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Fisheries management in the Gulf of Riga

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Abstract

The Gulf of Riga is a separate semi-enclosed ecosystem of the Baltic Sea, surrounded only by territories of Latvia and Estonia, therefore, also the fishery and fish restocking in the Gulf of Riga is performed only by Latvia and Estonia. In the Gulf of Riga the most profitable is the herring fishery that gives the highest catches both in the offshore and in the coastal fishery.
There are two main directions for fish farming in Latvia and Estonia: fish farming for consumption and fish breeding for fish restocking and reproduction in natural streams and lakes. In both countries the Restocking Program determines migratory and freshwater fish restocking in lakes and streams in the Central Baltic Sea (Latvia, Estonia), the Gulf of Riga (Latvia, Estonia) and the Gulf of Finland (Estonia).
Responsible for fishery management in the case study area are the Ministry of Agriculture in Latvia and the Ministry of Environment (fish as resource) and the Ministry of Agriculture (fish as food) in Estonia. Municipalities are responsible for the management of fish resources and the lease of fishing rights in the Baltic Sea coastal waters and in inland waters in both countries. However, the cooperation between the involved stakeholders is insufficient. In general, no significant barriers for cross-border cooperation were found. In order to facilitate increase in cooperation activities a number of legal acts still have to be reviewed and harmonised. Also the general EU strategy for the fishing industry presumes more cooperation and adaptation of local legal systems to the EU system in general.

1 Introduction

1.1 The Gulf of Riga

The Gulf of Riga is a separate semi-enclosed ecosystem of the Baltic Sea. The area of the Gulf of Riga is about 18,000 km². The Gulf of Riga is a rather shallow basin with an average depth below 40 m. The maximum depth is 67 m. The island of Saaremaa (Estonia) partially separates it from the rest of the Baltic Sea. The main exit out of the gulf is the Irbe Strait. The gulf is characterized by a low salinity of about 5 PSU and delimiting it from the Baltic Proper by a strong hydrological front in the Irbe Strait. The low salinity arises from the narrow straits connecting it with the Baltic Sea and from a significant freshwater inflow from the rivers entering the gulf. During the warm season, a strong thermocline separates the upper (> 15 °C) and deeper (< 6 °C) water layers. Surface water (0-10 m) temperature exceeds 10 °C from the third week of May until the end of September. The drainage area of the basin is about ten times larger than the surface area of the Gulf. Five relatively large rivers discharge into the Gulf. Notable cities in the gulf area include Riga, Pärnu, Jurmala and Kuressaare. The Gulf of Riga is a rather eutrophicated area of high productivity. The low salinity limits the residence of marine species in the Gulf of Riga. Therefore, Gulf of Riga herring is the dominant species in the gulf unlike in the Baltic Proper. There is a lack of abundant predators in the gulf since cod are met in the Gulf of Riga only in the periods when cod stock is on a very high level (last time in the early 1980s). There is no halocline in the Gulf of Riga. The temperature regime in the Gulf of Riga is more continental than in the Baltic Sea. On average in three of four winters the gulf is covered with

a permanent ice cover. However, due to the recent climate change, since the end of the 1980s the frequency of mild winters has much increased and there is no or only partial ice cover (Keruss & Sennikovs 1999, Berzins at al. 1998, ICES 2008).

Figure 1. : View of the beach in Sliteres National Park (source: Latvian Institute of Aquatic Ecology/ LIAE)

1.2 Description of cross-border area

The Gulf of Riga is surrounded only by the territories of Latvia and Estonia, accordingly, the fishery in the Gulf of Riga is performed only by Latvia and Estonia. The management of the fish resources in both countries is rather similar since many principles have remained from the Soviet Union times. The sea border has been determined in a treaty signed in 1995. The management of fish resources is mainly performed on the national basis. The exceptions are species for which the TAC (total allowable catch) is determined by the European Union. These species are Gulf of Riga herring and salmon. The TAC for the Gulf of Riga herring is divided into national quotas for Latvia and Estonia according to a permanent percentage key. The national quota of Latvia is divided into two parts. One part is reserved for the offshore fishery and the second part for the coastal fishery. The herring quota for the offshore fishery is distributed between fishing companies, while the herring coastal quota is not. The fishing authorities can stop herring coastal fishery if the quota is fulfilled. A similar procedure applies to the herring national quota in Estonia.

The salmon TAC is divided into national quotas for all Baltic Sea countries as it covers the salmon fishery in all of the Central Baltic Sea including the Gulf of Riga and the Gulf of Bothnia. The distribution of national quota to sub-regions of the Baltic Sea is performed on a national basis. The fishery for all other fish species is managed by limiting fishing gear.

2 Fishery

2.1 Ecological aspects (biological data, development of catch data)

The fishery in the Gulf of Riga can be divided in two parts. The bulk of the catches are taken in the offshore fishery or fishery that is taking place outside the coastal zone of the Gulf of Riga (beyond the depth of 20 m). Only one type of offshore fishery is allowed in the Gulf of Riga: herring targeted trawl fishery. The Gulf of Riga is inhabited by a sub-population of Baltic herring – Gulf of Riga herring (*Clupea harengus membras*) – a separate assessment and management unit of the Gulf of Riga (ICES

Sub-division 28.1). It is a slow-growing herring with one of the smallest lengths and weights at age in the Baltic and thus differs considerably from the neighboring herring stock in the Baltic Proper (Subdivisions 25-28.2, 29 & 32). The differences in otolith structure serve as a basis for discrimination of Baltic herring populations (ICES 2005). The stock does not migrate into the Baltic Proper; only a minor part of older herring leaves the gulf after the spawning season in the summer-autumn period but afterwards returns to the gulf. The extent of this migration depends on the stock size and the feeding conditions in the Gulf of Riga. In the 1970s and 1980s when the stock was on a low level the amount of migrating fishes was considered negligible. In the beginning of the 1990s when the stock size increased also the number of migrating fishes increased and the catches of Gulf of Riga herring outside the Gulf of Riga in Sub-division 28 were taken into account in the assessments.

Till the beginning of 2000 the trawl fishery was permanently performed by 70 Latvian and 5-10 Estonian vessels with 150-300 HP engines. A considerable increase (more than 270 %) in trawl catches of gulf herring was observed in Estonia in 2002-2003 and remained the same in 2004 but was substantially reduced in 2005-2012. The number of vessels in the Latvian trawl fleet is gradually decreasing due to scrapping and now the number is almost half that of 2005. A number of protection measures have been implemented by the authorities for the management of the Gulf of Riga herring fishery. The maximum number and engine power of trawl vessels operating in the Gulf of Riga is limited. Additionally, the summer closed season (from mid-June to September) in the Estonian part of the gulf and the 30-day ban for trawl fishery during the main spawning migrations of herring (April-May) in both Latvia and Estonia are implemented in the Gulf of Riga.

Figure 2: Estuary of the Daugava into the Riga Bay (source: Latvian Institute of Aquatic Ecology/ LIAE)

Herring is the dominating species in the Gulf of Riga and in comparison with the Baltic Sea there are no major predators and the abundance of sprat is rather low. The herring trawl fishery has a rather low bycatch of other species. The main bycatch species are sprat and smelt. Since sprat is also a TAC regulated species the bycatch quota of sprat is also annually set for the Gulf of Riga as a part of the total sprat annual national quota. The amount of smelt bycatch in the herring trawl fishery is not limited. The smelt catches in the herring trawl fishery are rather varying and seemingly depend on the market demand.

Herring is also caught in the coastal fishery. The fishery takes place during the spawning season in April-July and is conducted mainly with trap-nets. The trap-net fishery is aimed exclusively on spawning fishes. In Latvia the number of trap-nets is limited as well as the total herring catches in the coastal fishery. The number of trap-nets has been rather stable since the mid-1990s, but is decreasing since 2004. The relative importance of these two fisheries differs between Latvia and Estonia. From the total Latvian catches about 80-85 % are taken by trawls and 15-20 % by trap-nets. In Estonia the trap-net fishery is more important constituting about 70 % of the total catches while trawl catches make on average only 30 % of the total catches.

The state of the Gulf of Riga herring stock has been rather good since the beginning of the 1990s and the catches have been rather stable in the last 20 years (Figures 3 and 4) (ICES 2007).

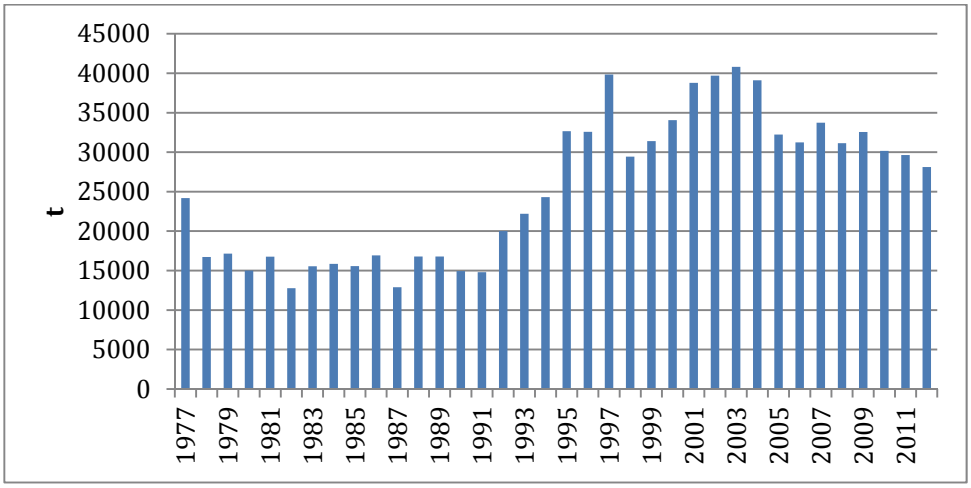

Figure 3: Total catches of the Gulf of Riga herring, (t).

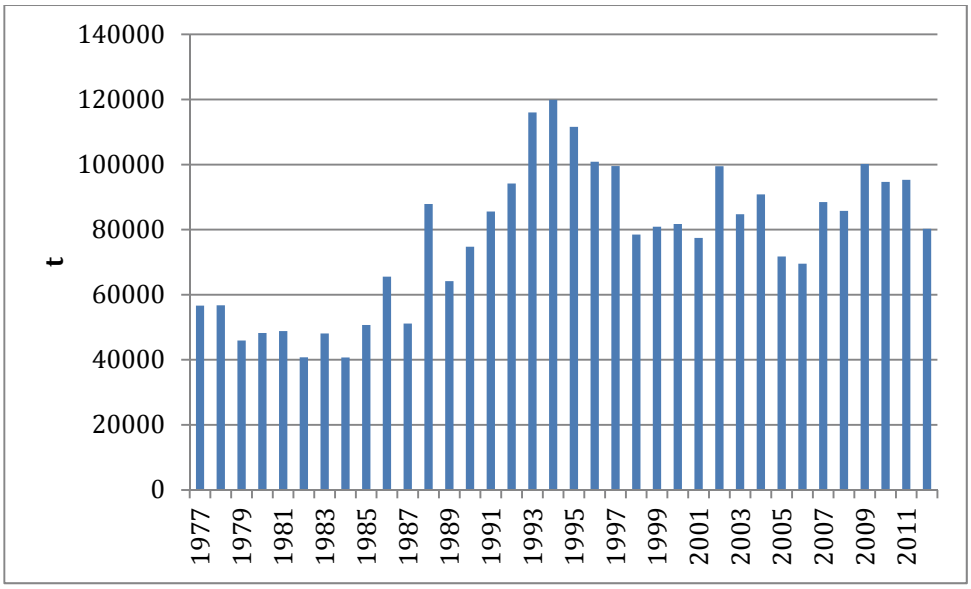

Figure 4: Spawning stock biomass of Gulf of Riga herring, (t).

Gulf of Riga herring is a species which catches are regulated by TAC (total allowable catch). The annual TAC is determined by the European Commission on the basis of scientific advice provided by the ICES (International Council for the Exploration of the Sea). The TAC is divided into national

quotas for Latvia and Estonia according to a permanent percentage key. The analytical assessment of Gulf or Riga herring is carried out in the ICES Baltic Fisheries Assessment Working Group (ICES 2013) and is based on biological data from the sampling of commercial trawl (monthly) and trap-net (weekly) catches by Estonia and Latvia, and on two ship surveys used for the calibration of the assessment (joint Latvian-Estonian hydro-acoustic survey in July), and on the effort (number of trap-nets) directed at the Gulf herring in the Estonian and Latvian trap-net fishery and the corresponding abundance of Gulf herring in trap-net catches.

As it was mentioned before the main part of the catches in the coastal fishery constitute herring, but there are also other fish species that are important in the coastal fishery (Table 1 and 2). The most important species in the coastal fishery are various freshwater and anadromous species that are caught in the coastal zone where they are met in the feeding season or some are even spawning due to low salinity in the coastal zone of the Gulf of Riga. The most important species in the coastal fishery are perch, pikeperch, bream, flounder, salmon and sea-trout. The fishery in the coastal zone is performed exclusively with static fishing gear like trap-nets, pound-nets, fyke nets and gillnets. The amount of catches in the coastal fishery, except for herring, is not regulated. The management of the fishery is based on the limitation of the number of fishing gear and on two closed seasons for fishing for the protection of spawning fish. In general the catches in this fishery show a decreasing trend. There are two apparant reasons for that. The market restrictions make this fishery not very profitable and due to this it does not attract the younger generation. The second reason is the increase of the abundance of the grey seal in the Gulf of Riga. Many fishermen are forced to stop the fishery because the catches are eaten or strongly damaged by the seals. It is especially prominent in the late summer and autumn seasons.

Table 1: The catches in the coastal zone of the Gulf of Riga by Estonia, t

Species/year	2011	2012
herring	7,609.2	6,238.2
perch	730.8	486.9
pikeperch	105.4	145.7
smelt	116.7	286.1
garfish	70.6	9.0
roach	53.3	50.1
vimba bream	44.9	48.0
other	129.9	135.0
Total	8,860.8	7,399.0

Table 2: The catches in the coastal zone of the Gulf of Riga by Latvia, t

Species/year	2010	2011	2012
herring	1,926.0	2,879.0	2,278.9
bream	55.0	33.2	29.1
perch	30.0	27.3	19.3
vimba bream	28.0	28.3	35.0
flounder	94.0	44.7	47.9
other	88.9	77.4	89.6
Total	2,221.9	3,089.9	2,499.8

2.2 Economic aspects

In the Gulf of Riga the most profitable is the herring fishery, it yields the highest catches both in the offshore and in the coastal fishery. The catches have been rather stable since the mid-1990s (Figure 5) due to a good state of the stock. Some diminishment in the last 3 years is connected with the transition period when according to Common Fishery Policy it is planned by 2015 to achieve the maximum sustainable yield fishing mortality (Fmsy) which is lower than the previously used precautionary approach fishing mortality (Fpa).

The fishing fleet in the offshore fishery of Latvia has much changed in recent years. With the help of the European Fisheries Fund part of the fishing fleet has been scrapped and the number of vessels has been diminished considerably (Table 3). The decrease of the number of vessels firstly has improved the technical condition of the fleet because mainly the oldest vessels were scrapped, and secondly it has balanced the capacity of the fleet with the available fish resources. It has definitely enlarged the available fishing quota for the remaining vessels thus increasing the income. From the biological point of view it improved the exploitation of the herring stock as the fishing mortality in recent years has approached the level that is recommended by the scientists. Evidently, in previous years (1999-2007) the high fish mortality was connected with significant amounts of unallocated catches (Figure 5) while now the available fishing quota ensures legal fishery all around year.

Table 3: The number of fishing vessels in Latvia in the Gulf of Riga in 2009 and 2012.

Year	Fishing place	Number of vessels
2009	Coastal	286
	Offshore	37
2012	Coastal	207
	Offshore	23

In the coastal fishery of the Gulf of Riga in Latvia the main income comes from the herring fishery as the catches of other species are rather low. According to the landings and average fish prices in 2012 around 78 % of the total income in coastal fishery was obtained with herring. Therefore, fishermen who are not fishing herring with trap-nets cannot ensure their financial existence with fishery as their only economical activity. Due to this, many fishermen have switched to the category of self-consumption fishermen who have the right to fish with one static fishing gear – pound-net, fyke net or gillnet of 100 m length. The self-consumption fishermen have no right to sell the caught fishes. Coastal fishery is a seasonal fishery because in winter the fishery is stopped due to ice coverage. Even in mild winters there is some ice in the coastal zone not allowing setting of the coastal static gears.

In Estonia the situation in coastal fishery is slightly different because herring is not the only important fish species but also perch. Since the catches of perch are rather high and the price for filleted perch is also substantial in some Estonian counties of the Gulf of Riga the income from perch fishery is even higher than from herring fishery. However, according to studies performed in Estonia only for 10 % of the coastal fishermen the fishery is the main source of income (such a study has not been performed in Latvia).

It should be noticed that both in Latvia and Estonia the commercial fishermen have to pay a yearly fee to use their fishing gear in the coastal fishery or for the fishing quota in the offshore fisheries.

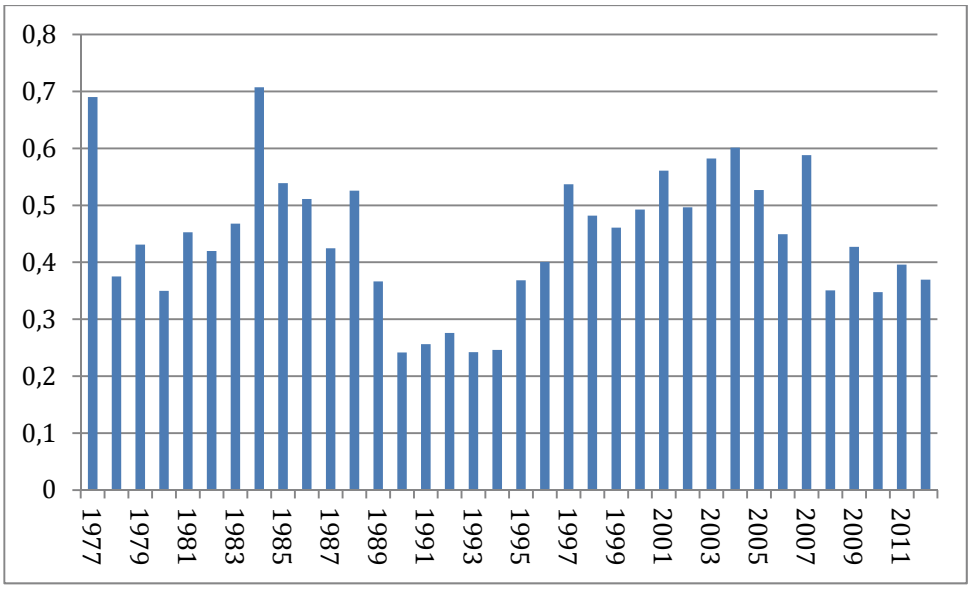

Figure 5: Fishing mortality of the Gulf of Riga herring (Fpa=0.40, Fmsy=0.35).

2.3 Fishing gear and areas

In the offshore fishery only trawlers targeting herring are fishing in the Gulf of Riga. The trawlers mainly use pelagic trawl. The trawling is allowed only over the depth above 20 m or two nautical miles from the coast. The offshore fishery with gillnets in the Gulf of Riga is not performed.

In the coastal fishery only static gears are employed such as trap-nets, pound-nets, fyke nets and gillnets. The trap-nets are mainly used in the herring fishery during the herring spawning season in April-July. Usually the length of herring trap-net fishery is about 2.5 months and the beginning of it depends on the severity of the winter.

The number of fishing gears in the coastal fishery of Latvia is limited and it is determined by the Rules of the Council of Ministers for each of the coastal counties. They are reviewed annually but in general they have been rather stable since the end of 1990s. The coastal fishery in Estonia is managed similarly.

It is not allowed to use such fishing methods and gear which are prohibited or which are not designated in EU and Latvian laws. The parameters of the allowed fishing gears are described in the Rules of the Council of Ministers (No 296 of May 2nd, 2007). Besides, in Latvia there are two closed seasons for coastal fishery intended for the protection of spawning fish in spring (16th April-15th May) and of migrating anadromous species (1st October-15th November). During these closed seasons only specialized fisheries on herring, flounder and eelpout is allowed. Similar closed seasons are applied also in the coastal fishery of Estonia. It is not allowed to set fishing gear in the vicinity of river mouths. The size of the prohibited area is regulated for the biggest rivers entering the Gulf of Riga. Minimum landing size has been determined for several species like perch, pikeperch, pike, whitefish. The fishes with a lower size are discarded.

All fishermen have to record their fishing operations and catches in logbooks. In the offshore fishery the fishermen use standard EU logbooks while in the coastal fishery national logbooks are used. Also the self-consumption fishermen have to fill such logbooks. This system allows to obtain full information on the effort and landings in the coastal fishery. In many other countries coastal fishermen or small scale fisheries do not have to use logbooks, and therefore, it is necessary to perform special surveys to determine the impact of coastal fishery on the fish resources.

3 Aquaculture

3.1 Description of aquaculture in the region

There are two main directions for fish farming in Latvia and Estonia: fish farming for consumption and fish breeding for fish restocking and reproduction in natural streams and lakes (fish recourses reproduction).

The Latvian fisheries sector is governed and administered in general by the Ministry of Agriculture (in collaboration with other institutions). The Fishery Department is responsible for a wide range of tasks concerning general fisheries policy and its management in Latvia. The Institute of Food Safety, Animal Health and Environment "BIOR" is responsible for the implementation of the National Fish resources restocking program in Latvia.

In Estonia fisheries administration is divided between the Ministry of Agriculture (fish as food) and the Ministry of the Environment (fish as a natural resource). In both ministries there is a department responsible for fisheries regulation. In the Ministry of Environment, the Department of Fisheries Resources is in charge of restocking activities which are financed by the state, including the management of the state-owned Põlula Fish Rearing Centre. In the Ministry of Agriculture, the Department of Fishery Economics regulates fish processing and trade, including aquaculture.

In the aquaculture sector of Latvia there are 49 economically active enterprises (including state fish hatcheries) employing more than 300 people. Overall, the sector is mainly focused on carp breeding, but also some negligible amounts of trout, sturgeon and pike are produced for the market. At the moment there are some slow changes going on in the sector, reorienting from carp to other species (i.e. trout, African catfish) in Latvia (www.zm.gov.lv).

In Estonia there are 21 companies with 24 fish farms (year 2009) whose main or important activity is fish farming. Most of them have multiple production profiles, rearing simultaneously several species, producing at the same time fish for consumption, offering fishing tourism in put-and-take ponds and producing juveniles for the state restocking program. In most of these farms the main species is rainbow trout, in some others mainly carp. European crayfish *Astacus astacus* is cultivated in four farms, eel in only one, and two farms are specialized in growing fish for stocking purposes (Paaver, 2005). Recently, one farm specialized in sturgeon production in the warm cooling waters of a power plant.

There are no fish cage farms in the Gulf of Riga, neither in Latvia nor in Estonia.

There has been negative experience in the sea aquaculture in the past in Latvia. In the 1980s, near to Ragaciems in the Gulf of Riga some experiments were made with marine salty and warm geothermal mineral water for the use in aquaculture, mainly for the cultivation of rainbow trout during the winter season. Geothermal water salinity is around 5 PSU with a year-round constant temperature of about 13 °C. It is chloride-sodium salt water and inevitably contains sulphide, bromide, iron, manganese, sulfur and other undesirable substances in addition. The experiment failed, it caused not only fish metabolic and other disorders, but also led to the pollution of surface waters with various chemical elements and mineral salts.

In the 1980s, Latvia started to develop the production of rainbow trout in seawater of the Gulf of Riga using net cages (at the Kolka-Roja and near Carnikava coast). This type of trout cultivation was generally unsuccessful for several reasons:

1. cages were not sufficiently resistant against storms and waves,
2. wind caused dramatic changes in the cold deep water and warm coastal water inflow and outflow which stressed the fish,
3. trouts suffered from specific infectious diseases.

The latter two factors were also the cause of failure for a trout basin farm in Kaltene, where water was taken from Gulf of Riga shallow water areas (Mitans 2008).

Now, the Latvian government is planning to allow the establishment of cage fish farms in the Gulf of Riga in four places, using new rearing systems with new submersible cages, which are stable in storms. But only few places can be used for this aim. The gulf is shallow and a lot of conflict zones exist in the gulf: Natura 2000 territories, fishing grounds, shipping routes. The scientists of the institute BIOR consider, that the aquaculture enterprises can be established in the Gulf of Riga by using only environmentally friendly technologies, such as IMTA (integrated mulit-trophic aquaculture) which combines, in the appropriate proportions, the cultivation of fed aquaculture species (e.g. finfish/ shrimp) with organic extractive aquaculture species (e.g. shellfish/ herbivorous fish) and inorganic extractive aquaculture species (e.g. seaweed) to create balanced systems for environmental sustainability (biomitigation), economic stability (product diversification and risk reduction) and social acceptability (better management practices).

The brackish water coastal sea is shallow, open to storms and covered by ice for a long period and there are very few suitable sites for large net cage farms or other types of mariculture, in Estonia and Latvia.

3.2 Importance of stocking and restocking

Restocking means producing juvenile fish in fish farms and releasing them into the natural waters with the aim of increasing their stock either to save endangered species or create a resource for fishermen and anglers.

There are governmental restocking programs in both countries that determine migratory and freshwater fish restocking in: lakes and streams, the Central Baltic Sea (Latvia, Estonia), the Gulf of Riga (Latvia, Estonia), and the Gulf of Finland (Estonia).

Many species of fish (salmon, eel, sea trout) are threatened because of over-exploitation or lack of suitable reproduction areas (Estonia) or habitats and their natural ability of reproduction is too low (Estonia, Latvia). In order to restore or reinforce their natural populations, fish are being stocked (Table 4).

The program is established in order to ensure the fish fry compensatory releases to lower the damage to fish resources caused by hydropower stations as well as to restore damages and losses caused by various human activities in public waters.

Five state-owned fish hatcheries: Tome, Dole, Pelci, Karli, and Brasla (which belong to the BIOR intstitute) and some private fish farms in Latvia, as well as the Õngu Fish Farm and state-owned Põlula Fish Farming Centre, and some other fish farms in Estonia are participating in the juvenile production for restocking. The location of these hatcheries is shown in Figures 6 and 7.

In relation to restocking activities it should be mentioned that respective European legislation has been initiated to protect fish species like eel and river lamprey. Latvia has already made several steps to improve the conditions for stocks of these species. The legislation regulating the fishery of these species and the measures to promote their restocking were elaborated.

Regarding a long time management plan for Baltic salmon, Latvia considers that further substantial discussion with member states, sector and other stake holders is necessary before the regulation can be adopted. The main problem for Latvia regarding this plan is that Latvia does not agree that artificial reproduction outside wild salmon rivers should be stopped. The biggest part in this artificial reproduction goes to reduce the damage to fish resources caused by Hydropower Stations and river ecosystems in the Daugava river.

In 2007 the following fish were released into Estonian waters (numbers of individuals): 317,800 reared eel juveniles (*Anguilla anguilla*); 100,400 one year old, 89,000 one year and 51,300 two year

old Atlantic salmon (*Salmo salar*); 17,400 one year old and 47,000 older sea trout (*Salmo trutta*); 10,000 juveniles of brown trout (*Salmo trutta fario*); 2,000 one year old pikeperch (*Sander lucioperca*), 1,100,000 larvae and 19,500 one year old pike (*Esox lucius*), 5,000 two year old tench (*Tinca tinca*), and 4,200 one year old and 14,900 older native freshwater crayfish (*Astacus astacus*). Over 85 % of the money spent for restocking is used to produce salmon and eel juveniles (Estonian Fisheries Strategy 2007–2013). There are four protected fish species in Estonia (Atlantic sturgeon, wels, grayling, asp) but these species are not covered by the restocking program.

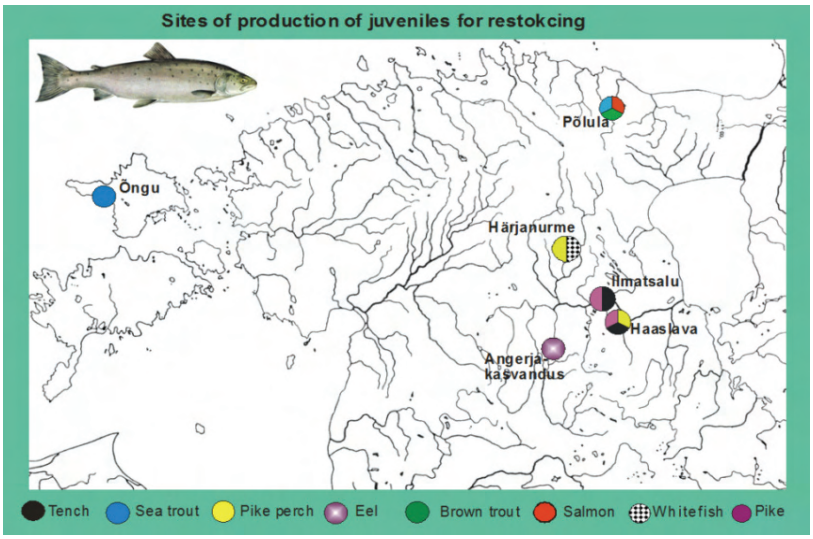

Figure 6: Sites of production of juveniles for restocking in Estonia (source: Tiit Paaver, *Eesti Maaülikool* www.eau.ee/~vl/.../fishfarmingandrestockinginestonia.ppt)

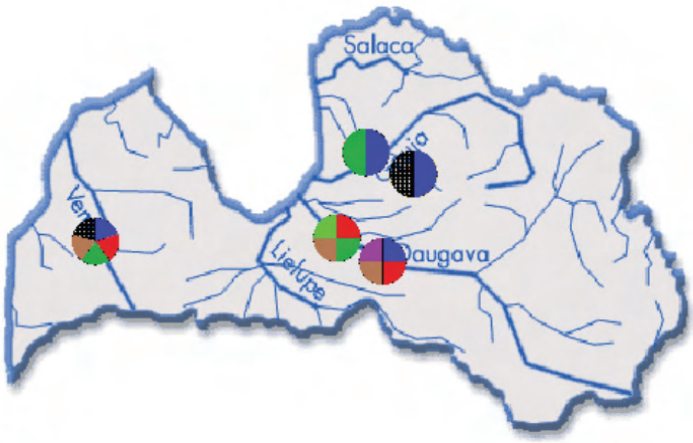

Figure 7: Sites of production of juveniles for migratory fish restocking in Latvia (red - salmon; dark green - lamprey, light green - vimba, blue - sea trout, brown - freshwater fish; purple- sturgeon; chequered- whitefish).

Table 4: Fish species released in lakes and rivers flowing into the Gulf of Riga (Year 2010-2012)

Waterbody, place of release	Fish species	Age	Number of fish		
			2010	2011	2012
Gauja basin (Amata)	Sea trout (*Salmo trutta*)	parr (1)		9 990	14 850
Gauja basin (Brasla)	Sea trout (*Salmo trutta*)	parr (1)		7 335	
Daugava	Salmon (*Salmo salar*)	parr (1)			15 150
		smolt (1)		208 444	765 129
	Sea trout (*Salmo trutta*)	smolt (1)		123 670	83 000
	Whitefish (*Coregonus lavaretus*)	parr (0+)		20 500	
	Vimba (*Vimba vimba*)	parr (0+)		33 100	
Gauja	Salmon (*Salmo salar*)	parr (0+)		33 600	
		parr (1)	83 800	92 000	20 000
		smolt (1)	28 000	90 400	8070
	Sea trout (*Salmo trutta*)	smolt (1)	46 880	82 097	97 606
		parr (1)	13 110		
	River lamprey (*Lampetra fluviatilis*)	fry	3 131 000	4 439 000	4 946 400
	Whitefish (*Coregonus lavaretus*)	parr (0+)	24 500	20 500	12 180
Ķīšezers	Pike perch (*Stizostedion lucioperca*)	parr (0+)	250 462	140 000	140 000
Lielā Jugla	Salmon (*Salmo salar*)	parr (0+)		126 000	
		parr (1)			18 900
	Sea trout (*Salmo trutta*)	parr (0+)		25 000	
	River lamprey (*Lampetra fluviatilis*)	fry		1 749 000	1 000 000
Lielupe	Salmon (*Salmo salar*)	parr (1)	130 194		
		smolt (1)		54 076	
	Pike (*Esox lucius*)	fry			
Mazā Jugla	River lamprey (*Lampetra fluviatilis*)	fry	4 988 000	1 746 000	3 929 000
	Salmon (*Salmo salar*)	parr (0+)		153 100	
		parr (1)			75 200
	Sea trout (*Salmo trutta*)	parr (0+)		25 000	
Palsa	Sea trout (*Salmo trutta*)	parr (0+)		30 000	
Gauja basin (Rauna)	Sea trout (*Salmo trutta*)	parr (1)		10 010	
Daugava	Pike perch (*Stizostedion lucioperca*)	parr (0+)	180 000		
	Vimba (*Vimba vimba*)	parr (0+)	738 600	471 200	415 000
	River lamprey (*Lampetra fluviatilis*)	fry		3 556 000	2 900 000
Strīķupe	Sea trout (*Salmo trutta*)	parr (1)	24 145		
Vizla	Sea trout (*Salmo trutta*)	parr (0+)		35 000	20 000

3.3 Future plans, scientific initiatives

Marine aquaculture in the past was not effective, but now some farmers plan to use new production technologies and want to develop marine aquaculture in the Gulf.

Territory required for molluscs (shellfish) and fish farming in the sea is determined individually for each application. Molluscs (shellfish) farms establishment is very complex and has been discussed extensively in the project BalticEcoMussel. Getting acquainted with the information produced by the project and discussing the situation with the Ministry of Agriculture, Fisheries Department officials procedure is as follows:

In order to obtain the establishment of sea mollusc farms interested parties must submit an application to the Environmental Protection and Regional Development Ministry, if its intention is an environmental measure, to the Ministry of Agriculture, if it is a planned economic activity.

The Ministry evaluates the possibility of developing the chosen activity in the selected area and organizes the competition.

In the harmonization process planned activities must be discussed with following institutions: the Institute of Food Safety, Animal Health and Environment (BIOR), the Nature Protection Board, and the Marine Administration.

Before obtaining a permission for establishing mollusc farms, the impact on the environment must be assessed.

The responsible ministry prepares a draft Cabinet Order, which is submitted to the Cabinet for decision. The Cabinet of Ministers issues a permit or license to use the sea area for specific activities.

A shellfish farm is registered as aquaculture animal farm; therefore the farm will be under regular food and veterinary service control.

If EU financial support is intended, molluscs (shellfish) farms can apply for recognition as aquaculture products manufacturer by the Rural Support Service.

According to the marine environment protection regulations and management plans for statutory shellfish farms, the permission to distribute equipment and navigational aids for offshore deployment and operation must be obtained, which is issued by the Latvian Maritime Administration for a maximum of 30 years; annual state fees must be paid and the installation of new navigational aids, or making changes to existing aids have to be authorized.

Research initiatives in the Gulf concentrate on reproductive success evaluation. In recent years salmon and sea trout smolt were marked with T-bar anchor tags. It should be noted that from 2011 to 2012 no tag was returned, however, in 2013 one Carlin-type tag was returned, originating from one of the fishes marked in 2008.

The anchor tag method for marking was chosen because of its low cost, but the efficiency is low and if no marks are returned in the next few years, the method will have failed. It should be noted that in the past three years, the budget did not provide funds to pay for returned marks, which generally decreases the number of returned marks.

It is desirable to change the marking method by selecting the Carlin-type tags and to provide funds to pay for returned marks and for a renewal payment mechanism. Carlin-type tags are used in all Baltic Sea countries, which mark salmon. The results are used for the assessment of salmon stocks in the ICES WGBAST (Assessment Working Group on Baltic Salmon and Trout). In order to fully participate in the evaluation of salmon population estimation and related issues, it is desirable to restart Latvia salmon tagging with Carlin tags. This type of tagging method is also used to mark sea trout.

Lamprey resources are restocked by reproducing and releasing lamprey larvae on penetration stage, it is a time when the yolk sack is absorbed, but the feeding has not started. The restocking plan provides 3.5 million lamprey larvae for an annual release, but that is not enough, because the survival of lamprey larvae according to research data is 0.1 % of the numbers released. Other solutions for

lamprey reproduction must be found. BIOR believes it would be appropriate to promote natural spawning lampreys, by increasing the quantity of lampreys spawning in the Gauja, Salaca, Riva and Venta rivers (upstream of barrages). Lamprey populations depend on their spawning success in rivers.

Lamprey catches in the Daugava River have been increasing in recent years, but the Daugava river has virtually no lamprey spawning places. Perhaps this is caused by the anthropogenic altered hydrological regime of the Daugava that impacts the lamprey spawning migration in the nearby Gauja. The hydrological regime in the Daugava attracts part of the migrating river lampreys from the Gauja. If this hypothesis corresponds to what is happening in real life, breeding lampreys have to be transported between the rivers.

In some rivers lampreys are unable to overcome the natural Venta fall or artificial barriers (Staiceles paper mill dam, etc.). ZI BIOR recommends experimental breeding lamprey transport to rivers and river sections with thoroughly known spawning and larval habitats. Monitoring of the implementation should be designed.

To compensate for the Daugava hydropower station's effect on the fish resources in 2011 to 2013, annual rearing and release of salmon, sea trout, vimba, perch, pike, lamprey and whitefish larvae and fry was performed in the Daugava basin watercourses.

The biological capacity of the Daugava river has been reduced by anthropogenic influence, so part of the fish is released in Lielupe basin watercourses.

The salmon population in the Daugava river has survived due to artificial restocking. But it is advisable to reduce release of one-summer juveniles and to cut the fat fin of all smolts, thus marking the released fish. Fat fin cutting is a laborious process and additional funding must be provided for it.

Fishermen's involvement in restocking processes is important in three stages: spawner catches, juvenile fish release and evaluation of the performance. Adult fishes are caught in natural waters to obtain fish eggs and milt. This work is done by professional fishermen who are trained to deal with artificial fish reproduction. The next step in the process of restocking, where fishermen are involved, is releasing juvenile fish. Larvae and fry are released in small portions in different places of the water body. Fishermen are involved in the release of salmon and sea trout. More fishermen's involvement is required in the evaluation of restocking efficiency and in the collection of fish tags. Some initiative is shown by fishermen organizations, but at the moment only in inland waters.

It is possible to involve fishermen more widely in the restocking of fish resources. The state grants funds from the "Fish Fund" for various fisheries activities including the reproduction of fish resources. These measures may apply to public bodies, local authorities, derived public persons and associations. Fishermen's associations and organizations, and municipalities with fishing companies can apply for fish stock supplementation in their territories.

Sea trout is one of the species that interest fishermen. Fish catches may be affected by the quantity of released smolts. Releasing sea trout smolts in estuaries will cause a rise of sea trout catches in the sea in a few years. Unfortunately, sea trout smolt production must be planned as at least triennial event: in the first year (October to December) eggs are obtained, in the second year (January to December) sea trout are grown and in the third year cultivated (January to May) and released (May) in estuaries. Such projects are already being successfully implemented.

4 Management aspects

4.1 Fishery management

4.1.1 Fishery management in Latvia

The fisheries administration in Latvia is the **Fisheries Department, Division of Fishing Management and Fish Resources of the Ministry of Agriculture**, which is responsible for overall management of the fisheries sector, quota management, sector development, strategies and legislation.

The Fisheries Department deals with issues related to fisheries science and restocking of fish resources, fish processing and trading issues, and represents Latvian fisheries interests in the various EU institutions and international organizations (FAO, NAFO, etc.).

The State Environment Service, Marine and Inland Waters Administration carries out fishing control in marine waters under Latvian jurisdiction, issues fishing licenses, operates a vessel monitoring satellite center and monitors fish landings at ports.

The Institute of Food Safety, Animal Health and Environment (BIOR) undertakes specific research on fish resources, and participates in internationally coordinated surveys, provides scientific background for the protection and rational use of fish resources in Latvian waters, and ensures implementation of the fisheries data collection program. Data are regularly collected on the composition of commercial catches, fishing effort and fisheries economics, as well as scientific surveys on hydrologic conditions, zooplankton, spawning grounds, ichthyoplankton, larvae and young fish abundance, hydroacustics, size and distribution of the spawning stocks, feed, growth, maturation, research on aquaculture and artificial restocking.

In conformity with the EU Pre-accession Agreement, the Latvian fisheries are controlled on the basis of the fishing quota distribution principle that was in force before EU membership. Latvian vessels may fish all over the Baltic Sea outside the Russian fishing zone, the Gulf of Bothnia, the Gulf of Finland and the territorial waters of the EU Member States. Based on historical fishing rights, Latvia and Estonia have fishing rights in the Gulf of Riga.

The Council of Europe sets annual total allowable catches (TAC) for regulated fish species for all EU Member States, Latvia included.

Based on the national legislation, fishing permits are allocated to companies on the basis of historical fishing rights. The National Board of Fisheries allocates quotas to the vessels fishing outside coastal waters and controls their utilization. The companies are entitled to decide for themselves which vessels to use, and have to pay for the use of a fishing allocation (fishing rights lease).

The National Board of Fisheries regulates fishing effort in Latvia's EEZ through engine capacity, vessel tonnage and allowable days at sea.

Local municipalities are responsible for the management of fish resources and the lease of fishing rights in the Baltic Sea coastal waters and in inland waters.

The Union of Latvian Fish Processing Industry (ULFPI) is a public organization, in which the leading Latvian fish processing enterprises are united; their basic activity is the production of canned fish.

Permits for physical and legal persons to fish in the Gulf of Riga and coastal waters:

1. Special permit (license) for commercial fisheries: According to the Cabinet of Minister Regulation No 1015 (08.09.2009.) *Procedures for the Issue of Special Permits (Licenses) for Commercial Activities in Fishery and Payment of the State Fee for the Issue of Special Permits (Licenses)* the license for fishing in the sea and in the coastal waters is issued by the Ministry of Agriculture (Fisheries Department) for the undertaking registered in the commercial register; for inland waters

local municipalities issue licenses. A permit (license) is granted for five years, except in the cases referred to in Paragraphs 10 and 11 of these Regulations.

2. Commercial fishing lease agreement: It provides individual fishing quotas to fishermen, fishing gear or limits its quantity, if necessary, the fishing period or the number of fishing days are set. The Ministry of Agriculture (Fisheries Department) is responsible for offshore fishing lease agreements; local municipality are responsible for the coastal waters and inland waters. Such a license is valid for 1 to 5 years.
3. Fishing vessels of an overall length of 10 m or more need an additional authorization (special permit) for target fish species in the Baltic Sea or the Gulf of Riga, based on the lease of fishing rights annual report to certain limits and fishing vessels fishing in the approved list. This additional authorization (special permit) is needed by smaller fishing vessels, if such requirements are specified in the European Union laws and regulations in the fisheries sector that are directly applicable. This permit is issued by the Ministry of Agriculture.
4. Fishing license for fishing vessel: According to the Cabinet of Minister Regulation No 296 (02.05.2007.) *Industrial fishing rules in territorial and economic zone waters* after getting a special permit (license) fishermen should obtain the fishing license for fishing vessel which is issued by the Marine and Inland Waters Administration (State Environment Service) on a yearly basis (indicating the quantity of fishing gear and its type or the amount of catch). The fishing license for fishing vessel is issued only for vessels which are registered in the Latvian Fishing Fleet Register. This license grants the right to fish with commercial fishing gear at sea.
5. self-subsistence fishery: individuals have to be registered by the Marine and Inland Waters Administration (State Environmental Service).

The Ministry of Agriculture can withdraw a special permit (license) for commercial activities in fishery if the owner of the permit (license) infringed the requirements of the regulatory enactments regulating fishery or has suspended commercial activities in fishery more than twice during fishery in the sea and coastal waters within one year,.

The State Environment Service (Marine and Inland Waters Administration) is entitled to suspend the use of a fishing permit (license) or cancel it in cases where violations occurred, draws up administrative reports and imposes administrative sanctions, seizes and confiscates fish and requests that the losses caused to fish resources be compensated, and executes other activities in accordance with the requirements of European Union legislation, amateur fishing – angling – regulations and industrial fishing regulations.

All the major marine fish resources are used according to the ICES scientific advice and the European Community sets quotas, and other National technical regulations for fishing activities. Two stocks in the Gulf of Riga are regulated by the European Community. Only Latvia and Estonia may fish in the Gulf of Riga. The quota for sprat is set for the whole Baltic Sea but Latvia is reserving a concrete amount of this quota to be used only in the Gulf of Riga. In coastal fisheries, along the coast of the Baltic Sea and the Gulf of Riga (in depths less than 20 meters, where no trawling is allowed), fishing is limited by the allocated number of gears.

There are two fishing limitation systems in Latvia:

1. TAC (Total allowable catch) principle used for the trawler fleet in the sea waters. Every year the Ministry of Agriculture sets the fishing limits for the individual fishing companies, taking into account the TAC limitations set in the European Council regulation fixing the fishing possibilities in the Baltic Sea and the effectiveness of the use of the fishing quotas of the fishing company in the previous year, in order to ensure the historical fishing rights to the fishing companies. The fishing possibilities can be transferred to another fisherman.
2. Effort limitation as limitation of the fishing gears used in the coastal waters (in depths less 20 m) regarding TAC limitations for the whole coastal fishery for particular fish species – herring, and

sprat. Every year the Ministry of Agriculture sets the fishing limits for the coastal water fisheries taking into account the TAC limitations set in the European Council regulation fixing the fishing possibilities in the Baltic Sea. At the same time there are regulations of Cabinet in force which sets the total amount of fishing gears to be used in the coastal fisheries divided by the coastal municipalities. At the moment when a TAC is used up, the Ministry of Agriculture stops fishing in that particular fishery. The fishing possibilities in the coastal waters cannot be transferred to another fisherman.

Although the provision of research and scientific advice related to fish resources in order to adjust fishing in Latvia has stable traditions with a perennial scientific data base and the necessary technical provision, in long-term perspective the human resource capacity should be strengthened in this field. To use biological and economic data efficiently for the administration needs of the sector, contributions are necessary to process data electronically and improve fisheries data exchange at an international management level.

Fishing control measures are organised on the national and international level, however, in this field it would be necessary to intensify fishing control in marine waters beyond offshore waters.

4.1.2 Fishery management in Estonia

The fisheries administration in Estonia is divided between the between the Ministry of Agriculture (fish as food) and the Ministry of Environment (fish as a natural resource). In both ministries a department is responsible for fisheries regulations.

In the Ministry of Environment the Department of Fish Resources is in charge of restocking activities which are financed by the state, including management of the state-owned Põlula Fish Rearing Centre.

In the Ministry of Agriculture the Department of Fishery Economics regulates fish processing and trade. This includes aquaculture.

The Estonian Fish Farmers Association, established in 1989, supports aquaculture, and does not operate as a producer organisation. It brings together different people: aquaculture producers, small-scale hobby farmers, scientists and government officials.

The main fishery management measures implemented in Estonia are:

- technical measures, including mesh size control, closed seasons and closed areas according to Council Regulation (EC) No 27/2005 of 22 December 2004 and national Fishery Rules;
- input controls, namely number of fishing days for NAFO and the Svalbard regulatory area for shrimp fishery;
- output controls, namely TAC limits for internationally regulated fish stocks, and transferable quotas according to the provisions of the Estonian Fishing Act; and
- economic incentives – fishing right fees.

The **Estonian Fishermen's Association**, **Estonian Sport Fishermen Federation** and **Estonian Fishery Association** (fish processors mainly) are actively involved in the co-management process (discussions on fishery management measures, amendment of laws and fishery rules, discussions on structural measures, the application of structural funds, etc.).

The Estonian Environmental Inspectorate (EEI) of the Ministry of Environment has overall responsibility for the Estonian fisheries control.

The main institution engaged in fisheries data collection and scientific advice formulation is the **Estonian Marine Institute of the University of Tartu**.

Department of Fish Farming of the Institute of Veterinary Medicine and Animal Science of the Estonian Agricultural University is studying the molecular genetics of salmonid fish, quality of

farmed fish, development of new and improved technology for production of new species in Estonia (sturgeon, crayfish, salmon).

A fisher's fishing permit grants the right to fish, except fishing for flounder, with commercial fishing gear at sea up to the 20-metre isobath. A fisher's fishing permit for the fishing of flounder grants the right to fish flounder at sea, irrespective of the depth of the sea. According to the Fishing Act, a fisherman is a natural person who catches fish themselves with commercial fishing gear. The number of persons accompanying a fisherman who is fishing is not limited. A fisher's fishing permit shall be issued to an undertaking registered in the commercial register.

A person who is registered in the commercial register as an undertaking and whose area of activity entered in the commercial register is fishing may fish with commercial fishing gear on the basis of a fishing permit on internal water bodies, on transboundary water bodies, at sea, in the exclusive economic zone (EEZ) of the Republic of Estonia, or outside national waters under the jurisdiction of the Republic of Estonia. Commercial fishing gear means loglines, gillnets and entangling nets, traps, seine nets and trawls. The right to fish commercially is granted by a fishing permit, which may be either the fishing permit of a fishing vessel or a fisherman's fishing permit. Commercial fishing permits are issued within the limits of the permitted annual quota allocation, number of fishing days, amount of fishing gear or number of fishing vessels for a specified term, but for not longer than one calendar year.

Licenses for the open-sea fishery i.e. trawling in waters deeper than 20 m are issued by the central fisheries administration in Tallinn, but licenses for Baltic coastal fishery and inland fishery are issued by counties separately.

The Minister of the Environment annually decides the total number of licenses and the distribution of licenses by gear types (for coastal and inland fishery) between counties.

Fishing permit for fishing vessel: the fishing permit of a fishing vessel grants the right to fish with commercial fishing gear at sea. The fishing permit of a fishing vessel may be issued to an undertaking registered in the commercial register regarding a fishing vessel in the legal possession thereof for which an Estonian certificate of a sea-going vessel or small craft and a fishing license have been issued.

A restricted fishing permit is refused if:

1. the applicant has more than one punishment in force for violation of fishing requirements;
2. the applicant submits false information in the application;
3. the applicant submits false information on fishing or fails to submit the information within the set term;
4. the applicant fails to pay the fee for the right to fish within the set term.

The provisions of the General Part of the Penal Code (2001) and of the Code of Misdemeanour Procedure (2002) apply to misdemeanors defined in the Fishery Act. Extra-judicial proceedings concerning misdemeanours under the Fishery Act shall be conducted by a police prefecture, the Border Guard Administration and the Environmental Inspectorate.

Main management measures in Estonia are volume quotas (TAC) in the Baltic open sea fisheries and gear quotas in the Baltic coastal fisheries. There is also numerous technical management measures employed in Estonian fisheries: minimum mesh sizes (for gillnets, fyke nets and trawl bags), closed areas and seasons, minimum landing sizes for fish and limits on bycatches. All Estonian fishing rights are fully transferable inside the country (i.e. between license owners).

Fishing capacities and the technical measures for the protection of fishery resources in the Baltic Sea and the waters are regulated by the Northwest Atlantic Fisheries Organisation (NAFO) and the North-East Atlantic Fisheries Commission (NEAFC), where vessels flying the flag of Estonia fish, are laid down in directly applicable EU regulations of the European Union. The same applies for other internationally regulated fish species.

4.2 Legal aspects

In **Latvia** there are about 168 normative acts and in **Estonia** about 319 normative acts that are mandatory for the fishery and aquaculture sector. The most important of them are listed in the ANNEX.

4.3 Responsibilities for fishery in the case study area

There are a lot of institutions and authorities in both countries which are responsible for fishery on different levels in the case study area (ANNEX, Table 1).

5 Area Based Management

The fish resources of the Gulf of Riga are used only by Latvia and Estonia. The peculiarities of the fish community in the Gulf of Riga determine the scope of shared management. As it was indicated before the dominating species in the Gulf of Riga is herring and the exploitation of the catches of this species is limited by annual TACs (total allowable catch), determined in the regulations of the European Commission. However, Latvia and Estonia have agreed on additional measures in the management of the herring stock. In spring during the herring spawning period both countries have one month long closed seasons for trawl fishery. This fishery restriction is not required by the EU regulations but has been agreed upon by both countries to diminish the fishery load during the spawning season. In Latvia this ban takes place from 12th May till 10th June, it can be shifted by two weeks taking into account the actual hydro-meteorological conditions. If Latvia or Estonia decides to shift the closed season it informs the neighbour country about this decision. One more common decision on the management of herring stock is the limitation of the number of fishing vessels and the engine power of the vessels targeting herring. This limitation has been introduced with the aim to restrict the increase of fishing capacity in herring fishery in the Gulf of Riga and to achieve balance between fishing capacity and the herring resources. In recent years due to scrapping of the fishing fleet in the frames of EU Fisheries fund this aim has been largely accomplished.

All other fish species of the Gulf of Riga are caught in the coastal fishery. These are mainly local stocks which are connected with certain river basins, therefore, shared management of these stocks is not necessary. This fishery is regulated by local management. Both in Estonia and Latvia this is mainly done by the limitation of the number of fishing gears and closed fishing periods which are aimed on protecting spawning fishes. In Estonia for some species also catch limits are used. Although shared management of these local stocks is not necessary the exchange of experience in this field would be much appreciated.

Figure 8: Coastal fisherman in Riga Bay (source: A. Mendrike)

In recent years the cooperation between managing authorities of Latvia and Estonia has been organized within international structures of the European Union, e.g. BaltFish, an organisation arranging the meetings of fisheries directors of the Baltic Sea countries (except Russia). The aim of this organisation is the development of common positions for the management of fish resources in the Baltic Sea.

For more than ten years till 2008 annual meetings of Latvia and Estonia in the fisheries field took place. Representatives of fishing authorities, scientists, fishermen and control institutions participated in these meetings. During these meetings the above mentioned regulations of herring fishery were concluded. Fisheries scientists reported about the state of the main fish stocks and about the most significant research topics. Other significant issues in management, fishery and control were discussed. Probably these regular meetings ceased because of the increase of fisheries coordination promoted by the European Commission. In the last decade several Baltic international nongovernmental institutions have been established, like the Regional Advisory Committee (RAC), which unites the representatives of national fisheries organisations as well as various environmentalist organisations. The opinion of the RAC is taken into account by the European Commission when setting TACs and introducing new management measures. Although the international multi-lateral cooperation has much broadened in the recent years it does not exclude bilateral links between the neighboring countries. Evidently the Estonian-Latvian meetings on fisheries could be brought back to life. However, the contents of these meetings should be made less routine. These meetings could be organised more thematically, i.e. each meeting could have its specific topic which is important in the current situation. At present such topics could be the introduction of a discard ban, new common fisheries policies, the development of aquaculture and others.

SWOT analysis of the Gulf of Riga fishery and restocking programs

Strengths	**Weaknesses**
• There are similar systems of fish restocking • Experienced and highly educated specialists involved in fishery industry • Domestic species are used in restocking • Experience in rearing of anadromous species (salmon, sea trout) • Similar registration of fishery events, good knowledge of the landings by species and gear • Fishermen's involvement in the process of reproduction	• Lack of knowledge in aquaculture sector for some stakeholders like fishermen etc. • Lack of educational programs for aquaculture (Latvia) • Insufficient cooperation in fish restocking • Poor involvement of fishermen in the management of fish resources • Unallocated catches
Opportunities	**Threats**
• Development of fishery in rivers • Broadening of cooperation in the management of fish resources • Development of cooperation between scientists and fishery sector • Involvement of fishermen in the assessment of fish resources • Involvement of fishermen in the development and conducting of restocking programs • Development of educational programs in aquaculture	• Salmon reproduction ban in new EU salmon management plan • Environmental factors deterioration in the areas of reproduction. • Distribution and increase in abundance of Invasive species • Increase of restocking expenses • Changes in market competition and pricing structure from other areas.

6 Lessons learned

The cooperation between fisheries scientists of both countries has a long traditions. At present this cooperation mainly occurs in the working groups of the ICES (International Council for the Exploration of the Sea) which is responsible for the assessment of main fish stocks of the Baltic Sea, as well as in meetings devoted to the implementation of national fisheries data collection programs. The case of the Gulf of Riga herring is special because all the data necessary for the assessment of the stock are collected only by Latvia and Estonia. Therefore, it is not surprising that also the main scientific survey is performed jointly – hydro-acoustic survey in the Gulf of Riga. This survey is carried out since 1999. Certainly the scientific cooperation is very important, since credible assessment of the state of the stock creates a solid basis for the management of the fisheries.

Trust between stakeholders and fisheries managers plays a vital role in the future of the Common Fishery Policy. Without active collaboration between them, even the best-drafted regulations founded on the best-researched science, and supported by carefully targeted subsidies can achieve little. Consequently it can be concluded that policy is only as good as its implementation.

No cooperative fisheries management arrangement can survive without a sound institutional and organizational structure. Even if coastal States sharing a resource have the capability of managing fishery resources within their domestic waters effectively, one has no justification in assuming that, in the absence of cooperation, the resource management outcome would be "adequate", that what we have referred to as the default option would be sufficient. Other than in exceptional cases, cooperation does matter. Moreover, cooperation is not to be seen, merely as a useful supplement to resource management by individual states. Rather, it is to be seen as a fundamental prerequisite for effective resource management.

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ANNEX

Acts relevant for fishery and aquaculture

Latvia

1) **Estonia; Latvia: Protocol to the Agreement between the Republic of Estonia and the Republic of Latvia on the Maritime Delimitation in the Gulf of Riga, the Strait of Irbe and the Baltic Sea, between the Prime Minister of the Republic of Estonia and the Minister President of the Republic of Latvia. 12 July 1996.**

Not later than one year after the Agreement between the Republic of Estonia and the Republic of Latvia on the delimitation of the maritime boundary in the Gulf of Riga, the Strait of Irbe and the Baltic Sea has entered into force, the Republic of Estonia shall undertake all duties relating to the maintenance of the buoys, the geographical coordinates of which are specified in this Agreement. The transfer of ownership of the buoys mentioned above shall be settled by the relevant authorities of the Republic of Estonia and the Republic of Latvia. Until the transfer of ownership and duties takes place, the maintenance of the buoys mentioned above shall be performed by the Republic of Latvia.

2) **European Union; Latvia: Council Regulation (EC) No. 58/1999 laying down for 1999 certain measures for the conservation and management of fishery resources applicable to vessels flying the flag of Latvia. 18 December 1998.**

From 1 January to 31 December 1999, vessels flying the flag of Latvia are hereby authorized to fish for the species listed in Annex I, within the geographical and quantitative limits laid down therein and in accordance with this Regulation, in the 200-nautical-mile fishing zone of the Member States in the Baltic Sea. Fishing for cod shall be prohibited in the Baltic Sea, the Belts and the Sound from 1 July to 20 August 1999 inclusive. Fishing authorized under paragraph 1 shall be limited to those parts of the 200-nautical-mile fishing zone lying seawards of 12-nautical-miles from the baselines from which the fishing zones of Member States are measured and south of 59°30' North. Notwithstanding paragraph 1, unavoidable bycatches of a species for which no quota is established in a zone shall be permitted within the limits fixed in the conservation measures in force in the zone concerned. Vessels fishing within the quotas fixed in article 1 shall comply with the conservation and control measures and all other provisions governing fishing in the zone referred to in that article. Fishing under the quotas fixed in Article 1 shall be permitted only where a license and a special fishing permit have been issued by the Commission, on behalf of the Community, at the request of the Latvian authorities and in compliance with the conditions set out in Annexes II and III.

3) **Cabinet of Minister Regulation No 296 (02.05.2007.) Industrial fishing rules in territorial and economic zone waters**

4) **Cabinet of Minister Regulation No 295 (02.05.2007.) Industrial fishing rules in inland waters**

5) **Cabinet of Minister Regulation No 503 (02.06.2009.) Rules for control and landing fish trade and transport facilities, warehouses and industrial premises**

6) **Cabinet of Minister Regulation No. 1015 (08.09.2009.) Procedures for the Issue of Special Permits (Licenses) for Commercial Activities in Fishery and Payment of the State Fee for the Issue of Special Permits (Licenses)**

7) **Cabinet of Minister Regulation No1375 (30.11.2009.) Rules for the industrial fishing limits and procedures for the use in coastal waters**

8) **Cabinet of Minister Regulation No1374 (30.11.2009.) Rules for the industrial fishing limits and procedures for the use in inland waters**

9) Latvia: Regulation No. 42 of Riga Harbor. 9 March 2006.

This Regulation establishes the modalities of entry and safe navigation in the defined area of water of Riga Harbor. Positioning of fishing gear in the harborage must be coordinated with the harbor master. Fishing gear must be positioned at a distance of no less than 100 meters from the boundaries of the navigating channel with prior information of the harbor inspector. Fishing gear shall be marked.

10) Latvia: Fisheries Regulation. 10 January 2006.

This Fisheries Regulation establishes the modalities of artisanal fishing by natural persons in the inland water bodies and in marine fishing areas, underwater hunting, capture of crayfish and other aquatic invertebrates by authorized fishing gear.

11) Latvia: Harbor Law. 22 June 1994.

This Law regulates the functioning of harbor and management thereof. It shall be applicable to the seaports of Riga, Ventspils and Liepaja. Article 23 establishes that small seaports shall be considered defined land territory, part of internal water, including internal and external roadstead, navigation routes and harbor facilities used for fisheries and fish processing. Article 24 specifies that rent for works and facilities used for fisheries and fish processing must not exceed five percent of cadastre value of land.

12) Latvia: Cabinet Regulation No.85 of 2001 regarding monitoring fish landings and inspection of fish marketing and transport facilities, warehouses and processing premises. 27 February 2001.

This Regulation prescribes the procedures for monitoring fish landing and inspecting fish marketing and transport facilities, warehouses and processing premises. The implementation of this Regulation shall, in conformity with their competence, be controlled by the State Environment Administration and of regional environmental boards attached to the State Environment Inspection of the Ministry of Environmental Protection and Regional Development.

13) Latvia: Instruction No. 1 of the Ministry of Agriculture on documentation required for propagation of fish resources. 14 February 2001.

These instructions determine the drawing up of documentation regarding recording and release of fish with respect to the release of young fish into bodies of water, intended for the purposes of realisation of the State budget sub-program "Fish Resource Enhancement", augmentation of fish resources and compensation of losses.

14) Latvia: Cabinet Regulation No. 327 regarding restrictions on the use of drugs for animals. 19 September 2000.

This regulation determines restrictions on the use of drugs for animals. The State Veterinary Service shall monitor compliance with the present regulation.

15) Latvia: Cabinet Regulation No.251 of 1998 on the registration of aquaculture animal farms, certification of river basin zones, control of infectious aquaculture animal diseases on farms and in river basin zones, and requirements applicable to the placing of aquaculture animals on the market. 14 July 1998.

This Regulation determines the procedures for registration of farms and certification of river basin zones, infectious diseases of aquaculture animals and the control of such diseases on farms and in river basin zones, requirements which aquaculture animals and aquaculture products intended to be placed on the market shall conform with, and the division of the territory of Latvia into river basin zones in

order to maximally ensure the possibility of avoiding pollution because of migration of aquaculture animals.

16) Latvia: Cabinet Regulation No.89 of 1998 regarding hygiene requirements and criteria for freshness and size for production and placing on the market of fishery products. 17 March 1998.

This Regulation determines the hygiene requirements and the criteria regarding freshness and size for the acquisition and production of fishery products intended for human consumption on fishing vessels and factory vessels, in treatment establishments and placing on the market thereof.

17) Latvia: Cabinet Regulation No.55 of 1998 regarding commercial fishing in the territorial waters and exclusive economic zone of the Republic of Latvia and in the Gulf of Riga. 17 February 1998.

This Regulation prescribes the procedures by which foreign natural persons and legal persons conduct commercial fishing in the territorial waters and exclusive economic zone of the Republic of Latvia and in the Gulf of Riga, as well as prescribes the conditions for surveys and protection of commercial fish resources.

18) Latvia: Fishing Law. 12 April 1995.

This Law regulates the catching, utilization, research, conservation, enhancement and monitoring of fish resources in inland waters, territorial marine waters and exclusive economic zone of the Republic of Latvia. Catching of fish resources in international waters in which the Republic of Latvia has been allotted a catch quota, or in the waters of other states with which Latvia has concluded agreements on fisheries, shall be regulated by regulated by relevant international agreements to which the Republic of Latvia is party.

19) Latvia: Law on the continental shelf and the exclusive economic zone. 2 February 1993.

The continental shelf of the Republic of Latvia is the seabed and the depths below it in submarine regions adjacent to the seacoast of the Republic of Latvia but which are beyond the boundaries of the territorial sea and extend to the boundaries determined in Section 3 of this Law. The exclusive economic zone of the Republic of Latvia includes the waters of the Baltic Sea beyond the territorial sea boundaries and which extend to the boundaries determined in Section 3 of this Law. Section 3 establishes that the boundaries of the continental shelf of the Republic of Latvia and of the exclusive economic zone of the Republic of Latvia with the Republic of Estonia, the Republic of Lithuania and the Kingdom of Sweden shall conform to the international agreements entered into by the Republic of Latvia with the Republic of Estonia, the Republic of Lithuania and the Kingdom of Sweden.

20) Russian Federation; Latvia: Peaceful Agreement between Russia and Latvia. 11 August 1920.

The Parties have agreed that water abstraction from border rivers and lakes leading to the reduction of average water level therein shall be prohibited. The modalities of navigation and fisheries in the aforesaid rivers and lakes shall be regulated by a separate agreement on condition that only fishing methods ensuring inexhaustible management of fish stocks shall be authorized. (art. 4).

21) United States of America; Latvia: Fisheries of the United States Coast-Agreement Between the United States of America and Latvia. 8 April 1993.

The purpose of this Agreement is to promote effective conservation and rational management of fisheries off the United States Coast, to facilitate the rapid development of the United States Fishing Industry and to establish common understanding of the principles and procedures under which fishing by nationals of Latvia of living resources over which the US has sovereign rights may be conducted.

Latvia has joined the following international conventions in the field of fisheries:

22) **1973 Convention on Fishing and Conservation of the Living Resources in the Baltic Sea and the Belts (Latvia joined on 10 September 1991);**

23) **1964 Convention on International Council for Exploration of the Sea (Latvia joined on 10 September 1991);**

24) **1977 Convention on future Multilateral Cooperation in the North-West Atlantic fisheries (Latvia joined on 3 June 1992);**

25) **1974 Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea Area (Latvia joined on 3 March 1994).**

Estonia

1) Law on the boundaries of the maritime tract, 10 March 1993

The present Law determines the "maritime tract" of Estonia, being the part of the marine area that borders with the mainland and which falls under the jurisdiction of the Republic. The bases for such determination are the Law of the Sea Conventions of Geneva of 1958 and New York of 1982. The "normal baseline" is defined as "an imaginary line which at low tide joins the points farthest from the shoreline of the mainland, islands, islets, rocks and single boulders". The coordinates of such baselines are specifies in Schedule 1. The internal sea is the part of the sea between the normal baseline of the territorial sea and the shorelines. The coordinates of the boundary of the territorial sea of twelve nautical miles are specified in Schedule 2. The EEZ the maritime zone beyond and adjacent to the territorial sea whose outer limits are determine in coordination with neighbouring States. Coordinates of the boundary of the EEZ are specified in Schedule 3.

2) Agreement between the Russian Federation and the Republic of Estonia regarding the delimitation of sea area in the Gulf of Narva and in the Gulf of Finland, 18 May 2005

The Parties have agreed that delimitation line of the sea area between the Russian Federation and the Republic of Estonia shall be based on the median line traced so that it each point thereof shall be equidistant point from the nearest point of the maximum fall of the tide along the shoreline (including islands) of both states.

3) Agreement between the Government of the Republic of Finland and the Republic of Estonia on the Boundary of Maritime Zones in the Gulf of Finland and the Northern Baltic Sea, 1996

The Parties hereby agree on the delimitation of the continental shelf and the fishing zone of Finland and the economic zone of Estonia. The boundaries of these maritime zones shall be constituted by straight (geodetic) lines that connect points indicated in article 2. The course of the boundary has been designated on a map attached to the Agreement. The starting point of the boundary is a point in the east on which agreement will be reached with "the third State concerned".

4) Agreement between the Government of the Republic of Estonia, the Government of the Republic of Latvia and the Government of the Kingdom of Sweden on the Common Maritime Boundary Point in the Baltic Sea, 1997

The Parties agree that the straight geodetic line referred to in article 3 in the Agreement between the Republic of Latvia and the Republic of Estonia on the maritime delimitation in the Gulf of Riga, the Strait of Irbe and the Baltic Sea, signed at Tallinn on 12 July 1996, shall connect to the border of the exclusive economic zone and the continental shelf of the Kingdom of Sweden at the point with the following geographical coordinates: 58° 01,440'N 20° 23,775'E. The point is defined in the World Geodetic System 1984.

5) Agreement between the Government of the Republic of Estonia and the Republic of Latvia on the Maritime Delimitation in the Gulf of Riga, the Strait of Irbe and the Baltic Sea, 1996

The Parties hereby agree on the delimitation of the territorial seas, continental shelf and the exclusive economic zones in the Gulf of Riga, the Strait of Irbe and the Baltic Sea. The boundaries of maritime zones in the Gulf of Riga, the Strait of Irbe shall be constituted by straight (geodetic) lines that connect points indicated in article 2. The course of the boundary has been designated on a map attached to the Agreement. The boundary in the Baltic shall be defined in accordance with the formula laid down in article 3. Parties shall notify each other regarding changes in baselines and limits of their territorial seas or exclusive economic zones and disputes between the Parties shall be settled through consultations and negotiations or any other means of peaceful settlement provided for by international law (art.s 4 and 5).

6) Protocol to the Agreement between the Republic of Estonia and the Republic of Latvia on the Maritime Delimitation in the Gulf of Riga, the Strait of Irbe and the Baltic Sea, between the Prime Minister of the Republic of Estonia and the Minister President of the Republic of Latvia, 1996

Not later than one year after the Agreement between the Republic of Estonia and the Republic of Latvia on the delimitation of the maritime boundary in the Gulf of Riga, the Strait of Irbe and the Baltic Sea has entered into force, the Republic of Estonia shall undertake all duties relating to the maintenance of the buoys, the geographical coordinates of which are specified in this Agreement. The transfer of ownership of the buoys mentioned above shall be settled by the relevant authorities of the Republic of Estonia and the Republic of Latvia. Until the transfer of ownership and duties takes place, the maintenance of the buoys mentioned above shall be performed by the Republic of Latvia.

7) Agreement Between the Government of the Kingdom of Sweden and the Government of the Republic of Estonia on the Delimitation of the Maritime Zones in the Baltic Sea, 1998

The Parties hereby determine and delimitation the continental shelf and the exclusive economic zones of the two States in the Baltic Sea. The delimitation follows the straight lines (geodetic lines) connecting the points with the geographical coordinates referred to in Article 2.

8) Agreement between the Government of the Republic of Finland, the Government of the Republic of Estonia and the Government of the Kingdom of Sweden on the Common Maritime Boundary point in the Baltic Sea, 2001

The Parties hereby determine the point where the maritime boundaries of the three States in the Baltic Sea coincide, taking into account agreements concluded between the Parties on the delimitation of the continental shelf and of the fishery and exclusive economic zones in the Baltic Sea. The lines of delimitation shall be drawn as straight (geodetic) lines to a common point following specified geographical coordinates. Reference is made to prior bilateral agreements on fisheries and the delimitation of the Continental Shelf between the parties to this Agreement.

9) Agreement between the European Community and the Government of the Russian Federation on cooperation in fisheries and the conservation of the living marine resources in the Baltic Sea, 2009

The objective of this Agreement is to ensure a close cooperation between the European Community and the Russian Federation on the basis of the principle of equitable and mutual benefit for the purpose of conservation, sustainable exploitation and management of any straddling, associated and dependent stocks in the Baltic Sea. To this end, the Parties set out joint management measures which deal with Total Allowable Catches, long-term management plans, limitation of fishing effort and issue of fishing licenses.

10) Law on Ship Flag and registers of Ships Act, 1998 (as consolidated in 2002)

This Law regards sea-going vessels, inland vessels and small craft. Permanent unique fishing numbers shall be assigned to fishing vessels. The instructions for formation of fishing numbers of fishing vessels and for marking fishing numbers on vessels shall be established by the Minister of Transport and Communications. Upon registration, a permanent unique official number shall be assigned to a ship. The Law consists of II Parts sub-divided into Chapters. Part I (chapts. 1-5) contains Law of Ship Flag. Chapter 1 concerns the issues of flying national flag of Republic of Estonia. Chapter 2 deals with papers of nationality. Chapter 3 concerns the issues of flying national flag of other state. Chapter 4 establishes the modalities of granting right to fly national flag of Republic of Estonia. Chapter 5 regards identification of ship. Part II (chapts. 1-4) deals with registers of ships. Chapter 1 lays down general provisions. Chapter 2 regards ship register. Chapter 3 regards register of small craft. Chapter 4 regards register of bareboat chartered ships.

11) Fishery Regulation establishing measures for the conservation and management of fishing resources in the Estonian EEZ, 1994

This Regulation establishes measures for the conservation and management of fishery resources in the Exclusive Economic Zone of Estonia. The National Estonian Board of Fisheries shall be responsible for the fishery management in the Estonian EEZ and the issue of fishing licenses. Foreign fishing vessels may be allowed to fish in the EEZ on the basis of bilateral agreements with the Estonian Government. Further provisions concern: (a) the duties and responsibility of fishermen; (b) the restrictions on the use of certain fishing methods; (c) minimum sizes; (d) mesh size; (e) bycatch; (f) enforcement measures; (g) special conditions for trawl and Danish seines fishery. Article 11 establishes the periods during which the fishing for certain species, specifically indicated therein, is prohibited. Specific provisions regulate the fishing for salmon and sea trout.

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14) The Food Act (2000)

Provides the basis for the handling of food and raw material for food for marketing purposes, the self-checking of a food business operator, and state supervision in order to ensure food safety and the

conformity of food to other requirements. Raw material for food and initial processing thereof includes also any natural product which is acquired by fishing.

15) Environmental Supervision Act (1997)

Supervision of fishing in waters outside the territorial jurisdiction of the Republic of Estonia is covered by the provisions of the Environmental Supervision Act. Supervision over fulfillment of the requirements of legislation regulating fishing and the conditions designated in a fishing permit, even in waters outside the direct jurisdiction of the Republic of Estonia, are exercised by the Ministry of the Environment.

16) Fishing rules, 1999

The procedure for fishing on all water bodies and the procedure for collecting aquatic plants determine: closed seasons for fishing, and prohibited areas; minimum fish sizes and the conditions for bycatch; restrictions on and requirements for fishing gear and methods; fishing gear types and specifications; requirements for marking fishing gear; and the method for calculating the proportion of Baltic herring and sprat in trawl catch.

17) The country is a party to the UN Law of the Sea Convention

18) The country is not a party to the FAO Compliance Agreement from 1993

19) The country is a party to the UN Fish Stocks Agreement from 1995

Latvia and Estonia as members of EU also must take into account following EU regulations in fishery sector:

1) Council Regulation 1006/2008

This Regulation lays down provisions governing the authorization for European Community fishing vessels to engage in fishing activities (i) in the waters under the sovereignty or jurisdiction of a third country in the framework of a fisheries agreement concluded between the European Community and that country; or (ii) in waters falling under the scope of conservation and management measures adopted in the framework of a regional fisheries management organization or similar arrangement to which the European Community is a contracting party or a non contracting cooperating Party. Moreover, this Regulation concerns the authorization for third country fishing vessels to engage in fishing activities in European Community waters. Details on reporting obligations are laid down as well.

2) Council Regulation (EC) No 2371/2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy, 20 December 2002

This Regulation lays down the Common Fisheries Policy, which covers conservation, management and exploitation of living aquatic resources, aquaculture, and the processing and marketing of fishery and aquaculture products where such activities are practiced on the territory of Member States or in Community waters or by Community fishing vessels or, without prejudice to the primary responsibility of the flag State, nationals of Member States.

3) Council Regulation (EC) No. 1224/2009

This Regulation establishes a European Community system for control, inspection and enforcement aimed at ensuring compliance with the rules of the common fisheries policy. These provisions apply to all activities covered by the common fisheries policy carried out on the territory of Member States or

in European Community waters or by European Community fishing vessels or, without prejudice to the primary responsibility of the flag Member State, by nationals of Member States. Specific rules are laid down as regards access to waters and resources, monitoring and control of the use of fishing opportunities.

4) Council Regulation (EC) No. 1098/2007 establishing a multiannual plan for the cod stocks in the Baltic Sea and the fisheries exploiting those stocks, amending Regulation (EEC) No. 2847/93 and repealing Regulation (EC) No. 779/97

This Regulation sets out a multiannual plan for the management of cod stocks and lays down provisions for fishing cod in the Baltic Sea. The plan aims at ensuring the sustainable exploitation of cod stocks by gradually reducing and maintaining the fishing mortality rates at levels no lower than those specified in article 4. Further provisions concern the procedure for establishing total allowable catches, as well as monitoring, inspection and surveillance.

5) Council Regulation (EC) No. 2187/2005 for the conservation of fishery resources through technical measures in the Baltic Sea, the Belts and the Sound, amending Regulation (EC) No. 1434/98 and repealing Regulation (EC) No. 88/98

The present Regulation establishes technical conservation measures applying to the taking and landing of fishery resources in the maritime waters under the sovereignty or jurisdiction of the Member States and situated in the geographical area specified in Annex I. The conservation measures refer to minimum mesh sizes, structure of permitted fishing gear, prohibited fishing gear, minimum landing size of fish and prohibited fishing areas.

6) Commission Regulation (EC) No 1281/2005 on the management of fishing licenses and the minimal information to be contained therein, 3 August 2005

In order to facilitate and ensure a homogeneous control of fishing activities, and in particular information on the license holder, the vessel, the fishing capacity and the fishing gear, the present Regulation lays down rules for the management of fishing licenses and establishes the minimum information to be contained in a fishing license.

7) Council Regulation (EC) No. 1005/2008

This Regulation sets out a European Community system to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing. This system applies to all IUU fishing and associated activities carried out within the territory of Member States, within European Community waters, within maritime waters under the jurisdiction or sovereignty of third countries and on the high seas. These provisions include rules on inspections of third country fishing vessels in European Community member States ports, a catch certification scheme for importation and exportation of fishery products, as well as provisions on identification of fishing vessels engaged in IUU fishing.

8) Commission Regulation (EC) No. 1010/2009 laying down detailed rules for the implementation of Council Regulation (EC) No. 1005/2008 establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing

This Regulation sets out detailed rules for implementing Council Regulation No. 1005/2008 establishing a European Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing. These rules cover in particular inspections of third country vessels in Member States ports, the catch certification scheme for importation and exportation of fishery products and sightings.

9) Commission Regulation (EC) No 2244/2003 laying down detailed provisions regarding satellite-based Vessel Monitoring Systems, 18 December 2003

The present Regulation lays down detailed rules for the operation by Member States of a satellite-based Vessel Monitoring System (VMS), as provided for in article 22(1)(b) and article 23(3) of Regulation (EC) No. 2371/2002.

10) Council Regulation (EC) No. 1224/2009

This Regulation establishes a European Community system for control, inspection and enforcement aimed at ensuring compliance with the rules of the common fisheries policy. These provisions apply to all activities covered by the common fisheries policy carried out on the territory of Member States or in European Community waters or by European Community fishing vessels or, without prejudice to the primary responsibility of the flag Member State, by nationals of Member States. Specific rules are laid down as regards access to waters and resources, monitoring and control of the use of fishing opportunities.

11) Commission Regulation (EC) No. 1010/2009

This Regulation sets out detailed rules for implementing Council Regulation No. 1005/2008 establishing a European Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing. These rules cover in particular inspections of third country vessels in Member States ports, the catch certification scheme for importation and exportation of fishery products and sightings.

12) Council Regulation (EC) No. 1098/2007 establishing a multiannual plan for the cod stocks in the Baltic Sea and the fisheries exploiting those stocks, amending Regulation (EEC) No. 2847/93 and repealing Regulation (EC) No. 779/97

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This Regulation lays down the Common Fisheries Policy, which covers conservation, management and exploitation of living aquatic resources, aquaculture, and the processing and marketing of fishery and aquaculture products where such activities are practiced on the territory of Member States or in Community waters or by Community fishing vessels or, without prejudice to the primary responsibility of the flag State, nationals of Member States.

14) Council Regulation (EU) No. 23/2010 of 14 January 2010 Commission Regulation (EC) No 356/2005 laying down detailed rules for the marking and identification of passive fishing gear and beam trawls, 1 March 2005

The present Regulation lays down detailed rules governing the marking and identification of passive fishing gear and beam trawls. As regards the scope, these rules shall apply to vessels fishing in Community waters. However, they shall not apply within the 12 nautical miles measured from the baselines of the coastal Member States.

Table 1: Responsible authorities in the Gulf of Riga

General Directorate for Fisheries			
Common Fisheries Policy (CFP), which refer to all fishing activities, the farming of aquatic resources as well as the processing and commercialization of fishery products. The most important areas of action of the common fisheries policy are: ➢ laying down rules to ensure Europe's fisheries are sustainable and do not damage the marine environment; ➢ providing national authorities with the tools to enforce these rules and punish offenders; ➢ monitoring the size of the European fishing fleet and preventing it from expanding further; ➢ providing funding and technical support for initiatives that can make the industry more sustainable; ➢ negotiating on behalf of EU countries in international fisheries organisations and with non-EU countries around the world; ➢ helping producers, processors and distributors get a fair price for their produce and ensuring consumers can trust the seafood they eat; ➢ supporting the development of a dynamic EU aquaculture sector (fish, seafood and algae farms); ➢ funding scientific research and data collection, to ensure a sound basis for policy and decision making.			
Latvia	Functions	Functions	Estonia
Ministry of Agriculture of Latvia, Fisheries Department, Division of Fishing Management and Fish Resources Republikas laukums 2, Riga, LV-1981, phone: +371 67323877, fax: 67334892, e-mail: zm@zm.gov.lv	➢ Development of fisheries policy and sector's strategy; ➢ elaboration of fisheries legislation, ➢ representation of sector interests and safeguarding of allocation of national quota at the international fisheries organisations, ➢ realisation of intergovernmental fisheries agreements, ➢ regulation and limitation of fishing activities and lease of fishing rights, organisation of fish product market, ➢ registration of fish buyers, ➢ maintenance of data base of fishing vessel register.	➢ deals with issues of aquaculture, fish production, processing and marketing of fish and fishery products, and fisheries-related structural policy. ➢ develops and implements fisheries policy for the fishing and fish processing industries ➢ economic development of the fisheries sector, which includes market organization system, implementing structural and state aid, organizing the aquaculture sector, organizing commercial fishing, administering fishing permits and maintaining records on fishing. ➢ deals with issues of aquaculture, fish production, processing and marketing of fish and fishery products, and fisheries-related structural policy.	Ministry of Agriculture, Fishery Economics Department, Laitn 39//Laitn 41, 15056 Tallinn, Estonia, phone: +372 625 6101, fax: +372 625 6200, e-mail: pm@agri.ee
The State Environment Service, Marine and Inland Waters Administration (under the competence of the Ministry of the Environmental Protection and	➢ controls compliance with environment protection regulations in Latvian marine waters and fishing in Latvian marine and inland waters, international waters and	➢ the comprehensive responsibility for the Estonian fisheries control ➢ EEI is responsible for the administrative control and control in	Estonian Environmental Inspectorate (EEI) of the Ministry of Environment, Milstrand Terminal, Randvere Tee 5, 74001 Viimsi Vald Harjumaa,

Regional Development), Voleru iela 2, Riga, LV-1007, phone: + 371 67469664, fax: + 371 67465888, e-mail: jiup@jiup.vvd.gov.lv	waters of the EU member states and third countries; ➢ issues licenses and logbooks for fishing in Latvian marine and inland waters; ➢ ensures the functioning of fishing vessel monitoring system and fish landing control system in Latvian ports; ➢ approves contingency plans for ports, wharfs and terminals, and port waste management plans; ➢ collects, compiles and provides information on marine environment quality and use of natural resources in frames of its competency; ➢ carries out other duties stipulated in bylaws of MIWA.	ports. EEI is also responsible for the control of fisheries at sea. ➢ Fisheries Resources Department manages and adjusts: ➢ development and amending of the Fishing Act and its sub-acts; ➢ international fisheries cooperation; ➢ within its competence, the fisheries cooperation in view of accession to the EU (adoption of EU legislative acts, preparation of programs, etc.); ➢ scientific research of fish resources and reproduction; ➢ fishing-related accounting, fish protection and surveillance; ➢ fishing efforts and assessment of the use of resources, based on which the regular and special fishing permits are issued; limited fishing permits and permits for recreational fishing are issued by the County Environmental Departments; ➢ in cooperation with the County Environmental Departments, plans for and conducts surveys on implementation of Section 014,55, of the "Fishing Permit Fees" of the national budget; ➢ development of the specialised environmental program's subprogram for fisheries and ensures precise and sustainable use of the funds assigned to it.	Tallinn, Estonia, phone: +372 6 055 979, fax: +372 6 055 974, email: estonia@inspectorate.ee Ministry of the Environment, Fish Resources Department, Narva mnt 7a, 15172 Tallinn, Estonia, phone: (+372) 6262 802; fax. (+372) 6262 801, e-mail: keskkonnaministeerium@envir.ee
The Institute of Food Safety, Animal Health and Environment "BIOR" Lejupes Street-3, Riga LV-1076, Latvia	➢ carry out scientific activities in food, veterinary, environmental and fisheries sectors and in other sectors of biology; ➢ provide an expertise, scientific substantiation and risk assessment for	➢ fisheries data collection and scientific advice formulation ➢ The main purpose of the Marine Institute is research to enhance the knowledge and understanding of the	The Estonian Marine Institute, University of Tartu Mäealuse 14, 12618 Tallinn, Estonia phone: (+372) 6718 902

Phone: +371 67620513 Fax: +371 67620434 e-mail: bior@bior.gov.lv	sectoral development policy; ➢ implement execution of national data collection programs for fisheries sector, scientific activities and state monitoring needs in the field of food quality and safety; ➢ to implement projects to assess the risk in the field of food safety and animal infectious diseases; ➢ to carry out fishery inspections and provide scientific substantiation for environment-friendly, rational and sustainable management of fish resources in the inland and coastal waters of Latvian jurisdiction, territorial waters and waters of the economic zone of the Baltic Sea; ➢ to implement a state policy on reproductive capacity of fish stocks through the implementation of activities of the Fish Resources reproductive state program;	Marine sphere in Estonia and the Baltic Sea region. ➢ one of the biggest marine organizations in Estonia and contributes to research in several marine study fields. ➢ studying the molecular genetics of salmonid fish; ➢ quality of farmed fish; ➢ development of new and improved technology for production of new species in Estonia (sturgeon, crayfish, salmon); ➢ fish parasitology.	fax. (+372) 6718 900 e-mail: toomas.saat@ut.ee
			Fisheries Information Centre
			Department of Fish Farming of the Institute of Veterinary Medicine and Animal Science of the Estonian Agricultural University Kreutzwaldi 48, 51006 Tartu, Estonia Phone (+372) 731 3481 Fax: (+372) 731 3489 e-mail: tiit.paaver@emu.ee
Union of Latvian Fish Processing Industries Atlantijas iela 15, Riga, Latvia LV-1015, Telephone: +371 26364252 Fax: +371 67496401 E-mail: info@cannedfish.lv	The Union of Latvian Fish Processing Industry (ULFPI) is a public organization, in which the leading Latvian fish processing enterprises are united by the direction of basic activity — the production of canned fish. The task of the ULFPI is to promote the interest of its members in Latvia and abroad, with the purpose to achieve the best possible conditions for the development of the branch. The ULFPI is a member of the Employers' Confederation of Latvia, the Latvia Marketing Board and the Latvian Federation of Food Enterprises. The association is represented in the advisory board of the Latvia Fishing Industry and in several work groups of mediating institutions.	Aims to promote fish farming in Estonia by means of information exchange, training etc. and to represent the interests of fish farmers in governmental institutions.	Estonian Fish Farmers´ Association Kreutzwaldi 48 Tartu 51006 Phone (+372) 5275015 e-mail: carpio@hot.ee
Latvian Fisheries Association	➢ representation of sector interests ➢ influence the legislative and regulatory	➢ the development of cooperation with the members of the association and	Estonian Association of Fishery

Ganibu dambis 24 D, cabinet no 608, Riga, Latvia, LV-1005, phone: +371 67383197, e-mail: zv.flote@dtg.lv	preparation and adoption process, ➢ participate in the fisheries development and fish resources protection issues	with order professional associations, as well as with national and municipal associations, and associations in private law from Estonia and abroad. ➢ the promotion on members interests in governmental bodies and in authorities of the European Union; making proposals in view of improving the legislation ➢ gathering fishing information and analysis thereof, as well as rendering informational services ➢ arranging the presentations of the members production on exhibitions, fairs, liaison events, and competitions ➢ the analysis and evaluation of various commercial projects directly or indirectly related to fishery and fish processing, as well as of national and foreign aid programs, the representation of the members in those projects and programs ➢ the development of fishery policy in accordance with the fishery policy of the European Union	Peterburi tee 2F (Ülemiste Ärimaja IV korrus) 11415 Tallinn Phone (+372) 6221300 fax: (+372) 6221302 e-post: kalaliit@online.ee
Kurzeme Fishermen Association Melluzu prospects 66a-3, Jurmala, Latvia, LV-2008, phone/fax:"+ 371 67351037, e-mail: apens@mail.elva1.lv	➢ representation of sector interests ➢ influence the legislative and regulatory preparation and adoption process, ➢ participate in the fisheries development and fish resources protection issues	The members of the cooperative hold 48% of the historical sprat-fishing rights issued in Estonia and 43% of the Baltic herring-fishing rights.	Estonian Fishing Association Peterburi tee 2F 11415 Tallinn, Eesti Tel: +372 50 23 860 E-mail: info@estofish.ee
Latvian Fishermen Federation O.Kalpaka iela 92-25, Liepaja, Latvia, LV-3405, phone: + 371 63486871, fax: + 371 63486871, e-mail: federacija@apollo.lv	➢ Latvian fishing traditions, ➢ industry development, ➢ promote public participation in fisheries management and governance in the Latvian law	The Estonian Fishermen's Association comprises 6 sections: distant-water fishery; Baltic cod fishery; open Baltic trawl fishery; coastal Baltic trawl fishery; Baltic coastal fishery; and the inland water fishery (Lakes Peipsi and Võrtsjärv).	Estonian Fishermen's Association Tuule 1A, 93816 Kuresaare, Estonia, phone: +372 50 23 860, fax: +372 45 44 082, email:undrest@hotmail.com andresvarik@hot.ee

Local municipalities	responsible for the management of fish resources and the lease of fishing rights in the Baltic Sea coastal waters and in inland waters.	responsible for the management of fish resources and the lease of fishing rights in the Baltic Sea coastal waters and in inland waters.	Local municipalities