

Recreational fishing - alternative management measures

Kevin Haase

Thünen Institut of Baltic Sea Fisheries



Overview of rec. fisheries regulations

Input regulations

→ Reduce effort

Seasonal closure

- Protect spawning times and fish aggregations

Number restrictions of licences, boats, rods, or hooks

Output regulations

→ Reduce harvest

Minimum landings sizes (MLS)

- Protect small fish

Slot limits

- Protect large fish

Bag limits

Harvest tags

Overview of rec. fisheries regulations

Regulations have country, fish species and fishing method specific implications

Example MLS:

- Lead to releases, success depends on post-release mortalities which varies depending on fish species and fishing methods

Example Bag limit:

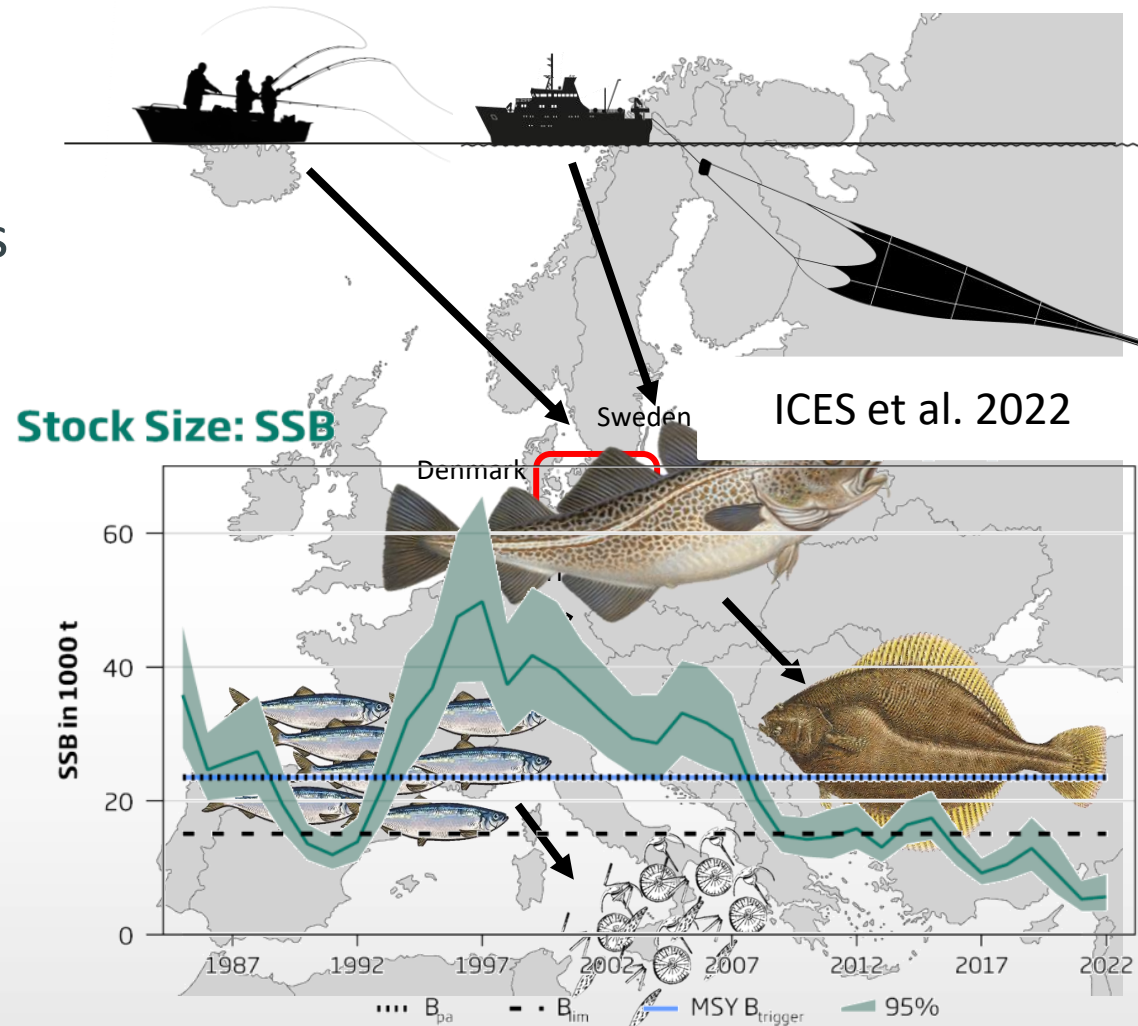
- Catch and release fishing after the bag limit is reached e.g. in Denmark
- Stop fishing after the bag limit is reached in Germany due to animal welfare law

Example – Western Baltic Cod

Center of Europe

Cod

- ecological key species
- was the main commercial and recreational target species
- stock collapsed in recent years



WBC recreational fishing regulation


Bag limit introduction to split the burden of stock rebuilding

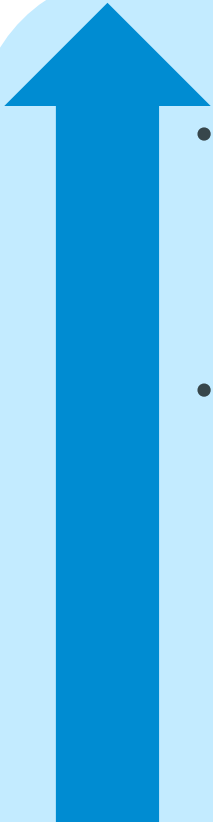
Year	Bag limit (cod per angler & day)	
	February & March	Remaining year
2017	3	5
2018	3	5
2019	7	7
2020	2	5
2021	2	5
2022	0	1
2023	0	1

- Estimated German reduction = 900 t
- Real German reduction = 1910 t

Haase et. al 2022

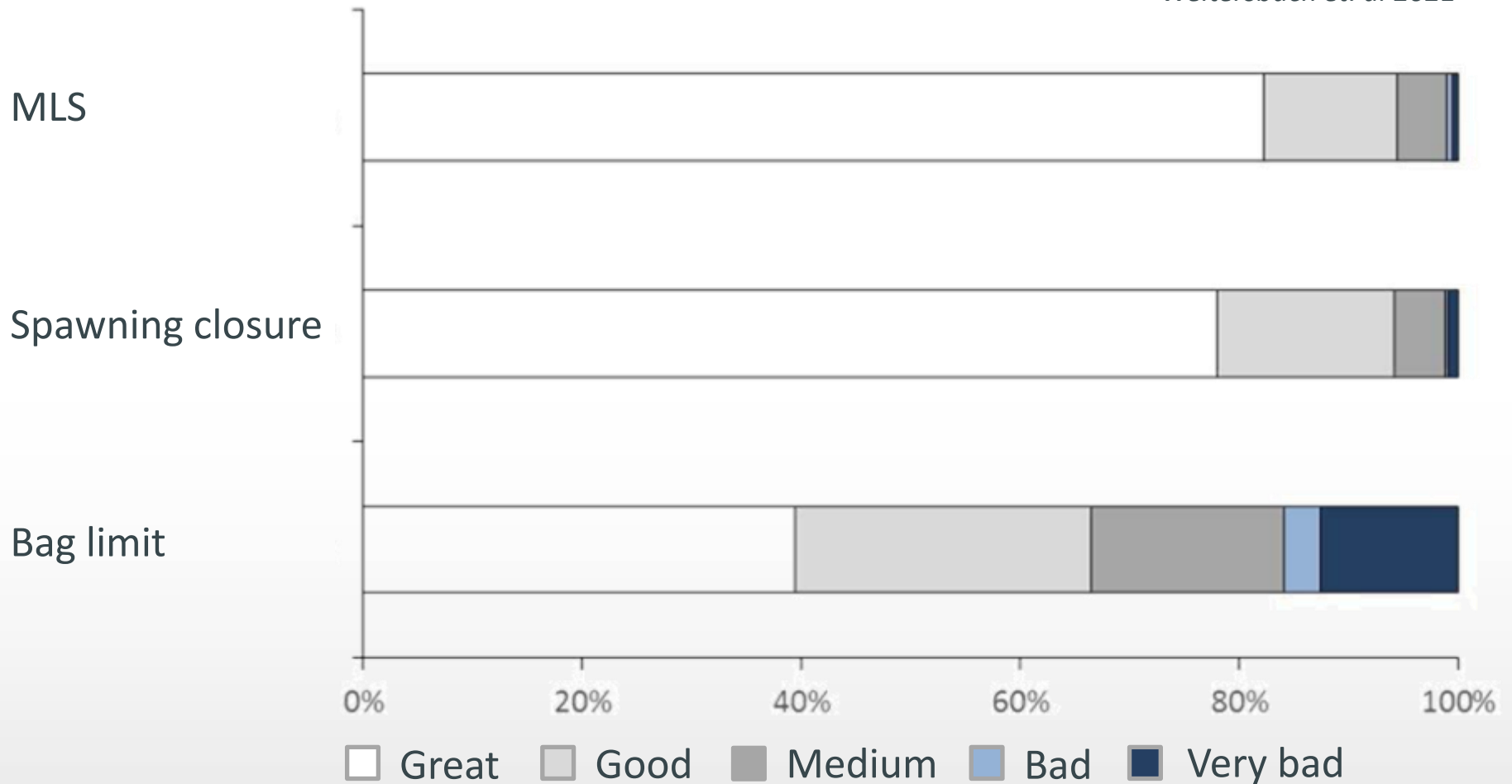
Changes in the German WBC rec. fishery

- Harvest rate
 - Participation
 - Number and travel distance of charter boat anglers
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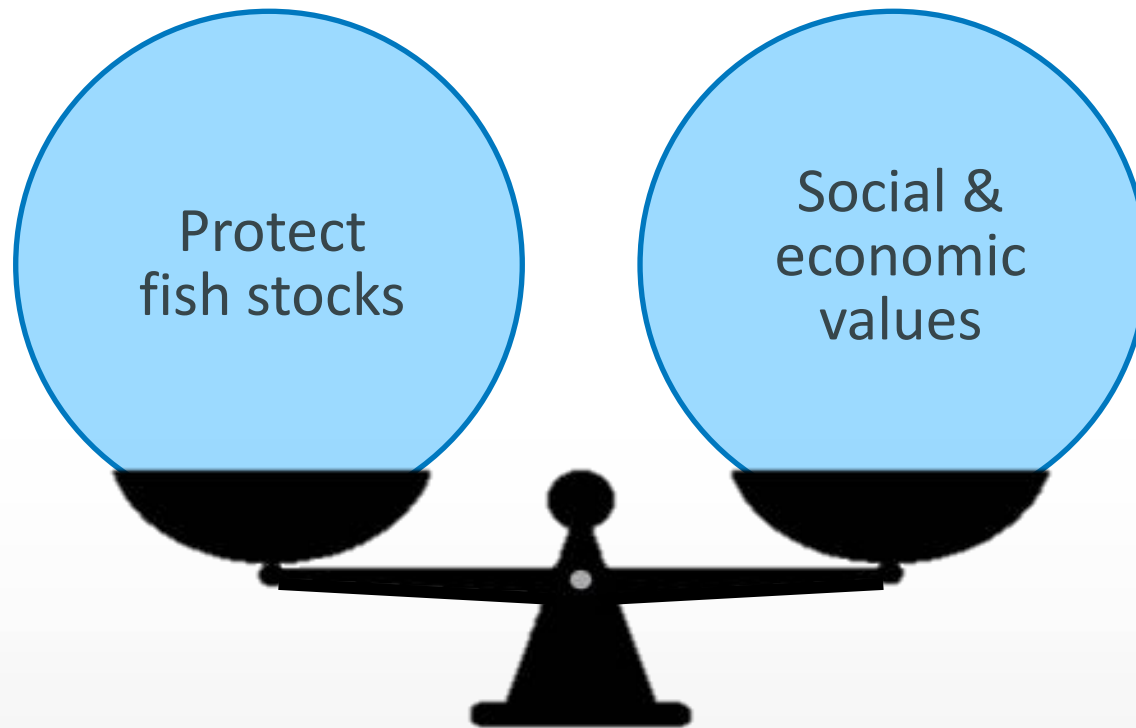
- Release rate for sea-based fishing
 - Zero-catch days
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Fisheries management - Anglers opinion

Weltersbach et. al 2021



Fisheries management - Goal



→ Reduce mortality, but keep fishing opportunities

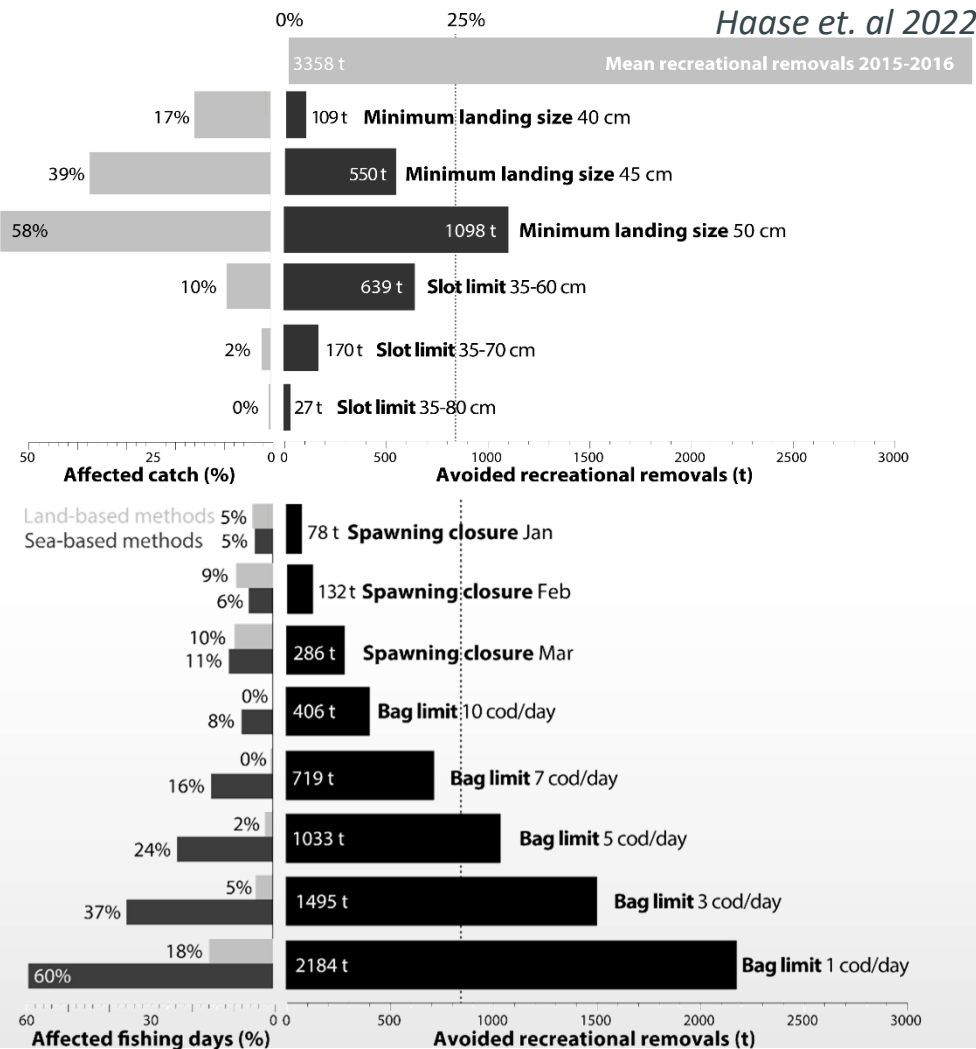
Fisheries management - Anglers opinion

Exact values angler mentioned in choice experiments from 2020/21:

	Current	Preferred	Just accepted
MLS	35 cm	45 cm	40 cm
Slot limit	none	45 - 75 cm	40 - 70 cm
Spawning closure	none	Jan. - Mar.	
Bag limit	5 cod	6 cod	5 cod

Bronnmann et. al 2023

Reduction potential of regulations



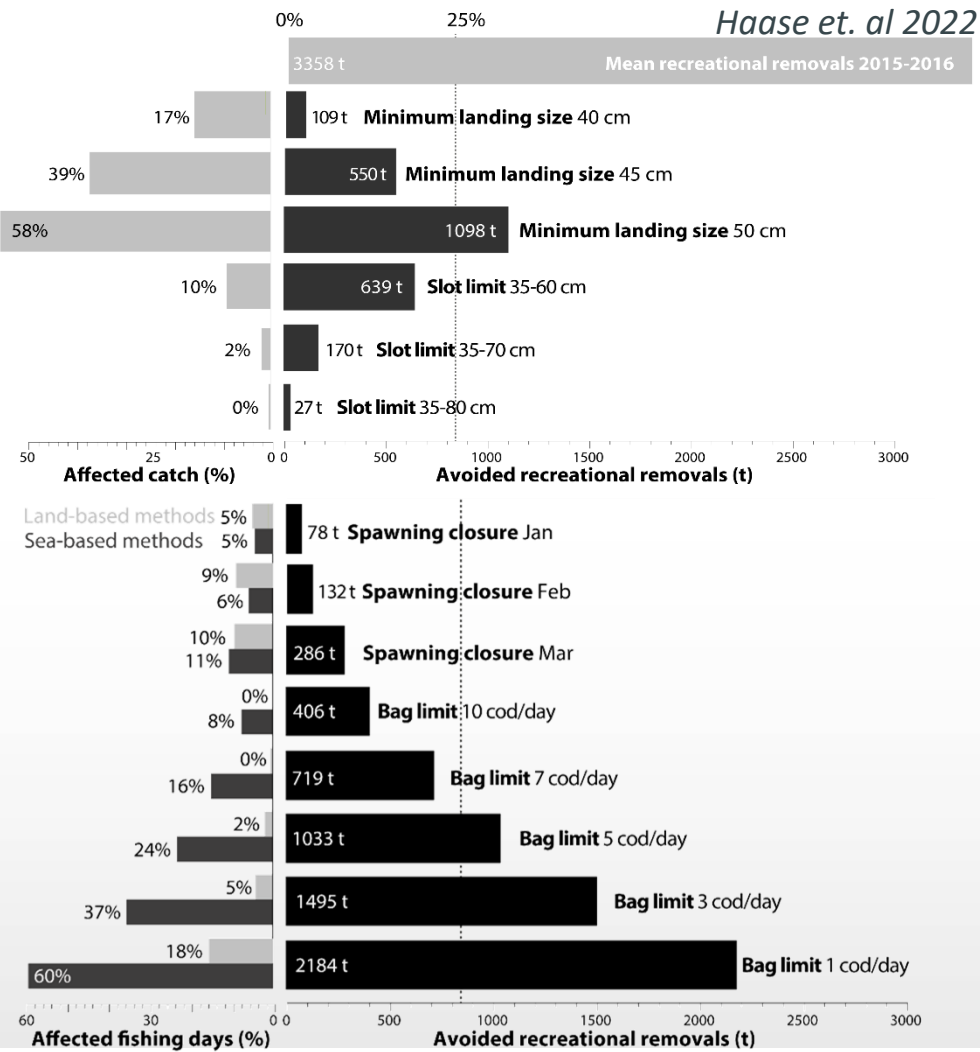
MLS, Slot limits, and Spawning closures

- Lower reduction potential
- Positive effect on stock recruitment
- Accepted in angler community

Bag limits

- Highest reduction potential
- Affect most fishing days
- Less accepted by angler

Reduction potential of regulations



Combination

- 10 cod/day bag limit
- Sea-based:
 - Spawning closure in Feb./Mar.
 - MLS of 45 cm
- Land-based:
 - MLS of 35 cm



906 t removal reduction

Conclusion

- Different regulations have different implications depending also on the country context, fish species and even fishing methods
- Fishing opportunities are important for anglers
- A combination of regulations can be better than a single regulation

Thanks for listening!

Any questions?

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