

MARELITT Baltic

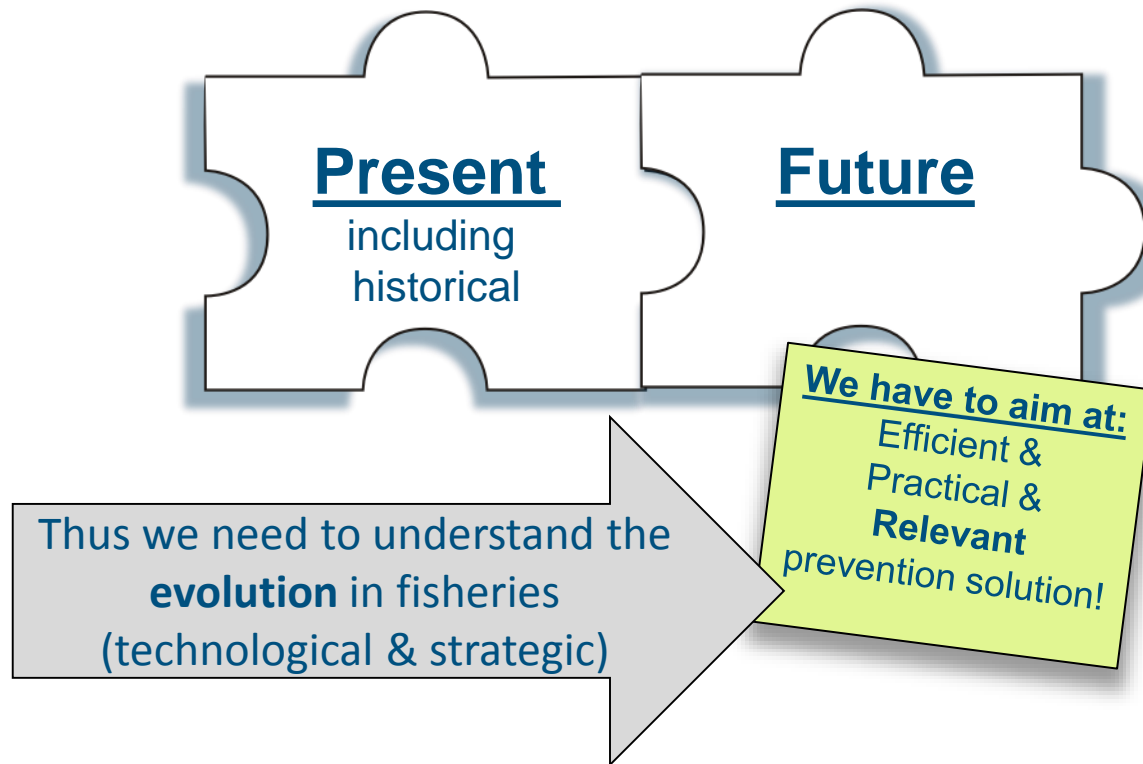
WP3: "Work to minimize DFG problem in future"

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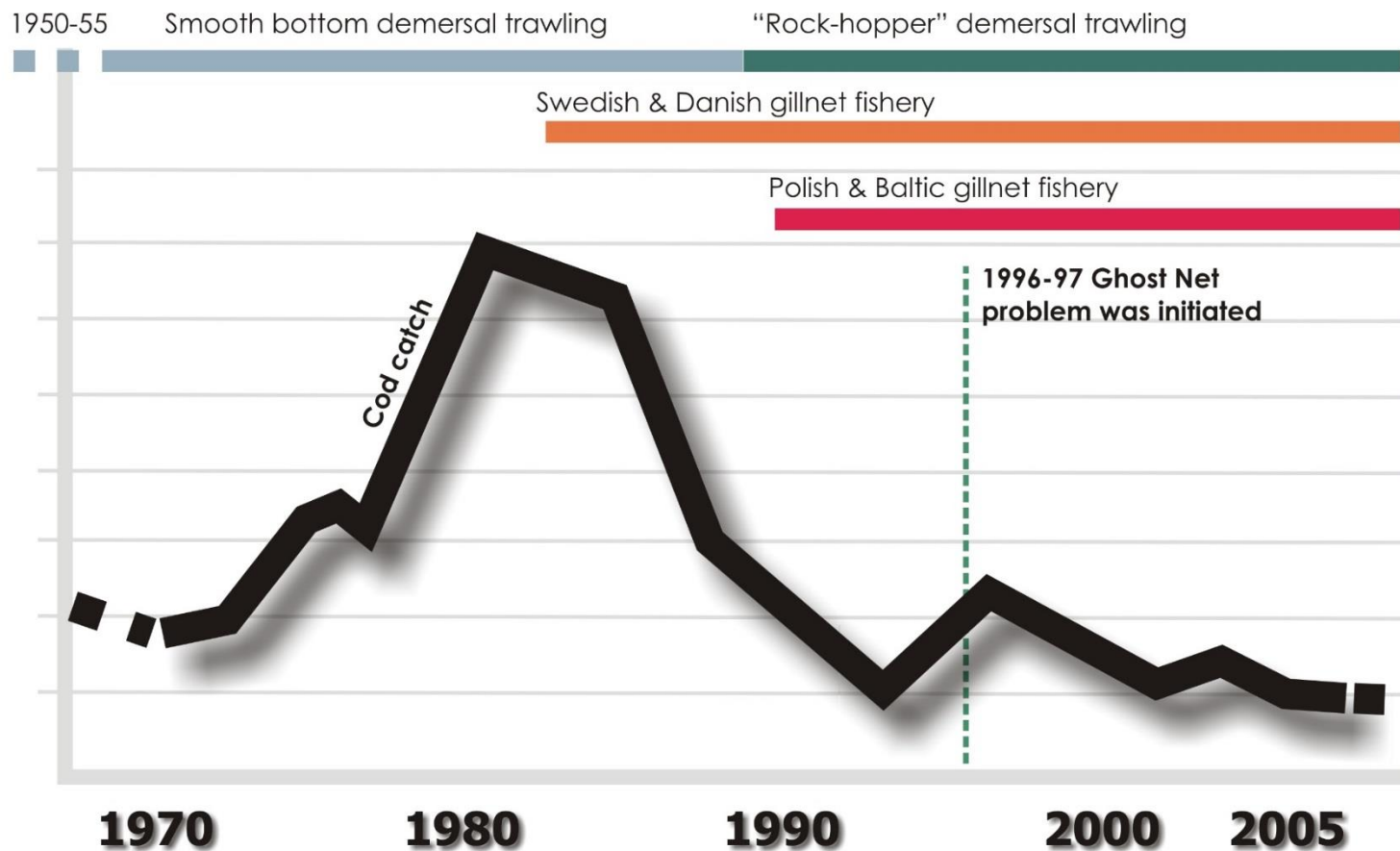


Municipality of Simrishamn
Sweden

The first "all-in-one" solution with two dimensions!



An overall view on the technological development



What do we say about the WP3 outcome

.....in the application (plan)?

We will be looking at two approaches:

Law & enforcement

Adapted or new legislation backed up with control

Voluntary

"Code of good practice" providing an economic incentive on the fish market

We have planned to examine following "tools":

Technology
New/improved constructions, fishing gears

Strategy
Change fishing ground, strategies etc.

Legislation
Changed rules, reporting of lost gears

Electronic
Fishing gear identification and location (smart-tags)

Responsible fisheries scheme
Requires commitment
Provides econ.benefit

A global review
of methods in use or in pipeline

A step-by-step roadmap for WP3 activities:

To be able to provide effective and acceptable solutions:

- 1) We need to study why fishing gears were/are lost!
- 2) We need to look at fishing effort! If/why/how/where it has changed?
- 3) We need to understand if changes in fisheries have impacts on gear loss!
- 4) We need to **foresee today's and future need of prevention tools!**

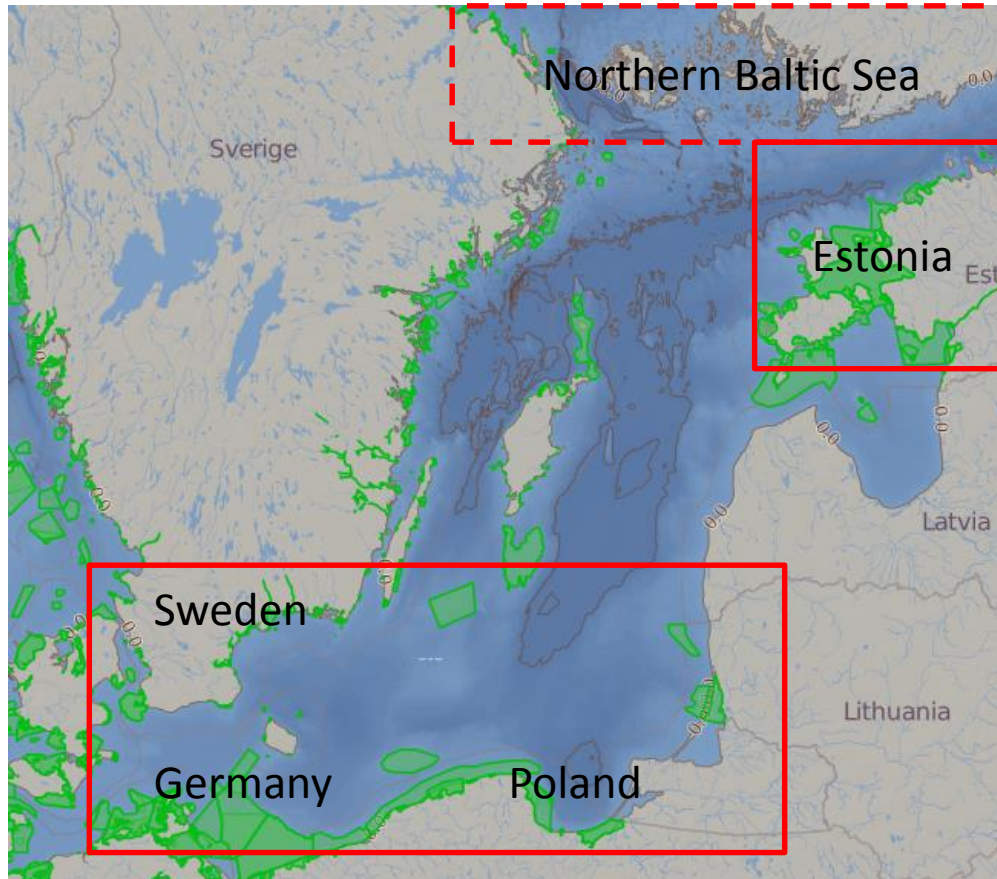
A correct context is crucial to win industrial acceptance:

- We have to collaborate with *modern fishery issues!*
- A high level of technical implication in practice is crucial!
- Combination of legislative, technological and strategic solutions
- A possibility for different approaches (national/international)

The planned work flow:

1. National activity
Fisherman survey (Estonia, Poland, Sweden)
 - reasons for gears loss (historical/present)
 - frequency of gear loss today**Analysis of changes in fishing effort**
 - effort data available from Poland, Sweden
2. First interim. report
Published after Kolobrzeg and circulated for comments
3. National activity
Discussion on potential prevention methods
 - should result in a national proposal of approach/methods
4. Second interm. report
International workshop/conference: how to proceed
5. Finalizing of solutions
Depending on approach (intern./national) the work is done using international or national working groups
6. Draft finale report
Presented on an international "multiplier meeting"
7. Finale report
Presenting the developed solutions.

Important! Big difference in used gear types.



Increasing share of part-time fishing
No bottom trawling
Mixture of fyke net and gillnetting,
Ice fishing
Archipelago
Rocky coastal waters

Full-time fishing
Mixture of bottom trawling and gillnetting
Open coastline

Result:

Why do fishing gears get lost In the past and today

Methodology

A questionnaire was designed jointly for WP2 and 3 (appendix in report)

Collection of data (use of questionnaire) was adapted nationally:

- Estonia 59** Questionnaire delivered to chairman of fishing org. which forwarded it to members. No figure on how many were reached. Project interviewed **59** fishermen.
- Poland 70** **70** fishermen were hand-picked and guided through the questionnaire eye-to-eye during meetings.
- Sweden 31** Two regional meetings were arranged, **17** interviewed. **56** questionnaires were sent to hand-picked group of active fishermen. **14** were returned.

Why do fishing gears get lost?

Reason	Estonia		Poland		Sweden	
	Past	Present	Past	Present	Past	Present
Sea bed objects (rocks, "hooks" etc.)	-	29	47	40	21	21
Ship wrecks	-	9	24	23	16	19
Conflicts (with fishermen, non-fishing vessels)	-	26	19	27	40	43
Environment (strong current)	-	0	9	10	14	12
Environment (wind/waves)	-	14	0	0	0	0
Environment (ice)	-	23	0	0	0	0
Other reason (theft, sabotage)	-	-	-	-	9	5

Given in % of provided answers.

Result:

Changes in fishing effort from 1997-2007 to 2014-16

Methodology

In our case the fishing effort is referring to the total length or number of fishing gears used during one year.

$$\text{Effort}_{\text{Tot}} = \text{Fgear}_{\text{no/km}} \times \text{no}_{\text{vessels}} \times \text{no}_{\text{fishing event}}$$

Example: 200 vessels using 5 km netting each and fishing 160 days per year

$$200 \times 5 \times 160 = 160.000 \text{ km netting was set during one year}$$

Change in fishing effort based on logbook data

Poland

	2007		2012		2014	
Total km/year	174 215		178 355		147 743	
Diff.%	<i>Index year</i>		2,4		-15,2	
Total no sets	41 710		38 581		43 192	
No of vessels ^{*)}	605		562		621	
Sets/vessel	68,9		68,6		69,6	
*) No of reporting vessels with gear code GNS						

Swede

	1997		2007		2014		2016	
Total km/year	123 627		43 997		21 458		19 884	
Diff.%	<i>Index year</i>		-64,4		-82,6		-83,9	
Total no sets	37 685		10 130		4 842		4 442	
No of vessels ^{*)}	482		255		191		168	
Sets/vessel	78,2		39,7		25,4		26,4	
*) No of reporting vessels with gear code GNS								

Change in catches based on logbook data

Germany

Year	Tonnes	Change
1995	5 591	<i>index</i>
2007	8 701	56
2012	4 599	-18
2015	4 291	-23

Estonia

Year	Catch	Change
2009	15 070	<i>index</i>
2012	9 164	-39
2014	10 888	-28
2016	11 321	-25

Cacth data is not an expression of effort i.e. amount of fishing gears used. Typically when *cpue* tend to decrease fishermen compansate by increasing effort.

cpue= catch per unit effort (e.g. catch in kg per one net)

Result:
How often fishing gears get lost today?

We asked fishermen how often fishing gears are lost:

	Less than ones/year	ones /year	ones /month	never
Polish	22	30	12	
Swedish	4	2	-	
Estonian	4	-	1	18

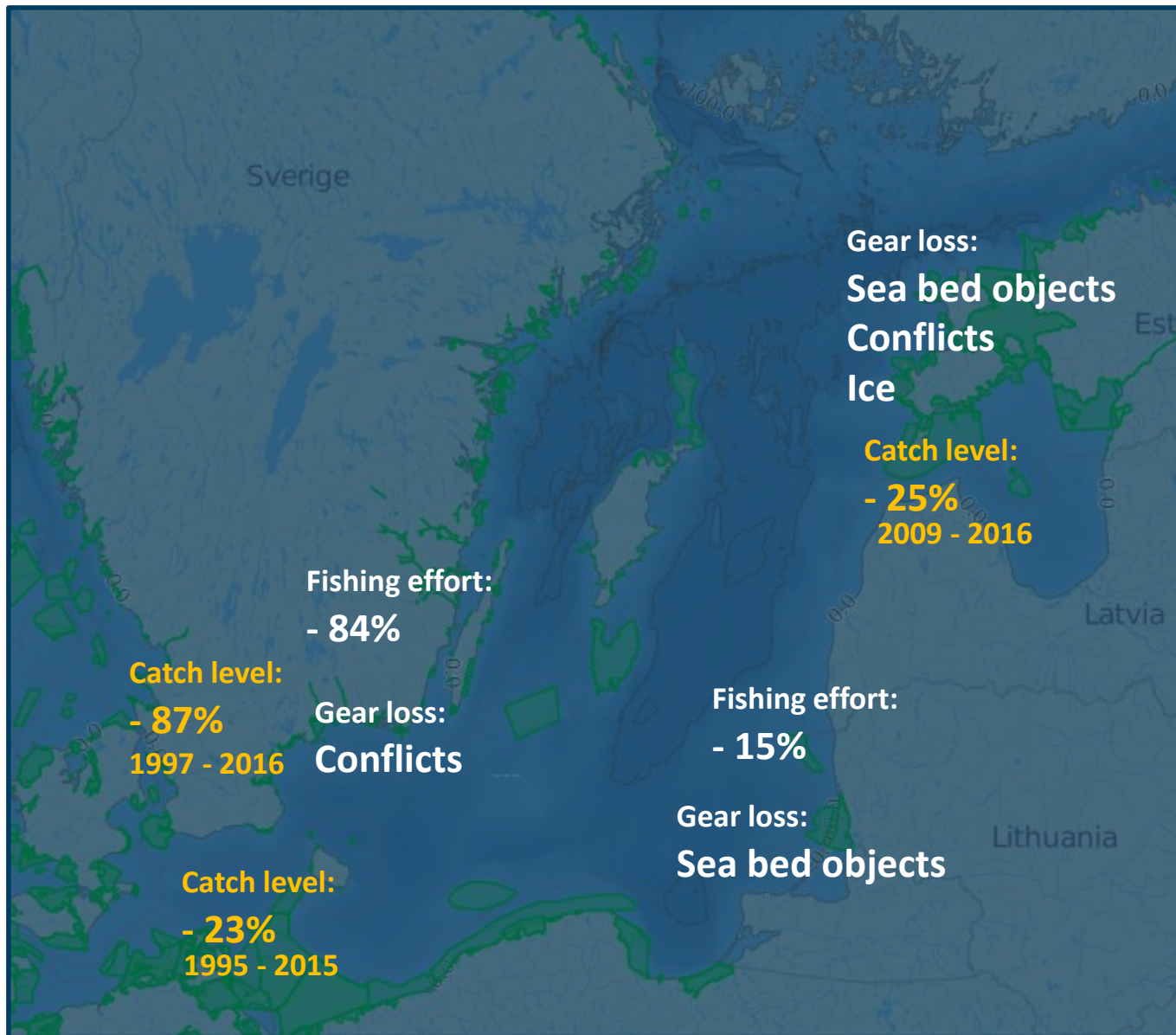
The answers indicate that fishermen always try to retrieve gears and usually succeed!

Summary

Our findings show regional differences

- why fishing gears get lost
- in changes of fishing effort

The gained information suggest that **frequency of gear loss is lower today!**



Thank you!