Estonia is a sea and coastal country on the Eastern shore of the Baltic Sea. The territory of Estonia is small – 45,227 km²; the length of our coastline, however, is 3,794 km. Good location and long coastal line created favourable conditions for seafaring and fishing already thousands of years ago.

Estonian fisheries are diverse, comprising different directions: deep sea and coastal fishing, inland fishing and aquaculture (Figure 1). Estonian fishermen catch most of the fish from the Baltic Sea, but fish of inland waters and the production of aquaculture are also represented in the industry and trade.

The Baltic Sea is one of the biggest inland seas in the world. The Baltic Sea has low salinity (8…10‰) and is therefore rather species-poor. At the same time, the fish populations of the Baltic Sea are rather abundant. Around 1% of the oceanic catch is caught from here. There are about 100 different fish species living in the Baltic Sea, out of which sprat, Baltic herring, flounder and cod are caught the most.

The largest body of water in Estonia is Lake Peipus (3,555 km² together with the part belonging to Russia), which is maintained together with the Russian Federation. Lake Peipus’s fish fauna is species-rich. Today, 37 fish species are living in Lake Peipus and the lower course of rivers-streams, which flow into the Lake Peipus. Pike-perch and perch are the most demanded fish on the market.

Lake Võrtsjärv (271 km²) is Estonia’s second largest internal body of water with rather intense commercial fishing. 31 fish species live in Lake Võrtsjärv and its inflow estuaries; based on the catch size, the main industrial fish have been bream, pike-perch, eel and pike.
The catches from coastal fisheries include many different species of fish. Economically speaking, the most significant ones of these are Baltic herring, perch, smelt, flounder, garfish, pike-perch, roach and vimba bream. The equipment used for coastal fishing consists mainly of traps, nets and long lines. Fish are the most important catches in coastal fishing; however, harvesting of the red forkweed *Furcellaria lumbricalis* also plays a significant role.

Industrial fishing from inland waters is done in a considerable rate on Lake Peipus and Lake Võrtsjärv. Perch, bream, pike-perch, roach, pike, eel and lamprey are the fish caught the most (Figure 2). Nets, traps, pound nets and demersal seines are used as the main fishing equipment.

Estonian deep-sea fishing takes place in the Atlantic Ocean. Mostly shrimp is caught. In addition to shrimp, important species are also redfish, Greenland halibut, ray, American plaice and rough rattail. Trawls are used for fishing.

In 2011, commercial fishermen caught 63,351 tons of fish from the Baltic Sea (and 690 tons of *Furcellaria lumbricalis* were harvested), 16% of which came from coastal fisheries. 2,632 tons were caught from inland waters. 66% of the fish caught from the Baltic Sea in 2011 was sprat and 32% was Baltic herring. 83% of the fish caught from inland waters was Baltic herring (Figures 3 and 4).

Fishing in the open sea of the Baltic Sea is regulated by fishing quotas; fishing on coastal and inland waters is regulated by the number of fishing gear.

Baltic Sea fishing accounts for the majority of commercial fishing (65% in 2011). The amount caught in deep-sea fishing from the Atlantic Ocean (18% in 2011) forms a rather small share from the Estonian total fishing capacity, but its value significantly exceeds fishing in the Baltic Sea and inland waters. This is because fish caught in deep-sea fishing are regarded to be high-value fish species, whereas the main species of the Baltic Sea – Baltic herring and sprat – are considered to be low-value species.

Our fish fleet in 2011 consisted of 42 vessels dealing with fishing in the Baltic Sea and 5 vessels in the Atlantic Ocean. As of 31 December 2011, 867 coastal fishing boats and 443 inland fishing boats were registered in the Fisheries Information System.
**Figure 2.** Commercial fishing on inland waters according to fish species in 2011 (%)

- 30% Perch
- 27% Pike-perch
- 25% Bream
- 9% Roach
- 5% Pike
- 4% Other

*Source: Ministry of Agriculture*

**Figure 3.** Commercial fishing with trawls from the Baltic Sea in 2011, according to fish species (%)

- 66% Sprat
- 32% Baltic herring
- 2% Cod

*Source: Ministry of Agriculture*

**Figure 4.** Commercial coastal fishing in 2011, according to fish species (%)

- 83% Baltic herring
- 8% Perch
- 2% Flounder
- 1% Smelt
- 1% Garfish
- 1% Pike-perch
- 4% Others

*Source: Ministry of Agriculture*
**AQUACULTURE**

Aquaculture – keeping or farming water organisms with the technology that helps to achieve a larger amount of production than enabled by natural environmental conditions – compensates more and more for the decreasing fish stocks.

Aquaculture largely depends on the import of juvenile fish and fish eggs, because Estonia does not have any reproduction centres of breeding material. The production capacity of Estonian aquaculture has reached up to 2000 tons per year in its peak years and fallen to the level of less than 300 tons with the dissolution of collective and state farms. After acceding to the European Union in 2004, the production capacity of Estonian aquaculture started to grow again (Figure 5).

The main directions of fish farming are commercial fish farming and fish farming to populate natural waters. Also crayfish are farmed in Estonia. Moreover, fish farmers provide angling tourism services. Throughout times, mostly rainbow trout and carp have been farmed in Estonia, but thanks to new technologies, possibilities have been created to farm whitefish, pike-perch, perch, sturgeon, Arctic char, eel and tilapia. Rainbow trout, which is also farmed in fish tourism enterprises, is the most important by volume (Table 1).

| Table 1. Annual production volumes of aquaculture from 2005–2011 (tons) |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| Fish species    | 2005  | 2006  | 2007  | 2008  | 2009  | 2010  | 2011  |
| Rainbow trout   | 451.0 | 520.2 | 622.0 | 648.5 | 789.6 | 584.0 | 621.6 |
| Carp            | 43.9  | 79.7  | 28.1  | 69.8  | 73.6  | 60.6  | 82.4  |
| Eel             | 39.8  | 40.0  | 45.0  | 47.0  | 30.0  | 30.0  | 12.0  |
| Crayfish        | 2.3   | 0.8   | 2.8   | 2.2   | 10.8  | 5.7   | 2.5   |
| TOTAL           | 554.1 | 702.6 | 781   | 814.2 | 971.3 | 764.6 | 750.9 |

*Source: Statistics Estonia*

**Figure 5. Farming and sales of aquaculture products in the years 1999–2011 (tons)**

*Source: Statistics Estonia*
FISH PROCESSING AND CONSUMPTION

Fish processing forms about a tenth of the Estonian food industry, but the relevance of fish products in the export of food products accounts for almost a quarter – in 2011, 10.8%, 24.6%, respectively (Table 2). 61.5 thousand tons of consumer fish products were produced in 2011, including 3.8 thousand tons of canned and 57.7 thousand tons of other fish products (Figure 6).

The main directions in Estonian fish processing are frozen fish; salted, spiced, dried, deep frozen and coated fish; producing preserves and ready-to-eat foodstuffs (Figure 7). Frozen fish and canned products are aimed at the eastern market and to Central and Eastern European markets. Ready-to-eat products are marketed both to the eastern as well as western markets. A large share of the product range is also represented in the domestic market.

As of 17 April 2011, the Veterinary and Food Board has approved 82 fish handling enterprises that process fish and make fish products.

Table 2. Relevance of fish processing in the processing industry and food industry in the years 2002–2011

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of fish processing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in the processing industry, %</td>
<td>3.3</td>
<td>2.5</td>
<td>2.2</td>
<td>1.4</td>
<td>1.6</td>
<td>1.2</td>
<td>1.4</td>
<td>1.6</td>
<td>1.5</td>
<td>1.3</td>
</tr>
<tr>
<td>Percentage of fish production</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in the food industry, %</td>
<td>14.8</td>
<td>12.3</td>
<td>11.9</td>
<td>8</td>
<td>9.4</td>
<td>7.4</td>
<td>7.8</td>
<td>9.1</td>
<td>10.5</td>
<td>10.8</td>
</tr>
<tr>
<td>Percentage in food export, %</td>
<td>36.9</td>
<td>31.9</td>
<td>24.9</td>
<td>22</td>
<td>26</td>
<td>20.3</td>
<td>20</td>
<td>23.4</td>
<td>23.5</td>
<td>24.6</td>
</tr>
<tr>
<td>Number of handling units</td>
<td>97</td>
<td>95</td>
<td>96</td>
<td>100</td>
<td>90</td>
<td>89</td>
<td>91</td>
<td>88</td>
<td>86</td>
<td>82</td>
</tr>
</tbody>
</table>

Sources: Statistics Estonia, Veterinary and Food Board
Figure 6. Production of the fish industry in the years 2000–2011 (thousand tons)

Figure 7. Structure of the fish industry’s production in 2011 (% of the total volume)

Source: Statistics Estonia

Sources: Statistics Estonia, Ministry of Agriculture
EXPORT

The export of fish and fish products accounted for 15.7% of the total export of agricultural products (HS 1-24) in 2011. 119 thousand tons of fish and fish products were exported in 2011 in the sum of 153 million euros (Table 3, Figure 8). According to amounts exported, frozen fish is exported the most – 73 thousand tons were exported in 2011, which formed 61% of the export of fish and fish products (Figure 9). Regarding the monetary value, the biggest share of export of fish and fish products was also formed by frozen fish (29%), followed by crustaceans (21%) and preserved fish and preserves (17%) (Figure 10). Canned fish is mostly exported to the eastern market and Central and Eastern European market. Fish fillets mostly go to the western market.

Table 3. The dynamics of the export volumes of fish and fish products in the years 2001–2011

<table>
<thead>
<tr>
<th>Year</th>
<th>Fresh and frozen fish (Group 03), tons</th>
<th>Fish products and preserves (Group 1604; 1605), tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>101 537</td>
<td>46 314</td>
</tr>
<tr>
<td>2002</td>
<td>63 692</td>
<td>62 134</td>
</tr>
<tr>
<td>2003</td>
<td>54 099</td>
<td>58 224</td>
</tr>
<tr>
<td>2004</td>
<td>45 818</td>
<td>38 069</td>
</tr>
<tr>
<td>2005</td>
<td>76 706</td>
<td>51 086</td>
</tr>
<tr>
<td>2006</td>
<td>71 739</td>
<td>46 872</td>
</tr>
<tr>
<td>2007</td>
<td>73 665</td>
<td>41 102</td>
</tr>
<tr>
<td>2008</td>
<td>80 663</td>
<td>40 659</td>
</tr>
<tr>
<td>2009</td>
<td>88 529</td>
<td>32 070</td>
</tr>
<tr>
<td>2010</td>
<td>100 551</td>
<td>30 389</td>
</tr>
<tr>
<td>2011</td>
<td>94 230</td>
<td>24 861</td>
</tr>
</tbody>
</table>

Sources: Tax and Customs Board, Ministry of Agriculture
**Figure 9.** The export of fish and fish products in 2011 (% of the total volume)

- 61% Frozen fish
- 20% Fish preserves and products
- 10% Crustaceans
- 3% Fish fillet
- 1% Canned crustaceans
- 5% Others

**Source:** Ministry of Agriculture

**Figure 10.** The export of fish and fish products in 2011 (% of monetary value)

- 29% Frozen fish
- 21% Crustaceans
- 17% Fish preserves and products
- 16% Fish fillet
- 7% Dried, salted and smoked fish
- 4% Canned crustaceans
- 6% Chilled fish

**Source:** Ministry of Agriculture
FISHERIES POLICY

The Ministry of Agriculture pays a lot of attention to increasing the sustainability of fisheries as an economic branch in the conditions of limited fish resources. In short, the Estonian fisheries policy can be summarized in three pillars:

- Implementing a fishing order that facilitates the improvement of fish stocks.
- Helping the fisheries sector to adapt to the decreased fishing opportunities.
- Improving surveillance throughout the whole fish handling chain.

Fishing opportunities have to be established according to the real situation of fish stocks. Fish stocks cannot be sacrificed for short-term economic and social goals; the key to the economic sustainability of the fisheries sector is restructuring and cooperation – these are Estonia’s positions in forming the fisheries policy.

Estonia has managed to bring its fishing fleet into harmony with fishing capacity and existing fish resources. This means that the vessels that have remained catching fish can be maintained efficiently.

An important goal of the Estonian fisheries policy is supporting fishermen - ensuring that the price they receive for their catch guarantees the economic sustainability of their profession. For that purpose, the government has supported the establishment and operation of trawling producer organisations and locally initiated activities in coastal areas.

Support of the European Fisheries Fund (EFF) 2007–2013

The European Fisheries Fund was established at the European Commission to support sustainable fisheries. In the years 2007–2013, the European Union co-finances fisheries support. The Estonian fisheries sector can be supported with 112.8 million euros from the EFF resources during seven years. Together with Estonian co-financing, the average annual support sum is about 14.7 million euros.

14 measures are implemented in the framework of the programme period; these measures are divided between five axes (Figure 11):

- Axis 1 “Adjustment of Community fishing fleet”;
- Axis 2 “Aquaculture, inland fishing, processing and marketing”;
- Axis 3 “Measures of common interest”;
- Axis 4 “Sustainable development of fisheries areas”;
- Axis 5 “Technical assistance”.

Figure 11. Implementation of the European Fisheries Fund 2007-2013, as of 31 December 2011 (million euros).

Source: Ministry of Agriculture
There is a measure 4.1 “Sustainable development of fisheries areas” established in the Implementation Plan of the European Fisheries Fund 2007–2013, which gives Estonian coastal fishermen and organisations active in coastal areas the possibility, for the first time, to plan the future of fisheries and coastal villages together and compile a development strategy for the region. The purpose of the measure mentioned before is to support the fishermen who are active in regions that are in socio-economic difficulties due to the changes that have taken place in the fisheries sector as well the fisheries sector in general; facilitating the sustainable development of fisheries areas; improving the quality of life and developing joint activities.

Regional fisheries organisations have compiled development strategies for their region and started to implement them. An important activity is the development of fishing ports, the most progress is expected to be seen in the field of marketing – fishermen will be closer to the final consumer with their catch and therefore receive a higher price for their work.

Estonia has been divided into eight fisheries areas: island of Hiiumaa, island of Saaremaa, Pärnu County, Lake Peipus, western region of the Gulf of Finland, eastern region of the Gulf of Finland, Lake Võrtsjärv and Lääne County. Each area has its Local Action Groups (Figure 13), which consist of coastal fishermen, fisheries enterprises, local governments and non-profit organisations. All important decisions in the development of the fisheries area are made on the level of the action group.

In the framework of the sustainable development measure, support can be applied for the following activities (Figure 12):

- renewal of fish ports and unloading sites (52.5% of the measure’s total support);
- processing fisheries products and marketing products straight from the producer to the consumer (direct marketing) or to the retail business, who will market the products directly to the consumer (14.3%);
- developing tourism related to fisheries and reviving coastal villages (18.5%);
- diversification of activities (10.4%);
- training activities (4.5%).

The Fisheries Network Unit has been established to support Local Action Groups. The task of the network is to promote the exchange of knowledge and experience, to support the initiation of cooperation, and to spread knowledge and best practices.
**Figure 13.** Fisheries areas and Local Action Groups

- NGO Harju Kalandusühing
- NGO Virumaa Coastal-fishermen Union
- Development Association of Lake Peipsi Fishery Area
- NGO Liivi Lahe Kalanduskogu
- Läänemaa Coastalfishing Association
- NGO Hiiukala
- West Estonian Islands Fisheries Partnership NGO
- Lake Võrtsjärv Fisheries Development Agency