

German Environment Agency

Umwelt
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OSPAR Workshop on Fishing Gear Marking Systems

The OSPAR harm report – biological impacts as a basis for risk assessment

Stefanie Werner

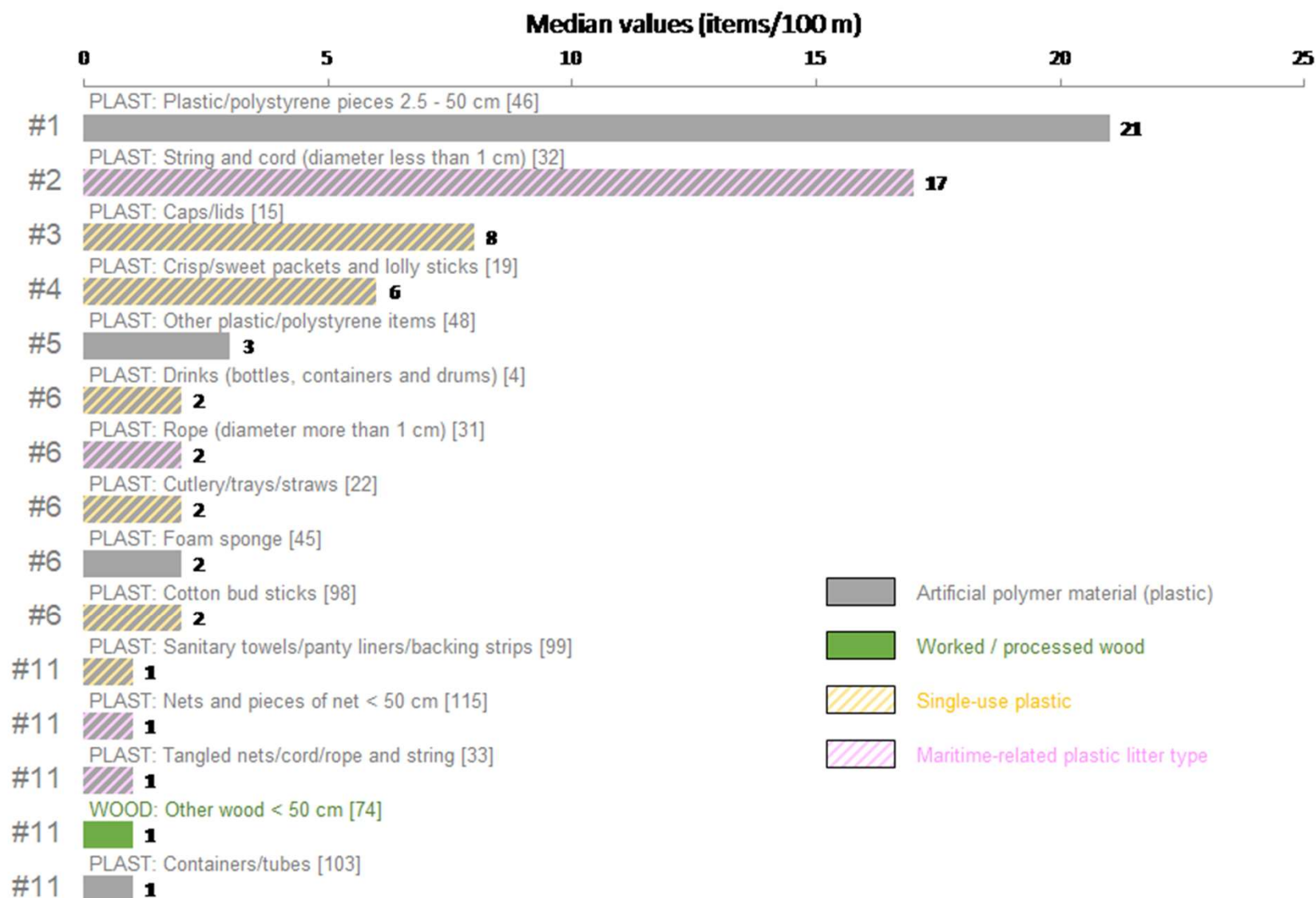
II 2.3 Protection of the seas
and polar regions

stefanie.werner@uba.de



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Top 15 litter items in OSPAR region (2018-2020)



Composition of litter sources North-East Atlantic (2011-2017)

Source (% of total)	Arctic Waters	North Sea	Celtic Sea	Bay of Biscay/ Iberian Coast
Shipping	5,85	3,23	6,04	3,30
Fishing	37,81	30,44	11,93	15,08
Sanitary	1,69	5,21	9,85	6,10
Plastic fragments	35,65	33,21	27,96	34,46
Packaging	11,94	13,78	26,45	19,53
Other	7,06	14,13	17,77	21,53

The OSPAR harm report

- Full title: Impacts of marine litter on biota in the OSPAR maritime area
- Part of Quality Status Report 2023, other assessment
- Thorough literature review to summarise current knowledge about impacts of marine litter on marine life the North-East Atlantic
- Available knowledge from more the 147 most relevant studies on harm to various species for the geographical region of the OSPAR convention until mid-2021
- Major impacts reviewed: ingestion, entanglement, smothering and invasive species
- Impacts on following taxonomic groups reviewed: marine mammals, birds, reptiles, fish, invertebrates
- Large number of case studies corresponds to a considerable lack of standardized protocols to quantify impacts from marine litter
- However, report gives indication on impact hotspots and problematic items to be further considered

Identifying impact hotspots - entanglement

Species	Reference	Rates (entanglement, mortality, ghost fishing)	Region	Quelle
Northern gannet	345 nests (2015) observed	3,5% (36 individuals)	North Sea, Helgoland, entangled in breeding colony	UBA study 198/2020
Northern gannet	Colony (2005-2010)	Average of 470g plastics/nest causing mortalities of 33-109 individually per year	Grassholm, Wales	Votier et al. (2010)
Monkfish	Catch model applied for annual commercial landings	18,1 tons of ghost fished monkfish applying to 1,46% of commercial landings	Cantabrian Sea	Sancho et al. (2003)
Harbour Seal	Haul out site (2004-2008)	3,6 - 5%, 64% of 58 recorded entanglements caused physical injury	Haul out site southwest England, North Sea	Allen et al., 2012
Minke Whale	Local population	9,1% corresponding to 11 observed entanglement cases	North Sea, UK waters	Deavielle et al., 2010

Specification of problematic items

Category	2014 (n = 265)	2015 (n=345)
Plastic litter (total)	97%	99%
Nets	95%	96%
Cords/strings	86%	99%
Ropes	56%	31%
Packaging	15%	34%

Litter findings in nests of Northern Gannets in breeding colony at Helgoland



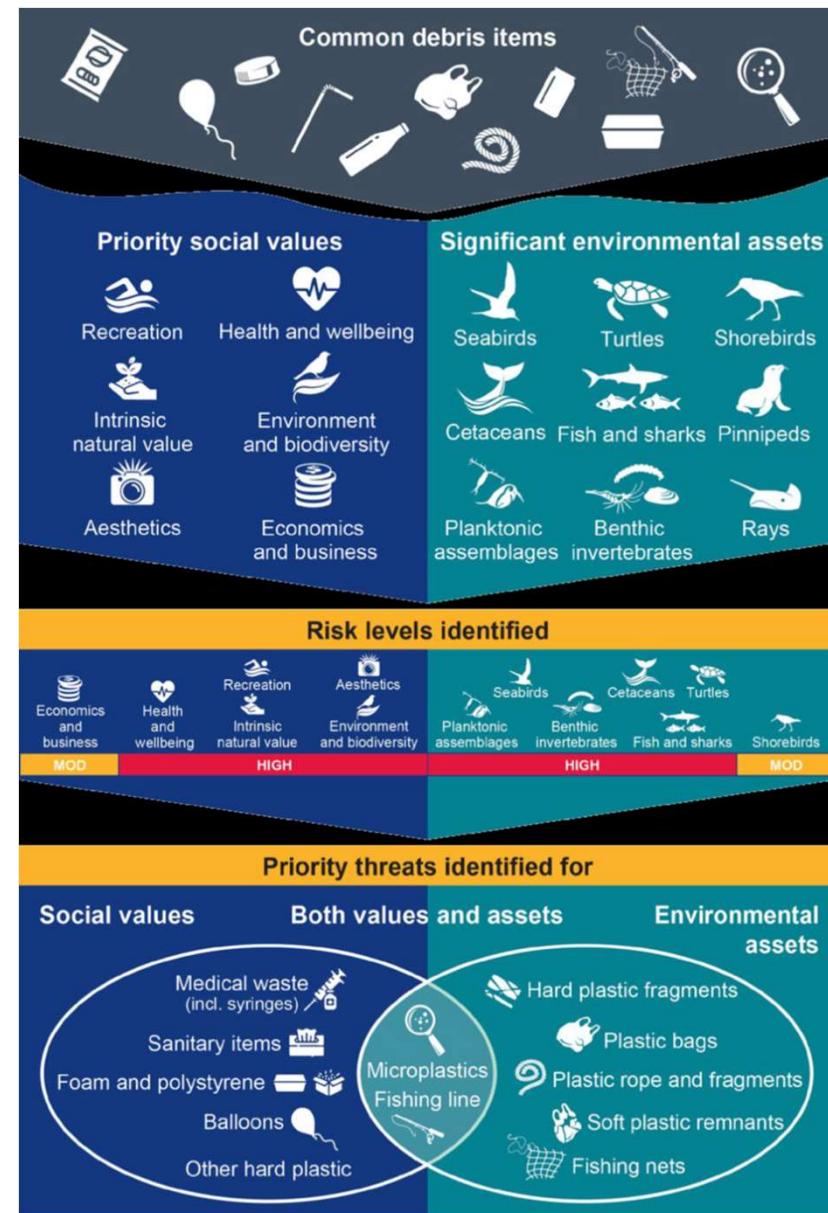
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From findings to measures

Item	Source/Pathway	Measure/Action
(Pieces of) fishing gear/ ALDFG	<ul style="list-style-type: none"> • Lost and discard by fishing vessels at sea due to: <ul style="list-style-type: none"> ○ bad weather ○ missing storage capacities ○ conflicts with underwater obstacles, other fisheries, recreational crafts ○ abrasion (chafing gear such as Dolly Ropes) ○ net repair work • Aquaculture facilities: <ul style="list-style-type: none"> ○ mismanagement ○ deliberate discards ○ extreme weather events • Harbors: <ul style="list-style-type: none"> ○ inadequate waste collection and management ○ net repair work • Angling (at sea, on bridges, in brackish water) 	<ul style="list-style-type: none"> • Design for Circularity (CEN) • Marking of fishing gear (FAO) • Development of alternative materials (R&D) • 100% indirect fee system including passively fished waste (PRF-D) • EPR: Separate collection and adequate disposal of end-of-life gear in harbours, (SUP-D) • Detection und retrieval of ghost gear (national, project basis) • HELCOM Recommendation 37/3 (2016) on sustainable aquaculture in the Baltic Sea region • Phase out of problematic items (e.g. chafing gear such as dolly ropes, upcoming OSPAR measure) • Awareness raising: FFL, modules in teaching and learning content (OSPAR) • Certification systems such as Blue flag • Fishing Gear explicitly adressd in Global Plastics Treaty (Article 7 on releases and leakages)

Conclusions

- Fishing activities clearly major source for frequent litter findings with negative impacts on marine species and habitats, contributing furthermore to microplastic pollution
- Further specification of problematic items from fishing activities by expert judgement and upcoming studies (study design) needed
- Risk assessments could also include social values
- Further standardized pilot monitoring studies and protocols needed to improve quantification of impacts from marine litter
- Evaluation of sufficiency of existing measures and need for additional ones required
- Risk levels could be further explored by blending habitats of species with fishing activities and densities in the area



Example for marine litter threat and risk assessment

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Questions?



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