

## **2020 At-sea Monitoring Program West-Bering Sea Zone Mid-Water Trawl Pollock Fishery**

*Summary prepared by PCA, November 2020*

In 2020, 8 scientific observers performed monitoring in the target mid-water trawl pollock fishery: 6 observers from TINRO, 1 observer from KamchatNIRO, and 1 observer from Far East Russian Academy of Science who performed monitoring of interaction of fishing gear and vessels with sea birds (primary, and secondly marine mammals) under dedicated survey on assessment of potential fishery's impact on the sea birds. In 2020, with a support from PCA, the number of scientific observers was increased by 1 observer.

In 2020, PCA continues to support improvement of at-sea observer & monitoring program. To remind, in 2019 the number of observers were increased by threefold - previously, monitoring of the fishery and collection of scientific and statistical information was traditionally carried out by 2-3 observers annually.

It is worth to note that in 2020 observer deployment faced difficulties due to covid-19 situation. Companies and vessels had to carry additional measures on quarantine of the crew members during crew shift change. All vessels had to go through 14-days quarantine before leaving for fishing. On several vessels few crew members were found infected, so departures were delayed, the crew had to be fully replaced. Several designated observers got infected too and were not able to go, they had to be replaced too. All this impacted on the observer program implementation. However, despite objective problems with covid-19, the WBS observer fishery coverage has been increased, scheduled bird survey was completed, number of scientific observers was increased.

In 2020, the observers worked from the beginning of June to the end of November, so entire fishing season of the pollock trawl fishery in the West Bering Sea zone was covered by observers monitoring. At the moment of report preparation, 1 observer still works at-sea in the WBS pollock fishery. In total, 8 observers worked 429 vessel days at the fishery. The monitoring program involved 8 large-tonnage fishing vessels, or 22% of large trawlers of Russian flag were covered by observers.

In total, observer monitoring covered 839 fishing operations (trawls), what equals to 8.9% of the total number of trawl operations in the pollock target fishery by the Russian fleet (7,9% in 2019), or 12.3% of operations performed by the large-tonnage vessels (10,8% in 2019).

Spatio-temporal modeling of fishery's observer coverage, calculated by TINRO, showed that in 2020 TINRO observer monitoring covered 66% of the area of operation of the fishing fleet in the northwestern part of the Bering Sea. The rate does not include KamchatNIRO observer, as well as an observer who performed target bird survey.

In total, TINRO and KamchatNIRO observers sampled 412 trawls for different types of analysis and measuring (308 in 2019). Observers performed mass measurements (MP) of more than 54,700 specimens of pollock and more than 26,500 specimens of by-catch species (mostly herring). More than 4,000 pollock specimens and 9400 specimens of other species were taken for biological analysis (BA).

There were 658 observation stations for interaction and by-catch of seabirds and marine mammals under the standard observation protocol (311 in 2019) and over 600 observation stations under specialized at-sea study on birds interaction (over 1250 stations by all observers in total).

In addition to the scientific observers, all foreign vessels operating in the WBS Zone are 100% monitored by FSB Coast Guard inspectors who are on board all the time to monitor and enforce compliance with the Fishing Rules and regulations. In 2020, there were 6 fishing vessels from Republic of Korea and China harvested pollock in the WBS. Foreign fleet is not part of the UoC.

More detailed information on the results of observer monitoring of the pollock fishery in the West Bering Sea zone by scientific observers is presented in the following reports:

- 1) Studies of biological parameters of pollock and non-target by-catch species of aquatic bioresources, marine mammals and birds in target pollock fishery by scientific observers in the Bering Sea in summer-autumn period of 2020. Report by TINRO, 2020.
- 2) *Studies in target pollock fishery of pollock and by-caught species in the Bering Sea in May-August 2020.* Report by KamchatNIRO, 2020.

#### **WBS pollock fishery observers and monitoring coverage in 2020**

	Russian fleet	Foreign fleet	Aggregated	SOO 2020-A
Catch, mt	285 400	48 600	334 000	889 500
Total number of observers (inspectors)	7	6	13	25
Number of observed hauls (operations)	839	1457	2296	3349
Observer vessel-days	329	694	1023	1480
Weight measurements of pollock, individuals	54 705	-	54705	390568
Biological analysis of pollock, individuals	4 137	-	4137	15810
Observations on seabirds and marine mammals by-catch and interaction	1258	-	1258	1945
Fishery coverage by fishing operations	8,9%	100%	21,0%	15,12%
Observation coverage by number of vessels	8,9%	100%	15,3%	23,6%
Spatial and temporal scope of monitoring activities	66,00%	100%	-	74,80%
Fishery coverage by catch volume	84,40%	100%	-	93,80%

## Observation and monitoring activities on West Bering pollock fishery in 2020

West Bering Sea Mid-water Pollock Fishery												
No	Observer	Institute	Vessel name	Vessel - Days	Number of hauls observed	Sampled hauls	Pollock Measuring	Pollock biological analysis	Herring measuring	Herring biological analysis	Other species biological analysis	Marine mammals and birds stations
1	Dorofeev	TINRO	BMRT Pilenga	67	178	71	11395	580	1603	200	489	94
2	Petrenko	TINRO	MBMRT Ostrov Iturup	70	192	92	11947	279	3827	299	1188	140
3	Volodin	TINRO	BMRT Mys Basargina	68	200	96	9888	250	6214	400	1480	230
4	Yakimov	TINRO	Geroi Shironentsy	21	51	24	3824	119	155	20	226	48
5	Chaikin	TINRO	BMRT Vladivostok	29	69	68	5460	126	8022	171	304	62
6	Barabashov	TINRO	BMRT Kapitan Maslovets	16	33	12	2435	48	-	-	295	26
7	Subbotin	KamchatNIRO	MRKT Boris Trofimenko	58	116	49	9756	2735	6693	2864	1512	58
8*	Korobov	FEB RAS	BMRT Admiral Kolchak	100*	300*	-	-	-	-	-	-	600*
<b>Total WBS mid-water trawl fishery</b>				<b>329</b>	<b>839</b>	<b>412</b>	<b>54705</b>	<b>4137</b>	<b>26514</b>	<b>3954</b>	<b>5494</b>	<b>658</b>

\* - not included in total