

RECREATIONAL FISHING IN THE BALTIC SEA REGION

- A summary



Coalition Clean Baltic

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Introduction

Coalition Clean Baltic (CCB) has produced this report on recreational fishing in the Baltic Sea region with the intention to compile existing data, information about national rules, monitoring and control to form an information baseline since:

- recreational fishing is in the spotlight, and few have an overview of how it is carried out in other countries
- target species and the impacts on stocks are asked for and debated more and more
- data collection and control issues are discussed in a range of fora

This reports compiles the information we have been able to find. We have made use of existing compilations by HELCOM, ICES and the recent report for the European Parliament, but we have also consulted national documents on rules and regulations, catch statistics and enforcement to the best of our ability (many in the national languages). The national chapters have been reviewed by nationals from each country and we are grateful for their input, which has improved the end results.

We are not attempting to make an exhaustive calculation of the size of the recreational sector in the region, nor the catches and potential impacts – that is for others to do – but to really show the sector in all its forms. Some recreational fishing has likely been stable and remained the same for well over 20–30 years; in other cases there has been rapid changes in both the ways and the extent of recreational fishing.

In the current debate, there have been attempts to blame the recreational sector for the demise of some fish stocks. We have attempted to investigate if that can be the case, not with the intention to shift focus away from unsustainable commercial operations and fishing quotas set above scientific recommendations, but simply to enable a more informed debate.

In addition, we cannot just assume that recreational fishing is not having an impact on the marine environment in a wider context (not just catches and the direct impact on fish stocks), including noise (sonars, and engines), CO₂, lost gears, lures and sinkers and littering. Overall, we need to know more in order to know where improvements can be made, or if regulations and harmonisation are needed.

Finally, the recreational fishing sector needs to be better recognised in terms of its socio-economic importance in many countries and should have a given right, as well as responsibilities, to be a part of management discussions and decisions. It is a subsector of substantial financial importance; in many countries of greater financial importance than the commercial fisheries sector. Many angler groups also engage in habitat restoration and control efforts.

The full report with all country specific details is available at www.ccb.se/publications/recreational-fishing-in-the-baltic-region.

Summary

Recreational fishing in the Baltic Sea region is a popular past time in all of the countries, providing millions of people with joy, food and kinship. A reasonable estimate shows that around 10 % of the population in the Baltic catchment area – around 10 million – fish for recreation. It is also a valuable sector, not rarely with an estimated financial turnover greater than the commercial fishing sector, creating jobs in places where otherwise there may not be much. Only in recent years has it been the focus of much debate regionally, and then often seen as a competitor to the commercial fishery and an additional threat to fish stocks.

In this report, we have attempted to create a more exhaustive overview of the recreational sector in the Baltic Sea region, as well as to consider potential impacts on fish stocks.

What is clear is that – almost without exception – many rules and regulations surround the recreational fishing sector as well. Except for Sweden and the Kaliningrad region in Russia, all of the countries use some sort of licensing system. Sometimes it is just a fee system, where fees tend to be used to cover management costs and stock conservation efforts; at other times it is truly a licence with personal details on. In two

Table 1. Summary of available data on numbers of recreational fishermen and/or effort in the Baltic Sea region.

COUNTRY	Total recreational		Anglers		Other recreational	
	Total	Baltic Sea	Total	Baltic Sea	Total	Baltic Sea
Finland	1.5 million (2014)		1.4 million (2016)		≈ 100 000 use only passive gears; 800 000 use both (2014)	
Estonia	80 000–149 000 (2015)		60 758		9 819 permits for passive gear 401 permits for harpoon	
Latvia	≈ 120 000		100 000–120 000		2 031	
Lithuania	478 700 (2007) 1.5 million (2002)		160 000–200 000 (2013)		Not allowed	Not allowed
Russia (Kaliningrad)	≈ 100 000	< 45% of effort	≈ 100 000		Not allowed	Not allowed
Poland	1.5–2 million (FAO)		600 000	37 000 (2014)	Not allowed	Not allowed
Germany	3.4 million anglers (2004)	164 642	672 000 members DAFV 2014	163 000	2 259 (2012)	1 642 (2012)
Denmark	500 000	70 % of effort	191 940 licences in 2016		31 502 licences in 2016	
Sweden	1.4 million (2016)	3,4 million days both sea areas, 33 % of total	90 % of effort (2016)		10 % of effort (2016)	
TOTAL estimates of recreational fishermen in the Baltic region	8 678 700–10 669 000		Not possible to fully separate type of fishing effort or where fishing takes place			

countries, one even has to pass an exam before being eligible for a recreational licence. Most countries also have a system of more specific fishing permits, valid for a fixed time, which allows the owner to fish in a specific water body, for a particular species and/or with a particular gear.

All the Baltic countries make a distinction between angling/sportfishing and other recreational fishing characterised by passive gears. Some countries group the “divers” – spearfishing and harpooning – with angling, covered by the same regulations but in this report we have included them in “other recreational fishing”. Overall, this type of recreational fishing is marginal throughout the region. The rules and regulations for the two subsectors usually differ, though minimum size limits and closed areas/seasons often apply equally to both. Generally, regulations also limit the type of gear that can be used, and the number of gears that each person can use – for both subsectors.

There is also a raft of other rules primarily intended to protect fish stocks, the most common of which are catch limits (though often only for a few species), minimum size limits, as well as area and seasonal closures. Fishing for some species, such as lamprey, will be completely prohibited, or prohibited for part of the year. In a majority of cases, the EU discard ban has not been applied to the recreational sector. Instead there are rules about swift and careful release of any fish that is caught under the size limit or during a closed season, for example.

When it comes to monitoring, there is a bit more variation in the approach of the different countries. Catch reporting is not widespread. Some have mandatory catch reporting for recreational fisheries with passive gears. When applied to angling, catch reporting is often directly connected with fishing permits; i.e. you hand in a catch report when you return from fishing at the end of the day. Instead, surveys are used extensively and often combine telephone surveys and questionnaires targeting larger groups. They generally make use of the licence registers, or the members of national angling associations, but in some cases surveys of a cross section of society are used. Most of the countries now run surveys every second year, or even every year, which was not at all the case 15 years ago. There is also an ongoing discussion within ICES about how to improve the surveys.

Even though there is some monitoring and collection of data, it is often limited to a small number of species, or certain parameters, such as the number of recreational fishers, gender, age, geographical distribution, money spent, gears used and perhaps fishing effort. In some cases, data may be collected but then not analysed to provide accessible information on catches, making any informed discussion about the impact of recreational fishing rather difficult. It is especially surprising to see that several countries do not fully collect information or attempt estimates of species covered by the EU Data Collection Framework, such as cod, salmon and eel.

The quality of the data collection efforts, the catch estimates and the availability of such information is extremely variable across the region. There is great scope for improvement here and a strong case for increased harmonisation across the region in terms of which data is collected and how it is collected, analysed and presented. The fact that we have found several different and sometimes conflicting figures on catches, effort, etc., underscores this point.

Another key management area, which is very variable in the region is control and enforcement. We believe it is true to say that the recreational sector is not particularly well controlled in any Baltic country, but that some do better than others. In general, control efforts focus on whether the person fishing has a licence or not, whether the gear used is legal and if fishing takes place in closed areas/season. In some countries there is an underlying analysis of where and what to control – a kind of simplified risk analysis – and Denmark has recently trialled the use of drones for this purpose.

Several countries have set up collaboration between authorities and anglers’ organisations, where volunteers help patrol areas and control illegal fishing activity. This does not only help reduce illegal fishing but also fosters a culture of compliance among anglers. Such volunteer systems should be expanded and used in more countries. To conclude, control and enforcement is another area where there is much room for improvement. At the end of the day, how useful are the rules and regulations if they are rarely or never followed up?

In terms of the catch composition, there is again great variation across the region, depending on a range of factors, from cultural interest in a fish to the biological distribution of a species. Many of the species targeted

Table 2. Summary of existing regulations and restrictions on licence, permits, catch and gear rules

COUNTRY	Licence demand	Paid permits	- Bag limits - Specific rules - Size - Closures	Angling gear restriction	Other recreational gears restrictions
Finland	Yes (no licence for simple handline, icefishing)	Yes, both for angling and passive gears	- Yes; only salmon 2/day; - Prohibited species** - MSL* - Closed areas & seasons	Yes, one rod; special rules for trolling	Yes, 8 gillnets (240m)
Estonia	Yes (no licence for simple handline)	Yes, both angling and passive gears; limited no available for passive gears	- No bag limits - Prohibited species** - MSL* gear and area specific - Closed areas & seasons, e.g. 1km from all rivers	Yes, ≤ 3 gears	Yes, 70m net, 100 hooks, ≤ 3 of same gear, mandatory catch reporting
Latvia	Yes; for passive gears, a gear-specific limited licence	Yes, area specific	- Yes: e.g. 3 eel, 10 cod, 1 salmon/sea trout; - Prohibited species**, mandatory catch reporting - MSL* - Closed areas & seasons	Yes, ≤ 3 gears with ≤ 3 hooks/gear	Yes, only 1 gear type at a time, ≤ 100m net, ≤ 100 hooks longline, catch limits (specified in gear-specific licence), rules same as commercial
Lithuania	Yes	Yes	- Yes: 1 salmon/sea trout, 15kg cod - Prohibited species** - MSL* (not for cod) - Seasonal & area closures	Yes, 2 rods/w 6 hooks	Not allowed (inland crayfish trap/dipnets)
Russia (Kaliningrad)	No	Yes (but very few waters)	- Yes: cod 30kg, herring 15 kg - Prohibited species** - MSL* several - Seasonal & area closures	Yes, ≤ 10 hooks	Not allowed
Poland	Yes (mandatory exam but not for Baltic Sea)	Yes	- Yes: e.g. 14 cods and 3-5 in western, 2 eels, 5 kg herring - Prohibited species** - MSL* 10 species - Seasonal & area closures	Yes, detailed: 1 rod for salmonids/ ≤ 2 rods for other species; marked boats	Not allowed
Germany (a combination of national and regional legislation)	Yes (mandatory exam)	Yes (some areas free in Baltic)	- Yes: e.g. 3 salmonids, 3 pike, 3 pikeperch, 3-5 cod. - Prohibited species** - MSL* 14 species - Several seasonal & area closures	Yes, detailed	Yes (“hobby fishermen”) MWP: 100m net, 100 hooks, 8 eel traps, 1 crab basket SH: 2 fyke nets***
Denmark	Yes (spec for other rec fishing)	Yes	- Yes, 1 sea trout, 3-5 cod - MSL* for 12 species - Seasonal & area closures	Yes, but only in certain coastal areas for trolling: ≤ 2 rods	Yes, 3 nets 135m max, 100 hooks, 3-6 fyke nets, fish/mesh size same as commercial
Sweden	No	Not in Baltic Sea and five largest lakes. Other inland waters yes	- Yes, 3 pike, 2 sea trout, 3-5 w. cod. Wild salmon released; 1 salmon with cut fin - Prohibited species** - MSL* several, e.g. pike 40-75cm, - Seasonal & area closures. (species specific, not general)	Yes, norm is 1 handheld rod, ≤ 10 hooks. Trolling special rules, ≤ 10 rods	Yes, 180m nets in Baltic public waters (less inland), max 100 hooks, 6 fyke nets; (no such restrictions in private waters in Baltic Sea), mesh size restrictions

Note: Area and seasonal closures are usually general during spawning periods in different waters. However, some countries do not have any general closures at all but only local or species-specific closures.

*MSL: Minimum size limits varies a lot between and within countries and areas. Size limits for commercial species, such as salmon, sea trout and cod, are usually the same for recreational fishing.

**Prohibited species: also varies a lot around the Baltic Sea, including, for example, eel, sturgeon, lamprey, allis shad and catfish.

*** Regional legislation apply to recreational fishing with passive gear. MWP = Mecklenburg-Western Pomerania and SH = Schleswig-Holstein.

in the recreational fisheries are of little interest to the commercial fishing sector and most of the fishing mortality of coastal species such as perch, pike, pikeperch, whitefish and roach is the result of recreational fisheries, just to give a few examples.

Due to the general lack of data, it has been difficult to estimate the potential impacts of recreational fisheries on fish stocks. What we have seen is that even though angling dominates and other recreational fishing seems to be decreasing in several countries, the passive gear fisheries tend to take up to half of the recreational catch – though it varies hugely for different species. Also, the majority of the recreational catches tend to be taken inland, in lakes and rivers, though there is an increasing trend for sea angling in many of the countries, with greater effects on joint fish populations as a result.

It should be remembered that catches inland include several anadromous species, which spend part of their life cycle in fresh water, perhaps most importantly salmon and trout but also pike, pikeperch, perch and roach. Large quantities of European eel are also taken inland.

In our search for catch figures, we have chosen to focus on Baltic cod, salmon, sea trout and European eel. They are mostly under EU management and subject to the Data collection framework. Despite this, several countries have not supplied full catch data.

The importance of the recreational catches of Baltic cod is greater in the south: Poland, Germany and Denmark – in some cases equal to the commercial sector. Estimates are already partially included in ICES assessments of the two cod stocks, and this should be further developed.

In terms of salmon and sea trout, the recreational catches tend to be more important than the commercial ones. The picture here is more complex, as these species have river specific populations. In some cases, the populations are doing well, in others very poorly. However, almost universally, despite long-term goals and efforts to restore wild populations across the region, there is still a strong focus on restocking from farmed fish, sometimes driven by the recreational sector itself or as a part of old court decisions as compensation for hydropower installations.

Perhaps surprisingly, all countries but Sweden allow the targeting of European eel in recreational fisheries and in many cases it seems to be almost completely unregulated. Estimated catches varies from 1.2 tonnes to 80–180 tonnes (Denmark and Germany) per year. Recreational catches across the region may be above 300 tonnes, and could be much greater, considering that there is likely to be underreporting and underestimating. In some countries catches appear to be equal or even greater than commercial catches. Generally, all of the countries except Russia spend money on restocking of eel; in some cases substantial amounts of money, but the glass eels used come from the same critically endangered European eel population.

For many other species targeted by the recreational sector, we have not been able to assess the impact due to a general lack of data. There are bound to be effects on some populations, but equally there is some information about species doing well despite a substantial fishing pressure. Studies from Sweden and other countries show that habitat loss and other environmental factors may be more instrumental to stock developments.

Table 3. Recreational catches compared to commercial catches of key species.

COUNTRY	COD		SALMON		TROUT		EEL	
	Recreational (tonnes)	Commercial (tonnes)	Recreational (tonnes/number)	Commercial (tonnes/number)	Recreational (tonnes)	Commercial (tonnes)	Recreational (tonnes)	Commercial (tonnes)
Finland	5 (2016)	57 (2016) (Eastern cod)	392 (2016), of which 96 at sea	192 (2016)	474 (2016), of which 232 at sea	37 (2016)	9 (2016)	1 (2016)
Estonia*	12 angling (2015; survey) 1.5 (official statistics; 2016)	188 (2015) 3.92 in coastal fisheries	16 angling (2015; survey) 1 426 salmons (ICES, 2016)	1 754 salmons (ICES, 2016)	33 angling (2015; survey) 7.8 (official statistics; 2016)	20 (coastal; 2016)	1 angling (2015; survey) 0.63 (official statistics; 2016)	≈ 14 (95 % inland) (2015)
Latvia	0.1 (2012)	4 281 (2012) 2 717 (2016) (Eastern cod)	2.2 (2014) 989 salmons (2016)	864 salmons (2016)	5.1 (2016)	5 (2016)	0.1 (2014)	4 (inland; 2016)**
Lithuania	30 (2015)	1 974 (2015) 1 698 (2016) (Eastern cod)	17.7 = 3 520 salmons (2016)	1.3 = 344 salmons (2016)	-	4 (coastal; 2016)	4.9 (2015)	6 (2015), of which 5 inland + 1 C. lagoon)**
Russia (Kaliningrad region only 2016)	150	TAC = 5800	1 000 salmons (mixed with sea trout)	TAC = 13 000 salmons	No fishing; protected species	No fishing; protected species	< 1	= 5
Poland	695 (2016)	10 240 (2016) (Eastern & Western cod)	2 100 salmons (sea only, 2016)	4 100 salmons (2016)	2.4 (2012)	137 (2012) 151 (2016)	26.5 inland + < 1 sea (2015)	102 (2015) 138 (2016)
Germany	3161 (2015)	2 915 (2015) 2 390 (2016) (Western cod)	3 958 salmons (2016)	8.1 = 1 616 salmons (2016)	Not available	12 (2016)	182, of which 10–12 at sea (M-VP only)**	59 (M-VP only; avg. 2005– 2015)**
Denmark	1 272 (2015)	16 275 (2015) (Eastern & Western cod)	40 = 8 000 salmons (2016)	51.1 = 9 684 salmons (2016)	396 (2015)	8 (2015) 1 (2016)	164 (94 % marine) (2016) 118 (2015)	264 (95 % marine) (2016) 282 (2015)
Sweden***	190 (2016)	5 739 (2016) (Eastern & Western cod)	134.4 = 19 304 salmons	395 = 60 740 salmons (2016)	22.1 (2016)	12 (2016)	0	278 (66 % marine) (2016)

N.B. Most data is official ICES data from different working groups (see national chapters for full references).

*Official recreational catch statistics in Estonia only include catches while fishing with a special permit, which requires catch reporting. Catches during free and licensed angling do not have to be reported, and full estimates are therefore only included in the quantitative surveys, which we have also included in the table.

**National presentations at HELCOM FISH-M, 30/11–1/12, 2017.

***N.B. The Swedish national statistics on recreational catches for 2013, 2014 and 2015 are under revision and likely to change.

Note: We have used the most recent relevant data we have been able to find. Data from different years, in a few cases as old as 2012, are used as recreational data for all species and countries may not be available. In some cases, there are also multiple years included in order to compare same-year recreational and commercial catches, as well as using the most up-to-date figures. Regarding cod, we have used both area specific population data and combinations of eastern and western stocks, depending on which is most relevant for comparison between recreational and commercial catches – this is noted in the table. Generally, we have attempted to provide total catch of salmon, sea trout and eel, including inland catches, as this makes most sense from a population perspective.

It is our conclusion that a range of actions would improve our knowledge and ability to manage this sector, such as:

- Using a mandatory licensing/fee system – this provides better estimates of the number of people involved and can provide funds for fish conservation and management efforts.
- Applying more catch limitations – since recreational fishers are not allowed to sell their catch, there is clearly a limit to how much you can eat. For salmon, a Baltic-wide daily bag limit of 1 salmon would make sense.
- Closing all eel fishing for the foreseeable future. Recreational fishing can NOT be exempt from such a ban, on the contrary.
- Managing the use of, for example, nets and longlines and the loss of such gears better. To allow use of passive gears for recreational fishing without catch limits, as well as mandatory reporting of catches and effort is hardly acceptable, especially not during spawning times along the coast.
- Greater harmonisation of regulations such as minimum size limits, mesh sizes and seasonal closures – at least to the extent that the same underlying principles apply.
- Using more general spawning closures, not just for salmonids, in all countries. It makes no sense to allow recreational fishing to disturb spawning in, for example, sensitive coastal areas and rivers and general closures are easier to control. More general closures exist in for example Russia, Germany, Denmark and Lithuania.
- Applying the same limits and restrictions for stocks under regional management, such as cod, salmon, herring and flatfish, to recreational AND commercial fisheries.
- Creating some kind of catch reporting system to improve data. Technology makes this easier to manage – it can be “electronic log books” using smartphones. Compiling information on existing reporting tools available for recreational fishing should be done 2018.
- Harmonising data collection systems, such as surveys or random checks of catch per effort. ICES Working Group on Recreational Fisheries Surveys has proposals for how this can be developed, which would make data more comparable, reliable and provide a better basis for calculating impacts and value of the sector.
- Strengthening monitoring, control and enforcement throughout the region. An exchange of best practices under the umbrella of HELCOM FISH, for example, may also be useful.
- For jointly managed species covered by EU regulations, recreational catches should be included in the stock assessments. This would potentially improve stock management, but also open up the possibility to properly consider the valid interests of the recreational sector in the management process.

Terminology

In this section, we will expand on a number of terms used in the report which can be somewhat confusing, to clarify how we will be using them in this report.

Definitions of recreational and subsistence fishing

There are numerous definitions of both recreational and subsistence fishing and the countries around the Baltic Sea all seem to have slightly different interpretations, or use different divisions in their policies and in the way that they handle statistics. For those specifically interested in this aspect, there is a very thorough overview in the recent report on recreational fisheries for the European Parliamentⁱ.

The **legal definition** of recreational fisheries generally includes all non-commercial fishing activities and excludes the sale of the catch. The term recreational fishing also includes sport and leisure fishing.

ICES definition (2013): Recreational fishing is the capture or attempted capture of living aquatic resources mainly for leisure and/or personal consumption. This covers active fishing methods including line, spear, and hand-gathering and passive fishing methods including nets, traps, pots, and set-lines.

FAO definition (2012): Recreational fishing is defined as fishing of aquatic animals (mainly fish) that do not constitute the individual's primary resource to meet basic nutritional needs and are not generally sold or otherwise traded on export, domestic or black markets.

Regarding **subsistence fisheries**, the demarcation is less clear under EU law. Any fishery where catches are sold is considered commercial, so covered under commercial fisheries data collection and management regimes. Conversely, where catches are not sold, this activity and its impact are generally monitored as recreational fisheries.

FAO Definition (2008): Fishing for aquatic animals that contribute substantially to meeting an individual's nutritional needs. In pure subsistence fisheries, fishing products are not traded on formal domestic or export markets but are consumed personally or within a close network of family and friends. Pure subsistence fisheries sustain a basic level of livelihood and constitute a culturally significant foodproducing and distributing activity.

Categories of fishing

Recreational fishing is done mainly for leisure and/or personal consumption, and does not involve selling or bartering with the catch. It can be divided into several sub-categories, usually **angling** and **passive gear fishing**. **Angling** – or sportfishing – is done with a rod and line. **Passive gear fishing** includes the use of nets, traps, pots and set-lines. Spearfishing (and harpooning) is sometimes considered a third category, broadly encompassing the “**divers**” in recreational fishing.

Commercial fishing is fishing for profit, regardless of whether it is done with or without a licence and which type of gear is used.

Subsistence fishing falls somewhere between the two, but separating subsistence fishing from recreational fishing is generally difficult and is not supported by EU law. That said, many recreational fishers, even in wealthy countries, have strong subsistence-like incentives to harvest fish and this has been explored further in several papers, notably Macinko and Schumann, 2007ⁱⁱ.

Many of the countries around the Baltic Sea still use the phrase subsistence fishing for what is essentially a recreational fishery with passive gears, or similar phrases such as “domestic use fisheries” and “personal consumption fisheries”. In this report we have chosen to include it in recreational fisheries, as most of the recreational fishing in the region is used for personal consumption even when caught primarily for leisure. In addition, it is debatable if subsistence fishing can be said to exist in the Baltic region, considering the FAO definition above; certainly not in most of the countries that allow use of commercial-style passive gears in recreational fishing, such as Germany, Denmark, Sweden and Finland.

Throughout the report, we use two subgroups of recreational fishing: **angling** and **other recreational fishing** including all other recreational fishing, from spearfishing to passive fishing methods such as pots, traps, nets and long-lines.

Licensing and permits

There are a number of distinct options used by the countries in the Baltic Sea region which provides the user/holder with a right to carry out recreational fishing, and even though we attempt here to divide them up into distinct groups, there may be national differences within each “category”.

When we use the term **fishing licence** we refer to a card or document that you have to apply for which contains your personal details and includes you as a user in a national register of some sort. Generally, it is an annual registration. In some countries you may have to carry out a knowledge test. Often a fee has to be paid in order to get your licence, and some countries use this as a way of collecting funds specifically for stock conservation and management of recreational fisheries. You may have to prove your age or that you are a national. A licence may be mandatory in order to carry out any recreational fishing in a country.

Also widely used is a simpler fee system, where you obtain a **fishing permit** valid for a limited period of time: a year, a month, a week, perhaps online or in certain shops. Access to this system is easier – often you can buy permits online – and monitoring may be less stringent. It is often open to foreign nationals as well as residents in the country.

Also commonly used are more specific fishing permits, which may be limited to a particular area, a particular gear or target species. Essentially a paid permit which allows the holder to fish in a particular area, or for a particular species; generally valid for a day, a weekend or perhaps a week. It is often a way to control access to a particular area or population, while also gaining some funds for management and staff.

These different systems may be in use on their own, or in combination. For example, even if you have an annual recreational fishing licence, you may have to buy a special permit to fish for salmon for a couple of days in a particular area.

Coastal and sea fishing vs. inland fishing

Recreational fishing takes place almost everywhere there is fish; in the sea, along the coast and in inland waters. The importance of each type of water for different categories of fishing varies greatly between the different countries around the Baltic Sea, though generally inland waters dominate in terms of effort and catches. We have used and mention figures also for inland waters as and when we have found this appropriate, and have tried to be clear about both content and sources. The aim of this report, however, is to inform the debate about recreational Baltic fisheries in the entire Baltic Sea region. In addition, a strict focus on marine or coastal fishing and catches is often incorrect from a species distribution point of view. Science has clearly shown that many more species migrate up into freshwater to feed or spawn than the most well-known, such as sea trout, salmon and eel, among them common coastal populations of pike, perch, roach and bream.

It is also important to emphasize that in terms of catches, if you want to get a full picture of the volumes and potential impacts on the populations, it is imperative to include all catches of migratory species, not only of eel, salmon and trout but also of a range of other species migrating between the Baltic Sea and freshwater. We have endeavoured to do so whenever possible, depending on which data is available. Both inland and coastal recreational fisheries must also be monitored and managed coherently for these species, something which is not always the case today.

References

ⁱHyder, K., Radford, Z., Prellezo, R., Weltersbach, M.S., Lewin, W.C., Zarauz, L., Ferter, K., Ruiz, J., Townhill, B., Mugerza, E. & H.V. Strehlow (2017). Research for PECH Committee – Marine recreational and semi-subsistence fishing - its value and its impact on fish stocks, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels.

ⁱⁱMacinko, S., & Schumann, S., (2007) Searching for subsistence: In the field in pursuit of an elusive concept in small-scale fisheries. *Fisheries*, 32(12), pp.592-600.

Finland (not including Åland¹)

National Summary

Numbers of recreational fishers: ≈ 1 495 000 in 2016

Anglers: ≈ 1 400 000

Other recreational: 800 000 – but only 100 000 are just involved in other fishing for recreational and household needs

Effort:

About 25 % of fishing days spent at sea = 4 000 000 fishing days

Angling at sea: 2 700 000 fishing days

Other recreational fishing at sea (nets and traps): 32.5 % = 1 300 000 fishing days

Licensing/access:

Payment of national fisheries management fee required for all between 18–65 years. Fees intended for stock conservation and management measures. Special permits from fishing rights owner for traps and crayfish fishing. No permit required for recreational fishing in public waters in the sea.

Main target species:

At sea: perch, pike, pikeperch, bream, roach, whitefish, Baltic herring and sea trout.

Catches:

Total recreational catches in 2016 = 29 580 tonnes, with around 25 % taken at sea = 7 523 tonnes (less than 5 % of total sea catches of 164 845 tonnes).

Cod: 5 tonnes in 2016 (0 tonnes in 2014; 3 tonnes in 2012)

Salmon: 392 tonnes in 2016, of which 96 tonnes at sea (280 tonnes in 2014, of which 62 tonnes at sea)

Eel: 9 tonnes in 2016, of which 7 tonnes at sea (20 tonnes in 2014; 2 tonnes in 2012).

In Finland, the catches of most species exceed the commercial catches. Commercial fisheries target mainly Baltic herring and sprat, and completely dominate catches of these species, as well as cod.

Rules and regulations:

Angling:

- 2 salmon/fisherman/day = general bag limit for Baltic salmon
- Local restrictions on effort (at water owners' discretion)
- Minimum size limits for several species, such as pikeperch, salmon, sea trout, grayling.
- Some local/regional closures, permanent or seasonal
- Fishing ban for wild land-locked salmon, sea trout and brown trout. Seasonal fishing ban for salmonid species in rivers and streams, as well as permanent ban on grayling at sea.

Other recreational fishing:

- Max 8 gillnets/boat (max 240 m) + local restrictions
- Minimum size limits (same as for angling)
- Permanent and seasonal local and regional closures
- Seasonal fishing ban for salmonid species in rivers and streams + permanent ban on sea spawning grayling.

¹The Åland islands are an autonomous part of Finland, with its own fisheries regulations and statistics.

National Summary

Numbers of recreational fishers: ≈ 149 000 in 2015

Depending on sources, somewhere between 80 000 and 149 000 were involved in recreational fishing in 2015.

Effort:

Just under half of the recreational fishers spent more than 10 days/year fishing.

Licensing/access:

Fishing with one simple hand line is free of charge and open to everyone; for other gear a licence is required. There is a limited number of licences for gillnets, longlines and other multi-catching gears. Special permits are required for certain areas.

Main target species:

At sea: perch, pike, roach, flounder, pikeperch, trout, salmon and whitefish.

Catches:

Overall catch figures are unreliable, as the official statistics only include licensed fishing. The official total catch for 2016 was 215 tonnes, of which 127 tonnes were caught at sea. The total catch in 2015 (survey) was estimated to around 4 000 tonnes. Official catch statistics (2016) indicate that more than half of the recreational catches are from the Baltic Sea, but this is likely to be an effect of the licence and reporting system.

Cod: 12 tonnes in 2015 (survey)/1.5 tonnes in 2016 (official stats)

Salmon: 16 tonnes in 2015 (survey)/5.9 tonnes, of which 3.9 at sea in 2016 (official stats)

Eel: 1 tonne in 2015 (survey)/624 kg, of which 1 kg at sea in 2016 (official stats)

Rules and regulations:

Angling:

- Minimum size limits for a range of species, such as perch, pike, pikeperch, salmon and sea trout.
- River mouths that are spawning areas for Salmonidae are closed to fishing in the autumn.
- Other permanent and seasonal closures are also used.

Other recreational fishing:

- Recreational fishers cannot use more than three gears at the same time.
- Gillnets may be up to 70 metres long.
- Longlines may have up to 100 hooks. Permanent residents of small permanently inhabited islands are permitted to use up to 300 hooks.
- Minimum size limits for a range of species, such as perch, pike pikeperch, salmon and sea trout.
- Fishing is prohibited in the most of the river mouth areas, and other permanent and seasonal closures are also used.

When involved in recreational fishing, it is forbidden to use more than three of the same of different types of fishing gear simultaneously, with the exception of trolling lines, dip-nets and traps.

Reporting:

Catch reporting has been mandatory for users of passive gears since 2005.

National Summary

Numbers of recreational fishers: ≈ 120 000

Anglers: 100 000–120 000 anglers

Other recreational fishers: 2 031 fishers

Effort:

There is no monitoring of anglers' catches aside from occasional surveys, but there are general effort restrictions. In the other recreational fisheries, daily logbooks are used together with gear limitations.

Licensing/access:

For angling, there is a general fishing licence, as well as additional fishing permits for specific water bodies. Gear-specific limited licences are required for other recreational fisheries.

Main target species:

At sea: perch, flounder, cod, garfish, round goby, roach, Baltic herring and sea trout.

Catches:

Anglers' catches are estimated to around 1 600 tonnes per year. Total recreational catches, including inland waters comprise around 40 % of total Latvian catches. In 2010, recreational catches in coastal waters were reported as 6.5 % of the total Latvian catches, with more than 2/3 taken in recreational fisheries using commercial style, multi-catching gears.

Cod: 0.1 tonne in 2012 (earlier 5–10 tonnes).

Salmon: 2.2 tonnes for 2013 & 2014.

Eel: 100 kg in 2013 & 2014.

Based on 2010 data, recreational catches of salmon and sea trout are roughly equal to commercial catches, of perch about 27 % of catches and of eel around 22 %; for other species fairly insignificant (at most 18 % of total catches). Catches of flounder may be comparable to commercial catches, but there is no data.

Rules and regulations:

Angling:

1. Catch per person and occasion restricted, e.g. 3 eels, 10 cod, 1 salmon and/or sea trout
2. General effort restrictions: ≤ 3 angling gears and ≤ 3 hooks of any type in sea waters
3. Minimum size limits (same as for other recreational fishing)
4. Permanent and seasonal closures
5. Fishing ban for lamprey, as well as salmon and sea trout in inland waters (with some exceptions). Spawning bans for several other species.

Other recreational fishing:

1. Local gear limitations, e.g. ≤ 50–100 metres for nets; ≤ 100 hooks on longlines and ≤ 5 crayfish trapnets.
2. Catch limits: ≤ 10 kg/day for perch & flounder; ≤ 10 cod and ≤ 5 sea trout.
3. Minimum size limits for several species, such as perch, eel, cod, salmon and sea trout.
4. Permanent and seasonal local and regional closures.

Lithuania

National Summary

Numbers of recreational fishers: ≈ 200 000

Up to 200 000 anglers, with 160 000 annual licences issued in 2013.

Effort:

There are restrictions in terms of the number of rods and the length and number of nets and traps that can be used.

Licensing/access:

A fishing licence is needed for all recreational fishing and in some waters a special fishing permit is required as well. In order to fish for salmon, sea trout, whitefish and river lamprey, an amateur fishing permit is necessary.

Main target species:

At sea: perch, flounder, cod, garfish, round goby, herring, salmon and sea trout.

Catches:

No recent estimates of the total catches in recreational fisheries are available. Inland catches dominate and earlier studies show around 7 % of catches come from the Baltic Sea.

Cod: 30 tonnes in 2015.

Salmon: 10 tonnes in 2015.

Eel: 4.9 tonnes in 2015.

Rules and regulations:

Angling:

- Catch per person and occasion restricted: 1 salmon, 1 sea trout, 1 whitefish and 5 turbot in the Baltic Sea. For cod there is a bag limit of 15 kg live weight per person and occasion. Effort restrictions: ≤ 2 rods and ≤ 6 hooks in sea waters
- Minimum size limits, but not for cod
- Seasonal closures, often to protect fish during spawning

Other recreational fishing:

- In the Baltic Sea, only angling is allowed; no passive fishing gear. In inland waters, small trapnets for crayfish or dipnet are allowed.
- Underwater spearfishing is not allowed at night.
- Gear limitations, e.g. crayfish trapnets ≤ 1 metre long x 0.5 metres wide.

Russia (Kaliningrad region)

National Summaryⁱ

Numbers of recreational fishers: > 100 000

Effort:

Angling at sea/coast: 30 000–50 000 fishing days (survey from 2011–2016).

Angling in the Vistula and Curonian lagoons, including rivers in the catchment area: about 20 000–60 000 fishing days.

Licensing/access:

No licences or any special permits for fishing on common water-bodies. Only when fishing in private waters is a fishing permit required.

Main target species:

At sea and in lagoons: Cod, herring, roach, pikeperch, bream, perch and pike.

Catches in recreational fisheries:

Cod: 150 tonnes

Salmon: up to 1 000 individuals (mixed with sea trout)

Eel: 1 tonne

Herring: 150–200 tonnes

Rules and regulations:

- Recreational fishing with passive gears is not allowed.
- Not more than 10 hooks per one angler.
- Closed seasons – 20 April–20 June in spawning rivers and out to 500 metres from the coastline of Curonian and Vistula lagoons.
- Daily quotas for cod (30 kg), herring (15 kg), most of others species (10 kg).
- Minimum landing sizes for 13 species.
- Fishing ban on several species, e.g. sea trout, sturgeon, Thwaite shad.

Poland

National Summary

Numbers of recreational fishers: 1.5 - 2 million

Sea anglers: around 37 000 in 2014.

Effort:

Not known, but increasing.

Licensing/access:

Mandatory rod licence for everyone over 14 years, as well as an area-specific permit, for inland waters. Everyone has to pass an exam to get their rod licence. For the Baltic Sea, no licence but a sea fishing permit is required.

Main target species:

At sea: cod, sea trout, salmon, garfish, bream, eel, herring and flounder.

Catches:

Cod (angling): 695 tonnes in 2016 (857 tonnes in 2015)

Salmon (angling): limited data available; sea catches at 2 100 salmon in 2016

Sea trout (angling): 2.4 tonnes in 2012.

Eel (inland angling/marine): 60.9 tonnes, of which < 1 tonne at sea in 2014.

Rules and regulations:

- "Rod rules" = 1 rod/person for salmonids, otherwise 2 rods
- Minimum distance between anglers to control situational fishing pressure.
- Daily catch limits for a number of species
- Minimum size limits
- Protected areas and seasonal closures
- Fishing ban for a number of species, such as lampreys, barbel and Atlantic sturgeon.

Germany

National Summary

Numbers of recreational fishers: ≈ 3.4 million

174 000 sea anglers, of which around 163 000 fish in the Baltic Sea.

2 259 recreational fishermen, of which 1 642 in the Baltic Sea, registered to use passive commercial fishing gear, such as nets (2012).

Effort:

Angling at sea: 1 365 000 fishing days (survey 2014/2015).

Licensing/access:

Generally, both a federal fishing rod licence and a coastal fishing permit are required (except in Lower Saxony). German anglers have to pass a sport fishing exam to get a licence. In some federal states, notably both Baltic coastal States, domestic and foreign tourists can purchase a restricted tourist licence (valid 28 days) without passing an exam.

A special licence only available to people with a professional education in fisheries (mostly former fishermen) allows limited use of passive gears. Additionally, in Schleswig-Holstein, holders of a rod licence can also apply for an extra licence for minimal use of passive gears.

Main target species:

Cod, flounder, plaice, dab, salmon, sea trout, whiting, garfish, perch, pike, pikeperch, herring and European eel.

Catches:

Cod: 3 161 tonnes in 2015 (commercial catches 2 915 tonnes)

Salmon (angling): 3 958 (SE ± 369) individuals

Eel: 182 tonnes in Mecklenburg-Western Pomerania (inland + marine; average 2005–2015); 1.5 tonnes (4 134 individuals) in the marine recreational passive gear fishery in 2012

Rules and regulations:

Angling:

- Anglers are only allowed to use rod and line and drop nets (for catching bait fish)
- Daily quotas for several species: 3 salmonids, 3 pike, 3 pikeperch (Mecklenburg-Western Pomerania); 3/5 cod (whole western Baltic)
- Minimum landing sizes for many species
- Permanent and seasonal (spawning) closures
- Fishing ban on several species: e.g. lamprey, sturgeon, shad.

Other recreational fishing:

- Gear limitations for “hobby fishermen”: ≤ 100 metres of set nets, longlines with ≤ 100 hooks, ≤ 8 eel baskets (max entrances), 1 crab basket
- Extra licence in Schleswig-Holstein: ≤ 2 fyke nets with ≤ 4 entrances
- Minimum landing sizes
- Spawning and area closures

Denmark

National Summary

Numbers of recreational fishers: ≈ 500 000 in total

Angling licence: 191 940 in 2016, of which 140 22 annual angling licences.

Recreational licence (including angling): 31 502 in 2016.

Effort:

Angling at sea: about 70 % of total fishing days.

Licensing/access:

Anyone between 18–65 years needs a licence for angling or other recreational fishing in Danish territorial waters. The licence fee is higher for a recreational licence than for an angling licence, but the former is also valid for angling.

Main target species:

Anglers at sea: Sea trout, garfish (*Belone belone*), mullet, cod, salmon and various flatfish species.

Other recreational fisheries target mainly eel and flounder.

Catches:

Cod: 1 272 tonnes in 2015 (7 % of total Baltic catches)

Salmon: 8 000 salmon in 2016 (40 tonnes) (45 % of total Baltic catches)

Eel: 164 tonnes in 2016; 94 % at sea (38 % of total catches in 2016)

Rules and regulations:

Angling:

- Daily quotas for cod: 3 or 5 per day, depending on season.
- Minimum landing sizes for many target species.
- Permanent and seasonal closures.
- Local regulations with no take zones for pike and bag limits for sea trout

Other recreational fishing:

- No nets closer than 100 metres from low water mark (some exceptions).
- Gear limitations regulating the number of hooks and nets used.
- Minimum landing sizes for a number of species and some mesh size regulations
- Seasonal and permanent area closures, as well as closures around estuaries.
- Gears must be clearly marked and carry flags or buoys for visibility.

National Summary

Numbers of recreational fishers: ≈ 1.4 million

Effort: 10.3 million fishing days

3.4 million fishing days at sea (both east & west coast).

10.1 million fishing occasions with handheld gear (angling); > 90 % of effort.

1.1 million fishing occasions with passive gears (< 10 %).

Licensing/access:

Recreational fishing does not require a licence and fishing with hand held gears is free all around the Baltic coast and in the five largest lakes. It is also free to use a limited number of passive gears in the same areas. Special permits may be required in private waters.

Main target species:

Pike, perch, trout and herring.

Catches:

Cod: 190 tonnes in 2016 (3.2 % of total Baltic catches)

Salmon: 134.4 tonnes in 2016, of which 1 603 salmons (or 16.4 tonnes) at sea (around 24 % of total catches and 7.2 % of total Baltic catches)

Eel: no recreational fishery allowed; exemptions above 3 hydropower turbines

Rules and regulations:

Angling:

- Daily quotas for cod and pike, as well as salmon and sea trout in some areas.
- Minimum sizes limits for pike, pikeperch, grayling, salmon, trout and cod. For brown trout also maximum size limits.
- When trolling in the Baltic Sea, salmon with an intact adipose fin has to be released.
- Protected areas and seasonal closures.
- No angling for eel is allowed.

Other recreational fishing:

- Numbers of nets, pots and hooks are restricted in public waters.
- Nets can be up to 180 metres.
- Minimum and sometimes maximum size limits for a number of species
- Mesh size rules for nets.
- Protected areas and seasonal closures, as well as depth limitations around estuaries.
- Passive gears must be clearly marked with "F" and for visibility.

Recommendations

In order to better consider recreational fisheries in the overall management of the Baltic Sea fish stocks, and in efforts to mitigate the environmental effects of fishing activities, we have to find ways to improve both monitoring and data collection.

The characteristics of the recreational sector makes this more challenging than for the commercial sector, but nevertheless there are a range of actions to consider linked to different management measures, such as licensing, catch reporting and landing obligations. Recognising the large national differences, there is still a case for increased harmonisation in this area, aiming to ensure that data collected are comparable and provides an overall picture of the extent and potential impact of recreational fisheries.

The possibilities offered by licensing

CCB is generally supportive of the use of licences throughout the recreational fishing sector. Licensing is already widely used in the region, but could be used much more creatively. Not only does the use of licences for both angling and other recreational fisheries provide data on the number of fishermen in each sub-sector, but it presents an opportunity for further actions, some of which are already being used by some countries.

- If you have licensing, a system for the reporting of catches is easier to set up, whether mandatory or voluntary.
- Licences provide you with a clear number of fishermen, which makes it possible to account for the socio-economic interests and “value” of this sector.
- Training requirements, among other things emphasising best practices and options to minimise the environmental effects, can be linked to receiving a licence – this is put into practice in Germany and Poland, where passing an exam is mandatory.
- Through licensing, fees that contribute to covering the costs of the management system, and importantly control measures, can be taken out.

Catch reporting

Introducing catch reporting to the recreational fishing sector would provide some of the much needed data for better monitoring of recreational fisheries. Reporting of catches would also provide feedback on other management measures, and information on changes in behaviours as well as trends. A catch reporting system could be introduced in a tiered manner, beginning with “other recreational fisheries” using passive gears and commercial angling operators. Modern tools such as reporting via smart phones have already been developed and should be made available as minimum standards throughout the Baltic region

We would like to put forward the following options for consideration:

- Mandatory catch reporting for recreational fisheries using passive gears.
- Daily catch and effort (number of people fishing) reporting from commercial operators of recreational angling trips.
- Mandatory catch reporting from fishing operations/private waters open to the public through the purchase of fishing permits.
- In the case of open access to coastal waters for angling, regular catch reporting should also be required from land-based fishing

We also support the following suggestions made by ICES:

- recreational catches of commercial species such as cod and salmon should be included in the stock assessment if there are indications that they are substantial
- all eel fisheries should be closed, including the recreational fisheries, until the population has shown strong signs of improvement.
- catch data should be collected for all segments of the recreational fishery (e.g. shore, private boat, and charter boat fishing), at a temporal and spatial resolution matching the variability of the data and the stock assessment needs

Effort and catch regulation

In terms of managing the recreational sector by regulating the effort and ultimately the catch, local considerations have to be made based on the importance of the two sub-sectors. However, limiting recreational fisheries using quantity-catching gears, will generally be more important. That said, several countries reported to HELCOM FISH-PRO II in the questionnaire on recreational fisheries that there is an increasing trend for angling and sport fishing, while other recreational fisheries are slowly declining.

A range of different tools are already being used by the Baltic states, such as licensing, restrictions in the types and numbers of gears, seasonal and spatial closures, minimum/maximum size limits, and catch limits. It simply does not make sense that large numbers of quantity-catching gears are used without proper monitoring of the use and its effects. Much can be done to improve and harmonize these existing regulations in the region, and learn from best practices, for example:

- Introduce daily bag limits for each target species, reflecting the state of the stocks
- Harmonise limits on the length of and number of nets and other gears allowed per licence
- Provide anglers with possibilities for catch and release

Other useful regulations

Some other measures are also used in the regulation of recreational fisheries, which merits wider consideration. The most important ones are closed areas and seasons, mainly to protect spawning fish populations, and fish size limits (both minimum and maximum sizes). Some countries also regulate the mesh sizes in passive gear, as well as the depth where the gears can be deployed.

It is our view that all of the above measures are useful and should be employed more widely, perhaps in dialog with the local stakeholders through FLAGs, as the local variations in terms of fish stocks, ecosystem composition and species differences mean that it is not possible to apply the same rules across the region. This variation unfortunately makes the monitoring and control of these regulations more difficult.

- The following applications should be considered:
- Closed seasons to protect spawning must be tailored to the specific stocks and the local/regional spawning times, but should apply equally to the recreational and the commercial fisheries.
- Closed areas are used for a range of reasons and therefore may differ in terms of user groups (zonation) and gear restrictions, depending on the reason for the closure.
- Where appropriate, minimum or maximum size limits should be applied. For some stocks a combination of both would be the best option. In some cases, the minimum limit should perhaps be higher than for the commercial fisheries, but in general it is preferable if the limit(s) for a species is the same across the region and based on scientific advice.
- Mesh size regulations can be used more widely to minimize unwanted catch, but also to reinforce existing minimum or maximum size limits.
- For stocks under regional management, such as cod, salmon, herring and flatfish, the same restrictions should apply to the recreational fisheries as to the commercial sector.

Controlling net fisheries and minimizing ghost fishing

As stated above, the passive quantity-catching gears are a particular problem, as the gears often result in unwanted catches and result in problems with catches of species under limitations or that are threatened e.g. targeting perch with nets but catching also sea trout.

Many of these gears are also lost or forgotten, creating ghost net fisheries that continue to affect stocks for years and have a potential impact on other species such as birds. This has been investigated lately, particularly in the southern Baltic Sea region, but more needs to be done to minimize the number of ghost nets littering our sea and the numbers lost in the recreational fisheries are largely unknown.

A recent study in the United Kingdom suggests that the fishing industry is responsible for a large proportion of the marine litter along the UK shores¹. It is not unlikely that the situation is the same in the Baltic Sea

region and, considering a widespread use of commercial style gears in some countries, perhaps with substantial additions compared to the UK. Sales of net gears used in recreational fishing indicate that is the case. Nets for recreational fishing are cheap and annual sales substantial – where are all these nets? Some will have been lost or even discarded at sea.

Through licensing specifications or sales restrictions it may be possible to limit the number of nets owned and used in recreational fishing. Mandatory labelling or tagging of gear and an obligation to report lost gear are other options.

References

¹Unger, A., and N. Harrison (2016). Fisheries as a source of marine debris on beaches. *Marine Pollution Bulletin* (107): 52–58. http://ec.europa.eu/environment/integration/research/newsalert/pdf/fisheries_rubbish_disposal_reduce_plastic_waste_473na3_en.pdf

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