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Saury fishery in the Northwest Pacific by Russian vessels in 2019 and preliminary results of fishery in 2020

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Fishing for Pacific saury by Russian vessels in 2019

The Russian vessels traditionally fished saury off the southern Kuril Islands mainly within the Russian EEZ from August to November. In recent years fishing begins in open waters in June, continues in the Russian EEZ in mid-August, and ends in open waters in November-December. Traditionally, most of the saury catch fell on the Russian EEZ. The maximum catch by Russian vessels was reached in 2007 and amounted to 109 thousand tons. However, there has been a significant decrease in the catch of saury by Russian vessels in the last 5 years (figure 1). At the same time the number of fishing vessels has significantly decreased in recent years. In connection with the large-scale migrations of sardine and mackerel in the Russian EEZ in the last 5 years, most of the fishing vessels that used to work in the saury fishery have switched to the sardine and mackerel fishery.

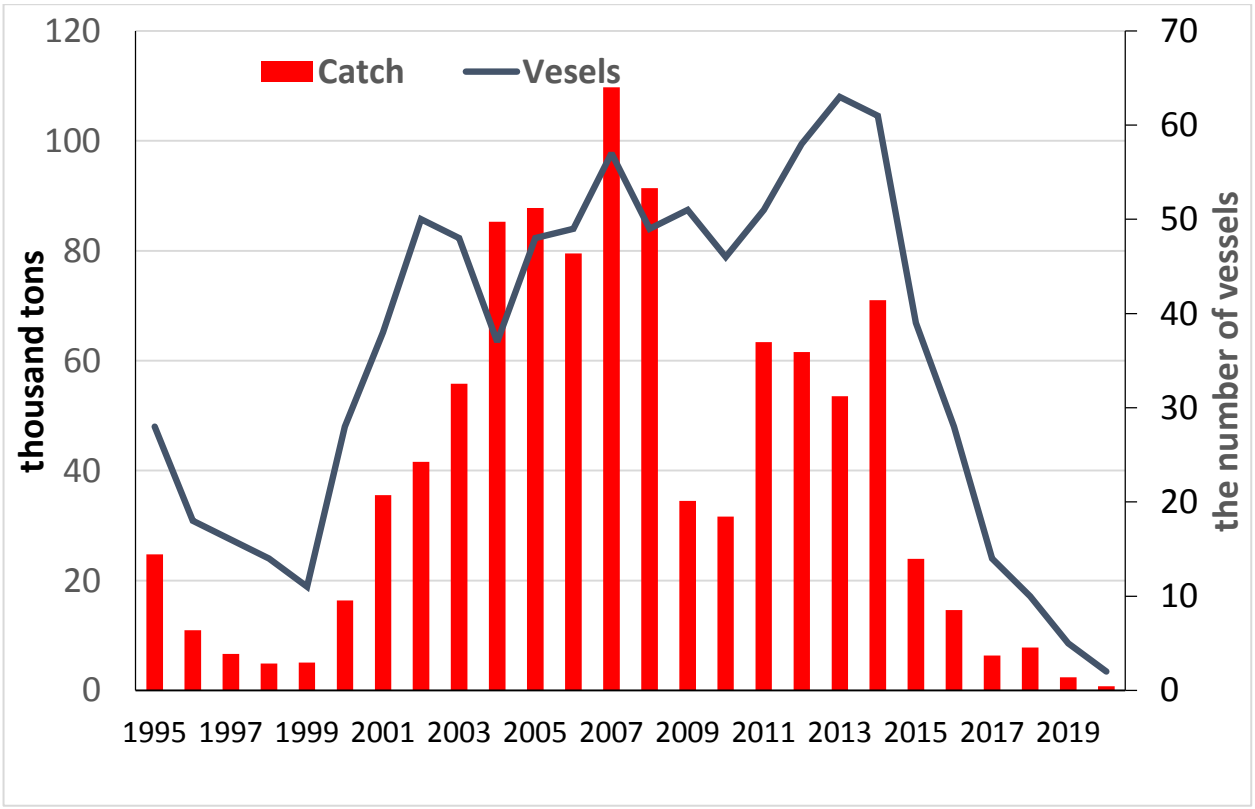

Figure 1. Dynamics of the total catch of saury by the Russian vessels and the number of vessels in fishing seasons 1995-2020

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The saury fishery began on May 21 by Russian vessels during the 2019 fishing season. Fishing was carried out in the open waters of the northwestern Pacific Ocean - in the area of the Emperor Seamounts (Fig. 2). 3 vessels caught 93 tons by the end of May. The average catch per vessel per day (CPUE) varied from 1 to 19 tons (average 6.7 tons) it was significantly lower than in 2018 for the same period.

3 fishing vessels continued to fish during June 2019. Fishing was carried out in the area with central coordinates 41°00 'N and 166°10'E at the beginning of the month. During June 2019 fishing vessels moved to the eastern areas and at the end of the month fishing was carried out in the zone to the east of 170°E in contrast to the previous year when in June the vessels gradually moved to the north-west with the migrating saury. At least 100 foreign vessels (Japanese, Korean, Taiwanese and Chinese) operated in this area beside Russian vessels. Fishing efficiency in June increased compared to May. Daily catch per vessel on some days reached up to 20 tons, but generally varied from 6 to 10 tons.

During July saury fishery was carried out in the mixing zone of subtropical and subarctic waters at a distance of more than 200 miles away from the border of the Russian EEZ. The catch efficiency was low (CPUE 5-7 tons).

The catch efficiency did not increase in August 2019. Saury was practically not fished. Most of the time the vessels were in search for saury schools. In the area of the Central and Southern Kuril Islands within EEZ of Russia saury schools did not observed.

4 Russian saury vessels continued to search for saury schools in the mixing zone of subtropical and subarctic waters in September 2019. The search covered the water area from 40°30 'to 44°00' N. and from 156°00 to 162°00 E but any schools suitable for fishing were not found.

In October 2019, 4 Russian vessels searched for and fished saury stocks in the Russian EEZ close to periphery of the Northern Subarctic Front. The fishing efficiency increased in October. Daily catches of some vessels exceeded 50 tons.

4 Russian vessels searched for and fished saury in the Russian EEZ during the first half of November 2019. In the second half of November 2019, the vessels moved to open waters and searched for saury stocks near the Northern Subarctic Front. Bad weather conditions hampered fishing. The daily catches for vessel usually did not exceed 20 tons. Russian vessels completed the saury fishery on November 25. A total of 2.4 thousand tons were caught during the 2019 fishing season.

As in 2016-2018 the key aspect of the distribution of saury stocks in the summer-autumn period of 2019 in the north-western part of the Pacific Ocean was that the main feeding migrations of saury took place at a great distance from the coast and a significant part of the stocks in August-September approached the Central and

Northern Kuril Islands, as well as the coast of Kamchatka and the Aleutian Islands. A very small amount of saury approached the area of the Southern Kuril Islands, and the schools were very thin in the traditional Russian saury fishing grounds. The suitable for fishing school of saury reached the waters in the Russian EEZ only in the second half of October 2019.

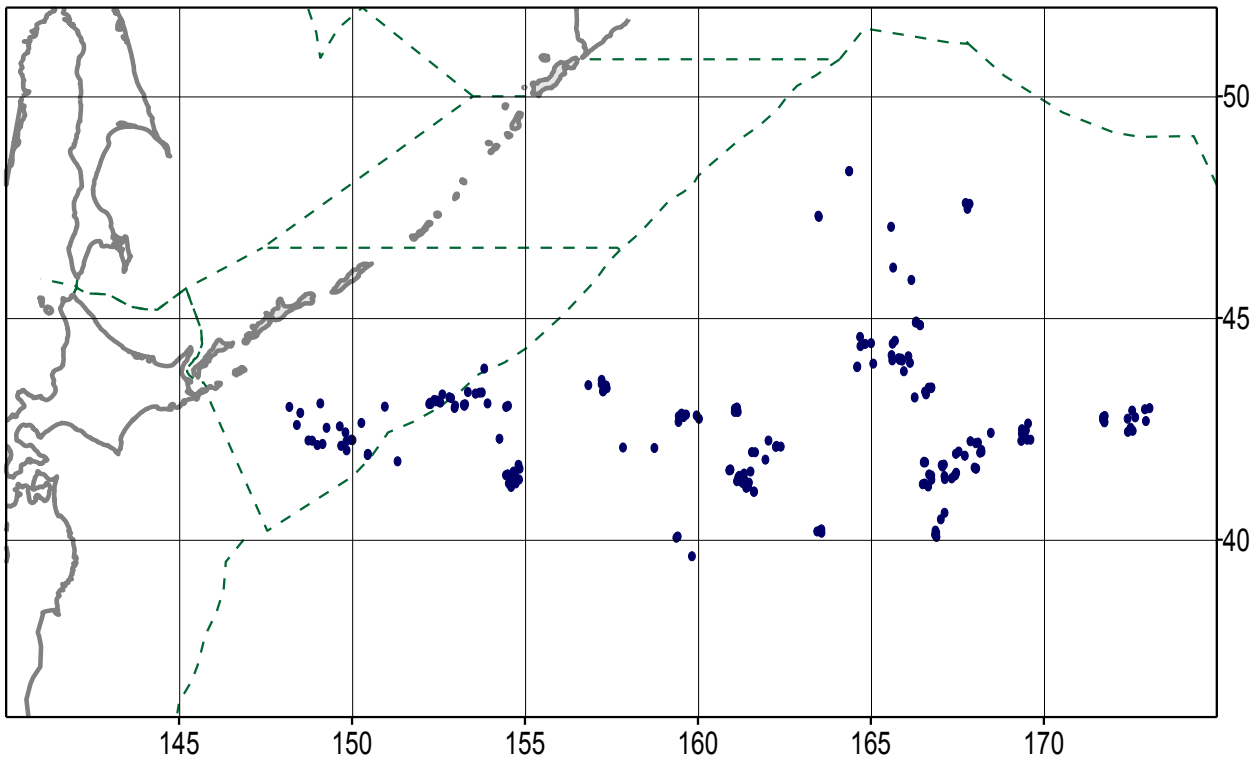

Figure 2. Areas of the Pacific Saury fishery by Russian vessels in the North Pacific Ocean in 2019

The pattern of the development of hydrological conditions in 2019 was generally similar to the situation in 2017-2018 in terms of the intrusion to the north of the well-developed Third Branch of the Kuroshio (Isoguchi Jet) which changed the feeding migration patterns not only saury but also of other pelagic species. In addition to the more developed the first branch of the Oyashio and more dynamic displacement of the warm Kurils eddy eastward in October formed a frontal zone at a more than 100 miles from Japanese waters preventing the migrating of saury schools to the main spawning ground off the coasts of Hokkaido and Honshu in 2019. Also, as in 2018, the third branch of Oyashio strongly intensified and became to a large barrier to the migration saury from the area of the central Kuril Islands to the waters of the southern Kuril Islands. As a result, the spawning migration of the saury schools during second half of autumn from subarctic to subtropical waters took place to the east of 150° E, which was also similar to 2016-2018.

In contrast to the previous year, the weather conditions in October and November 2019 were characterized by frequent storms, which had a negative impact on fishing efficiency.

All these factors attributed to the low efficiency of the saury fishery and the small number of fishing vessels have resulted in the lowest rate of Russian catch since 1985.

Preliminary results of the Russian saury fishery in 2020.

Only one Russian vessel searched for of saury schools in the northwestern part of the Pacific Ocean outside the Russian EEZ from 12 July 2020. In this area between 160 and 170° E there were vessels from Japan, Korea, Chinese Taipei and China with a total number from 30 to 50 units.

The first catch by the Russian vessel was taken on 16 July (Fig. 3). At the end of July, another Russian ship ("Luchegorsk") came to the area. In general, the fishing situation in July was weak which is typical for this period. Subsequently Russian vessels together with foreign fleets continued to search and fish for saury schools in subarctic waters with a surface temperature of 10-12°C in the area with central coordinates 47°40'N. and 168°00'E. The found saury schools were very thin and unstable. The catch was very low.

During August 2020, no commercial concentrations of saury were found within the Russian EEZ. In September saury was not fished in Russian waters. Saury schools fished by foreign vessels (more than 90 units) and two Russian vessels were located close to the Subarctic front in waters with a surface temperature of 17°-18°C (central coordinates 42 ° 00'N and 164 ° 00'E). Daily catch per vessel averaged 5 tons.

In the third decade of September, the vessels entered the EEZ of the Russia and searched for saury schools in the waters of the Kamchatka-Kuril Current in the area of the northern Kuril Islands between 48° and 50° N. The schools consisting mainly of large and medium-sized saury were found in late September 60 miles east of Isl. Onekotan. Also, the schools were noted in more eastern areas between 48° and 49° N. Unfortunately, the breakdown of one vessel as well as bad weather conditions made it impossible to conduct a more thorough search for saury in the area. Russian vessels had caught 60 tons of saury by the end of September. The last year’s catch by the Russian vessels amounted to 1303 tons in this period.

In October, only one Russian vessel remained in the saury fishery (Luchegorsk broke down and left the fishery). The average catch per vessel per day was about 20 tones, which was higher than in the previous periods. At the end of the month, bad weather conditions greatly complicated the saury fishery. In October, a Russian vessel caught 247 tons of saury, the total catch amounted to 406 tons. In

October 2019 Russian vessels caught 853 tons of saury, the total catch was 2147 tons.

In November average daily catch exceeded 20 tons, however, weather conditions significantly complicated the work of fishing vessels. The Russian fleet caught 340 tons of saury in November, the total catch was 747 tons. In 2019, in November, Russian vessels caught 255 tons of saury, the total catch was 2402 tons. The saury fishery in 2020 was completed on December 5, total catch - 753 tons.

Despite the fact that in the fall of 2020 the weather conditions were more favorable for the saury fishery compared to 2019, the migration flows had shifted to the east, and there was no possibility to follow the distribution of saury concentrations in the North Kuril and Petropavlovsk-Commander fishing zones where in recent years the stocks were formed. As well as a small number of fishing vessels, has resulted in the lowest fishing rates since 1985.

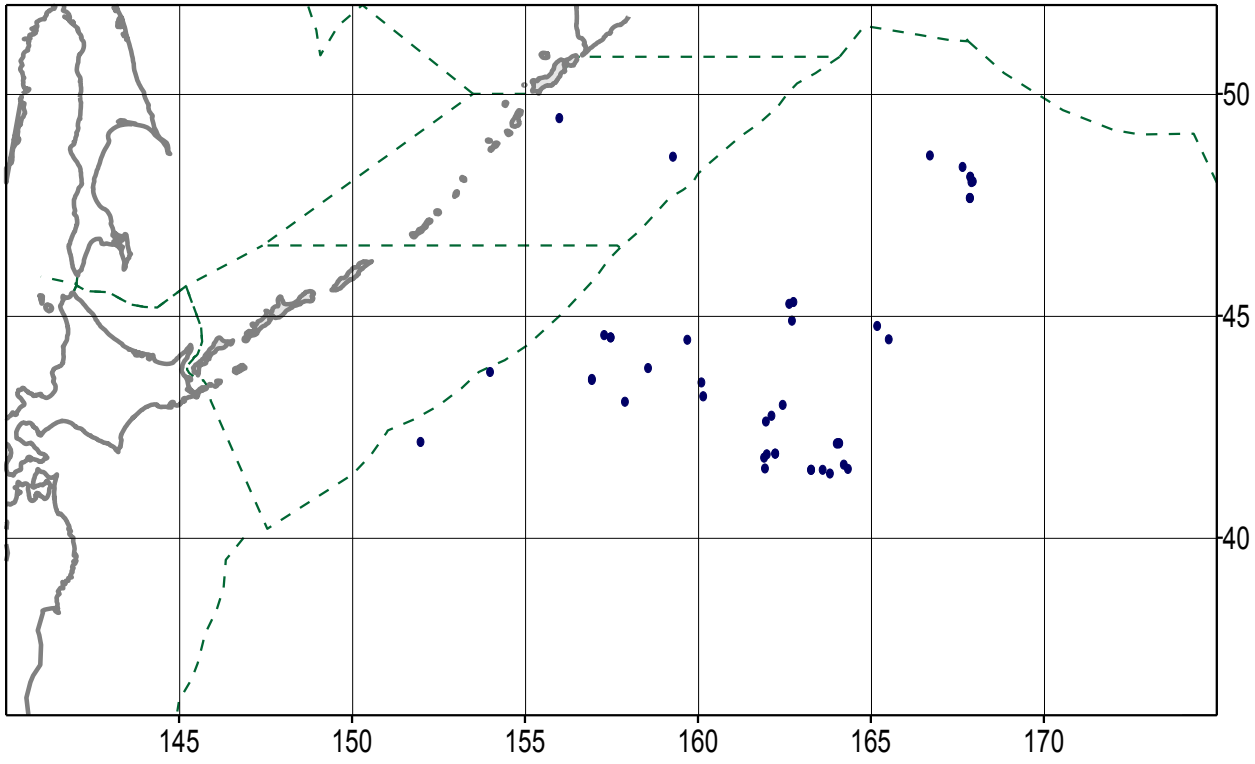

Figure 3. Areas of the Pacific Saury fishery by Russian vessels in the North Pacific Ocean in 2020