

# Approaches, Successes, Challenges, Duplications and Gaps

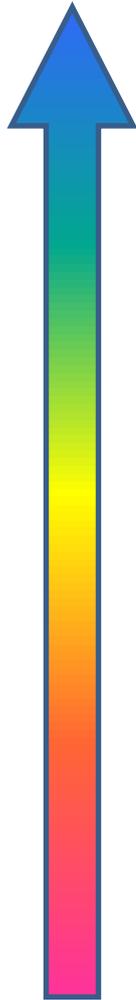
Monitoring and mitigation of noise in Northern  
European waters



Alessio Maglio,  
SINAY SAS , France

# Protected species, overlaps and gaps

More protected

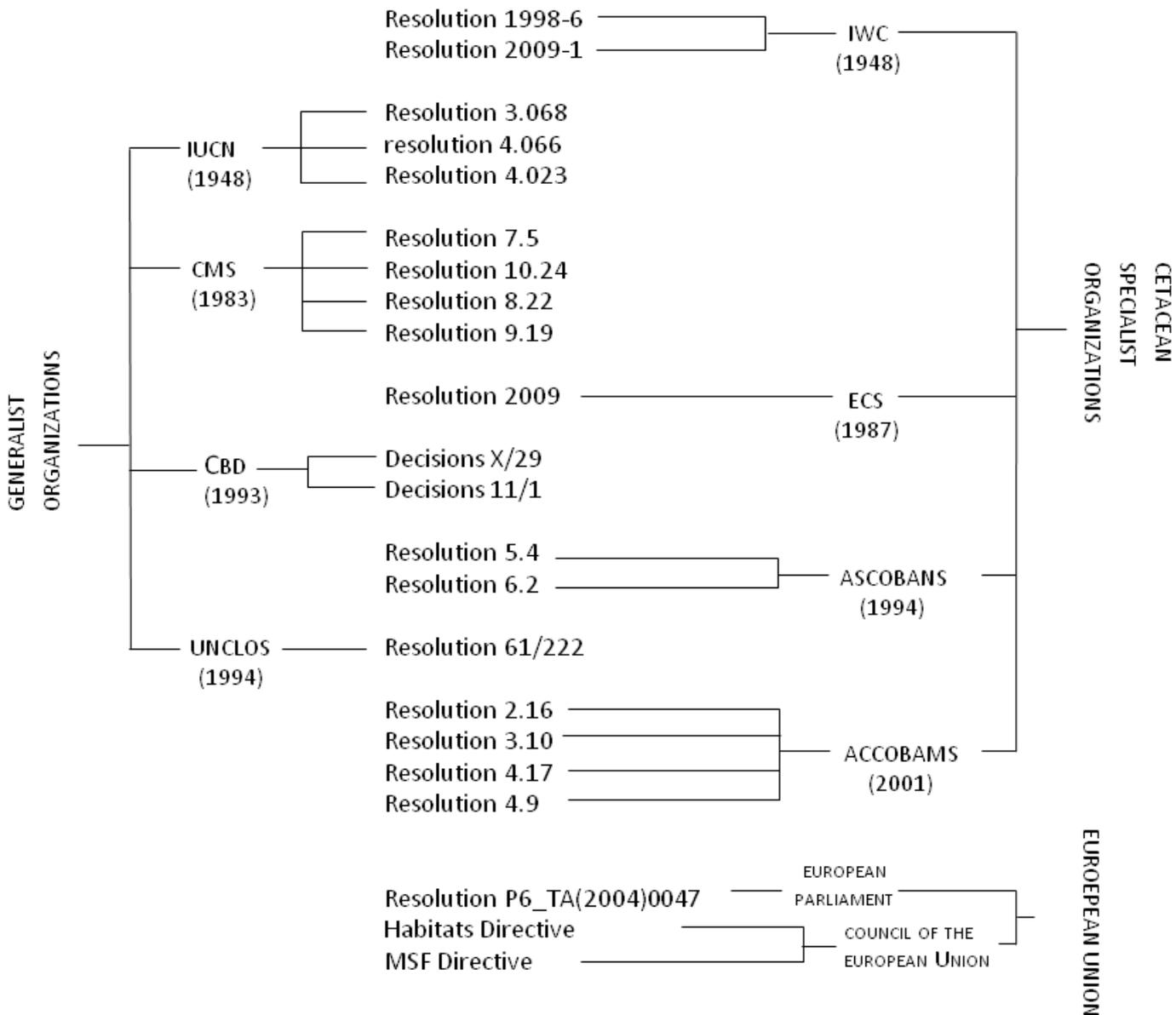


Less protected



ANNEXES	CITES		CMS		Bern		ACCOBAMS	ASCOBANS	H Directive*	
	I	II	I	II	II	III	I		II	IV
<i>Tursiops truncatus</i>		x	x	x	x		x	x	x	x
<i>Delphinus delphis</i>		x	x	x	x		x	x		x
<i>Monachus monachus</i>	x	x	x	x	x				x	x
<i>Phocoena phocoena</i>		x		x	x		x	x	x	x
<i>Balaenoptera borealis</i>	x		x	x	x		x			x
<i>Grampus griseus</i>		x		x	x		x	x		x
<i>Physeter macrocephalus</i>	x		x	x	x		x			x
<i>Balaenoptera physalus</i>	x		x	x	x		x			x
<i>Eubalaena glacialis</i>	x		x		x		x			x
<i>Globicephala melas</i>		x			x		x	x		x
<i>Kogia simus</i>		x			x		x	x		x
<i>Lagenorhynchus acutus</i>		x		x	x			x		x
<i>Lagenorhynchus albirostris</i>		x		x	x			x		x
<i>Megaptera novaeangliae</i>	x		x		x		x			x
<i>Mesoplodon densirostris</i>		x			x		x	x		x
<i>Orcinus orca</i>		x			x		x	x		x
<i>Pagophilus groenlandicus</i>		x	x	x		x				x
<i>Phoca vitulina</i>		x		x		x			x	x
<i>Pseudorca crassidens</i>		x			x		x	x		x
<i>Stenella coeruleoalba</i>		x			x		x	x		x
<i>Steno bredanensis</i>		x			x		x	x		x
<i>Balaenoptera acutorstrata</i>	x				x		x			x
<i>Balaenoptera musculus</i>	x		x		x					x
<i>Globicephala macrorhynchus</i>		x			x			x		x
<i>Halichoerus grypus</i>		x		x		x			x	
<i>Hyperoodon ampullatus</i>	x					x		x		x
<i>Kogia breviceps</i>		x			x			x		x
<i>Mesoplodon bidens</i>		x			x			x		x
<i>Mesoplodon mirus</i>		x			x			x		x
<i>Phoca hispida</i>		x				x			x	x
<i>Stenella frontalis</i>		x			x			x		x
<i>Ziphius cavirostris</i>					x		x	x		x
<i>Balaenoptera edeni</i>	x				x					x
<i>Erignathus barbatus</i>		x				x				x

# Legal instruments



# Where are the gaps

TEXT / Action	Research	Guidelines	Measures	MPA	NPA	EIA/SIA	New Tech	Cooperation	Industrial	Monitoring	Restrictions
IWC/Resolution 1998-6	x										
CMS/COP/Resolution 7.5	x	x				x					
EP/Resolution P6_TA(2004)0047	X	x					x				x
IUCN/Resolution 3.068	x	x		x							
ACCOBAMS/Resolution 2.16		x									x
CMS/COP/Resolution 8.22								x			
ASCOBANS/Resolution 5.4	x	x	x			x					
UN/Resolution 61/222	x			x							
ACCOBAMS/Resolution 3.10		x		x		x	x	x			
IUCN/Resolution 4.066								x			
IUCN/Resolution 4.023			x								
CMS/COP/Resolution 9.19			X		x				x		
ASCOBANS/Resolution 6.2	x	x	x			x	x				
ECS/Resolution 2009											x
IWC/Resolution 2009-1	x										
CBD/COP/Decisions X/29			x	x		x					
ACCOBAMS/Resolution 4.17		x	x			x					x
CMS/COP/Resolution 10.24	x	x	x	x	x	x	x		x		x
CBD/COP/11/1	x									x	



EU → MSFD (D11), Technical Guidance ( 4 reports : 2010, 2012, 2013, 2014), a **first standard for Europe** for:

- inventorying annually noise-producing human activities (Indicator 11.1.1, only impulsive noise sources)
- Monitoring noise levels (Indicator 11.2.1, mainly shipping noise)

### Status today:

Impulsive noise:

- National noise registers : **UK** and **Netherland** started
- International noise register: underway by **OSPAR/ICES**

Continuous noise:

- Baseline status in several countries (e.g. Reports available for France and Ireland)
- National Monitoring programmes under development
- Initiatives for transboundary monitoring projects in the North Sea and in the North-East Atlantic at conception stage (infos updated at october 2015)
- Basin-wide assessment carried out for the Baltic Sea (BIAS project)

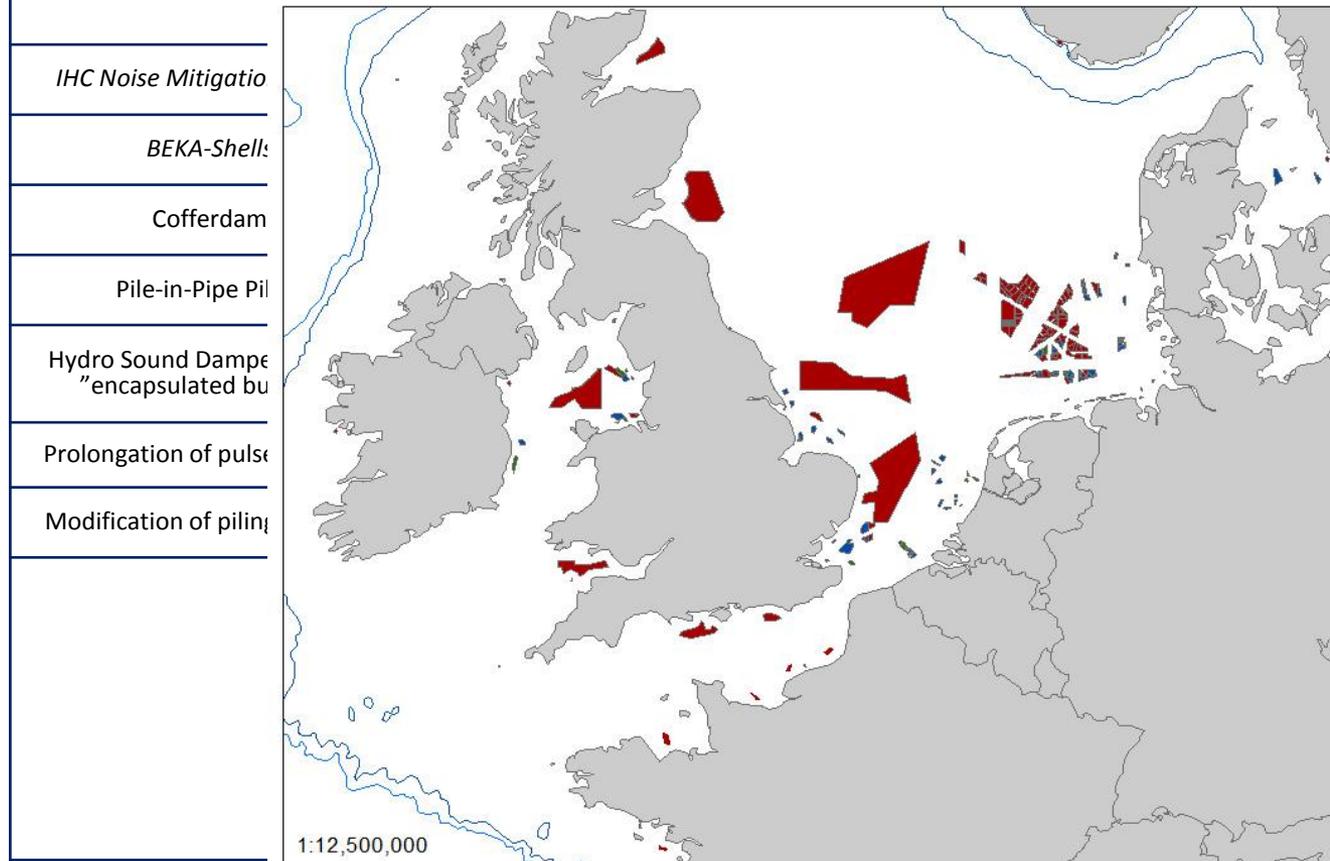
- ***Source-based noise-reduction technologies***
  - alternative quieter technologies employed instead of the conventional noisy ones
  - technologies that lower the noise emitted during conventional noisy operations.
- *Target-based active acoustic devices. Acoustic Mitigation Devices (AMD)*
- ***Software/Informatics***
- *Other technologies under development* : Infrared cameras for helping MMOs detecting whale blows

# Mitigation (technologies)

Pile driving damping	Low noise foundation	Seismic	Software for risk assessment
Big bubble curtain	Vibratory pile driving	Marine Vibroseis (MV)	ERMS (UK Navy)
Little bubble curtain variations)	<i>Ballast Nedam</i>	Low Frequency Acoustic Source (LACS 4A)	SONATE (Norway Navy)



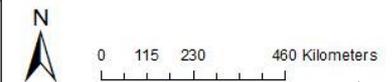
## PARCS EOLIENS EN MER DU NORD ET MANCHE



### Statut des installations

- demande
- autorisé
- opérationnel
- 200 m
- 1000 m

Source des données : OSPAR ([www.ospar.org](http://www.ospar.org))  
CRS : WGS84



## Approaches

Ecosystem-based vs. project based

Noise monitoring and Noise source inventories → MSFD-D11

SCANS I, II, III (periodical large-scale assessments of cetacean populations)

## Successes

Noise thresholds used in Germany for seaborne activities

Regional ambient noise assessment in the HELCOM Region

## Challenges

Monitoring and assessment standards, terminology (ISO standard under way)

Research on the impact of noise

## Duplications

Many types of protected areas with overlapping objectives and reasons (NATURA2000, EBSAs, IMMAs, other national MPAs...)

## Gaps

Transboundary cooperation

Involvement of the industry

# Thank you