ESTONIA

FISHERIES
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 3794 km. Good location and long coastal line created prerequisites for sea faring and fishing already thousands of years ago.

Estonian fisheries is 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 is also represented in the industry and trade.

The Baltic Sea is one of the biggest inland sea in the world. The Baltic Sea has low salinity (8…10‰) and therefore, it is rather species-poor. At the same time, the fish populations of the Baltic Sea are rather abundant. Around 1% of the ocean’s 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.

Estonian biggest internal water body is Lake Peipus (3555 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 the second biggest Estonian internal water body 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.
**Figure 1. Structure of Estonian commercial fishing and fish farming in 2010 (% of the total volume)**

- 71% Deep-sea fishing from the Baltic Sea
- 13% Fishing from the Atlantic Ocean
- 12% Coastal fishing
- 3% Inland fishing
- 1% Fish farming

**Source:** Ministry of Agriculture

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**FISHING AND FISH STOCKS**

The Estonian fisheries sector uses the resources of the Baltic Sea and inland waters; Estonia also has access to the fish resources of the Northwest Atlantic (NAFO), Northeast Atlantic (Spitsbergen and NEAFC) and Southwest Atlantic. The condition of internationally regulated fish stocks is assessed by international research organisations. Year after year, the assessments about the situation of stocks are becoming more critical and therefore, the recommendation is to decrease fishing effort. The situation of inland fish stocks mostly depends on fishing effort, climate and the efficiency of surveillance.

Sprat and Baltic herring caught from the Baltic Sea are economically important for Estonia. The situation of their stocks is regarded good in the Estonian exclusive economic zone but the stocks are decreasing. The stocks of god and salmon are regarded unsatisfactory.

Fishing in the Baltic Sea is divided into deep-sea fishing and coastal fishing. Deep-sea fishing catches are sprat, Baltic herring and cod. Trawls are mostly used.

Many different fish species are caught in case of coastal fishing. Baltic herring, perch, smelt, flounder, garfish, pike-perch, roach and goldfish are economically more important. Traps, nets and longlines are mostly used as fishing equipment.

Industrial fishing from the inland waters is done in a considerable rate on Lake Peipus and Lake Võrtsjärv. Perch, bream, pike-perch, roach, 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 2010, commercial fishermen caught 79,572 tons of fish from the Baltic Sea, 14% of which accounts for coastal fishing. 2,769 tons were caught from inland waters. 70% of the fish caught from the Baltic Sea in 2010 was sprat and 29% was Baltic herring. 82% 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 (72% in 2010). The amounts caught in deep-sea fishing from the Atlantic Ocean (13% in 2010) form 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 fish species.

Our fish fleet in 2010 consisted of 53 vessels dealing with fishing in the Baltic Sea and 6 vessels in the Atlantic Ocean. As of 31 December 2010, 873 coastal fishing boats and 430 inland fishing boats were registered in the Fisheries Information System.
Figure 2. Commercial fishing on inland waters according to fish species in 2010 (%)

Source: Ministry of Agriculture

- 44% Perch
- 21% Bream
- 19% Pike-perch
- 8% Roach
- 8% Other

Figure 3. Commercial fishing with trawls from the Baltic Sea in 2010, according to fish species (%)

Source: Ministry of Agriculture

- 70% Sprat
- 29% Baltic herring
- 1% Cod

Figure 4. Commercial coastal fishing in 2010, according to fish species (%)

Source: Ministry of Agriculture

- 82% Baltic herring
- 8% Perch
- 4% Smelt
- 2% Flounder
- 1% Garfish
- 3% Others
AQUACULTURE

Aquaculture – keeping or farming water organisms with the help of technology, which is targeted to receive a bigger 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, the production capacity of Estonian aquaculture has 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 houting, 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 2004–2009 (tons)

<table>
<thead>
<tr>
<th>Fish species</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainbow trout</td>
<td>394.3</td>
<td>451.0</td>
<td>520.2</td>
<td>622.0</td>
<td>648.5</td>
<td>789.6</td>
</tr>
<tr>
<td>Carp</td>
<td>47.4</td>
<td>43.9</td>
<td>79.7</td>
<td>28.1</td>
<td>69.8</td>
<td>73.6</td>
</tr>
<tr>
<td>Eel</td>
<td>7.0</td>
<td>39.8</td>
<td>40.0</td>
<td>45.0</td>
<td>47.0</td>
<td>30.0</td>
</tr>
<tr>
<td>Crayfish</td>
<td>0.2</td>
<td>2.3</td>
<td>0.8</td>
<td>2.8</td>
<td>2.2</td>
<td>10.8</td>
</tr>
<tr>
<td>TOTAL</td>
<td>448.9</td>
<td>537.0</td>
<td>640.7</td>
<td>697.9</td>
<td>767.5</td>
<td>904.0</td>
</tr>
</tbody>
</table>

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 almost accounts for a quarter – in 2010, 10.5%, 23.5%, respectively (Table 2). 63.6 tons of table-fish products (excluding canned products) were produced in 2010. In addition, 1.3 thousand tons of canned and 62.3 thousand tons of other fish products were produced in 2010 (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 Middle- 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.

86 fish handling enterprises have been approved by the Veterinary and Food Board (as of 15 February 2011), where fish are being processed and fish products made.

<table>
<thead>
<tr>
<th>Table 2. Relevance of fish processing of the processing industry and food industry in the years 2001–2010</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Percentage of fish processing in the processing industry, %</strong></td>
</tr>
<tr>
<td>2001</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>3.5</td>
</tr>
<tr>
<td><strong>Percentage of fish production in the food industry, %</strong></td>
</tr>
<tr>
<td>14.2</td>
</tr>
<tr>
<td><strong>Percentage in food export, %</strong></td>
</tr>
<tr>
<td>43.1</td>
</tr>
<tr>
<td><strong>Number of handling units</strong></td>
</tr>
<tr>
<td>109</td>
</tr>
</tbody>
</table>

**Sources:** Statistics Estonia, Veterinary and Food Board
**Figure 6.** Production of the fish industry in the years 2000–2010 (thousand tons)

**Figure 7.** Structure of the fish industry’s production in 2009 (% of the total volume)

- 48% Frozen fish
- 35% Salted, spiced, dried, deep-frozen fish
- 6% Fresh and chilled fish
- 4% Smoked fish
- 2% Culinary fish products
- 5% Canned fish

**Source:** Statistics Estonia, Ministry of Agriculture
EXPORT

The export of fish and fish products accounted for 17.0% of the total export of agricultural products (HS 1-24) in 2010. 131 thousand tons of fish and fish products were exported in 2010 in the sum of 135 million euros (Table 3, Figure 8). According to amounts exported, frozen fish is exported the most – 78 thousand tons were exported in 2010, which formed 59% 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 formed by preserved fish and preserves (23%); these were followed by frozen fish (23%) and crustaceans (21%) (Figure 10). Canned fish is mostly exported to the eastern market and Middle- 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 2000–2010**

<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>2000</td>
<td>72 702</td>
<td>13 950</td>
</tr>
<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>
</tbody>
</table>

Sources: Tax and Customs Board, Ministry of Agriculture

**Figure 8. The export of fish and fish products in the years 2006–2010 (thousand tons, million euros)**
Figure 9. The export of fish and fish products in 2010 (% of the total volume)

- 59% Frozen fish
- 22% Fish preserves and products
- 12% Crustaceans
- 3% Fish fillet
- 1% Canned crustaceans
- 3% Others

Source: Ministry of Agriculture

Figure 10. The export of fish and fish products in 2010 (% of monetary value)

- 23% Fish preserves and products
- 23% Frozen fish
- 21% Crustaceans
- 16% Fish fillet
- 7% Dried, salted and smoked fish
- 3% Canned crustaceans
- 2% Chilled fish
- 5% Others

Source: Ministry of Agriculture
FISHERIES POLICY

The Ministry of Agriculture draws a lot of attention on 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 such a fishing order which 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 Estonian 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 fish that have remained catching fish can be maintained efficiently.

Supporting fishermen, so that they would receive a price for their catch, which ensures their economic sustainability, is very important in the Estonian fisheries policy. For that purpose, the establishment and functioning of trawling producer organisations and activities in coastal areas, based on local initiative have been supported.

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

The European Fisheries Fund has been 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, which are divided between five axes (Figure 11):

- Axis I “Adjustment of Community fishing fleet”;
- Axis II “Aquaculture, inland fishing, processing and marketing”;
- Axis III “Measures of common interest”;
- Axis IV “Sustainable development of fisheries areas”;
- Axis V “Technical assistance”.

Figure 11. Implementation of the European Fisheries Fund 2007–2013 (as of 31 December 2010)

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 before mentioned measure is to support the fishermen who are active in regions, which are in socio-economic difficulties due to the changes, which have taken place in the fisheries sector and the fisheries sector in general, facilitating the sustainable development of fisheries areas, improvement of the quality of life and development of joint activities.

Regional fisheries organisations have compiled development strategies for their region and started to implement them. An important activity is the development of fish ports, biggest 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 bigger pay for their work than so far.

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 consists of coastal fishermen, fisheries enterprises, local governments and non-profit organisations. All important decisions in the development of the fisheries area are done 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, support the initiation of cooperation and spread knowledge and best practices.
**Figure 13.** Fisheries areas and Local Action Groups

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