Russian and Baltic states fishery developments

by Ann Shriver

While accurate information about developments in the fisheries of the former USSR is somewhat difficult to obtain, certain trends have been remarked on by Russian, Baltic State1[1], and international observers, and some data is available to support them. The objective of this research is to collect, assess, crosscheck, analyze, and collate the information which is available, and to draw conclusions about important recent trends in the development of the fisheries and markets of these states.

Data and reports were collected in all of the usual ways, but also through several newer methods which enabled the author to collect recent "gray" (unpublished) literature. These involved posting questions to several electronic lists focussing on these geographic areas and corresponding electronically with helpful and knowledgeable individuals in order both to gather informal assessments and request more formal, written reports 2[2]. Searching the World Wide Web, also proved a fruitful exercise, as, several useful documents containing both opinion and data were found. Due to the difficulty in acquiring current, accurate, official data on these countries, the importance of the "results" of this research lie both in the body of the paper, and perhaps more than usual, in its bibliography.

Significant Declines in Catch Levels

The former USSR was among the world's foremost fishing nations in both fleet size and catch levels, with landings exceeding 11 million metric tons by 1988. Evidence of tins is seen in Figure 1. In 1994, two thirds of the Russian catch came from the Northwestern Pacific region, about 18% from the northeastern Atlantic, and 10% from the central, eastern, and southeastern parts of the Atlantic Ocean. Figure 2 provides a breakdown of the constituent parts of the former Soviet Union catch, by country, while Figure 3 presents available landings data for recent years on the newly independent slates of Latvia, Estonia, and Lithuania.

1[1]The term "Baltic States" will be used in this paper to refer to Estonia, Latvia, and Lithuania.

1[2]The author wishes to thank in particular Robert Aps of the National Estonian Board of Fisheries and Lena Westlund of the U.N. Food and Agriculture Organization for generously providing data, personal observations, and documents. She also wishes to thank Richard S. Johnston of Oregon State University, Torbjoern Trondsen and Frode Nussen of the Norwegian College of Fishery Science for helpful comments, updates and corrections. Any errors of fact or interpretation, however, are hers alone.

Figure 1. Source: FAO statistical Yearbooks, American Embassy Moscow 1995

Figure 2. Source: FAO Statistical Yearbooks, various years
Some question the accuracy of Russian data, indicating that when the ex-Soviet fleet fishes in foreign EEZs. It is often without monitoring and it is an obvious advantage to them not to report correct catch figures, neither weight nor species. This reimbursement for quotas is paid by a percentage of the catch. The Soviet fleet is often operating under joint ventures with other countries, and then the catch is reported to the respective countries." (Icecon. 1991, section 3.2). The U.S. State Department (American Embassy, Moscow. 1995. p.26) reports on the serious problem of poaching, as committed both by Russian and foreign vessels in Russian waters, which would tend to bias the official figures downwards as compared with the actual situation.

Further to the issue of accuracy is the problem that Russia is a huge country: using even such limited national-level data as is available masks very important regional differences between, for example, the Russian Far East (Vladivostok. Khabarovsk) and the Northwest (Murmansk, Kaliningrad) regions. Where possible, distinctions will be pointed out.

Despite the potential for inaccuracies in the official figures, it seems clear that the declines in catch have been severe. The reasons cited for these are many. Countries which have introduced Exclusive Economic Zones (EEZ) are increasingly demanding compensation for fishing in their waters, a phenomenon which has adversely affected Russia's large but cash-poor distant water fleet. A second set of problems is internal to Russia, and related to the adjustments which must be made by the fleet as it functions within the new market regime.

These include the "disintegration of the former administrative structure of the country's economy" as it goes through the transformation to a market economy, and "enormous price increases plus delivery costs to the fishing grounds" for the 6 million tons of fuel consumed by the fleets. "More than 50% of the [Russian] fleet is worn out and ship-owners have not got the financial means for its repair, modernization or new construction, which previously was provided by the state.
The fleet was originally built in response to artificially tow subsidized fuel prices and stable marketing arrangements which existed under the old regime. Even worse, due to the "progressive aging of the Russian fishing Heel the fuel consumed per ton of harvested fish will grow from 7 (1990) to 9 tons (1995)” (Kaczynski, 1995). Now that they have to pay hard currency prices for fuel, Russian captains must often resort to bartering their catch for fuel, while the Department of Fishery Industry in Sakhalin (the Russian Far East) traded up to 1 of tie annual quota (about 1.5 million ions of 1'sh) to Japanese and Korean fishermen in exchange for fuel from these countries (FNI, 12/94).

One factor in the decline in the Baltic States catches has been the loss to these countries of access they enjoyed as part of the USSR to some fishing grounds and quotas, due to difficulties in securing necessary international agreements (Box 9 CL 107/2). However, even in Russia, direct heir to the USSR's international licenses, "only 50% of quotas for fishing were used in the economic zones of Japan, the Republic of Korea, South Korea, Norway, the Faroes, Greenland, Canada, Sweden, Morocco and Mauritania in 1993" (Fridman, 1994). Overall, the Russian Federation was able to use only 87.5% of its 1993 quotas, "because of lack of fuel, spare parts, operation capital to pay fishermen's salaries or adequate vessels" (Kaczynski, 1995).

Kaczynski reports that Russian fishing activities are being reoriented "towards the development of fishing in the Russian inshore waters of Russia, (sic), utilization of the species that are not conventionally used, and strict protection of the species that are heavily exploited." To this end, fleets are being pulled back from distant waters; Fridman (1994) reports that the proportion of Russian catch taken in Russia's EEZ rose from 30% in 1975 to 46% in 1990, and 66% in 1992. In 1994, 76.9% of Russia's catch came from its own EEZ (Korelsky, 1995). Table 1 indicates the longer-term national level trend.

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<tbody>
<tr>
<td>1. Fishing Zone of Russia</td>
<td>51</td>
<td>60</td>
<td>68</td>
<td>78</td>
</tr>
<tr>
<td>2. Inland water basins</td>
<td>8</td>
<td>7</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>3. 200-miles zones of foreign</td>
<td>27</td>
<td>20</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>countries</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4. Open waters</td>
<td>14</td>
<td>13</td>
<td>5</td>
<td>3</td>
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</table>

Source: American Embassy, 1995, p. 17

While Russia intends to increase its catch from foreign waters from 600,000 to 1 million metric tons, it also hopes to take advantage of some 700,000 ml. of unexploited resource in Russian Far Eastern waters (Korelsky, op cit).
Some important inter-regional differences are masked by this data. Some sources[3] indicate that the pullback info the Russian EEZ may be a Stronger force in the Far East region than in the Northwest. The Northwest fleet's main Fishing grounds remain the Northeast and West Atlantic, and international waters in the far North (arctic) regions.

Finally, one caveat to the conclusion that the Russian catch-trend is downward. The U.S. Embassy in Moscow reports that "after the recession of 1991-94, and beginning this year, the catch increased noticeably", pointing to a 6% increase in catch over the January-May period of 1995 over the same period of the previous year. This is attributed to political factors, including promises of tax cuts, extension of preferential credits, and removal of some catch restrictions in the Pacific fisheries (American Embassy, Moscow. 1995. p. 8). As the Russian government becomes more adept at motivating a market economy, and efficiency improves following the significant adjustments which are being made, we may observe a flattening in the downward trend or even gradual improvements in catch levels.

Fleet Reductions and Declines

Russian Federation Fleet Many authors have documented the serious decline in the state of the former Soviet fleet, both in numbers and in state of repair. Kaczynski (1995), for example, states that "during the period 1992-1995 the fishing fleet is to be cut by approx. 20% (nearly 500 ships). At the same time the support fleet will be reduced by approximately 146 vessels (the 44 % reduction)."(p.6)

Table 2: Russian Federation: Planned Fleet Reductions

<table>
<thead>
<tr>
<th>Class of Vessel</th>
<th>No. of Ships Reduced</th>
<th>Loss of harvest (mt.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Super Factory Trawlers</td>
<td>5</td>
<td>27.000</td>
</tr>
<tr>
<td>Large Factory-Trawlers</td>
<td>350</td>
<td>2,245.000</td>
</tr>
<tr>
<td>Medium Size Trawlers</td>
<td>315</td>
<td>1,022.000</td>
</tr>
<tr>
<td>Small and coastal vessels</td>
<td>367</td>
<td>411,000</td>
</tr>
<tr>
<td>Commercial/training ships</td>
<td>4</td>
<td>10.000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1041</strong></td>
<td><strong>3.715.000</strong></td>
</tr>
</tbody>
</table>

Source: Kaczynski 1995

He includes a table from the 1992-1995 National Fisheries Development Programmer which details both the vessels to be removed from the fleet, and the projected impact on catch (Table 2). The extent to which this data reflects harvest

declines which will take place in the near future vs. declines which have already taken place is unclear; however, it does at least partially explain the decrease in Russian landings. From this, we may also conclude that the downward trend of Russian catches will not easily be reversed.

According to Kaczyński, the Russians plan to renew the fleet at a cost of over US$ 1,017 billion in domestic shipyards, plus over US$ 2.8 billion to renew and maintain existing vessels, of which about half would be required in foreign exchange, but their ability to raise this needed capital is doubtful.

As to the progress on privatization of the Russian Fishing fleet, Fridman (1994) reported that privatization took place at 45% of fishing enterprises in October, 1993, while BANK (1995) reports that “about 65% of the Fishing companies and 90% of the distribution industry have been privatized”. Russian fishing in the Baltic Sea is carried out primarily by fishing cooperatives of the Leningrad and Kaliningrad regions, and a smaller proportion by the large joint stock companies which are mostly engaged in ocean fishing, but own several small trawlers which can operate in the Baltic (Kukhorenko, 1994. p-4.)

Fleets of the Baltic States.

Estonia, Latvia, and Lithuania declared their independence from the USSR prior to 1990, and “declared national sovereignty over all assets located on the territory of the respective countries. Each country also declared the extent to which it would be responsible for a portion of the external debt burden”. Thus, they became the possessors of the distant water fleet enterprises limited within their respective borders, and also the owners of large debts. Although all three countries have declared their intentions to privatize these enterprises, the process is being held up to varying degrees by the “considerable uncertainty over their legal and financial stands...[The] transfer of assets has effectively left Estonia, Latvia and Lithuania with loss-making enterprise which are no longer viable for which the State, in many ways, continues to be budgetary responsible.” (Kern, 1995, p. 1).

Since the Baltic states are currently struggling with an aging and inefficient fleet, the legal hassles of inheriting the debts and obligations of the former USSR, and the high cost of running and maintaining the fleet, they have also expressed their intentions to concentrate fishing effort in the North Atlantic, particularly within their NAFO quotas. They will not be pursuing the reestablishment of bilateral fishing agreements with African and other nations (Kern, 1995.pp.9-10).

Table 3 provides detail on the size of the Baltic States' fishing fleets, both distant water and near shore (Baltic; Sea), and approximate catch levels for 1990. As to the state of these fleets, the Icecon (1991) report mentions that the Baltic fleets are, in general, in poor condition and

**Table 3: Baltic Fleets, 1990**
Baltic Sea fleet  |  vessels  |  Estonia |  Latvia |  Lithuania |
--- | --- | --- | --- | --- |
Distant water fleet  | vessels  |  115 |  208 |  48 |
On-board processing  | vessels  |  70 |  91 |  121 |
Transport & services  | vessels  |  20 |  31 |  11 |
Catch in lakes/aquaculture  | mt.  |  3.000 |  800 |  100 |
Catch in Baltic  | mt.  |  60.000 |  61.700 |  17.500 |
Catch in distant waters  | mt.  |  295.000 |  351.990 |  420.000 |

**Source:** Icecon, 1991, Annex 6.1.

that "of 371 Baltic vessels, 167 are obsolete and ibis applies to 127 of the distant water fleet of 282 vessels" (section 8.2). This report also mentions the practice of bartering fish for new equipment, especially fish-finding equipment, on the Danish island of Bornholm. An investment of US$ 30,000-40,000 in the smaller vessels fishing in the Baltic has increased the catch of these vessels threefold. Refitting the distant water Fleet and the 21 of the 67 processing vessels which are capable of modification would be much more expensive, totaling some US$ 23 million.

As a final comment on the status and future of the Baltic states’ fleets, modelling to assess the appropriate capacity of the fleet fishing in the Baltic Sea has indicated that "the fleets of all the countries that are heavily dependant on pelagic species, have to be restructured if they should undertake a profitable fishery based on normal competitive market conditions,...it is clear that either a substantial modernization of the existing vessels have to be carried out, or the old vessels have to be scrapped and new vessels purchased or constructed." (Frost, 1994).

The extent of privatization among the Baltic states varies, although each of the governments has expressed the intention of fully privatizing their industries. In Latvia, 7 major enterprises are either share holding or joint stock companies and own 50% of that nation's Baltic-fishing fleet. An unspecified proportion of the rest is owned by "80 fisheries companies and individual entrepreneurs." (Reikstins, 1994). Latvia's distant water fleet of about 60 vessels is currently owned by one "state enterprise" and one "state joint stock company" which are "scheduled for privatization". (Business with Latvia. 1994) The entire Estonian Baltic-fishing fleet of 181 small vessels is privately owned by fishery companies (Linkoja. 1994). Its distant water fleet has been reduced from 70 vessels in 1990 to 56 vessels in 1993 in the process of privatization (FAO, 1993, p. 4). Lithuania's distant water fleet, as of 1993, remained state-owned, although "profit oriented and not subsidized at all. These businesses are now in a difficult financial situation...Private sector development is so far only concerned with inland and coastal fisheries" (FAO. Op cit. p. 6). Of the Baltic fleet of Lithuania, in 1994 comprised of 65 vessels, 9 vessels remained in state hands, the rest being owned by joint stock or private companies (Unknown, Warnemunde Conference, 1994). Some 72 small-scale private fisheries companies have been registered since 1991.
Exports Increasing

Despite marked declines in catches from the levels of the late 1980’s, exports of fish and fisheries products from nations which have devolved from the USSR are strong and rising. Over the period 1990-1993, Dr. Chuksin of Atlant NIRO points out that the volume of fish exported “rose by 2.6 limes (from 521 to 1,335 thous. t.)” (Chuksin. 1994). He further states that “fish imports decreased by 3 times by volume and almost by 4 times by value during 1989-1991.” This phenomenon is not surprising given the need for foreign currency to pay for fuel, equipment, new technology, and maintenance of the huge and decrepit fleet. Holding resources of foreign currency also functions as a hedge against rampant inflation of the ruble.

The tendency to export is further exacerbated by the pent-up demand for consumer goods which drives every newly-opening economy. An anecdotal example of how this works was related by a German student who had observed this phenomenon. In recent years large Russian trawlers, having offloaded their cargo of fish for hard currency, would dock at German ports to fill their holds with used cars, which would in turn be transported to the Russian Baltic ports of Kaliningrad and St. Petersburg to be sold into the local semi-legal market for large quantities of local currency[4].

Figure 4 provides what limited data is currently available in printed form from the FAO Yearbooks of Fishery Statistics. As of 1992, the FAO began to break down data from the former USSR into its constituent republics. The 1992 “USSR” figures, therefore, are a combination of the exports or imports from the various constituent states which made up the USSR until 1991, including the Baltic Republics. In 1992, approximately 58% by volume of Russia’s exports were Pollock products, including surimi. By value, other important export products include salmon, cod, crab, and squid. No information is available in the same classifications from the FAO for years after 1992. The exports data for “Russia only” in 1993

![Figure 4. Source: FAO Statistical Yearbooks, Kaczynski 1995](image)

and 1994 in figure 4 is drawn from Kaczynski (1995), who quotes the "Russian State Statistics Committee and Sovrybflot" as his source. The interesting thing about the data is that although the 1993 and 1994 figures purportedly do not include trade from the other republics, exports from Russia alone are exceeding by larger amounts each year, those from the entire USSR in prior years. Thus the amount of seafood available for domestic consumption by the Russian people is drastically reduced (see section below on consumption).

Table 4: Fish Import Data for 1985-1994 in the Russian Federation, in 1000s MT

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<tbody>
<tr>
<td>MT</td>
<td>150</td>
<td>150</td>
<td>200</td>
<td>160</td>
<td>160</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>220</td>
<td>230</td>
</tr>
</tbody>
</table>

* According to the Fishery Committee, of the Russian Federation (Rosrybkoz)
Source: American Embassy, 1995, p. 8

The imports situation is better illustrated by more recent data, seen in table 4. While imports declined drastically during the early adjustment years (1991-93). They recovered markedly in 1994-95. Trondsen explains it this way, for the Northeast Russia region: Norwegian exports of fish to the Baltic States, Ukraine, and Russia were 110,000 and 219,000 metric tons respectively in 1994 and 1995, at an average price of about 3 kroner per kilogram. Imports from the same countries were 90,000 and 110,000 tons, at an average price of 9 kroner per kilo. The Russians apparently quickly corrected any excessively low prices for their exported cod, and are using some of their income to import cheaper herring, mackerel, and pollock, to meet at least some portion of the strong domestic demand for fish[5]. It is not clear whether this phenomenon holds true for the Far East region.

Figure 5 is included to demonstrate that while the source of most of the former USSR's exports was the Russian Federation, a significant proportion did come from the Baltic States. The historic markets for fish from Estonia, Latvia, and Lithuania have been within what used to be known as the "Eastern Bloc". Until 1990, Latvia typically exported 60% of its production to the USSR, and another 10% to other Eastern European markets, while the remaining 30% was consumed locally (Icecon, 1991). Materials from the Latvian Development Agency indicated that "as eastern markets...are more accessible from the financial point of view, the current trend of primarily addressing these markets will continue in the future" (Business with Latvia, 1994). Icecon also reported in 1991 that most of Estonia's canned products were destined for Russia, while frozen processed products were sold both to Russia and Western European markets, as quality standards were high enough for both markets. Lithuania was also capable, at that time, of producing some products to Western European specifications, though most of the exports were destined for the USSR. At the FAO Warnemunde conference in 1994, the Lithuanian representative indicated that the export markets for Lithuanian products in the Russian Federation had become "to some extent complicated,

[6] This may seem contradictory to the data on average prices of exports and imports presented in a previous section. This is explained by the fact that the earlier quoted prices refer only to trade with Norway, while Friedman is referring to all trade, and for an earlier period.
because we have to compete with the local fish prices which are lower" (Unknown, Demande and Prices, 1994).

Detailed export data for the Baltic Republics remains elusive. However, one phenomenon which has been reported for both Russia and the Baltic Republics is the trend of bartering fish for goods. This was reported as early as 1991 in the Icecon report, which indicates that "individual vessels have been landing fish. Mainly cod in Bornholm, Denmark and receiving payment in the form of equipment for installing in the vessels" (Icecon 1991). A representative of the Danish Fish Processing Industries and Exporters complained at the FAO Warnemunde conference about the "various measures taken by the European Union regarding imports from for instance the Baltic states. The European Union has especially in 1993 done a lot to harass landings in the European Union, especially on the Danish Island.

Russia has also been observed in this activity, as alluded to above. Norwegian imports of cod tripled between 1989 and 1993, mainly due to a change in the Norwegian law which allowed foreign vessels to land fish directly at processing plants without the need to apply for permits. "The processors chose a new strategy and started importing cod directly, mainly from Russian fishing vessels. This became a new possible strategy because of the collapse of the former USSR communist regime. This revolution matched perfectly the need for supply of raw materials to the Norwegian processors as far as timing is concerned... lack in supply of raw materials from Norwegian fishermen have been compensated by supply from Russian fishermen." (Dryer. 1994). At least some of this Barents Sea cod is purportedly caught illegally. Kaczynski (1995) says that 1993 and 1994 exports of Barents Sea cod from Russia to Norway were, respectively 112,000 mt and 129,000. The temporarily low price of this cod caused complaints of price disruptions to fishermen throughout Western Europe, but Kaczynski predicted that in 1995. "Problems in Western Europe created in early 1993 and 1994 by under priced cod from Russian exporters" will not be as much of an issue, and that much less illegal cod will be caught by the Russians in the Barents Sea due to their declining fleet capacity. Tronsden (ibid) indicates that this prediction with regard to prices was quickly realized as the Russians learned fast about market pricing: by early 1996 they received higher prices for their cod in Norway, than did Norwegian vessels, receiving a premium for the stability of their supply. As to Kaczynski's prediction of a decline in the volume of Russian Barents-Sea cod trade with Norway, Tronsden's earlier-quoted figures on the contrary would indicate that these remain strong and rising.

In 1994, the Russian Federation passed "new regulations forcing Russian companies to deliver much higher... volumes of seafood to the domestic market...The maximum limit of exported volume [is to be] 31.5% of the total

![Figure 5. Source: FAO Yearbook](image-url)
production in 1993. In the case of fresh fish exports, the exports quota is equal to
58% of the 1993 fish quotas.” (Kaczynski, 1995). Thus a leveling off or even a
decline in Russian export, may be observed this year. 1995 quotas for pollock are
the same as in 1994, but catch may continue to decline due to the poor shape of
the stocks (the Russians have observed a decrease in the size of pollock caught)
and the poor condition and high costs of the Russian fleet. Cod quotas for the
Russian Far East and the Barents Sea for 1995 are 407,000 mt, slightly less than
the 1994 catch levels of 450,000 mt. (Kaczynski, op cit). These factors, in
combination with the new regulations, could constrain Russian exports.

Fish Consumption Declining. Domestic Prices Increasing

Throughout the limited existing literature on the Russian fisheries, one constantly
reads of serious declines in the domestic consumption of fish, due to the drive to
export and price inflation. Fridman (1994) points out that the fish catch per capita in
Russia is the same as it was in 1913. But domestic consumption has suffered from
the fact that “the average price of exported Russian fish is approximately 2.5 times
lower” than the world average (p. 133)[6]. This accounts for the decline in fish
consumption in Russia from 22.5 kilograms per person in 1985, to just 9.4 kg in
1994 (Fedorenko. 1994 and BANR. 1995). Fish consumption in the Baltic
Republics suffered major declines as well, as illustrated in Table 3. In their case,
the declines in consumption may be due primarily to declines in catch.

Table 5: Fish Consumption in the Baltic Republics

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<tbody>
<tr>
<td>Latvia</td>
<td>24</td>
<td>14</td>
<td>13.7</td>
<td>14</td>
</tr>
<tr>
<td>Lithuania</td>
<td>18.6</td>
<td>19.2</td>
<td>10.5</td>
<td>8.4</td>
</tr>
<tr>
<td>Estonia</td>
<td>25</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
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Sources: Lithuanian Representative to FAO Warnemunde Conference, BAFICO
Seminar on Baltic Herring

Prices of fish in the USSR have risen, and continue to rise drastically as they have
for all consumer products. This is caused by "price liberalization, sharp rise in fuel
and other supplies prices, tariffs of transportation and services, high discount rates
of banks for credits granted, etc." (Chuksin, 1994, p. 6). Chuksin points out that the
rise of frozen and chilled fish prices is greater than that of other food products, so
that fish prices now approach those of beef. Average prices have increased in the
provides a shocking list of price increases for various fish products, must of which
rose from 200-400% between 1994 and 1995, at both wholesale and retail markets
in Vladivostok and Moscow. Thus it could be said that the Russian fish consumer
has been the biggest loser of all in the process of the reorientation of the Russian
economy, even greater than the Western European fisherman who is out competed
by low-priced Russian cod.
Conclusions

This paper has attempted to describe the general situation of the Russian and Baltic State fisheries as they currently exist, and to identity important trends which emerged over the last 4-5 years. The trends identified include important declines in overall catch of all fisheries products, serious reductions and declines in fleet capacity, an increase in exports, a decline and subsequent surge in fish imports, but nevertheless serious declines in domestic fish consumption in these countries. Caveats to these general conclusions are that significant inter-regional differences exist within the Russian Federation, which make some of those trends more important in one region than another. Further, some improvement in catch levels over the past year provide hope for a stowing or reversal of the declines as the government adapts to the new situation. The root causes of these developments have included the difficulties of adjustments to the drastic changes in prices of infrastructure and important inputs such as fuel which have occurred as impediments to the market economy were removed or changed. Adjustments to the rigors of international trade and the political and social disruptions throughout the region have taken their toll as well.

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Unknown source, probably OF.CD or FAO: Box 9: Fisheries. Contains 5 numbered paragraphs providing data on importance of fisheries in Russia and Baltic states, shares and recent developments, prospects for near future. Page 146, CL 107/2.

