



Bild: Horst Petersen

Fishing for Litter in German Coastal Waters

Nils Möllmann NABU (Nature and Biodiversity Conservation Union)

FARNET - Focus Group Marine Litter, 28 May 2021

Fishing for Litter - Intro

- today FFL is coordinated by the environmental NGO NABU - German partner of the BirdLife International Network.

Aims & Objectives:

Besides ordinary Fishing for Litter activities - providing means of collection for litter at sea and its disposal as well as related PR, NABU takes care of:

- Item analysis by hand using the OSPAR-100 list for documentation and reporting.
- Establish local return schemes (element is run as a sideproject to FFL) of disused fishing gear.
- Materials science on (either way) recovered plastic with scientific partners.



Fisherman disposing a three days litter catch.

Picture: P. Scholl/NABU



Part I

How to start and run a Fishing for Litter Initiative

Fishing for Litter – How to start a Fishing for Litter initiative (Phase I)

- Fishing for Litter started in Germany in 2011
- Initial funding through the “postage stamp with ‘the plus’” & support of the Federal Environment Agency (UBA)
- until 2016 funding by:
 - Public grants on annual base
 - NABU resources from donations



Picture: BMU

Postage stamp with 25ct extra charge for charity

Fishing for Litter – Scaling up... Funding today

Funding

- is granted by means of the European Maritime and Fisheries Fund (EMFF) until 2022.
- ... so naturally: Using fisheries money, waste disposal **for now** is free of charge for the fishermen.

Wir fördern Fischerei und Aquakultur



Landesprogramm Fischerei und Aquakultur
Gefördert durch die Europäische Union,
Europäischer Meeres- und Fischereifonds (EMFF)
den Bund und das Land Schleswig-Holstein



Europäische Union



Fishing for Litter – Hardware on board

- Collection on board – Big Bags (BB)
- which size is best suited on the local vehicles
- 60x60 x100cm
- Building regulations state that corridors and hatches on board must be at least 60cm wide, the BB standard model would not be practical



Big bag for the Litter collection on board

Fishing for Litter - Hardware



Waste containers, the central collection point in the harbour



Access only for fishermen

Fishing for Litter – Internal Communication

- Historically, the relationship between fisheries and environmental / nature conservation has not always been easy. (Bottom-Trawling, No-Take zones,...)
- FFL approach is emphasizing marine litter as a common challenge of fisheries and the environmental sector
- Listening, building trust, understanding and dealing with marine litter as a common problem was and still is an important task of the coordination office.
- Side effects of FFL today is: Opening Doors to other projects with the fisheries sector (alternative fishing gear,...)



Bild: P. Scholl/NABU

Common Challenge – Marine Litter

Fishing for Litter – PR and Media



Media work: Telling the story of marine litter and active fishermen

Fishing for Litter

Müll fischen für saubere Meere

Plastikmüll im Meer: tote Tiere, hohe Kosten

Die in Millionen Tonnen abfallende Müllmenge der in unseren Küstengewässern und Ozeanen abgeworfenen Abfälle ist ein ernstes Problem. Die in den Ozeanen schwimmende Müllmenge ist schätzungsweise 100.000 Tonnen pro Tag. In der Nordsee sind die meisten Meeresvögel und Meerestiere durch den Müll gefährdet. Die Kosten für die Beseitigung des Mülls sind sehr hoch. Die Kosten für die Beseitigung des Mülls sind sehr hoch.

Fischer sammeln Plastik: die Initiative Fishing for Litter in Schleswig-Holstein

In Schleswig-Holstein sammeln Fischer Plastikmüll aus dem Meer. Die Initiative Fishing for Litter in Schleswig-Holstein ist eine Initiative der NABU Schleswig-Holstein. Die Initiative Fishing for Litter in Schleswig-Holstein ist eine Initiative der NABU Schleswig-Holstein.

Partner der Initiative:
 Ministerium für Landwirtschaft, Ernährung und Ländlichen Raum
 Ministerium für Umwelt, Klimaschutz, Landwirtschaft und Verbraucherschutz
 NABU Schleswig-Holstein

Information board

Fishing for Litter – PR and Media



Flag flown by the participating vessels

FFL – Coverage today



German North Sea: so far 9 Ports -160 Vessels (to be extended) + app. 30 guest vessels flying foreign flags.

Baltic Sea: so far 7 Ports – 25 Vessels (to be extended)

A large pile of marine litter, including ropes, nets, and debris, is being loaded onto a truck at a recycling facility. The truck is white with a large container on the back. The scene is outdoors with trees and a metal structure in the background.

Part II

What happens with the Litter ?

Fishing for Litter - Germany

„Sampling“ and Selectivity

Passive approach - advantage:

- using sideeffect of fishing, no on top activity (avoiding underwater noise, carbon emissions and general ,on top‘ human presence at sea)

Selective Method - Depending on:

- Fishing effort
- Mesh size and type
- Fishing ground
- Human factors



Tipping a FFL-dumpster prior to manual sorting procedure.

Picture: N. Möllmann/NABU

FFL – Sorting and Documentation – Phase II



10 m³ of Marine Litter spread out and ready for documentation



Sorting: ...Let the games begin!

FFL – Item Examples



Textiles



Plastic/ Dolly Rope



Toys/ Electronic waste

2011



0,5*
Tonnen

2015



17,1

2018



45,7

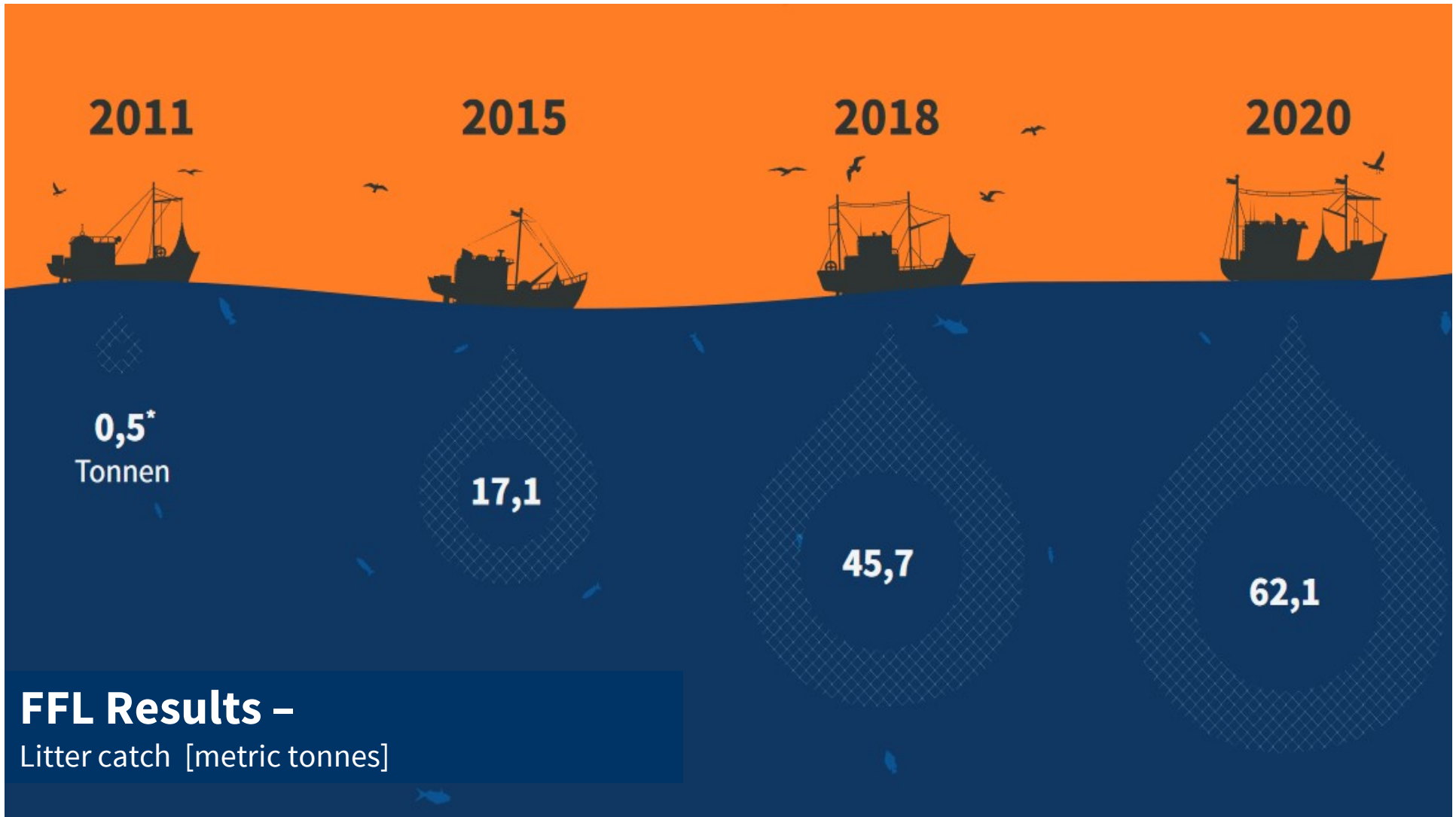
2020



62,1

FFL Results –

Litter catch [metric tonnes]



FFL Germany – TOP 10 Items

Mittlere Plastikteile**

North Sea

Netz- und Tauknäuel

String and Cord

Nahrungs- & Fast-Food-Behälter

Dicke Taue
Knäuel aus Schnüren vom
Scheuerschutz (Dolly Rope)

Große Plastikteile
Ganze Netze oder Teile von Netzen

Kleine Plastiktüten

Sonstiges Plastik

Glasflaschen

Glasflaschen
Mittlere Plastikteile
Glass bottles

Glass bottles

Schnüre

Textilenteile

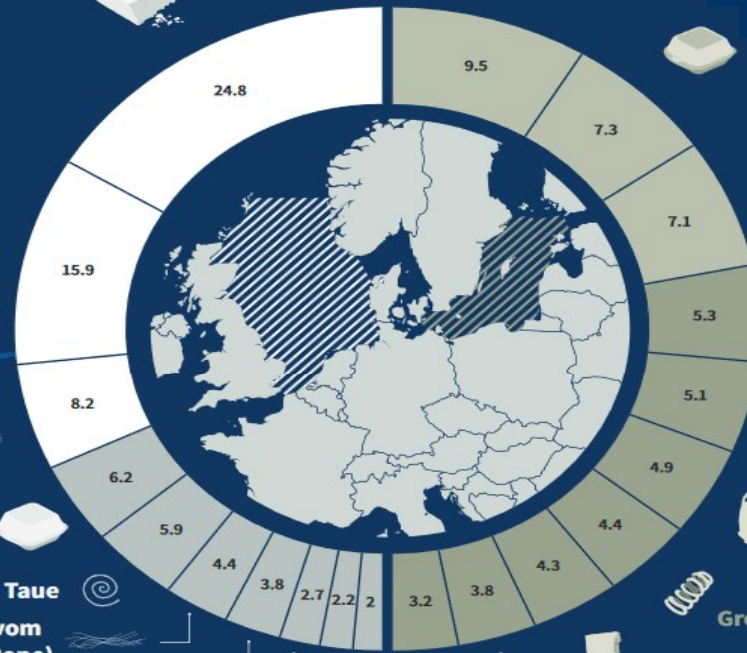
Große Plastiktüten

Große Metallteile

Große Plastikteile

Getränkedosen

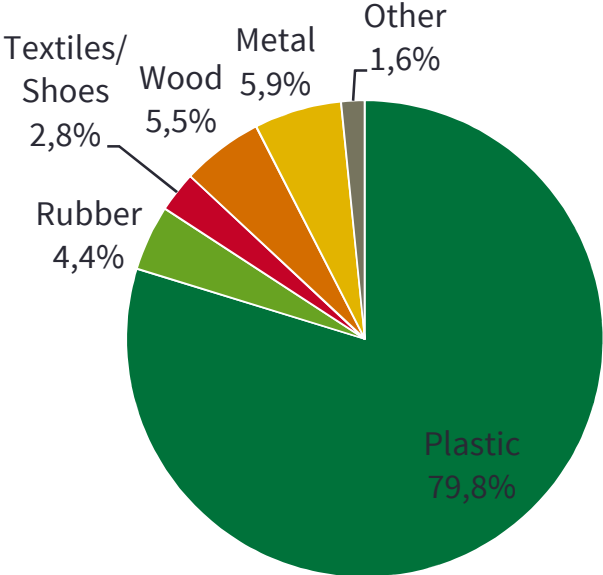
Netz- und Tauknäuel



Sample size: 53.077 items

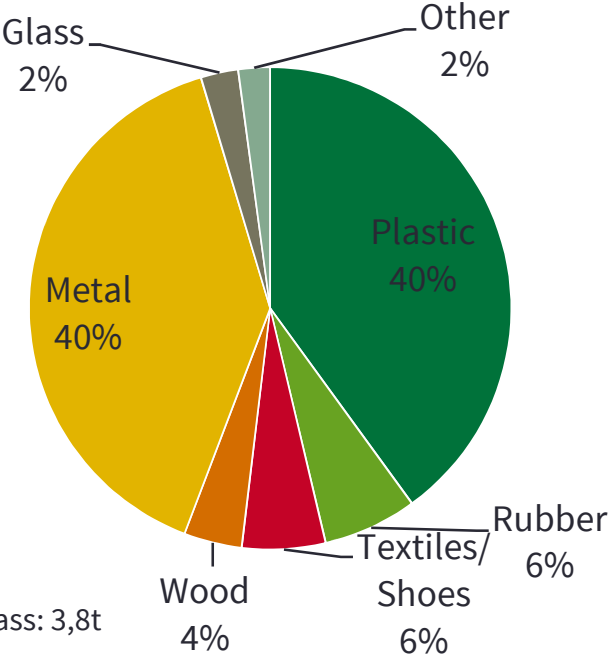
Sample size: 6.011 items

FFL Germany – Results (Mass proportions) -



Sample mass: 14 t

North Sea



Sample mass: 3,8t

Baltic Sea

Fishing for Litter – additional objectives since 2017

- Key measure in the EU to combat marine litter under the
 - Regional Protection Agreements (OSPAR/HELCOM)
 - Marine Strategy Framework Directive (MSFD)
- Disposal of passively fished waste addresses MSFD objective

Establishment of the Fishing for Litter System



Fisherman disposes of litter catch of a day

Bild: P. Scholl/NABU

FFL - A second project plot line

- Local take-back of disused fishing gear
 - Keeping materials streams separat
 - Goals: learn and identify Challenges to End of use fishing gear in terms of material collection and recycling
- Local take-back of disused fishing gear addresses MSFD objective

Litter-related measures on fishing nets and gear





Part III
The plastic issue: perspectives for recycling

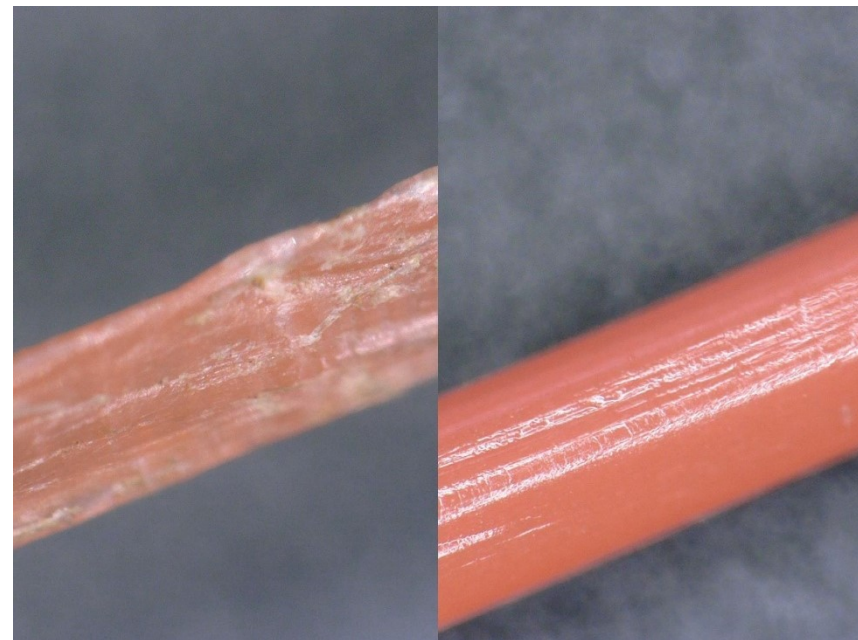
FFL - Material Science & Scope – closing the loop

Scientific Partner:

- since 2016 University of Applied Sciences Magdeburg –Stendal (h²)
- Task: Identifying path of material recycling (apart from incineration) to specific items originating from FFL

Test items:

- Dolly Rope
- different types of fishing nets
- other Rope



Dolly Rope : Sample (L) Reference (R)

Pictures: M.Hahn/ Hochschule Magdeburg Stendal

FFL - Material Science & Scope – closing the loop

Test parameters:

Grade of **Contamination** with organic/ mineral material

Processing : crushing, cutting, shredding or ???

Material parameters

- Optical impression
- Impact resistance
- Melt Flow Rate
- Differential scanning calorimetry

Test results:

- In particular Dolly Ropes have a reduced impact resistance compared to the reference material.
- Nets are hardly different from the reference material.
- Grade of Contamination and processing effort are key factors

Results published : Gerke *et al.*, Müll und Abfall (09.2016), Plastics Recovery (05.2017)

FFL - Material Science & Scope – closing the loop



Recycling pellets, extruded from retrieved Dolly Rope



First approaches to design new products out of marine litter

Pictures: N.Möllmann/NABU

FFL – New Regulations, Scope & Challenges

newPRF Directive

- Deadline by end of June in GER
- FFL then part of a no special fee approach
- PRF leaves possibility of funding by EMFF/EMFAF although it is compulsory measure

Single Use Plastic Directive (SUPD)/ Extended Producer Responsibility (EPR)

- Phase out of 10 top items including measures concerning end of use fishing gear
- Deadline 03.07.

If I could make a wish...

EU-Governments must seize the opportunity to see the new regulations especially EPR and SUPD as innovation drivers to advance the **‘Design for Recycling’** concept in practice. For ambitious fulfillment of the new requirements from Brussels far beyond ‘polluter pays’ and ‘aftercare’ is not forbidden.



**Thank you for your
Attention!**

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FFL – Material Logistics & Science – Findings

Logistik kosten

Dezentrale Abfallaufkommen

Plastic fraction Passive incineration only
tecnically feasible

bit economically unrealistic framing

End of use Fishin Gear could possibly put in
material recycling