THE REVIEW OF THE FISHERIES OF PACIFIC CAPELIN *(MALLOTUS VILLOSUS CATERVARIUS)* IN RUSSIAN FAR EASTERN SEAS IN 2010–2017

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Introduction

West Kamchatkan and Sakhalin capelin is the resource potential for the coastal fisheries, impressive and simple in harvesting. Fishing of Pacific capelin in the Far Eastern commercial fishery zones is provided by scoop-nets, pulling nets or fixed nets in spring-summer period, when capelin is spawning. The aim of the research was to demonstrate intensity of the capelin fishery in the Far Eastern seas in modern period (2010-2017) and to summarize some biological data .

Materials & Methods

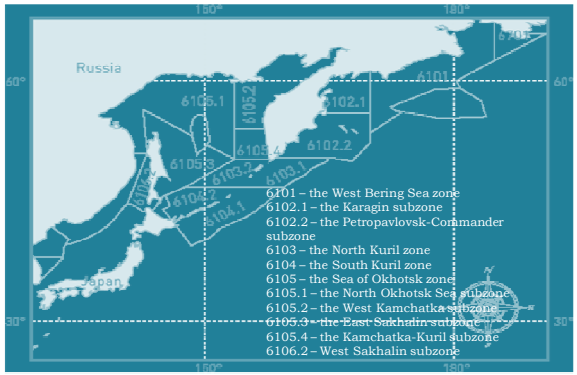

Fig. 1. Schematic fishery zoning in Russian Far East

The data on the catches of capelin in the Far Eastern basin we used were taken from the system of fishery statistic «Rosrybolovstvo» (FSS) for the period from 2010 to 2017. The data about the commercial fishing conditions and some biological data were taken from «The condition of..., 2016, 2018».

Result & Discussion

Table 1. The catch of capelin, recommended (RC) and realized in the commercial fishery zones within the Far Eastern Basin of Russia in 2010–2017, t

Subzone	The catch, t / Recommended catch, t/caught, % 2010	2011	2012	2013	2014	2015	2016	2017
West Bering Sea	0,830 / 4230/0,1	0 / 4780/0	0 / 3400/0	0 / 3400/0	1,5 / 3400/0,04	0 / 3400/0	0 / 3400/0	0 / 3400/0
Karagin	4,2 / 400/1,0	0 / 400/0	0,8 / 400/0,2	2,8 / 400/0,7	10,6 / 400/2,7	0 / 400/0	1,0 / 400/0,3	182,9 / 400/45,7
Petropavlovsk-Commander	0 / 10/0	6,8 / 10/67,8	0 / 10/0	0 / 10/0	0 / 10/0	0 / 10/0	35,3 / 10/352,6	272 / 10/2720
Northern Okhotsk Sea	415,4 / 13900/3,0	48,2 / 9170/0,5	0,01 / 10749/0	3,6 / 2236/0,2	564,1 / 1800/31,6	291,1 / 2000/14,6	799,0 / 2500/31,9	195,13 / 2500/7,8
East Sakhalin	411,5 / 620/66,3	1062,2 / 650/163,4	193,8 / 650/29,8	104,5 / 650/16,1	647,3 / 650/99,6	429,2 / 650/66,0	1935,8 / 650/297,8	3926,7 / 3391/115,8
West Sakhalin	124,0 / 311/39,8	160,4 / 430/37,3	117,7 / 430/27,4	51,3 / 430/11,9	167,5 / 430/38,9	56,8 / 430/13,2	1631,9 / 430/379,5	3821,83 / 4000/95.5
West Kamchatkan	734,1 / 1950/37,6	1,1 / 1050/0,1	22,1 / 3000/0,7	66,5 / 1500/4,4	184,5 / 1500/12,3	1227,5 / 1500/81,8	4297,0 / 3924/109,6	1148,9 / 7600/15,1
Kamchatka-Kuril	22,7 / 350/6,5	0,1 / 450/0,03	74,5 / 780/9,6	41,9 / 440/9,5	121,6 / 440/27,6	276,4 / 440/62,8	630,1 / 996/63,3	182,9 / 1600/11.4
The total catch by the subzones	1712,6	1394,0	347,3	231,9	1776,0	2578,8	8399,5	9730.4

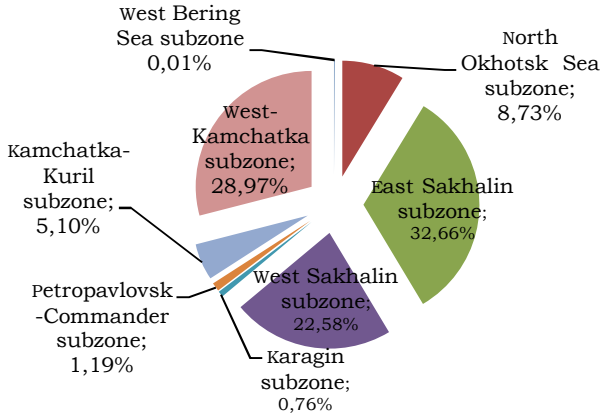

Fig. 2. The percent of capelin caught in the fishery zones of the Far Eastern basin in the total catch in 2010–2017

The catch in the commercial fishery subzones of the Far Eastern basin (Fig. 1) in 2010–2017 varied as 270.6–9730.4 t (Table 1), taking 3315.1 t averaged. According to the average annual data, the maximal catch (32.66%) (Fig. 2) was provided in the East Sakhalin subzone, while the catches in the West Kamchatka and West Sakhalin subzones were respectively 28.97 and 22.58%.

Table 2. The fluctuation range and the means of the body length, weight and the age of spawning capelin in the catches in the commercial fishery zones of the Far Eastern basin of Russia (the average longterm annual data)

The fishery zones	Body length Min-max/average, cm	Body weight Min-max/average, g	Average age, years
West Bering Sea	6,0-23,0/13,1	10,3-17,5/13,9	3,2
Karagin	7,0-18,0/13,8	8,7-15,4/14,6	3,1
Petropavlovsk-Commander	9,0-19,0/13,9	20,0	3,0
Northern Okhotsk Sea*	12,7-17,6/14,5	4,0-34,0/22,4	3,6
East Sakhalin	13,3-17,5/16,1	15,5-43,3/32,3	3,9
West Sakhalin	13,0-21,0/16,3	12,0-59,0/30,8	4,5
West Kamchatkan	9,0-18,0/13,9	5,0-32,5/18,2	2,7
Kamchatka-Kuril	12,0-18,0/15,4	9,0-41,2/27,2	3,2

The body length of capelin (18.0 cm) in the catches in the Sea of Okhotsk is similar to the length of capelin of the Bering Sea (18.0 cm), but the weight of the fish is greatly higher (41.2 g vs. 14.6 g). Capelin of the Sea of Japan (the West Sakhalin commercial district) is the biggest (up to 21.0 cm and 59.0 g).

Conclusions

The results indicate that the West Kamchatkan and Sakhalin shelf is the most promising area for the fisheries of capelin in the Far Eastern seas of Russia.