

Developing multi-use of passive fisheries in Offshore Wind Farms in the Netherlands

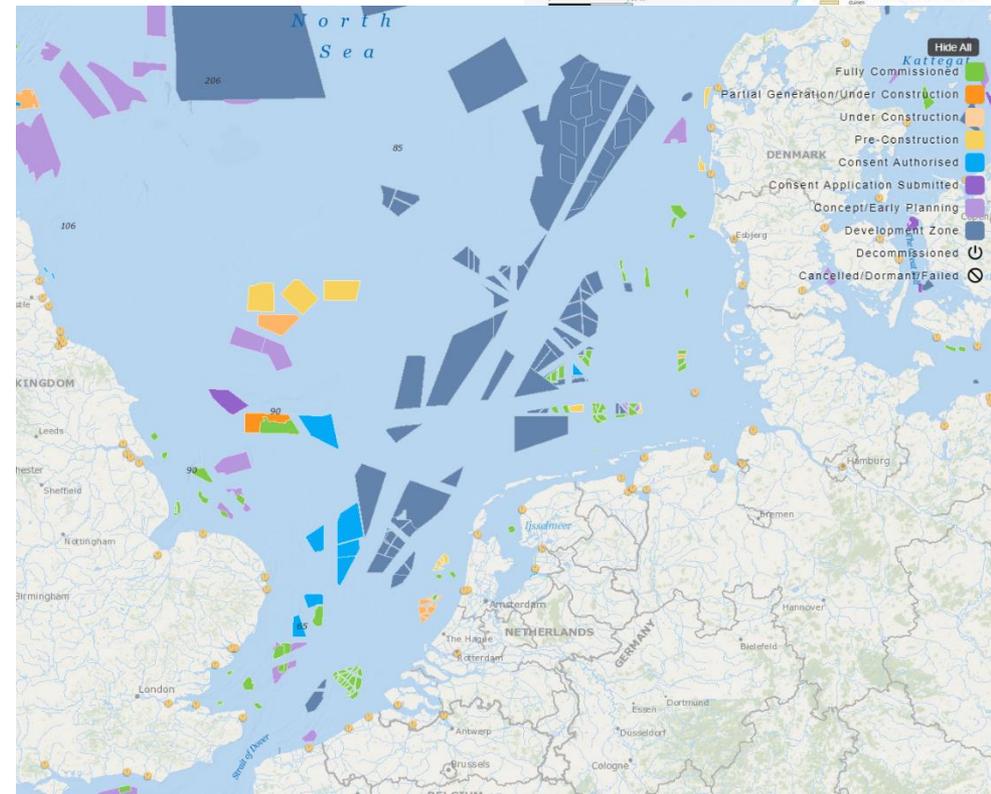
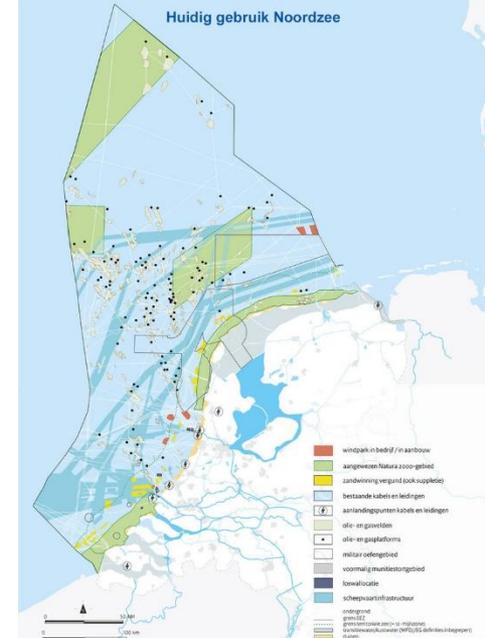
First of the Mohicans

16-5-2023, Marcel JC Rozemeijer



Long term positioning

- Challenge:
 - Crowded North Sea
 - Claims for large surfaces
- Fisheries lose substantial exploitation surface
- Multi-use might aid
- Challenge: engage stakeholders
 - Transition needed



Offshore Wind Farms old & new regime

OLD REGIME OWFS

- OWFs not designed for shared use
- Small turbines, little space between them
- Since 2018 rod fishing and passage allowed up to 24m.
- Experiments with passive fishing only with permission of OWF operator.
- OWFs: Egmond aan Zee, Prinses Amalia, Luchterduinen, Gemini

NEW REGIME OWFS

- OWFs not designed for shared use.
- Larger turbines, more space between them
- Government sets rules for co-use activities in space between turbines.
- No permission from OWF operator needed.
- OWFs: Borssele, Hollandse Kust Zuid and future

Department of Agriculture, Nature, Food innovation: knowledge need on multi-use

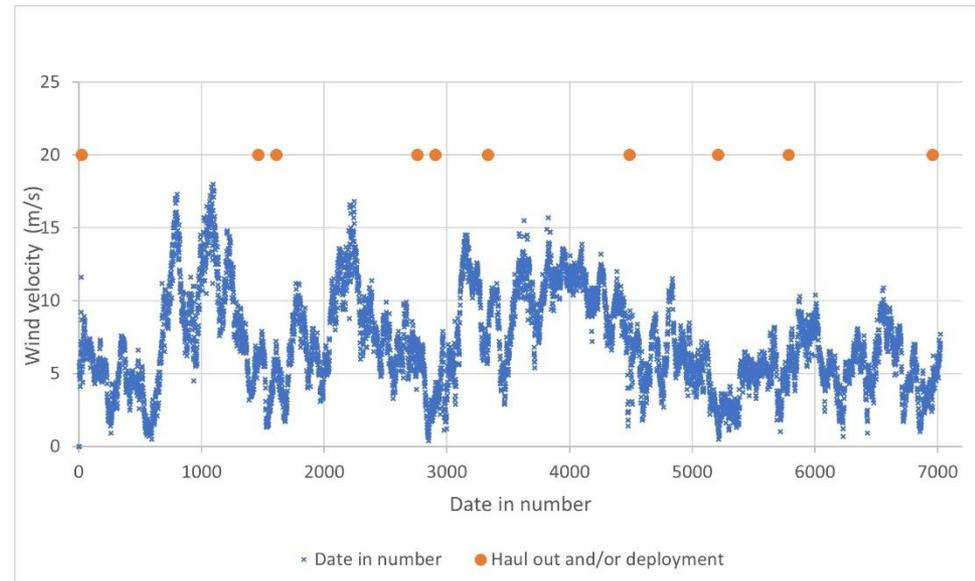
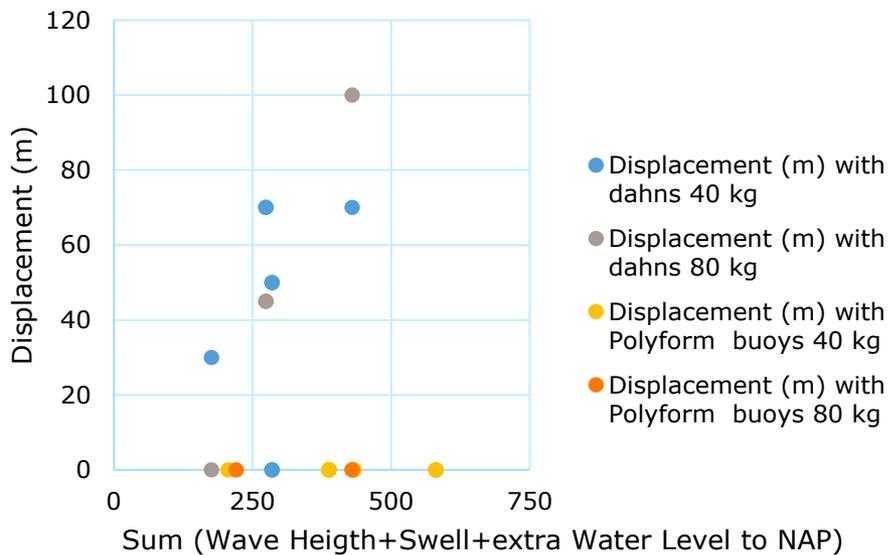
- Research multi-use of OWFs, through projects on cage-fisheries brown crab and lobster
- Anchor/string stability, CPUE, LPUE, Population
 1. Prinses Amalia Wind Park (2019-2023)
“old regime park”: permission needed from operator (incl economics, transition, ecology)
 2. Scheveningen: near wrecks (2021)
 3. Borssele II OWF (2022):
“new regime park”: multi use obligatory
 4. Borssele II (2023):
sepia, sole, cod, gill net, jigging, rod and line



Risk reduction

String mobilisation: likelihood

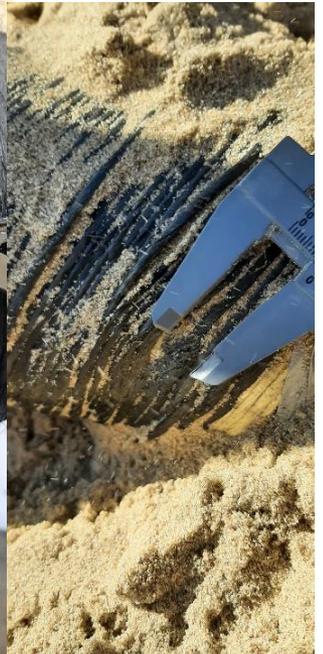
- Dahns obligatory
- Chains do not function
- Bruce anchors prevent mobilisation



Risk reduction

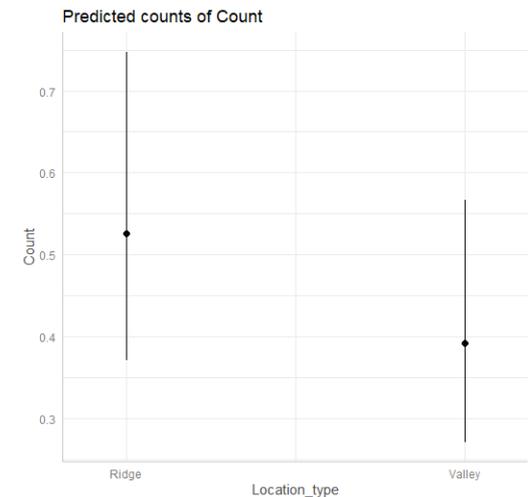
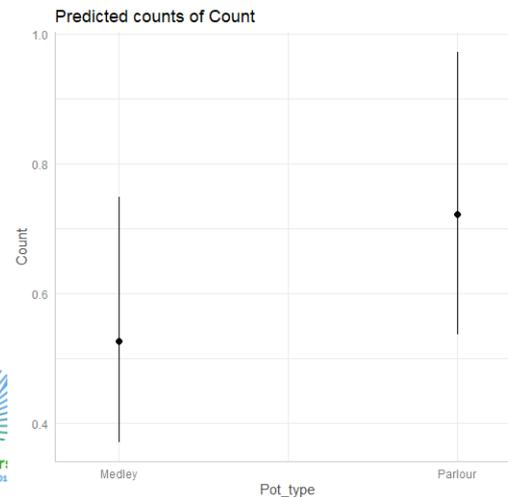
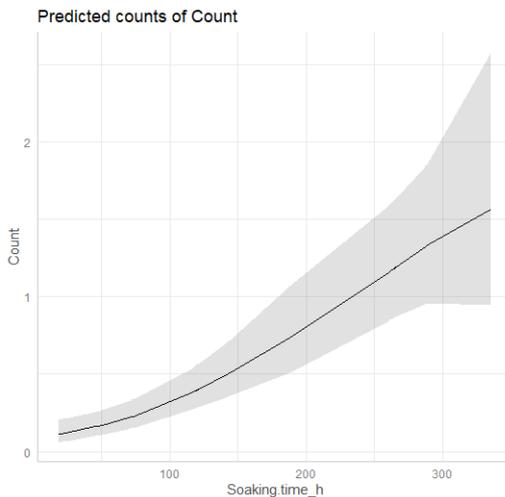
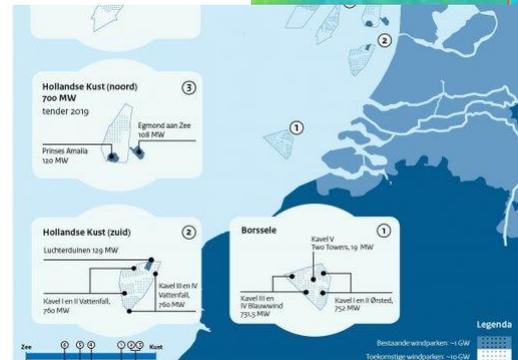
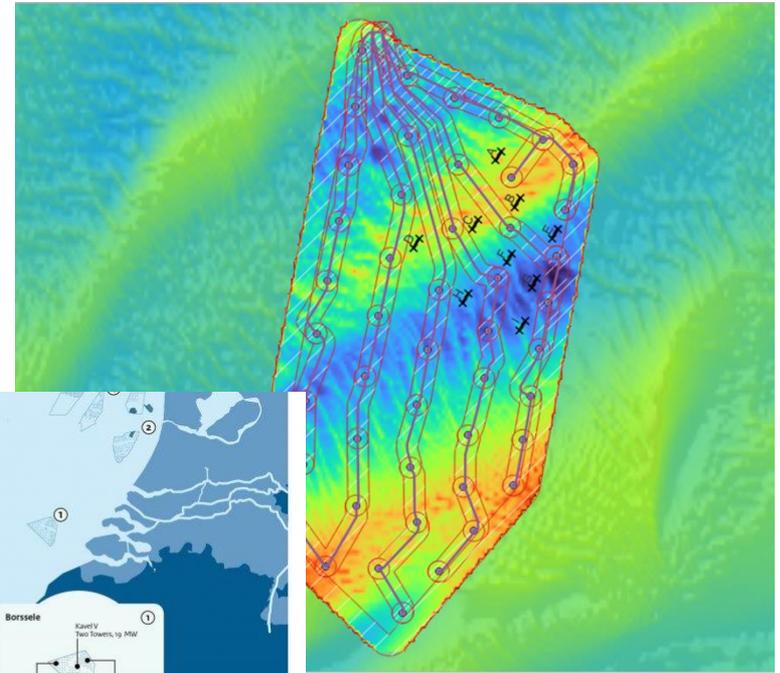
Anchors: damage

- Hook in prevention: does not work
- Damage: minimal



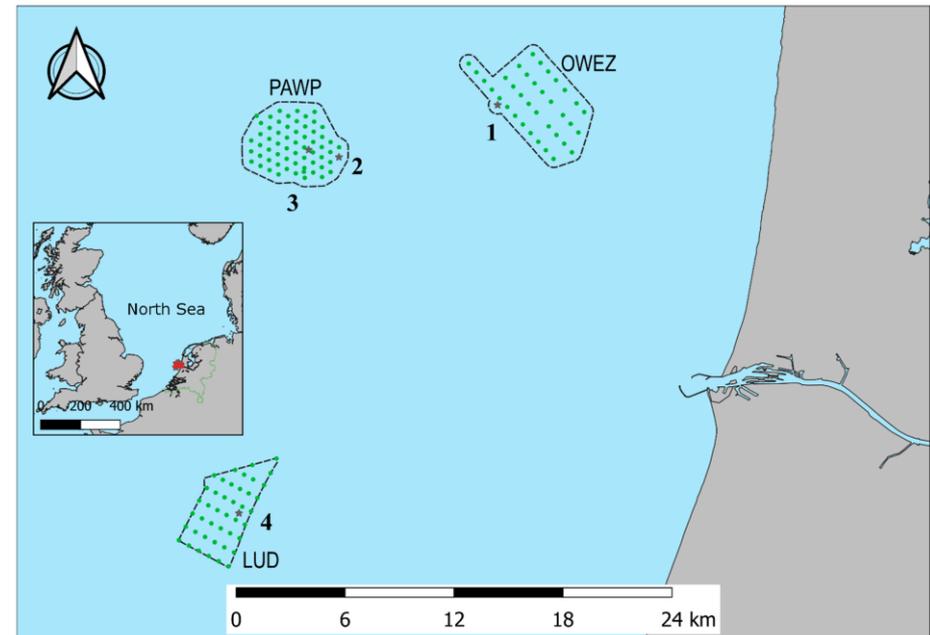
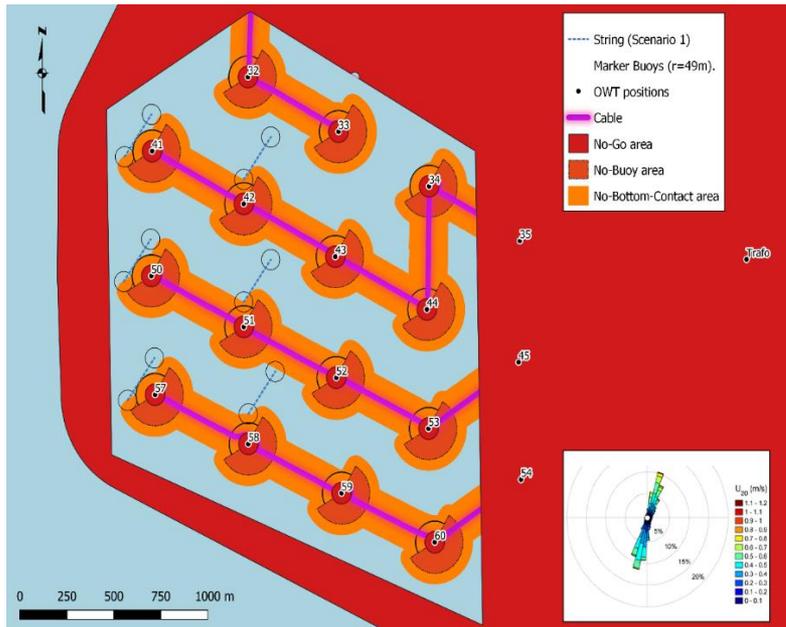
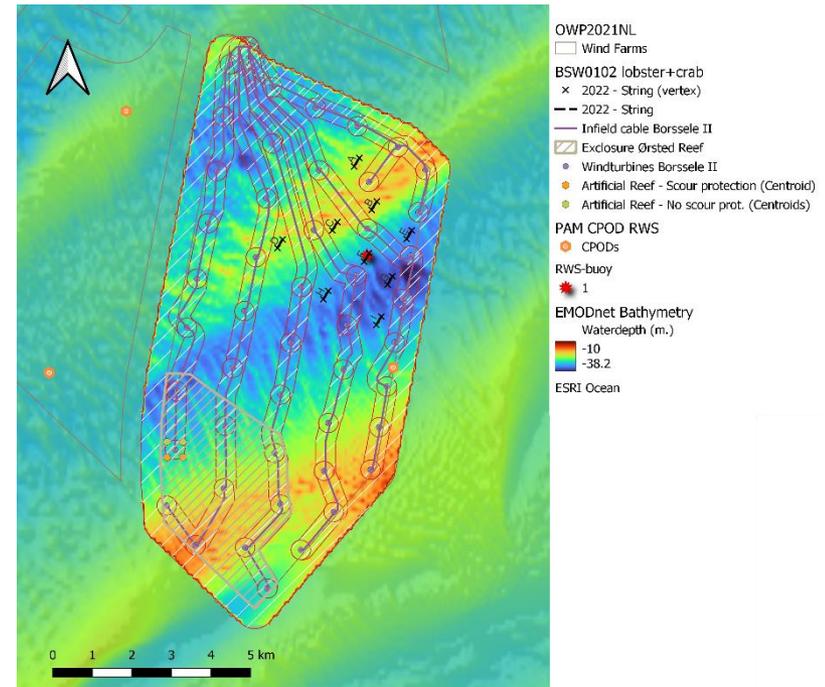
Borssele II results 2022

- CPUE brown crab: ~ 0.15
- CPUE velvet crab: ~ 1
- Parlour > Medley
- Ridge > Valley
- Local species!



Tests in PAWP 2023

- CPUE & LPUE
- Population estimates
- Mobilisation of strings
- Comparing OWFs
- Evaluate work method and risks

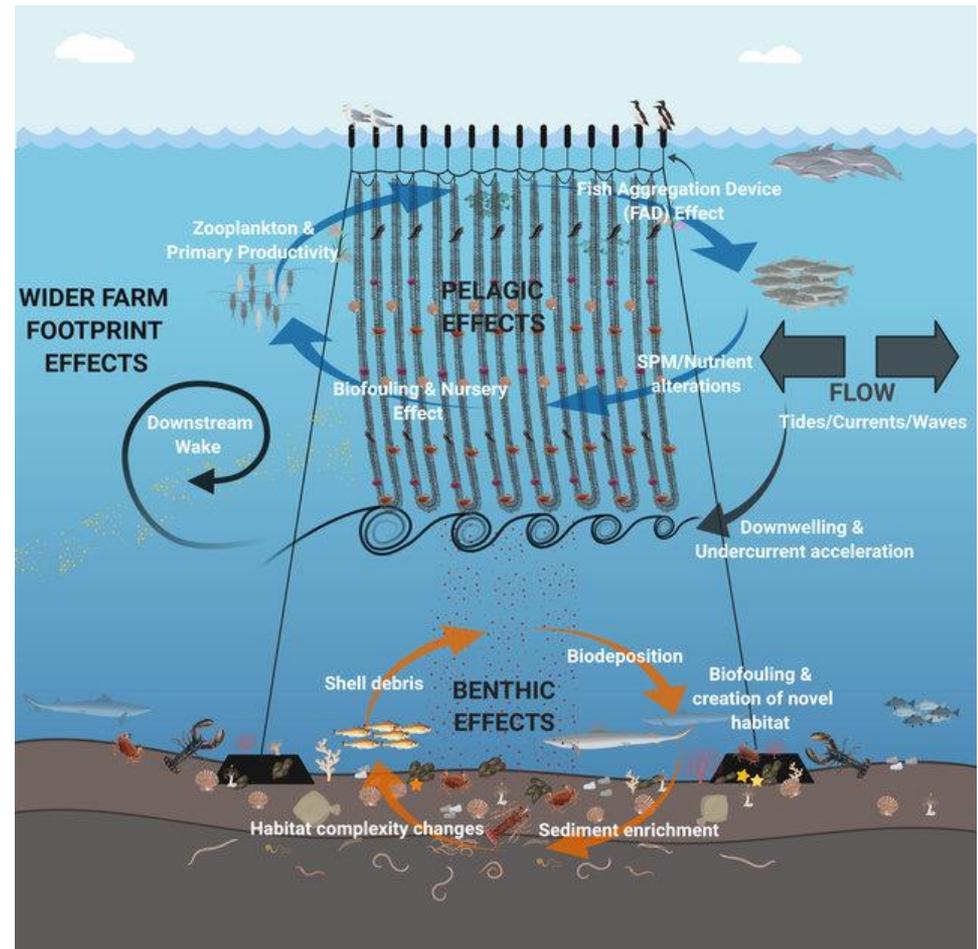


Developing fisheries approach in time

Topic	PAWP 2023	Borssele 2022	Borssele 2023	Future
Role operator	Go : no go	Co-ordination	Co-ordination	Co-ordination
		Large influence	Reduced influence	
Vessel	IMCA	RWS	MinI&W	MinI&W
		OWF operator	RWS	RWS
			WMR	
Crew	Basic safety	Basic safety	Basic safety	Basic safety
	Basic fisheries	Basic fisheries	Basic fisheries	Basic fisheries
Insurrance	Mil€ 15	Mil€ 15	Mil€ 500	Tailor made
Work description	RAMS	RAMS	RAMS	?
Safety zone	≤150m	250m	250m	?
SIMOPS	Limiting	Limiting	not relevant yet	?
Gear location	After trip	After trip	After trip	?

Maripark and reefs as benthos generator

- Local enhancement?
- Far field impacts?
- Local solutions
- Knowledge development



Concluding

- Pioneering situation
- Government sets the rules
- The regulations for multi-use are under development
- Tendency to achieve the least administrative burden
- Risks have been evaluated: damage * likelihood
- Bruce anchors pose a low risk (1 on a scale of 25)
- Catches are low in Borssele II: non-crab area and new



Team members

- WMR & WEcR: Bea Deetman, Lobke Jurrius, Sophie Neitzel, Kees Taal
- Marin: Jorrit-Jan Serraris, Pieter de Graeff
- Fishermen: Sjaak Bout, Rems Cramer, Arjan Korving, Hendrik Kramer, Cherry Strating, Stefan Tijssen, Daniel Zoetewey, W. van der Zwan en Zonen BV
- Eelco Leemans, Christopher Baan
- Eneco, MinLNV, Rijkswaterstaat, Ørsted

Questions?

Marcel Rozemeijer

marcel.rozemeijer@wur.nl

+31-6-20854613



Check

<https://www.wur.nl/nl/project/win-wind.htm>

For reports

Transition



- Emerging industry Wind and declining industry Fisheries
- Wind: scaling up, reputation, safety, profitability
- Fisheries: buy out -> emotions: loss, grief mourning
- Requires transition approach at emotion level
- Government responds with technological transition
- OWF operators need to adapt to multi-use

Economy

- Target species: depending on site
- Habitat improvement
- Design of OWF in relation to:
 - Natural system
 - Costs
 - Gear

