

Marine Ammunition

In the Sight of NGOs



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Pictures:
S.Koschinski / Fjord&Baelte Katerminde DK
Jan v. Franeker
Planet-Wissen
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Structure

- The Invisible Threat
- Impact on Marine Biota
 - Toxic Effects
 - Underwater Noise
- Interaction & Cumulation
- International and EU Legislation
 - UNCLOS
 - Habitats Directive
 - Marine Strategy Framework Directive
- Ecosystem Approach & Precautionary Principle
- NGOs calling for...

Pictures: NABU/K.Detloff



The Invisible Threat

- Most unexploded underwater ordnances (UWUXO) are relicts of World War I + II
- Up to 1.3 Million tons dumped in the German coastal waters
- Unknown (forgotten) threat contaminating marine environment
- Endangers countless marine species and humans
- Incomplete data but need for immediate action



Pictures:
NABU/K.Detloff
U.Sturm

Toxic Effects

- Long-term effects of chemical substances in ammunition are extremely variable and not adequately investigated
 - Explosive compounds (TNT, RDX) and their degradation products are toxic and mutagenic
 - Heavy metals (used in fuses / detonators) are highly (bio)accumulative (e.g. mercury, lead)
 - Contaminants threaten the marine environment and humans at the same time
- **We urgently must stop the entry of toxic contaminants into the marine environment!**

Pictures:
BfN Habitat Mare
A.Nekasov



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Underwater Noise

- Detonation is the loudest point source of underwater noise
- Acoustic trauma: damages cochlear structures of marine mammals (PTS & TTS)
- Shock waves: expanding gas bubbles cause pressure changes damaging gas containing organs (lungs, swim bladder, gastrointestinal tract)
- Limited knowledge about effects on fish, birds and benthos; still “too little” on mammals

Pictures:
F. Graner
Fjord&Belt Katerminde DK
U. Sturm



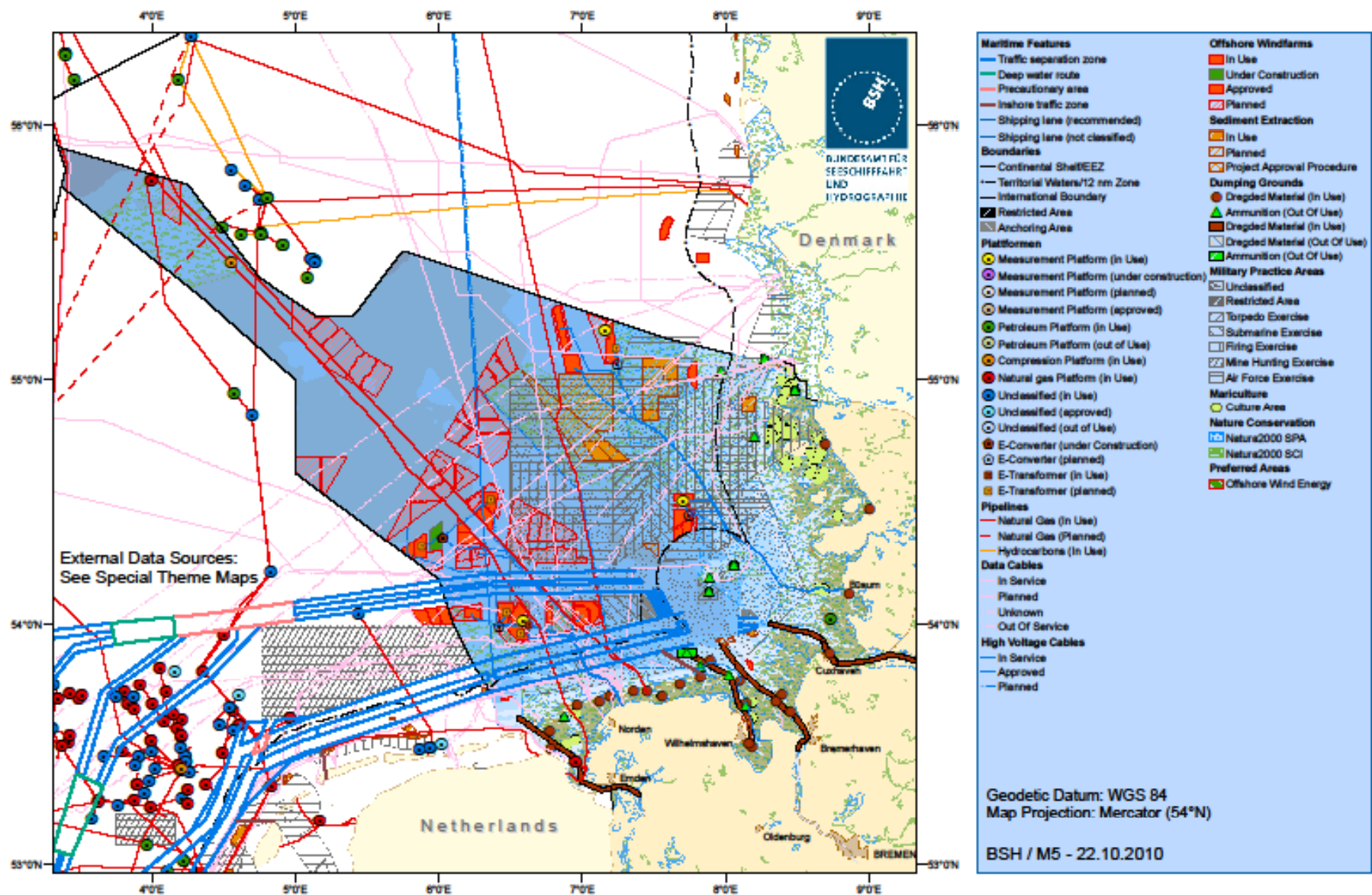
Interaction & Cumulation

- European Seas are threatened by diverse pressures
 - Go off from sectoral approach & one-dimensional EIA
 - Emphasize on interaction and cumulative reflection
 - UW-noise is highly cumulative and long-ranging
 - Noise from shipping, seismic exploration, sonar activities, pile-driving, sand & gravel extraction, underwater detonation
- **Need immediate technical mitigation, monitoring & legal guidance**



Pictures:
NABU/K.Detloff
Parsons/Greenpeace
Alpha ventus

North Sea: Existing and Perspective Uses and Nature Conservation



Legislation & Legal Obligation

- Regulation approach for marine ammunitions is challenging and often imprecise in wording and implementation (noise and contaminants)
- Balance conservation & utilization
- Legal instruments suffer from incomplete data
- Forced to acknowledge the precautionary approach as legal principle
- Non-substantial entry (energy) less regulated than substantial contaminants
- Find relevant legislation in Public International Law and European Environmental Law

Pictures:
NABU/K.Detloff



United Nations Convention on the Law of the Sea

- UNCLOS defines rights and responsibilities re use of oceans
- Art. 192: obliged signatories to “*protect marine environment*”
- Art. 194 ff: obliged signatories to “*take all measures to prevent, reduce, control pollution*”
- Art. 1 (1): defines pollution as “...*introduction by man, directly or indirectly, of **substances** or **energy** into the marine environment, ...which is likely to result in deleterious effects as harm to living resources and marine life, hazards to human health,...*”

→ **Contaminants and underwater noise are manifested in legally systematic reflection**



Pictures:
NABU/K.Detloff

Habitats Directive

- Art. 6, (2): “...take all appropriate steps to avoid... disturbance of species ..., in so far as such disturbance could be significant in relation to the objectives of this Directive.”
 - Art. 12, (1): „ Member States shall take the requisite measures to establish a system of strict protection for the animal species listed in Annex IV (all cetaceans)
- **Obligation to protect species and habitats from adverse effects from marine ammunitions is obvious!**



Pictures:
NABU/K.Detloff

Marine Strategy Framework Directive (MSFD)

- Establishes a framework for community action to achieve Good Environmental Status (GES) until 2020
- 11 Descriptors provide the basis for determining the specific characteristics of GES
- MSFD covers contamination by toxic substances (Descriptor 8 + 9) and underwater noise (Descriptor 11)
- MSFD follows a trans-sectoral ecosystem approach and is the 1st instrument explicitly covering impacts of underwater noise



Pictures:
NABU/R.Jürgens
J.Van Franeker
Fjord&Baelt Katerminde DK
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Marine Strategy Framework Directive (MSFD)

- **Descriptor 8:** *“Concentrations of contaminants are at levels not given rise to pollution effects.”*
- **Indicator 3:** *MS have to consider substances that “are contaminants and their total releases (including losses, discharges or emissions) may entail significant risks to the marine environment from past and present pollution”...*
- **Descriptor 9:** *“Contaminants in fish and other seafood for human consumption do not exceed levels established by Community legislation or other relevant standards.”*



Pictures:
NABU/R.Jürgens
J.Van Franeker
Fjord&Baelt Katerminde DK
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Marine Strategy Framework Directive (MSFD)

➤ **Descriptor 11: “*Introduction of energy, including underwater noise, is at levels that do not adversely affect the marine environment.*”**

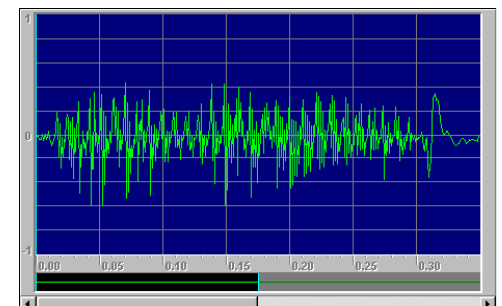
➤ Indicator 1 creates coherent requirements between MS for “*Distribution in time and place of loud, low and mid frequency impulsive sounds*” covering explicitly underwater explosions.

➤ MSFD could (potentially) play an important role to address adverse impacts of marine ammunition

➤ Ambitious (national + regional) implementation is the linchpin of the entire MSFD

➤ Need for standardized methodology

Pictures:
Fjord & Belt Katerminde DK
F.Graner



Ecosystem & Precautionary Approach

- Environmental law must reflect the recognized importance of the ecosystem approach
- EA promotes conservation and sustainable use in an equitable way and recognizes humans as integral part of the ecosystem
- Single-species or single-pressure approaches have failed to manage human activities
- Lack of knowledge must oblige to follow the precautionary principle - reversal of burden of proof
- EA needs investment in better understanding of marine ecosystem's functioning and structure

Pictures:
NABU/R.Jürgens
NABU/K.Detloff
S.Stuckenbrock



NGOs are calling for...

- Improve existing legislation by adopting latest scientific knowledge and precise wording and application
- Effective implementation MSFD with dynamic adaptation of (biological) descriptors & indicators (noise + contaminants)
- Regional approach of exploring and mapping UWUXO
- Risk analysis and prioritization of ammunition to be recovered based on standardized criteria
- Development and application of technical mitigation and alternative methodologies to recover marine ammunitions



Pictures:
NABU/K.Detloff

... and in Germany

- Ban fisheries from heavy contaminated areas (e.g. area around the island Helgoland with Tabun grenades)
- Blasting operations should oblige technical mitigation (BBC)
- Apply (existing) alternative methods to recover marine ammunition (e.g. in the Kiel Bight “Heidkate”)
- Improve stakeholder involvement and (inter)national dialogue
- Increase national responsibility; need for more engagement of national authorities, need for adequate funding and capacity



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NABU/K.Detloff

Thank You (for your attention)!

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