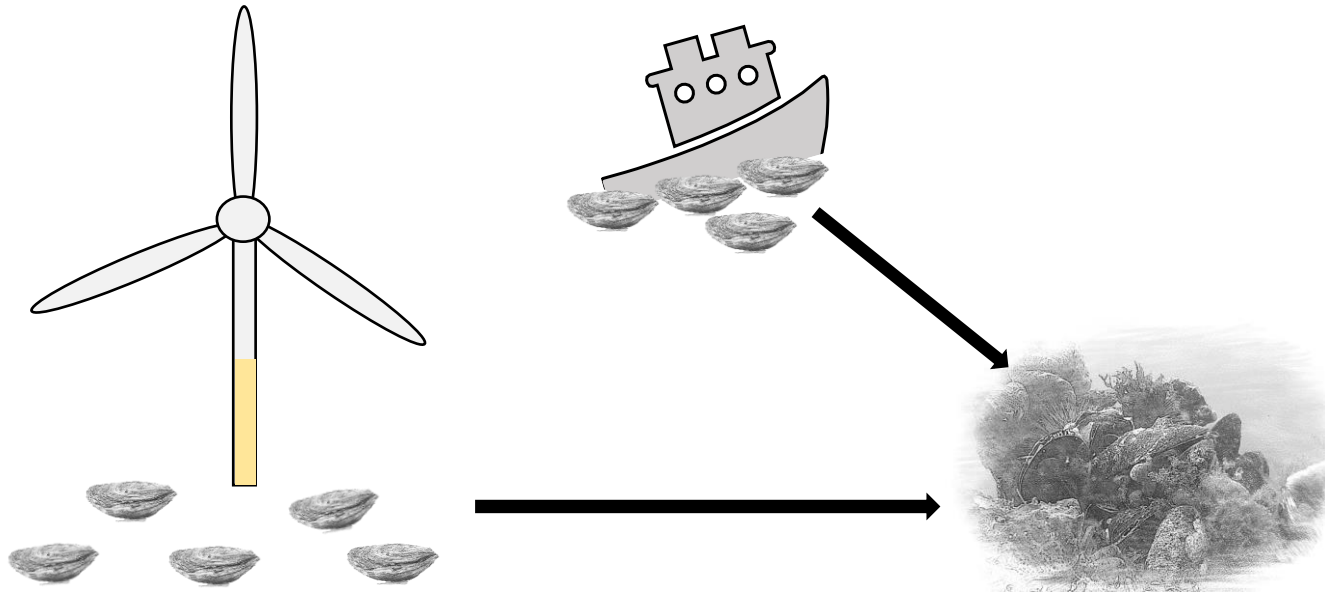
- healthy organisms and populations
- sufficient functional diversity
- sufficient response diversity
- presence of all trophic levels + strong link between the trophic levels
- good spatial connectivity between the different subsystems within an ecos'

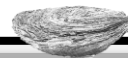




Oyster reefs: Sustainable recovery of healthy oyster populations and oyster banks and the associated long-lived fauna. Regain viable populations of the European flat oyster, who are stable or growing and who can reproduce successfully without human interference.

- Restoration oyster banks: strive for locations where suitable substrate occurs and where oyster banks occurred historically
- Construction of oyster populations within other locations such as wind farms, next to shipwrecks or aquaculture projects can facilitate recovery of oyster banks and serve as an additional source of spat that can contribute to recruitment in the oyster banks.
- Use of local splash for oyster bank recovery as much as possible
- Focus on active restoration





B Roadmap oyster reef restoration

Vision

Roadmap

Timing

Fisheries

Questions

year 0-1

year 1-3

year 3-6

year 6-10

Preparation

Define suitable locations

Determine source oysters/spat

Develop roadmap

Implementation

Need for additional restoration measures

No need for additional restoration measures

Additional prerequisites?

Restore location

startup test population

Location not suitable

Location suitable

Expansion restoration project with oysters and substrate

Autonomous development reef

Monitoring

T0 Monitoring

Monitoring test setup

Monitoring expansion

Monitoring reef

- Survival
- Growth
- Condition
- Gonads

- Recruitment
- Spatial distribution
- Development biodiversity
- Environmental parameters

- Recruitment
- Development biodiversity
- Environmental parameters

Aftercare

Study on enforcement*

Maintenance test setup

Possible measures to promote ecosystem functioning

Timing oyster restoration

Vision

Roadmap

Timing

Fisheries

Questions

2020

2021

2022

2023

2024

Fisheries measures

Studies

Complete Background dossier EC

Procedure CFP

Implementation fisheries measures

Study on enforcement*

Limit bottom disturbance

A
Gravelbed restoration

Update study IMDC / public tender

Gravel bed restoration

B
Oyster reef restoration

T0 monitoring!

feasibility study: construction of oyster populations around shipwrecks and/or in wind farms

Determination suitable location
Define source oysters/spat
Elaboration roadmap

Restoration of location needed

No restoration of location needed

Startup test population

Pilot projects

Startup test population

C
Biogenic reefs



- **Possible cooperation** for facilitation oyster reef restoration?
 - Information exchange and coordination between different projects
 - Implementation
- How important is **public participation**?
 - In what way can this be obtained
- What are the **communication needs**?
 - Towards specific stakeholders (fisheries, wind parks, sand extraction,...)
 - To the general public
- How to deal with **Bonamia**?

